COMMENT

IMPLEMENTING THE NATIONAL ENVIRONMENTAL POLICY ACT THROUGH RULEMAKING: THE IMPLICATIONS OF *NATURAL RESOURCES DEFENSE COUNCIL, INC. v. NUCLEAR REGULATORY COMMISSION*

In August of 1976, the Nuclear Regulatory Commission, responding to a ruling of the Court of Appeals for the District of Columbia Circuit, issued a policy statement that declared a virtual moratorium on the licensing of nuclear power plants.[1] The policy statement announced essentially that no new permits to build nuclear reactor plants or licenses to operate them would be issued until the environmental effects of the uranium fuel cycle [2] could be reassessed by the Commission. The Commission also announced

[1] 41 Fed. Reg. 34,707 (1976).

On October 13 the Commission proposed an interim fuel cycle rule responding to the court decisions and solicited comments on both the proposed revisions to the rule which it contained, and a related impact survey called *Environmental Survey of the Reprocessing and Waste Management Portions of the LWR Fuel Cycle.* Soon thereafter, on November 5, the Commission lifted the moratorium on the issuance of operating licenses, construction permits and limited work authorizations, and suspended the show-cause proceedings pending the anticipated adoption of an interim rule.

In a notice dated March 14, 1977, 42 Fed. Reg. 13,803 (1977), the NRC announced that it has adopted an interim fuel cycle rule. The rule was made effective immediately upon its publication in the Federal Register and is to remain in effect for 18 months. At that time, presumably, a final rule will have been adopted.

This action marks the formal adoption of a basis for continued licensing, as well as the termination of show-cause proceedings previously suspended. Under the notice, operating licenses, construction permits, and limited work authorizations issued before July 21, 1976 (in which the originally effective chemical reprocessing and waste storage values of the original rule were used) will remain effective, principally because the values in the newly adopted interim rule have been judged by the Commission not to be sufficiently different from the values in the original to warrant revocation or suspension on cost-benefit grounds.

Licenses, permits and limited work authorizations issued in the interim must take into account the revised values contained in the interim rule. However, because the Commission has determined that the interim rule values are not substantially different from those originally proposed last October, in pending cases where the evidentiary record on fuel cycle impact issues has already been compiled, decisions are to be made on the basis of the existing record.

[2] The uranium fuel for nuclear power plants is produced, used, and reclaimed in a multistep "fuel cycle" ending with the permanent disposal of residual wastes. The constituent parts of the uranium fuel cycle are mining and milling of uranium ore, its chemical conversion to a usable form, its enrichment in fissionable isotopes, its fabrication into fuel, its fissioning in a reactor to produce power, reprocessing of spent fuel, disposal of radioactive waste, and intermediate transportation links.

that it would entertain show-cause petitions seeking the revocation or suspension of any existing license or permit on fuel cycle grounds.

Four years earlier, the Atomic Energy Commission [3] had instituted rulemaking proceedings to collect and summarize information on the environmental effects of the uranium fuel cycle for use in the detailed statement of environmental impact required in individual reactor licensing proceedings by the National Environmental Policy Act of 1969 (NEPA).[4] The procedures used by the Commission to adduce the fuel cycle effects attributable to a typical nuclear power plant entailed three steps: publication of the proposed rule, the taking of written and oral evidence, and issuance of new regulations with accompanying explanation. A notice of proposed amendments to the agency's environmental review regulations was published in the Federal Register.[5] The notice also announced the availability of a report underlying the proposed amendments prepared by the Commission's technical staff.[6] The Commission solicited public comments on the amendments and invited all interested persons to become parties to legislative-type hearings. The hearings were held early in 1973, and all parties were allowed to submit written and oral statements.[7] After the hearings and the filing of post-hearing written material, the Commission issued the Uranium Fuel Cycle Regulation requiring that the values set forth in the regulation be factored into the NEPA analysis for all proposed nuclear power plants.[8] Following the issuance of the rule, two dissatisfied participants in the rulemaking, Natural Resources Defense Council and Consolidated National Intervenors, petitioned for review in the D.C. Circuit Court of Appeals.[9]

Relying on its own precedent, the court held that the fuel reprocessing and waste disposal portions of the rulemaking record

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[3] The Atomic Energy Commission was abolished by the Energy Reorganization Act of 1974, 42 U.S.C. §§ 5801-5879 (Supp. V 1975) and its licensing and regulatory functions were transferred to the Nuclear Regulatory Commission, *id.* §§ 5841-5849. Hereinafter, "Commission" refers to either the AEC or NRC.

[4] 42 U.S.C. §§ 4321-4361 (1970 & Supp. V 1975).

[5] 37 Fed. Reg. 24,191 (1972).

[6] UNITED STATES ATOMIC ENERGY COMMISSION, ENVIRONMENTAL SURVEY OF THE NUCLEAR FUEL CYCLE (1972).

[7] 38 Fed. Reg. 49 (1973).

[8] 39 Fed. Reg. 14,188 (1974).

[9] Judicial review of rulemaking orders is authorized by the Atomic Energy Act of 1954 § 189, 42 U.S.C. § 2239 (1970).

did not contain sufficient explanation and support.[10] This conclusion rested on a finding that the procedures used were not "sensitive" enough to "ventilate" the issues. Full ventilation through unspecified "procedural devices" was held to be necessary for "the innovative task of implementing NEPA through rulemaking." [11]

The court's decision and the attendant licensing moratorium shocked an already troubled nuclear energy industry.[12] More importantly, the judicial prescription of special adversarial procedures for the formulation of generic environmental regulations has thrown a long shadow on rulemaking as an emerging tool for the application of NEPA to agency programs and policies. "Hybrid rulemaking"—the use of procedures in excess of the minimum required by the Administrative Procedures Act (APA) [13] or an agency's organic statute—is primarily the judicial creation of the D.C. Circuit.[14] This court is uniquely positioned to shape administrative practice in this country [15] and has been highly instru-

[10] Natural Resources Defense Council, Inc. v. Nuclear Regulatory Commission, 547 F.2d 633 (D.C. Cir. 1976), *cert. granted*, 97 S. Ct. 1098 (1977) (No. 76-419). This case was decided jointly with No. 74-1385 involving a challenge to the treatment of fuel cycle issues in the operating license proceeding of the Vermont Yankee nuclear power plant.

[11] *Id.* 653.

[12] Besides threatening delay of several power plants near completion, the court's ruling cast doubt on the continuing validity of licenses in force. *See, e.g.*, General Statement of Policy, 41 Fed. Reg. 34,707 (1976); MacLachian, *Nuclear Power in Crisis: Everyone Has a Bad Word for the NRC as It Walks the Legal Tightrope*, Energy Daily, Aug. 18, 1976 at 1, col. 1; *Nuclear's Tough Day in Court*, NUCLEAR NEWS, Sept. 1976 at 29-31. The dollar cost of regulatory delay is staggering. For example, the licensing delay for one nuclear plant under construction is reported to cost $225 million. BUSINESS WEEK, Jan. 24, 1977 at 22.

[13] 5 U.S.C. §§ 551-559 (1970 & Supp. V 1975).

[14] Williams, *"Hybrid Rulemaking" Under the Administrative Procedure Act: A Legal and Empirical Analysis*, 42 U. CHI. L. REV. 401 (1975). This Comment does not explore the legal theories and ultimate wisdom of hybrid rulemaking in detail. Only those issues particularly pertinent to rulemaking and NEPA are recounted. For a fuller analysis, see Nathanson, *Probing the Mind of the Administrator: Hearing Variations and Standards of Judicial Review Under the Administrative Procedure Act and Other Federal Statutes*, 75 COLUM. L. REV. 721 (1975); Verkuil, *Judicial Review of Informal Rulemaking*, 60 VA. L. REV. 185 (1974); Williams, *supra*; Wright, *The Courts and the Rulemaking Process: The Limits of Judicial Review*, 59 CORNELL L. REV. 375 (1974); Note, *The Judicial Role in Defining Procedural Requirements for Agency Rulemaking*, 87 HARV. L. REV. 782 (1974).

[15] The District of Columbia Circuit Court has exclusive jurisdiction to review a number of administrative actions of the Environmental Protection Agency and the Federal Energy Administration. 42 U.S.C. § 1857h-5(b)(1) (1970) (EPA); 42 U.S.C. § 4915(a) (Supp. V 1975) (EPA); 15 U.S.C. § 766(i)(2)(A) (Supp. V 1975) (FEA). Final orders of the Nuclear Regulatory Commission, Federal Communications Commission, Federal Maritime Commission, and the Federal Power Commission are also subject to review in the D.C. Circuit, regardless of the residence of the petitioner. 28 U.S.C. §§ 2342(4), 2343 (1970) (NRC); 28 U.S.C.

mental in forming the law under NEPA,[16] a statute which reaches every major federal action "significantly affecting the quality of the human environment." [17] The pronouncement of new circumstances requiring hybrid procedures in *Natural Resources Defense Council, Inc. v. Nuclear Regulatory Commission* (*NRDC v. NRC*), therefore, will have a pervasive impact.

The purpose of this Comment is to examine the implications of this seminal case. The problems involved in the judicial shaping of rulemaking procedures and a proposed framework of analysis are examined in sections I and II. The interrelationship among administrative rulemaking, judicial review, and the purposes of NEPA is examined in section III. It is then argued in section IV that the legal and analytical principles, discussed in section II, were ignored by the court in *NRDC v. NRC*. An alternative analysis for the implementation of NEPA through rulemaking is put forward in conclusion.

I. Hybrid Rulemaking—Current Analytical Approaches

Rulemaking is often described as a "quasi-legislative" function.[18] The procedure does resemble the legislative process, and the resulting rules have the prospective impact of statutes. Rulemaking, however, often decides issues intimately affecting particular classes of people and frequently turns on crucial elements of fact normally tested for accuracy by adversary procedures. Simultaneously with its delegation of rulemaking power to agencies, therefore, Congress has taken the precaution of vesting in interested parties the right to participate in rulemaking proceedings and the right to seek judicial review of improperly promulgated rules.[19]

These two rights are the well-springs of the hybrid-rulemaking doctrine. Hybrid rulemaking requires incorporation of adversarial devices into agency rulemaking when needed to guarantee procedural fairness to outside participants or to aid judicial review, at participants' request, of promulgated rules. The case-law history of this doctrine, however, is unclear on several principle points, and

§§ 2342(1), 2343 (1970) (FCC); 28 U.S.C. §§ 2342(3), 2343 (1970) (FMC); 16 U.S.C. § 825*l*(b) (1970) (FPC).

[16] *See* text accompanying notes 116-153 *infra*.

[17] Section 102(C), 42 U.S.C. § 4332(C).

[18] *E.g.*, City of Chicago v. FPC, 458 F.2d 731, 742 (D.C. Cir. 1971), *cert. denied* 405 U.S. 1074 (1972), and cases cited therein at n.49.

[19] For example, § 189 of the Atomic Energy Act, 42 U.S.C. § 2239(a) & (b) (1970) provides that in rulemaking the Commission shall grant a hearing upon the request of any person whose interest may be affected and all rules shall be subject to judicial review in accordance with § 10 of the APA.

these uncertainties in the hybrid rulemaking doctrine are traps both for the administrative agencies and for the reviewing courts. Without a suitable analytical framework for assessing the sufficiency of rulemaking procedures, the courts risk encroaching upon the prerogatives of administrators and unwittingly prescribing procedural remedies that hinder the long run utility of informal decisionmaking. Cautious administrators, unsure of what is required to satisfy the judiciary, may stifle the flexibility of informal rulemaking through an over-abundant use of adversarial procedures approaching the complement of formal rulemaking, or, and this is the more probable danger, they may seek means to circumvent institution of informal rulemaking altogether.[20] This section examines the uncertainty in current analytical approaches to informal rulemaking as an introduction to a proposed alternative analysis. This alternative, presented in the following section, attempts to reconcile the goals of procedural fairness, close judicial scrutiny, and administrative efficiency.

A. *Procedural Fairness*

The APA provides for two classes of rulemaking: "formal" and "informal". Formal rulemaking under sections 556 and 557[21] is used when "rules are required by statute to be made on the record after opportunity for an agency hearing."[22] Parties to formal rulemaking are entitled to conduct cross-examination except when they "will not be prejudiced [by lack thereof]."[23] Informal rulemaking under section 553[24] can be used when formal rulemaking is not required.

Informal rulemaking involves a three step process. First, general notice of the proposed rulemaking must be published in the Federal Register, including specific notice of the "terms or substance of the proposed rule or a description of the subjects and issues involved."[25] Second, the agency must "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."[26] Finally, when the rule is promul-

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[20] *See* Wright, *supra* note 14, at 379-81.

[21] 5 U.S.C. §§ 556, 557 (1970).

[22] *Id.* § 553(c) (1970).

[23] *Id.* § 556(d).

[24] *Id.* § 553.

[25] *Id.* § 553(b)(3).

[26] *Id.* § 553(c).

gated the agency must provide a statement of the rule's "basis and purpose." [27] Interested outside parties participate directly only in the first two steps. Participatory fairness, therefore, is a function of proper notice and opportunity to make a presentation.[28]

If rulemaking participants are not alerted to the critical issues being considered by the agency, then the opportunity to affect the outcome is only a superficial ritual. The courts are vigilant to guard against this abuse of delegated power and are not hesitant to require amended proceedings guaranteeing the parties the right to contest the rule's underpinnings.[29] The more difficult task is defining the proper content of a participant's right to submit views and information. The Courts of Appeals, particularly the D.C. Circuit, have found that fairness requires that a party to a rulemaking be given an opportunity to make an "effective" presentation.[30]

The leading example of this interpretation is *Walter Holm & Co. v. Hardin*,[31] where the court examined regulations issued by the Secretary of Agriculture establishing minimum marketing sizes for Florida tomatoes.[32] Importers of Mexican tomatoes challenged the rule contending that the size differential between "vine ripe" and "mature green" tomatoes established in the regulation was intended to discriminate against imports and that a hearing was necessary to assure rational and non-discriminatory rulemaking. The court agreed and ordered hearings with a limited right of cross-examination on "crucial issues." [33] The court's opinion, written by Judge Leventhal, included a discussion of the factual nature of the findings

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[27] *Id.*

[28] "The procedure chosen by the Commission must of course give the parties fair notice of exactly what the Commission proposes to do, together with opportunity to comment, to object, and to make wrtiten submissions . . . ." American Public Gas Ass'n v. FPC, 498 F.2d 718, 722 (D.C. Cir. 1974).

[29] Public Serv. Comm'n v. FPC, 487 F.2d 1043, 1071 (D.C. Cir. 1973), *vacated and remanded*, 417 U.S. 964 (1974) (agency reliance on factual support in another proceeding improper due to lack of opportunity given participants to respond to the incorporation of that record); Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375, 402 (D.C. Cir. 1973), *cert. denied*, 417 U.S. 921 (1974) (lack of adequate opportunity for participants to comment on EPA's proposed air pollution performance standards due to the non-disclosure of detailed findings and testing procedures); City of Chicago v. FPC, 458 F.2d 731, 748 (D.C. Cir. 1971), *cert. denied*, 405 U.S. 1074 (1972) (participant not deprived of opportunity to present relevant information by lack of notice that the issue was there).

[30] *See* Clagett, *Informal Action—Adjudication—Rulemaking: Some Recent Developments in Federal Administrative Law*, 1971 DUKE L.J. 51, 74-80.

[31] 449 F.2d 1009 (D.C. Cir. 1971).

[32] The Agricultural Marketing Agreement Act of 1937, 7 U.S.C. § 608c (1970), authorized the Secretary to issue regulations governing the sale of certain commodities in order to support market prices.

[33] 449 F.2d at 1016.

in the rule—a 1/4-inch differential in the size of tomatoes, the risk of industry influence in the decisionmaking, and plaintiffs' "not insubstantial claim" that the only effective method to reach the full and true basis of decision was an oral presentation. The combination of these elements convinced the court that petitioners were denied "the reality of an opportunity to submit an effective presentation." [34]

The court did not explain with crystal clarity what crucial issues trigger the requirement for adversary procedures beyond written submissions, nor has any court in a subsequent discussion of the concept of basic fairness in rulemaking participation.[35] The only other clues to the content of this test came in *International Harvester Co. v. Ruckelshaus*.[36] In another Leventhal opinion, the court commented on the basic fairness of the procedures used by the Environmental Protection Agency to rule on the availability of automobile technology to meet pollution emission standards.[37] In slightly elliptical terms, the court distinguished between a claimed broad right of cross-examination and a "circumscribed and justified" right to cross-examination on a "subject of critical importance which could not be adequately ventilated under the general procedures." [38] No guidance was given as to what showing a participant must make to prove that minimum statutory procedures are unfair. The only description of "critical" subjects was provided by the adjectives " 'soft' and 'sensitive.' " One is left to surmise from the context that "soft" means in dispute and evading clear resolution; "sensitive" probably connotes a repetitive concern that the subject be central to the decision.

The only clear inference to be drawn from these cases is that a challenger to agency rulemaking procedures must demonstrate that additional steps are necessary for the full and true disclosure that alone makes possible the informed agency decisionmaking con-

[34] *Id.* It is possible to read the opinion as only interpreting the relevant statute to require notice and hearing; *see* Williams, *supra* note 14, at 427.

The concept of effective presentation was adopted in somewhat vague terms in *Appalachian Power Co. v. EPA*, 477 F.2d 495 (4th Cir. 1973). The court held that the EPA could dispense with hearings before adopting state implementation plans for ambient air pollution reduction under the Clean Air Act, 42 U.S.C. § 1857c-5 (1970), if the hearings at the state level were "adequate." 477 F.2d at 502. Adequacy included the *Walter Holm* formulation of a contingent right to limited cross-examination.

[35] *See, e.g.*, O'Donnell v. Shaffer, 491 F.2d 59 (D.C. Cir. 1974); Kennecot Copper Corp. v. EPA, 462 F.2d 846 (D.C. Cir. 1972).

[36] 478 F.2d 615 (D.C. Cir. 1973).

[37] For a discussion of the facts and analysis of the court's basis of decision, see text accompanying text notes 92-100, *infra*.

[38] 478 F.2d at 631.

templated by Congress. Given the uncertain nature and pervasive impact of the *Walter Holm* standard, courts have appropriately placed on challengers the burden of showing a prima facie case of unfairness.[39] Post hoc amendment to the statutory procedures of informal rulemaking is seen as the exceptional course taken only in the clearest cases of unfairness.[40]

B. *Judicial Scrutiny of the Administrative Record as a Determinant of Agency Procedures*

Even if challengers to an administrative rulemaking are afforded basic procedural fairness, the courts sometimes impose hybrid procedures to create a record sufficiently detailed to allow meaningful court review.[41] Again the D.C. Circuit has been the major architect of this judicial technique.

The first full explanation of a remand for more procedures to aid judicial review came from Judge Wilkey, speaking for the court in *Mobil Oil Corp. v. FPC*.[42] There an informal rulemaking resulted in an order by the Federal Power Commission setting rates for the transportation of liquifiable hydrocarbons produced with natural gas. On review of the order, the court held that sections four and five of the Natural Gas Act,[43] conferring ratemaking au-

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[39] The best examples of this burden are again from the D.C. Circuit:

> Although the petitioners claim that cross-examination of live witnesses was necessary they do not point to any specific weakness in the proof which might have been explored or developed more fully by that technique than by the procedures adopted by the Commission. . . . [P]etitioners do not suggest what questions were necessary for this purpose, nor do they explain why their written submittals were ineffectual.

American Public Gas Ass'n v. FPC, 498 F.2d 718, 723 (D.C. Cir. 1974);

> Nowhere in the record is there any specific proffer by petitioners as to the subjects they believed required oral hearings, what kind of facts they proposed to adduce, and by what witnesses, etc. Nor was there any specific proffer as to particular lines of cross-examination which required exploration at an oral hearing.

American Airlines, Inc. v. CAB, 359 F.2d 624, 633 (D.C. Cir.) (en banc) (footnotes omitted), *cert. denied*, 385 U.S. 843 (1966). *Cf.* Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375, 394 (D.C. Cir. 1973) ("[Participant's] comments must be significant enough to step over a threshold requirement of materiality before any lack of agency response or consideration becomes of concern.").

One commentator has summarized the challengers' duty quite simply: "The premise in all 'hybrid rulemaking' cases is that the challengers have raised questions about the agency's substantive action that are so serious that the agency must justify its position more adequately than it has." Williams, *supra* note 14, at 454.

[40] *E.g.*, NRDC v. NRC, 547 F.2d 633, 660-61 (D.C. Cir. 1976) (Tamm, J. concurring), *cert. granted*, 97 S. Ct. 1098 (1977) (No. 76-419).

[41] *See* Williams, *supra* note 14, at 417-18.

[42] 483 F.2d 1238 (D.C. Cir. 1973).

[43] 15 U.S.C. §§ 717c-717d (1970).

thority on the Commission, did not require use of formal rulemaking procedures, but that the judicial review section of the Act did require a finding of "substantial evidence." [44] From this prerequisite, Judge Wilkey concluded that "more than the comparatively feeble protections of section 553 of the APA may be called for." [45] His "flexible" approach turned on what was necessary to effectuate the regulatory scheme and the degree of fact-dispute resolution necessary in the proceeding.[46] Considering the traditional definition of substantial evidence, which requires that the "whole record" be considered,[47] Judge Wilkey reasoned that:

> A "whole record" as that phrase is used in this context, does not consist merely of the raw data introduced by the parties. It includes the process of testing and illumination ordinarily associated with adversary, adjudicative procedures. Without this critical element, informal comments, even by adverse parties, are two halves that do not make a whole. Thus, it is adversary procedural devices which permit testing and elucidation that raise information from the level of mere inconsistent data to evidence "substantial" enough to support rates.[48]

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[44] 15 U.S.C. § 717(r)(b) (1970). The statute provides that "the finding of the Commission as to the facts, if supported by substantial evidence shall be conclusive." The APA provides two alternative tests for judicial review: "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law," and "unsupported by substantial evidence." 5 U.S.C. §§ 706(2)(A), (E) (1970). Which is used depends on the courts' interpretation of the type of proceeding and standard of review intended by Congress in drafting the agency's organic statute. *See* Note, *Judicial Review of the Facts in Informal Rulemaking: A Proposed Standard*, 84 YALE L.J. 1750, 1750-51 (1975).

[45] 483 F.2d at 1254.

[46] *Id.* 1254, 1257.

[47] *Id.* 1258 n.73 *citing* Universal Camera Corp. v. NLRB, 340 U.S. 474 (1951). Professor Nathanson suggests that Judge Wilkey really relied on the definition of substantial evidence found in § 706 of the APA, 5 U.S.C. § 706 (1970), which is used for formal proceedings under §§ 556 and 557, 5 U.S.C. §§ 556, 557 (1970), thereby going as far as one can go in treating the procedures as "on the record" without invoking § 553(c), 5 U.S.C. § 553(c) (1970). Nathanson, *supra* note 14, at 737 n.91.

[48] 483 F.2d at 1260. By rejecting the adequacy of informal rulemaking in establishing FPC rates, the court specifically disagreed with the Tenth Circuit's holding in *Phillips Petroleum Co. v. FPC*, 475 F.2d 842 (10th Cir. 1973), *cert. denied*, 414 U.S. 1146 (1974). Subsequently, another panel of the D.C. Circuit endorsed FPC's setting of initial rates by the use of rulemaking procedures. American Public Gas Ass'n v. FPC, 498 F.2d 718 (D.C. Cir. 1974) (per curiam). For a discussion of these cases, and possible distinctions between them, see Nathanson, *supra* note 14, at 734 n.77. *See also*, Williams, *supra* note 14, at 428-32.

The correspondence articulated by Judge Wilkey between the degree of evidentiary support required to sustain judicial approval and the degree of rigor appropriate in rulemaking procedures was an elaboration of a principle announced previously by the D.C. Circuit in *City of Chicago v. FPC*, 458 F.2d 731 (D.C.

When the D.C. Circuit considered another FPC rulemaking in *Public Service Commission v. FPC*,[49] attention again focused on the prerequisites to proper judicial review. In this case, the court found error not in the factual predicate of the rulemaking, but in the methodology. The rule under scrutiny established rates for natural gas producers in the Texas Gulf Area.[50] Through formal rulemaking the Commission had established base rates and special incentives for exploration and extraction. The court unanimously invalidated the special incentives because the Commission had incorporated the record from another ratemaking proceeding as factual support for this part of the rate schedule and thereby denied challengers an opportunity to respond and hampered judicial review.[51] Two members of the panel, Chief Judge Bazelon and Judge Richey, went further to find that meaningful review of the base rates was also impossible because a "reasoned justification of

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Cir. 1971), *cert. denied*, 405 U.S. 1074 (1972). The agency rule under review in *Chicago* was promulgated under section 16 of the Natural Gas Act which authorizes FPC rulemaking as "necessary or appropriate to carry out the provisions" of the Act. 15 U.S.C. § 717o (1970). The Commission argued that judicial reveiw of a rule so promulgated was restricted to assessing the adequacy of the procedures used and not the adequacy of the findings.

The court strongly disagreed, asserting that "some inquiry into the factual predicate for rules promulgated by the Commission is required when review of those rules is sought here." 458 F.2d at 743. The first premise of the opinion was that "[w]hatever procedure is utilized, a primary objective is the acquisition of information which will enable the Commission to carry out effectively the provisions" of the Act. *Id.* The court was satisfied that in these circumstances, the Commission had "tailor[ed] the proceedings to fit the issues before it, the information it need[ed] to illuminate those issues and the manner of presentation which, in its judgment, [brought] before it the relevant information in the most efficient manner." *Id.* at 744. What distinguishes the results in *Mobil Oil* and *Chicago*, then, is how each panel judged the degree of evidentiary support required for rulemaking under different sections of the Natural Gas Act. The *Mobil Oil* court held that "findings" under §§ 4 and 5 required substantial evidence, while the *Chicago* court found § 16 rulemaking subject to a less rigorous examination of the factual predicate.

The court in *Chicago* also found that application of the substantial evidence test to a record of generalized information untested by cross-examination "would be of scant utility." Instead the court endorsed the *Overton Park* standard. For a discussion of that standard, see text accompanying note 144 *infra*. Having limited judicial review to a "searching and careful" probe of the record compiled by the minimum procedural requirements of APA § 553, 5 U.S.C. § 553 (1970), the court found it unnecessary to determine whether additional procedures were necessary. *Id.*

Both the *Mobil Oil* court and the *Chicago* court agree that in judicial review of any rulemaking record, the sufficiency of the promulgating procedures is a function of the type and weight of facts necessary to support the rule.

[49] 487 F.2d 1043 (D.C. Cir. 1973), *vacated and remanded*, 417 U.S. 964 (1974).

[50] For an analysis sketching the development of FPC rate rulemaking, *see* Dakin, *Ratemaking as Rulemaking—The New Approach at the F.P.C.: Ad Hoc Rulemaking in the Ratemaking Process*, 1973 DUKE L.J. 41.

[51] 487 F.2d at 1071, 1080.

the relationship between [the natural gas shortage] and the magnitude of the adjustments in the rates . . . made in response to it" was absent.[52] Chief Judge Bazelon conceded that the FPC might lack the "methodological tools" to supply the "evidentiary basis and reasoned justification" required, but felt constrained by the congressional intent that judicial review "be conscionably exercised." [53] Without a reasonably clear articulation of how the agency reasoned from the significant facts to the ultimate decision, he could not endorse the base rates.

Judge Wilkey's requirement that inconsistent data be raised to the level of substantial evidence is a restriction of an agency's latitude in fact gathering. Chief Judge Bazelon's requirement that an agency draw a sufficient link between the salient issues and the proposed solution is an attempt to define an acceptable level of accuracy for agency predictions. Read together, *Mobil Oil* and *Public Service Commission* call for agency procedures adequate to test the crucial facts and an explanation of the inferences drawn from these facts which rationally supports the ultimate conclusion.

The difficulty with this combination test, however, is that it fails to distinguish between facts that must be established and inferences that must only be explained. In many situations there is a broad range of issues that bear rational classification either as facts requiring evidentiary support or as inferences chosen from many plausible interpretations as a matter of discretionary, policy judgment. For example, is a causal connection between increased revenues for natural gas producers and increased investment in gas exploration a "fact" revealed from evidence or an inference shaped primarily by policy considerations? Or is it a mixture of both? The effect can be evidenced, but the exact correlation between how much profit induces how much investment escapes quantification and rests on policy judgment. Obviously, there is no positive test for separating those issues that must be decided on substantial factual support from those assigned to policy resolution. Whether a rule is to survive judicial review, however, often turns solely on that determination. For example, Judge Leventhal strenously disagreed with the majority of the court in *Public Service Commission* over the range of discretion afforded the FPC in making natural gas base rates responsive to the national shortage. To his mind, the methodology used was squarely within the "large areas of government regulation of industry that call for judgment and necessarily

[52] *Id.* 1098.

[53] *Id.*

admit of considerable imprecision." [54] Chief Judge Bazelon, on the other hand, insisted that the court must be advised of exactly what experiment the Commission was conducting and why it chose this method of execution.[55]

The disagreement between the judges probably stems from the attitude each holds toward the "partnership" [56] of agencies and courts as "collaborative instrumentalities of justice." [57] Each is genuinely motivated, no doubt, by his perceptions of fairness in the rulemaking process. Judge Bazelon is explicit in his concern that the Commission justify the imposition on consumers of a substantial increase in price.[58] Judge Leventhal considers it a duty of "responsible partnership in the public interest" to allow the FPC latitude in solving the gas shortage.[59] The dispute is irreconcilable because there can be no universally acceptable standard of fairness when societal goals conflict.

A third member of the D.C. Circuit, Judge Wright, has capsulized the dilemma of rulemaking fairness that troubles his colleagues:

> [I]t makes no sense to speak of a rule as being fair or unfair to an individual in an objective sense of accuracy. A rule allocates benefits and penalties among large classes of individuals according to a specific normative standard, and the fairness of such an allocation is ultimately a political or philosophical question.[60]

The distinction between fairness in disputes over evidentiary accuracy and fairness in normative conflicts is the linchpin of the alternative analytical approach discussed next.

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[54] 487 F.2d at 1066.

[55] *Id.* 1098.

[56] Greater Boston Television Corp. v. FCC, 444 F.2d 841, 851 (D.C. Cir. 1970) (Leventhal, J), *cert. denied*, 403 U.S. 923 (1971).

[57] United States v. Morgan, 313 U.S. 409, 422 (1941) (Frankfurter, J.); *see also* Environmental Defense Fund, Inc. v. Ruckelshaus, 439 F.2d 584 (D.C. Cir. 1971) (Bazelon, C.J.): "We stand on the threshold of a new era in the history of the long and fruitful collaboration of administrative agencies and reviewing courts." *Id.* 597.

[58] 487 F.2d at 1097.

[59] *Id.* 1067.

[60] Wright, *supra* note 14, at 379. Judge Wright followed with the conclusion that "in the rulemaking context, fairness is not identified with accuracy, and procedures designed to maximize accuracy at the cost of all other values are simply inappropriate." *Id.*

II. Informal Rulemaking: Review and Remedy

A. *The Three Steps in Decisionmaking*

Understanding a court's dissatisfaction with an inadequate informal rulemaking is easier if this type of decisionmaking process is segmented into its component parts.[61] Decisionmaking involves (1) the production of an empirical base—the factual predicate—for (2) drawing inferences in a principled fashion—the methodology—and (3) the exercise of policy judgment to reach final conclusions.[62]

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[61] The intimacy between the court's supervisory function and an agency's decisionmaking processes is explained cogently by Judge Leventhal in *Greater Boston Television Corp. v. FCC*, 444 F.2d 841 (D.C. Cir. 1970), *cert. denied*, 403 U.S. 923 (1971). For Judge Leventhal proper judicial review extends far enough into the substance of rulemaking to ascertain whether the agency engaged in reasoned decisionmaking:

> The function of the court is to assure that the agency has given reasoned consideration to all the material facts and issues. This calls for insistence that the agency articulate with reasonable clarity its reasons for decision, and identify the significance of the crucial facts, a course that tends to assure that the agency's policies affectuate general standards, applied without unreasonable discrimination.

Id. 851. The correlative restriction on the court is judicial restraint in upsetting an agency's findings if the "agency has taken a hard look at the issues with the use of reasons and standards." *Id.*

[62] For the most part this Comment will employ the term "factfinding" or its equivalent to refer to both assembly of a factual predicate and application of a methodology to generate further inferences of fact on the basis of the assembled data. In this manner the three-step decisionmaking process will often be treated rather as a dichotomy between "factfinding" and "policy formulation." Similarly, issues that relate either to factual predicate or to methodology usually will be classed indifferently as issues of "fact" in contrast to those that arise in connection with the exercise of policy judgment, which are classed as issues of "policy."

Although this Comment treats methodological issues uniformly as issues of fact rather than policy, a further dissection of methodological issues into issues of fact and issues of policy is possible. Where scientific consensus exists as to the range of sophistication among methodologies such that in effect one is demonstrably more accurate in its results than another, arguments over methodology are properly treated as issues of fact. Clearly, however, scientific consensus regarding a rank ordering of methodologies is often impossible. One example from economics may serve as an illustration. An economist wishing to make predictions concerning the behavior of individuals confronted with uncertainty has at least two methodological assumptions open to him: that individuals are generally risk-adverse or alternatively that they are generally risk-takers. The economist's predictions will differ significantly according to his choice of methodological assumption. Were an agency administrator called upon to adopt one of the sets of predictions, his selection is unlikely to have the benefit of a consensus among economists as to which methodological assumption yields the most "accurate" results, that is, results conforming closest to "reality." In this example as in many others, the administrator's selection will most likely be guided by policy preference. Thus, at least in some cases, the appropriateness of adversarial procedures for the sharpening of methodological issues is open to contest. This Comment, however, will address its criticism only to the prescription of hybrid procedures for the "ventillation" of policy issues that arise at the third step of the decisionmaking process.

Rulemaking, with its particular mixture of these elements, is preferred over adjudication in those cases when an ultimate conclusion cannot be deduced from the factual residue of the first two steps.[63] In many cases, especially in technical decisionmaking, a fully sufficient evidentiary basis is practicably unknowable, or the inferences to be drawn are unavoidably uncertain. For example, accurate predictions of and acceptable limits for exposure to risk are very often beyond the available techniques of measurement.[64]

The limits on measuring risk have been demonstrated by the litigation under statutes designed to protect consumer safety and public health. Excellent examples are the regulations issued under the Federal Insecticide, Fungicide and Rodenticide Act,[65] which must rest on conclusions about the carcenogenic effect of pesticides. The only findings possible may be inconclusive tests showing some cancer causation in laboratory animals. Expert analysis can translate this data into a conjectural relationship between exposure level and incidence of cancer. If an administrator chooses to ban the substance or, alternatively, allows its continued commercial distribution, how should the propriety of the decision be measured? Ordering social priorities does not appear to be a problem because the clear legislative intent was to prevent the use of hazardous materials altogether. A scientific conclusion on the threshold of hazardousness, however, is a priority judgment on what benefits the public may enjoy and what price in involuntary exposure is exacted in return. If the available evidence produces no certain result, the administrator must confront the normative conflict between the social utility of pesticides and the associated health risk.

What makes this policy judgment different from the larger legislative decision to ban some substances is the introduction of trained expertise. Behind the legislative delegation to agencies of risk determinations is a desire to mobilize the available knowledge and resources to obtain the best estimate.[66] At some point the limits of scientific certainty will force administrators to speculate, but they do so with the specific approval of Congress. Agency officials are obliged to suggest the degree of risk society should accept.[67]

[63] For a detailed analysis of the intellectual process involved in rulemaking as opposed to adjudication, see Williams, *supra* note 14, at 403-11.

[64] *See* Green, *The Risk-Benefit Calculus in Safety Determinations*, 43 GEO. WASH. L. REV. 791 (1975); Handler, *A Rebuttal: The Need for a Sufficient Scientific Base for Regulation*, 43 GEO. WASH. L. REV. 808 (1975).

[65] 7 U.S.C. §§ 135-135k (1970), *as amended*, Federal Environmental Pesticide Control Act of 1972, 7 U.S.C. § 136 (Supp. III 1973).

[66] *See* Green, *supra* note 64, at 805.

[67] *See* Handler, *supra* note 64, at 809.

The role of the courts is not to challenge that decision on the merits. No factual showing will unquestionably sustain rules in areas of tremendous uncertainty such as energy, environment, or consumer safety. Rather, the courts' task is to question whether the concept of risk is defined in proper factual terms and estimated with the best value-neutral methodological precision possible.

In recent years agencies have turned to rulemaking to resolve controversies that combine technical and political disputes in an inseparable mix. It was necessary to abandon strict adjudicatory modes because of the nature of the problems. Accuracy, the hallmark of adjudication, is of drastically diminished importance when social-value priorities are not sufficiently detailed to definitively direct the choice between conflicting goals. What air pollution standards are optimal? What safety devices should be mandatory for automobiles? Accuracy is impossible when the practicably available knowledge does not provide analytical constructs accounting for all relevant variables. These types of problems, impervious to accurate solution, have no answer as a matter of fact; the best accommodation that can be made is an optimizing compromise between conflicting interests as a matter of policy.[68]

Solving the technical/political problem in situations involving undeveloped, complex technology requires new managerial tools to foresee and evaluate consequences without the benefit of experience or testing.[69] Rulemaking is adopted for problematic, technical decionmaking to address such questions of mixed fact and uncertainty because of its quasi-legislative flexibility. The distinct value of rulemaking inheres in the legislative mandate to reach conclusions not framed by the assembly of data or the inferences drawn therefrom. Decisions lying beyond factual certainty must be made; therefore, policy trade-offs between competing value judgments are necessary.

The potential of informal rulemaking to reach beyond the traditional limitations of adjudication was recognized early by the Supreme Court in the renowned *Storer Broadcasting*[70] case. The Court determined that FCC regulations limiting how many radio and television stations an applicant could own were valid despite

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[68] Boyer, *Alternatives to Administrative Trial-Type Hearings for Resolving Complex Scientific, Economic, and Social Issues*, 71 MICH. L. REV. 111, 118-19 (1972).

[69] *Id.* at 156; Gelpe & Tarlock, *The Uses of Scientific Information in Environmental Decisionmaking*, 48 So. CAL. L. REV. 371, 389 (1974). *See generally*, TECHNOLOGY ASSESSMENT: UNDERSTANDING THE SOCIAL CONSEQUENCES OF TECHNICAL APPLICATIONS (J. Kasper ed. 1972).

[70] United States v. Storer Broadcasting Co., 351 U.S. 192 (1956).

the absence of a full hearing process. Rulemaking, the Court reasoned, was the appropriate method to rationally and fairly resolve the competing values of the industry and the public. The *Storer* doctrine rests on a judicial awareness that administrative policy innovation should not be straight-jacketed by adjudicatory formalities "basically unsuited for policy rule making." [71]

Furthermore, if exercised properly, rulemaking can be simultaneously efficient and fair: efficient because the gathering of evidence is expedited by use of written submissions, and fair because participation is extended to all interested parties.[72] If rulemaking is to achieve its potential, however, both parts of the process must be legitimate: facts, such as they exist, must be found, not fabricated, and policy judgments must be rationally made, not rationalized.

B. *Judicial Review of Informal Rulemaking by Reference to the Three Steps of Decisionmaking*

A careful fractioning of the rulemaking decisional process can achieve a balance between an agency's need for flexibility in determining appropriate policy and a court's duty to examine the decision closely. Agency freedom to decide policy can be respected while selective borrowing from the adjudicatory mode assures that the necessary facts are tested and formalized. In problematic regulatory areas, it should be incumbent on the agency to separate facts, methods, and policies for judicial review. The validity of the factual predicate and methodology must be self-evident so that, regardless of the judicial review standard, they will be examined with sufficient attention to divine their reasonableness. If either factual predicate or methodology is in doubt as to its rationality, the court should remand to the agency for more elucidating procedures or a more elaborate explanation. The primary usefulness of adversary procedures is in testing the evidence and analysis in the first two steps of rulemaking. The third step—the exercise of policy judgment—is treated more deferentially, as is proper toward delegated legislative authority. Judicial scrutiny here should be limited to ascertaining whether the agency has come forward with a true and complete disclosure of the reasons underlying its policy choice, including the reasons for rejecting alternative policies. Be-

[71] American Airlines, Inc. v. CAB, 359 F.2d 624, 629 (D.C. Cir.) (en banc), *cert. denied*, 385 U.S. 843 (1966).

[72] *See* National Petroleum Refiners Ass'n v. FTC, 482 F.2d 672, 683 (D.C. Cir. 1973); Verkuil, *supra* note 14, at 248.

yond this, substantive review of policy judgments requires only protections against arbitrary or irrational decisions.

Interestingly, the concept of fragmenting a rulemaking record step-wise with the principal parts of decisionmaking has been strongly suggested, if not fully utilized, in several decisions of the D.C. Circuit.[73] The analysis rendered in *Amoco Oil Co. v. EPA* [74] is particularly instructive because agency rules designed to protect the environment, health, and safety have posed intricate problems of factual support and procedural fairness. The court undertook a close scrutiny of the evidence supporting the EPA's regulation placing a limit on the lead content of gasoline.[75] The court recognized

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[73] *See, e.g.*, Automotive Parts & Accessories Ass'n v. Boyd, 407 F.2d 330 (D.C. Cir. 1968); there the court applied the arbitrary and capricious test in reviewing a safety standard issued pursuant to the National Highway Traffic and Motor Vehicle Safety Act of 1966, 15 U.S.C. §§ 1381-1431 (1970), requiring mandatory front-seat head-restraints on all new cars. Challengers to the rule argued that some terms in the Safety Act implied that a formal evidentiary hearing was required. Although Judge McGowan refused to read the legislative history or text of the statute as an "oblique" way of imposing formal procedures, his review was not totally deferential. 407 F.2d at 336. He insisted that the "record" of submissions made in response to an informal rulemaking notice be accompanied by the agency's formulation of significant issues faced and articulation of the rationale of their resolution. The "concise general statement of . . . basis and purposes" provided for in the informal rulemaking procedures of the APA was expected to identify the major issues and explain the agency's reaction to them, *id.* 338—expectations closely paralleling those of *Mobil* and *Public Service Commission.*

If any greater agency discretion was allowed in the informal proceedings, Judge McGowan saw justification not in the different procedures used, nor in the review test applied, but in the "inherently legislative nature of the task . . . where the Department is concerned with the issuance of rules requiring basic policy determinations rather than the resolution of particular factual controversies." *Id.* 336. What Judge McGowan suggests is that policy judgments are not amenable to the rigors of procedural testing, but subject only to controls "calculated to negate the dangers of arbitrariness and irrationality." *Id.* 338.

In *Chrysler Corp. v. Department of Transp.*, 472 F.2d 659, 668-69 (6th Cir. 1972), the court used the substantial evidence test in reviewing a later stage of the Department's development of Motor Vehicle Standards. Despite the difference in review standards, the court's analysis of the evidence and result is very similar to that of *Auto Parts.* Although the challengers in *Chrysler* did not protest the use of § 553 proceedings, the court cited *Auto Parts* with apparent approval of informal procedures. The conclusion may be that regardless of the format used or the review test applied, the criteria for judging the factual predicate and methodology of rulemaking are the same. *See* Bunny Bear, Inc. v. Petersen, 473 F.2d 1002, 1006 (1st Cir. 1973) (applying the arbitrary and capracious test but noting that the agency's "obligation to make findings, based on investigation and research, that satisfies [the criteria of the Flammable Fabrics Act] lead us to a standard of review that may differ little, if at all, from the standard normally used in substantial evidence review.") *See also* Ethyl Corp. v. EPA, 541 F.2d 1, 36 (D.C. Cir.) (en banc), *cert. denied,* 426 U.S. 941 (1976), and cases cited therein; Associated Indus. v. United States Dep't of Labor, 487 F.2d 342, 349-50 (2d Cir. 1973); Nathanson, *supra* note 14, at 750; Note, *supra* note 44, at 1758 n.42.

[74] 501 F.2d 722 (D.C. Cir. 1974).

[75] Only relatively lead-free gasoline (0.05 gram/gallon) was compatible with the catalytic converters required on a large number of 1975 model year automobiles

that the adopted provisions necessarily relied to a large extent on imperfect data, experiments and simulations, and educated predictions.[76] A policy choice between competing social values arose as a function of this factual uncertainty. The regulation, which turned on differing assessments of risk and "predictions dealing with matters on the frontiers of scientific knowledge," [77] presented the normative conflict between the risk of polluted air and the economic burden on gasoline producers. As to the resolution of that conflict, the court demanded only "adequate reasons and explanations, but not 'findings' of the sort familiar from the world of adjudication." [78]

The bifurcation in review standards applied to supporting data and to ultimate policy conclusions was suggested earlier in *Industrial Union v. Hodgson*,[79] a case dealing with asbestos exposure regulations issued under the Occupational Safety and Health Act (OSHA).[80] Judge McGowan divided the Labor Secretary's factual determinations into two categories: conclusions resulting from the evaluation of data and those depending primarily upon policy judgments. The second category was supported by data insufficient to produce any reasonably provable prediction.[81]

OSHA called for review of the rule using the substantial evidence standard.[82] The court applied that test to the first category of factual determinations. As to the second category, however, the court declared that "judicial review of inherently legislative decisions of this sort is obviously an undertaking of different dimensions." [83] Judge McGowan reasoned that policy choices "are not susceptible to the same type of verification or refutation . . . as are some factual questions." [84]

The logic in recognizing a difference between demonstrable factual conclusions and policy decisions—and an attendant difference in review standards—is incontrovertible. Strictures from judicial

by interim pollution emission standards issued by the Administrator under the Clean Air Amendments of 1970, 42 U.S.C. § 1857f-1-6c (1970).

[76] 501 F.2d at 734.

[77] 501 F.2d at 741. *See also* Industrial Union v. Hodgson, 499 F.2d 467, 474 (D.C. Cir. 1974), discussed at text accompanying notes 79-87, *infra*.

[78] 501 F.2d at 741.

[79] 499 F.2d 467 (D.C. Cir. 1974).

[80] 29 U.S.C. §§ 651-78 (1970).

[81] 499 F.2d at 474.

[82] 29 U.S.C. § 655(f).

[83] 499 F.2d at 475 (footnotes omitted).

[84] *Id.* It has been suggested that the Court was aided in affirmance of the proposed rule by the statutory preference for protection of employee health in circumstances requiring a value trade-off. Note, *Judicial Review of the Facts in Informal Rulemaking: A Proposed Standard*, 84 YALE L.J. 1750, 1761-62 (1974).

review requiring proof of the sort found in adjudication for all agency policy judgments will surely defeat rulemaking flexibility.[85]

Agency discretion to make policy judgments is not, of course, completely unfettered. Judge McGowan properly points out in *Industrial Union* that where an administrator makes policy judgments in areas of factual uncertainty, "he should so state and go on to identify the considerations he found persuasive." [86]

The discretion that is reserved for the agency, Judge McGowan explains, is the freedom to employ expertise in fashioning a solution "where existing methodology or research in a new area of regulation is deficient." [87] Agency expertise is vulnerable to attack as a legal myth and has been abused as a shield to judicial review.[88] Nevertheless, the term conveniently summarizes that combination of prior experience and familiarity with developing regulatory techniques and technology that initially prompted legislative delegation of specific power to address issues requiring expert opinion and reasoned predictions to administrative agencies.[89] In some circumstances, accuracy in factfinding must be sacrificed to accommodate innovation, experimentation, and simple pragmatism.[90]

Fragmenting the decisional process offers a workable substitute for the polarized and ill-articulated tests that now obscure the rea-

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[85] *See* Wright, *supra* note 14, at 376-78.

[86] 499 F.2d at 476, *Accord* Associated Indus. v. United States Dep't of Labor, 487 F.2d 342, 354 (2d Cir. 1973). Judge Friendly questioned "whether judicial review of legislative standards resulting from informal rulemaking will ultimately prove to be feasible." Judge McGowan answered in *Industrial Union* that it depends partially on the court's ability "to be always mindful that at least some legislative judgments cannot be anchored securely and solely in demonstrable fact." 499 F.2d at 476.

[87] 499 F.2d at 474 n.18. *Accord* Permian Basin Area Rate Cases, 390 U.S. 747, 811 (1968) (inadequate research and experience in new method of natural gas regulation).

[88] *See, e.g.*, Freeman, *Expertise and the Administrative Process*, 28 AD. L. REV. 363 (1976); Schwartz, *Legal Restriction of Competition in the Regulated Industries: An Abdication of Judicial Responsibility*, 67 HARV. L. REV. 436, 471-475 (1954).

[89] The introduction of expert judgment into informal rulemaking flows from the agency's freedom to rely on information and opinion outside the compiled record. When agencies tackle the Gordian knots of economic, environmental, and energy regulation some reliance on expert judgment is inevitable. Usually the courts are sympathetic. "Frequently, statistics, scientific reports and studies will be amenable to various interpretations and effective regulation requires that the Commission bring to bear the full range of its knowledge, garnered from whatever source in making the interpretation on which it bases important policy decisions." City of Chicago v. FPC, 458 F.2d 731, 747 (D.C. Cir. 1971) (footnotes omitted), *cert. denied*, 405 U.S. 1074 (1972).

[90] The nature of issues proper for resolution by expertise have been described as the kind "where a month of experienc will be worth a year of hearings." American Airlines, Inc. v. CAB, 359 F. 2d 624, 633 (D.C. Cir.) (en banc) (Leventhal, J.), *cert. denied*, 385 U.S. 843 (1966); *see* Williams, *supra* note 14, at 408-11.

soning in judicial review of informal rulemaking. A prominent example of the judicial impasse in this regard is the profound disagreement among the members of the D.C. Circuit over what "combination of danger signals" [91] indicates that the rulemaking process has been unreasonable and over what remedy cures which shortcoming. Consider the clash on these points between Judges Leventhal and Bazelon in *International Harvester Co. v. Ruckelshaus.*[92] In that case the EPA had denied petitions for a one-year deferral of the automobile emission standards established under the 1970 Amendments to the Clean Air Act,[93] and the automobile manufacturers appealed to the court. Judge Leventhal, along with Judge Tamm, concluded that the rulemaking procedures used resulted in an uncertain record that inhibited meaningful review. Specifically, the majority felt that the challengers had raised substantial doubts about the Administrator's reliance on a predictive methodology to offset the only actual data available which strongly supported the lack of available technology.[94] The court's dissatisfaction with the record was two-pronged: (1) a preponderance of the evidence indicated that the technology was not available, and (2) the reliability of EPA's methodology was not supported by any reasoned presentation.[95] Furthermore, no question of policy was involved because Congress had made the judgment that suspension of the standard should turn on the ascertainable facts of technology availability. In remanding, the court proposed to cure the decisionmaking faults by affording to the parties a limited right of cross-examination to challenge the evidence and an opportunity to comment on the analysis and methodology used by the Administrator, which had not been made available until after the rule was promulgated.[96]

Chief Judge Bazelon, concurring in the result, was unwilling to pass on the sufficiency of the factual evidence or methodology. In-

[91] Greater Boston Television Corp. v. FCC, 444 F.2d 841, 851 (D.C. Cir. 1970), *cert. denied,* 403 U.S. 923 (1971).

[92] 478 F.2d 615 (D.C. Cir. 1973).

[93] 42 U.S.C. § 1857f-1(b)(1)(A) (1970).

[94] The one-year suspension provision depended upon the availability of technology to meet the standards in 1975. 42 U.S.C. § 1857f-1(b)(5)(A) (1970).

[95] 478 F.2d at 648-49. Judge Leventhal cast the basis of decision in terms of an assumed burden of proof. For a further discussion of this tool of judicial craftsmanship, see Leventhal, *Environmental Decisionmaking and the Role of the Courts,* 122 U. PA. L. REV. 509, 541 (1974).

[96] 478 F.2d at 649. A similar exercise in remanding for more procedures to strengthen the evidence and analysis was made by the court in *South Terminal Corp. v. EPA,* 504 F.2d 646 (1st Cir. 1974) (remanding for reconsideration of some aspects of the Metropolitan Boston Air Quality Transportation Control Plan where "the objections as to data and methodology seem too serious to . . . simply pass by." *Id.* 665).

stead, he found the court's proper role to be that of guarantor of an agency's "frame-work for principled decision-making." [97] Eschewing a substantive evaluation almost completely, the Chief Judge looked, not to the sufficiency of the record, but only at the "critical character" of the decision. The basis of his decision was the category of the subject matter: "humanity's interest in life, health, and a harmonious relationship with the elements of nature." [98] His conclusion was that this special category automatically triggers a "carefully limited right of cross-examination at the hearing and an opportunity to challenge the assumptions and methodology underlying the decision." [99] At bottom, this judicial reaction equates adversary procedures with proper protection of the " 'consumers' of the natural environment." [100] The guiding principle is not accuracy or reasonableness, but suspicion of agency discretion.

Chief Judge Bazelon's concern with agency discretion has been a recurrent theme in his opinions, especially in reviewing regulations that involve public health and safety.[101] In *Environmental Defense Fund, Inc. v. Ruckelshaus,*[102] he described a "new era" in administrative law "that touches on fundamental personal interests in life, health, and liberty." [103] Announcing that "[t]hese interests have always had a special claim to judicial protection," [104] he opined that the proper control on agency discretion in these special cases was self-discipline. Administrators were required to enhance the integrity of the decisionmaking process through the addition of adversarial devices, thereby diminishing the reviewing court's responsibility to examine the result.[105] The attractiveness of this view for the reviewing court is clear. By imposing extra procedural re-

97 478 F.2d at 651, *quoting* Environmental Defense Fund, Inc. v. Ruckelshaus, 439 F.2d 584, 598 (D.C. Cir. 1971) (Bazelon, C.J.).

98 478 F.2d at 651.

99 *Id.* 652.

100 *Id.* 651. Chief Judge Bazelon's solicitude toward consumers was similarly evident in *Public Service Commission,* see text accompanying notes 58, 79-84, *supra.*

101 *See, e.g.,* O'Donnell v. Shaffer, 491 F.2d 59, 62 (D.C. Cir. 1974) ("Broad issues of public health and safety may, for example, require an expanded right of confrontation . . . ."); Friends of the Earth v. AEC, 485 F.2d 1031, 1032 (D.C. Cir. 1973); Wellford v. Ruckelshaus, 439 F.2d 598, 601 (D.C. Cir. 1971).

102 439 F.2d 584 (D.C. Cir. 1971) (reviewing the refusal to issue a cancellation and summary suspension order for the registration of DDT).

103 *Id.* 597-98.

104 These special interests are distinguished from "the economic interests at stake in a ratemaking or licensing proceeding." 439 F.2d 598. *Accord,* International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 651 (D.C. Cir. 1973) (Bazelon, C.J.) ("[W]e are dealing here not with an airline's fares or a broadcaster's wattage . . . .").

105 439 F.2d at 597.

quirements whenever "special interests" are at stake, the court can be relieved of the prickly task of sifting through technical data and complex analysis. At the same time, the court can disavow any intent to meddle in scientific and technical issues while providing judicial guardianship over environmental, public, and special interest participants in rulemaking. The potential weakness of this approach is that it hastily discards the flexibility of rulemaking and abdicates almost all responsibility for substantive review.

Because of these objections, Chief Judge Bazelon has not been very successful in convincing his colleagues to unqualifiedly join in his view.[106] He has provoked sharp rebuttals from Judge Wright[107] and Judge Leventhal.[108] Their well-taken arguments are that purely procedural review and remedy threaten rulemaking paralysis and narrow the scope of review to an ineffectual rite, contrary to the intent of the APA and the interpretations of the Supreme Court. Beyond these points, the special cases analysis makes no distinction between the discrete parts of administrative decisionmaking. It cuts against all the elements in the agency's decision with the same blunt instrument.

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[106] National Asphalt Ass'n v. Train, 539 F.2d 775, 782 (D.C. Cir. 1976) (McGowan, J., MacKinnon, J.) ("The cases relied on by petitioners do not hold that hybrid procedures are required in all informal rulemaking proceedings dealing with environmental issues."); Kennecott Copper Corp. v. EPA, 462 F.2d 846, 850 n.18 (D.C. Cir. 1972) (Leventhal, J., Wright, J., Tamm, J.) ("[D.C. Circuit] precedents establish that in a particular case fairness may require more than the APA minimum, but are not to be taken as suggesting in any way that the court considers the kind of problems involved in environment regulations to require more than the written submissions specified by Congress."); Environmental Defense Fund, Inc. v. Ruckelshaus, 439 F.2d 584, 598 (1971) (Robb, J., dissenting).

[107] Wright, *supra* note 14, at 388-95; Wright, *Court of Appeals Review of Federal Regulatory Agency Rulemaking*, 26 AD. L. REV. 199, 207 (1974). *But see*, Scientists' Inst. for Pub. Info. v. AEC, 481 F.2d 1079, 1094 (D.C. Cir. 1973).

[108] Chief Judge Bazelon has taken this occasion to discourse on his views . . . as to how an agency should handle the proceedings involving safety and health. . . . [His] underlying approach, voiced in his separate opinion in *International Harvester*, seems to be pointed toward distending the procedural requirements for rule-making proceedings. He seems to be trying to chart a course whereby cross-examination will become routine in rule-making proceedings, subject to exceptions for unusual or emergency circumstances. The view developed in the majority opinion in *International Harvester*, is that oral presentations in rule-making, however desirable, are not generally required, and that such requirements as may be evolving apply to crucial issues where alternative procedures are not adequate.

Friends of the Earth v. AEC, 485 F.2d 1031, 1035 (D.C. Cir. 1973) (Leventhal, J.). For another example of the difference between Bazelon and Leventhal, with particular reference to substantive review of agency decisions, see Ethyl Corp. v. EPA, 541 F.2d 1, 66, 68 (D.C. Cir. 1976) (concurring opinion by Bazelon, C.J., and concurring statement by Leventhal, J.).

C. *Remedies for Inadequate Rulemaking*

Additionally, a procedural cure may be unsuited for the particular infirmity. Adversarial devices designed to sharpen factual outlines are not necessary to restrict rational, nonarbitrary administrative discretion to delegated bounds. Erroneous findings of fact and unreasonable policy judgments require different remedies. A rule's statement of basis and purpose sets out the reasonableness of the decision in relation to the statutory license. If the explanation is not sound, there is little reason to believe that extending cross-examination or discovery to challenging parties will aid the agency in finding an alternative course. The agency must be free to act upon the tested facts and rational inferences in light of its expert judgment alone. The only externally dictated reasoning that must be included are protections against "unconscious preference and irrelevant prejudice." [109] The court cannot probe the administrator's mind for these assurances. It must rely on the reasonableness of the explanation. Forming the ultimate decision and explanation is the sole responsibility of agency officials, either initially or on remand.

In order to fashion a remedy suitable for the inadequacy of a particular rulemaking, the court must carefully catalogue the contested issues according to their fact, methodology, and policy constituents. This analysis could be impossible without detailed clarification by the agency and will no doubt give rise to disagreements over the proper categorization of some issues. The room for error in this interplay between agency and court, however, is much preferable to an undifferentiated review and monolithic procedural remedy.

For the most difficult mixes of fact and policy, a court could make the studied decision that the potential for full disclosure of the true basis of a rule is better with some adversity in the procedures and, consequently, discount the policy elements involved. It should do so only after careful consideration of the agency's explanation of basis and purpose, elaborated on after the areas of judicial concern are identified if necessary. This approach would preserve the court's guardianship role and make some provision for the agency to exercise its legislative adaptability.[110]

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[109] Greater Boston Television Corp. v. FCC, 444 F.2d 841, 852 (D.C. Cir. 1970), *cert. denied*, 403 U.S. 923 (1971).

[110] On the other hand, if the policy judgment cannot fairly be described as within the range of discretion allowed by Congress the court would be clearly justified in disallowing it.

Before prescribing extra procedures for refining the factual component of a mixed issue a court should assess the genuineness of the opportunity to make a presentation afforded by the original procedures and the significance of the factual dispute. Only where the new procedures promise to yield substantially better results than the original ones, and where the factual dispute is of importance to the outcome of the rulemaking as a whole, should the prescription be made.

When examining a mixed fact and policy rulemaking, a reviewing court cannot rely solely on its own impressions of substantive merit, nor can it abstractly evaluate the adequacy of the participatory procedures provided. A satisfactory method for walking the tightrope between substantive interference and procedural overbearance is the following three-part test. First, with the mandatory assistance of the expert agency, the contested issues are categorized by their major element: fact, methodology, or policy. Second, decisionmaking inadequacies are remedied appropriately. Issues that are policy dominant are remanded, without procedural dictates, for a fuller record. If the controlling aspect of the issue is found to be fact or methodology, a procedural remedy is appropriate if, third, two threshold criteria are met: a particular extra procedure must be shown to be more conducive to full disclosure than the original procedures, and the court must judge that the outcome of the rulemaking will be arguably affected by the additional evidence adduced in extra proceedings. This mode of analysis affords two benefits. It respects an agency's policy functioning so that difficult nonfactual problems can be imaginatively and responsibly addressed. It also separates out and focuses on those facts which require extraordinary ventilation before the appropriate audience, without wasting time and energy on those issues satisfactorily disposed of by the normal procedures.

Careful differentiation between the component parts of mixed fact and policy decisionmaking is extremely important when the issue to be decided is both controversial and perplexing. Among the contemporary legislative attempts to grapple with the problems of technology, perhaps none is as controversial and perplexing as NEPA. Consequently, before the full ramifications of joining hybrid rulemaking with the arcane science of environmental impacts can be assessed, several unique complexities intrinsic in NEPA should be understood.

III. NEPA AND RULEMAKING

The National Environmental Policy Act of 1969 has been aptly compared to a constitutional charter.[111] The Act's lofty declaration of general substantive policy and its fragmentary implementation procedures leave all of the details to be filled in by subsequent interpretation and application.[112] The broad substantive policy declaration of section 101 reflects a congressional intent to alter the governmental priorities with regard to environmental values.[113] This imprecise statement of intent to mandate genuine substantive change is coupled with administrative procedures aimed at bringing about that change. The so-called "action forcing" provisions of section 102 impose on all federal agencies the duty to interpret and administer, "to the fullest extent possible," the "policies, regulations and public laws of the United States . . . in accordance with the policies set forth in this [Act]." [114] Most of the efforts by federal agencies to implement NEPA's dictates have been directed at complying with the section 102(2)(c) requirement of a detailed statement for all governmental activities "significantly affecting the quality of the human environment." [115] The environmental impact statement (EIS) has been the major vehicle of ad-

[111] Cramton & Berg, *On Leading a Horse to Water: NEPA and the Federal Bureaucracy*, 71 MICH. L. REV. 511, 512. *See also* Hanks & Hanks, *An Environmental Bill of Rights: The Citizen Suit and the National Environmental Policy Act of 1969*, 24 RUTGERS L. REV. 230, 244-72 (1970); Murphy, *The National Environmental Policy Act and the Licensing Process: Environmental Magna Carta or Agency Coup de Grace?* 72 COLUM. L. REV. 963 (1972).

[112] Crampton & Berg, *supra* note 97, at 512-513.

[113] Section 101(b) provides six goals for federal plans, functions, programs, and resources:

> (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
>
> (2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;
>
> (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
>
> (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;
>
> (5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
>
> (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

42 U.S.C. § 4331(b) (1970).

[114] *Id.* § 4332(1).

[115] *Id.* § 4332(2)(C).

ministrative decisionmaking reform and the best hope for realizing NEPA's substantive policy mandate.[116]

Ordinarily the issues addressed by agencies in NEPA environmental statements have arisen in the context of particular cases. For example, environmental impact statements must detail the specific environmental effects to be expected by the construction of a dam or a segment of interstate highway. In areas of increasing technological complexity, however, individualized consideration of recurrent issues of environmental impact is inefficient and highly burdensome, especially for issues involving mixed questions of fact and policy. Agencies frequently turn to rulemaking to resolve repetitive problems. Rulemaking is also attractive in this context because it offers enhanced flexibility in integrating NEPA with an agency's mission-oriented procedures.[117]

Judicial review of NEPA rulemaking must gauge the extent to which the Act's procedural mandate of administrative reform and its substantive mandate to factor environmental values into agency decisions have been met.

A. *Administrative Reform*

NEPA was enacted primarily to correct the absence of environmental sensitivity in the federal bureaucracy.[118] The strategy of the

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[116] *See* Andrews, *NEPA in Practice: Environmental Policy or Administrative Reform?*, 6 ELR 50001 (1976).

[117] *See* Miller, Anderson, & Liroff, *The National Environmental Policy Act and Agency Policy Making: Neither Paper Tiger Nor Straightjacket*, 6 ELR 50020 (1976).

Efficiency and flexibility led the Commission to rulemaking for evaluating the environmental effects of the uranium fuel cycle—an issue that arises in every nuclear power plant licensing proceeding. For a detailed description of nuclear power plant licensing and the benefits of rulemaking to that process, see Note, *The Use of Generic Rulemaking to Resolve Environmental Issues in Nuclear Power Plant Licensing*, 61 VA. L. REV. 869 (1975). The Commission's purpose in the uranium fuel cycle rulemaking was to examine closely one portion of the virtually boundless range of considerations conceivably relevant to an environmental review of a nuclear power plant and to produce a focused, reasonably documented, and manageable aid to decisionmaking. *See* Environmental Effects of the Uranium Fuel Cycle, Notice of Proposed Rulemaking, 37 Fed. Reg. 24,191 (1972). The Commission's objective was a laudable one. *See* Report of the Council on Environmental Quality, *Environmental Impact Statements, An Analysis of Six Years Experience by Seventy Federal Agencies* (March 1976) at 52-53.

[118] Senator Jackson, NEPA's principal sponsor, succinctly described the need for bureaucratic reform in comments introducing the bill that became NEPA:

> Our present governmental institutions are not designed to deal in a comprehensive manner with problems involving the quality of our surroundings and man's relationship to the environment. The responsibilities and functions of government institutions as presently organized are extremely

statute is to require federal decisionmakers to increase the scope of information they must consider before reaching any decision affecting the environment. The choice of this strategy is in sharp contrast to the traditional solution for bureaucratic problems—structural reorganization. In one legislative stroke, NEPA made "environmental protection a part of the mandate of every federal agency." [119] How this vague, administrative reform was to be realized, however, was unclear until the courts were called upon to set the standards for complying with the procedures of section 102.

The first court to extensively examine the procedural changes in agency decisionmaking anticipated by NEPA was the D.C. Circuit in *Calvert Cliffs' Coordinating Committee v. AEC*.[120] At issue were certain Atomic Energy Commission regulations implementing NEPA. Judge Wright, speaking for a unanimous court, found that the Commission's regulations failed to "consider" environmental impacts in sufficient detail or depth. The court interpreted section 102 to intend a "particular sort of careful and informed decisionmaking process" under a strict standard of procedural compliance vigorously enforced by the courts.[121] Judge Wright detailed the exact parameters necessary in a formula for informed decisionmaking:

> NEPA mandates a case-by-case balancing judgment on the part of federal agencies. In each individual case, the particular economic and technical benefits of planned action must be assessed and then weighed against the environmental costs; alternatives must be considered which would affect the balance of values . . . The point of the individualized balancing analysis is to ensure that, with

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fractionated. . . . This organization reflects our early national goals of resources exploitation, economic development, and conquest.

Our national goals have, however, changed a great deal in recent years. Today Government organization does not reflect this change in objectives and the new demands which are being placed on the environment.

115 Cong. Rec. 3699 (1969); noted in Comment, *The National Environmental Policy Act Applied to Policy-Level Decisionmaking*, 3 ECOL. L.Q. 799, 805 n.23 (1973). *See generally*, Caldwell, A SPECIAL REPORT TO THE SENATE COMM. ON INTERIOR AND INSULAR AFFAIRS, A NATIONAL POLICY FOR THE ENVIRONMENT 8, 90th Cong. 2d Sess. (Comm. print July 11, 1968), noted in F. ANDERSON, NEPA IN THE COURTS: A LEGAL ANALYSIS OF THE NATIONAL ENVIRONMENTAL POLICY ACT 202 (1973).

[119] Calvert Cliffs' Coordinating Comm. v. AEC, 449 F.2d 1109, 1112 (D.C. Cir. 1971), *cert. denied*, 404 U.S. 942 (1972).

[120] *Id.*

[121] *Id.* 1114-15.

> possible alterations, the optimally beneficial action is finally taken.[122]

The optimization expected by Judge Wright is a means, not an end. This conclusion is clear from the passage in which he distinguishes the standards applicable to substantive and procedural review of agency decisionmaking:

> The reviewing courts probably cannot reverse a substantive decision on its merits, under Section 101, unless it be shown that the actual balance of costs and benefits that was struck was arbitrary or clearly gave insufficient weight to environmental values. But if the decision was reached procedurally without individualized consideration and balancing of environmental factors—conducted fully and in good faith—it is the responsibility of the courts to reverse.[123]

The interpretation that optimization is achieved by adequate procedures and is not a substantive test guaranteeing the "right" result is reinforced by Judge Wright's discussion of the dual functions served by section 102(2)(c). First, the detailed statement is expected to inform other interested agencies and the public of the environmental consequences of the proposed action. Secondly, the description of alternatives ensures that the decisionmaker considers all factors that might change the environmental impacts or the balance struck.[124] Judicial enforcement of NEPA's administrative reform could be assured, the court reasoned, by close scrutiny of how the agency exposed information on environmental risk to those outside the agency and the manner in which the agency used that information in the decisionmaking process.

This judicial construction of NEPA as, in effect, an "environmental full disclosure law" [125] has been the most effective method of bringing about a conscientious change in federal agency attitudes toward the environment.[126] Under this construction NEPA opens

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[122] *Id.* 1123.

[123] *Id.* 1115.

[124] *Id.* 1114. Judge Wright repeated this construction of NEPA objectives in Scientists' Inst. for Pub. Info., Inc. v. AEC, 481 F.2d 1079, 1091 (D.C. Cir. 1973).

[125] Environmental Defense Fund, Inc. v. Corps of Eng'rs, 325 F. Supp. 728, 759 (E.D. Ark. 1970), *aff'd*, 470 F.2d 289 (8th Cir. 1972).

[126] The objective of full disclosure is now universally guarded by the courts. *See, e.g.*, Environmental Defense Fund, Inc. v. Froehlke, 473 F.2d 346, 351 (8th Cir. 1972); Natural Resources Defense Council v. Morton, 458 F.2d 827, 833 (D.C. Cir. 1972); Sierra Club v. Froehlke, 359 F. Supp. 1289, 1338 (S.D. Tex. 1973),

up the agency decisionmaking process and subjects it to critical evaluation by other agencies with differing priorities and expertise, by the Congress, and by the interested public. Exposure of the environmental consequences of a particular agency's action to the nation's decisionmakers and others creates external political pressures on the agency to alter its course so as to minimize these consequences, and thus effectuates NEPA's objective of superimposing environmental protection policy and procedures on already existing decisionmaking structures designed to carry out other missions.

A court that undertakes to enforce the NEPA procedural mandate of full disclosure should be cognizant of the implications that the analysis presented in the preceding section has for NEPA decisionmaking. Of crucial importance is an understanding of the policy dimension of the agency's task in resolving NEPA issues. NEPA calls upon the agency to include an additional environmental parameter into its multivariable deliberations. The limitation on agency compliance is the finite elasticity of bureaucratic decisionmaking.[127] Most complex agency decisions are made by comparing the relative importance of various factors against policy guidance provided by Congress, usually in the agency's organic statute. In the easy case, where Congress has articulated a definite ordering of priorities, the agency's role is reduced to that of collecting sufficient facts in order to relegate the issue before it into the congressionally preordained pigeonhole.[128] The interaction of NEPA and a given agency's organic statute, however, does not present the easy case. There is an obvious limit to the number of conflicting priorities any agency can juggle without an explicit

rev'd on other grounds sub nom. Sierra Club v. Callaway, 499 F.2d 982 (5th Cir. 1974).

Professor Andrews strongly maintains that the true success of NEPA is the opening of new channels of information and input for concerned individuals who generate the political pressure—including the threat of court challenges—that creates the incentive necessary for administrators to conscientiously consider the environmental impacts of their decisions. Andrews, *supra* note 116, at 50004-06; Andrews, *Agency Responses to NEPA: A Comparison and Implications*, 16 NAT. RESOURCES J. 301 (1976).

[127] For an especially insightful analysis of the institutional limits of agency decisionmaking with particular reference to the *Calvert Cliffs'* holding that alternatives be considered and environmental costs be balanced against project benefits, see Tarlock, *Balancing Environmental Considerations and Energy Demands: A Comment on Calvert Cliffs' Coordinating Committee, Inc. v. AEC*, 47 IND. L.J. 645 (1972); Cramton & Berg, *supra* note 97, at 527-34.

[128] Consider in this connection the example discussed in the text accompanying note 65 *supra* concerning the banning of hazardous substances. If Congress were able to fashion in advance precise standards of hazardousness, the normative dimension of an administrator's decision to ban a given substance would be significantly reduced, and the decision could more readily be characterized as a "factfinding" as to the existence of a congressionally condemned hazard.

source of reference. Adding NEPA's general, ill-defined environmental mandate to existing agency missions does nothing to resolve the competition among inconsistent objectives.[129] In these circumstances, agency decisionmaking involes uncertainties that cannot be resolved without compromising one kind of value or another. The policy, not the factual character, of such decisionmaking is clearly dominant. The acceptability of these policy compromises must be tested by the public and the executive and legislative branches of the government in the political crucible. This testing requires that administrators fully and honestly disclose the competing values among which a compromise has been made, the possible alternative balances of these values, and the reasons for adoption of the chosen balance. The analysis of the preceding section suggests that judicial intervention into this process of full disclosure of an agency's policy choices should be limited to remanding to the agency for more complete justification those decisions whose bases have been inadequately revealed. The analysis clearly denies the usefulness, in these circumstances, of judicial remand for the introduction of adversary procedures into the decisionmaking process.[130]

Although NEPA issues are most likely to be policy dominant in character, the courts also have a role in policing an agency's disclosure of environmental facts and of methodology employed. Because the courts are restrained by the constitution from substituting their judgment of the merits for that of the agency, they should limit their concern to "evidence that the mandated decision making process has in fact taken place." [131] Courts can guarantee adequate consideration of environmental facts by requiring "a framework for principled decision making." [132] The integrity of the decisional process, not the decisional product itself, is the subject of scrutiny when a reviewing court examines the sufficiency of a statement of impacts or exposition of alternatives. The judiciary can be satisfied that federal agencies have honestly integrated NEPA into the existing decisionmaking procedures if the environmental record reveals a reasonably detailed, substantiated, and candid disclosure of the

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[129] A prime example of priority inconsistency is the conflict between preserving the environment and making new energy sources available. *See generally,* Busterud, *Energy Policy and the Environment,* 54 ORE. L. REV. 503 (1975).

[130] For further discussion of this point, see the text accompanying notes 193-95 *infra.*

[131] Calvert Cliffs' Coordinating Comm. v. AEC, 449 F.2d 1109, 1114 (D.C. Cir. 1971), *cert. denied,* 404 U.S. 942 (1972).

[132] Scientists' Inst. For Pub. Info., Inc. v. AEC, 481 F.2d 1079, 1094 (D.C. Cir. 1973), noting Environmental Defense Fund, Inc. v. Ruckelshaus, 439 F.2d 584, 598 (D.C. Cir. 1971).

environmental costs associated with the proposal. Any test attempting to exact more substantial proof of good faith compliance will pass into second-guessing the agency decision.[133] Although policing the disclosure of environmental costs does effectuate NEPA's administrative reform, the need for complete disclosure must also be balanced against the desirability of agency freedom to allocate time and energy in the face of resource limitations. NEPA is aimed at basic rethinking of environmental goals, but it does not anticipate any search for perfection. A district court reviewing a Corps of Engineers navigation project described the lesser objective:

> If perfection were the standard, compliance would necessitate the accumulation of the sum total of scientific knowledge of the environmental elements affected by a proposal. It is unreasonable to impute to the Congress such an edict. . . . [But] the phrase "to the fullest extent possible" clearly imposes a standard of environmental management requiring nothing less than comprehensive and objective treatment by the responsible agency.[134]

A reviewing court must have some confirmation that the administrative decisionmaker has objectively evaluated all environmental factors.[135] The court should not, however, interject itself into a NEPA decision if the responsible officials produce convincing evidence that they took a "hard look" at environmental consequences.[136] Where such a "hard look" is in evidence, and in view of the practical time and resource limitations upon an agency, courts should eschew remanding agency decisions for more exhaustive factual inquiries into environmental impact and certainly should not require the utilization of costly, time-consuming adversarial procedures.[137]

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[133] *See, e.g.*, Jicarilla Apache Tribe of Indians v. Morton, 471 F.2d 1275 (9th Cir. 1973).

[134] Environmental Defense Fund, Inc. v. Corps of Eng'rs, 348 F. Supp. 916, 927 (N.D. Miss. 1972), *aff'd*, 492 F.2d 1123 (5th Cir. 1974).

[135] The best evidence of reasoned decisionmaking in NEPA cases is a reasoned statement of the ultimate choices made that draws from substantial support in the record and that understandably delineates the environmental effects known and unknown. The importance of such a statement has been repeatedly emphasized by the courts. *See, e.g.*, Scientists' Inst. for Pub. Info. v. AEC, 481 F.2d 1079, 1094-1095 (D.C. Cir. 1973); Environmental Defense Fund, Inc. v. Froehlke, 473 F.2d 346, 350-351 (8th Cir. 1972); Ely v. Velde, 451 F.2d 1130, 1139 (4th Cir. 1971).

[136] Natural Resources Defense Council, Inc. v. Morton, 458 F.2d 827, 838 (D.C. Cir. 1972). The "hard look" test is functionally equivalent to good faith individualized consideration. *See, e.g.*, Scientists' Inst. For Pub. Info., Inc. v. AEC, 481 F.2d 1079, 1092 (D.C. Cir. 1973); Environmental Defense Fund, Inc. v. Froelke, 473 F.2d 346, 353 (8th Cir. 1972).

[137] *See* text accompanying notes 193-95 *infra*.

NEPA's administrative reform, therefore, is identified much more closely with the disclosure of environmental consequences and explanation of choices made—for review by the public, the Congress, the Executive, and the courts—than with the merits of any particular result. Again this conclusion is not at all surprising considering that, as noted above, environmental decisions are based far less in factual determinations than in inchoate value judgments.

One other limitation on NEPA's decisionmaking reform bears directly on all federal agencies. Although administrators may demonstrate good faith objectivity by conscientious analysis, proof of subjective impartiality is beyond reasonable expectation. In contrast to factual determinations, which are susceptible to the requirement of objectivity, NEPA decisionmaking necessarily involves subjectivity insofar as it is unavoidably normative in character. This predominantly normative character of NEPA decisionmaking has been seen to stem from the Act's failure to provide a determinate priority ordering of conflicing social goals. Because an agency's basic mission remains unchanged, considering NEPA values can result in institutional schizophrenia. Understandably, if an agency's primary purpose is building dams, or regulating nuclear power plants, it will be inclined to accept the desirability of continuing commitments to those programs. NEPA is not intended to totally reshape mission orientation into an environmentalist mold. It is a mechanism for broadening the bureaucracy's narrow, insensitive approach to decisionmaking.[138] In response to these realizations, the courts have not required agency officials to prove subjective impartiality. Rather, the inevitability of an institutional bias is accepted as adequately compensated for by the procedural requirements of section 102—when vigorously enforced.[139] As long as "there is no way [the decisionmaker] can fail to note the facts and understand the very serious arguments advanced by [participants]," institutional bias is not an encumbrance in complying with NEPA.[140] Overcoming agency bias—as well as fusing

[138] *See, e.g.*, Sierra Club v. Froelke, 359 F. Supp. 1289 (S.D. Tex.), *rev'd on other grounds sub nom.*, Sierra Club v. Callaway, 499 F.2d 982 (5th Cir. 1974); Environmental Defense Fund, Inc. v. Corps of Eng'rs, 325 F. Supp. 728, 759 (E.D. Ark. 1971), *aff'd*, 470 F.2d 289 (8th Cir. 1972), *cert. denied*, 412 U.S. 931 (1973) ("The Congress by enacting NEPA, may not have intended to alter the then existing decisionmaking responsibilities or to take away any then existing freedom of decisionmaking, but it certainly intended to make such decisionmaking more responsive and more responsible.").

[139] *E.g.*, Environmental Defense Fund, Inc. v. Corps of Eng'rs, 470 F.2d 289 (8th Cir. 1972), *cert. denied*, 412 U.S. 931 (1973).

[140] *Id.* 295, *quoting the district court opinion*, 342 F. Supp. 1211, 1218 (E.D. Ark. 1972).

NEPA values into the decisional methods—is left to the indirect pressures on the responsible executive who examines the environmental benefits and detriments and publicly announces his decision.[141] The strength of these forces is assured by judicial review of the statements to see that they provide "a record upon which a decisionmaker could arrive at an informed decision." [142]

B. *Substantive Policy Mandate*

While a federal agency can evidence procedural reform by candidly disclosing the environmental impact of its choices, the question remains whether the substantive decisions made must show some minimum regard for the policy mandate contained in section 101 of NEPA. Does NEPA prescribe some identifiable quantum of deference to environmental preservation that cannot be balanced away? What is the role of the courts in enforcing compliance beyond procedural requisites? Such questions have received much attention from the courts and commentators. The majority answer endorses a function for the judiciary in overseeing the substantive implications of NEPA.[143] The nature of substantive review of agency decisionmaking may be described in terms of the standard of review on the one hand and the degree of leniency allowed in the application of such a standard, in view of the imponderables inherent in the agencies' task, on the other.

With regard to the standard of review, the courts have unanimously settled on the standard found in *Citizens to Preserve Over-*

[141] *See, e.g.*, Sierra Club v. Callaway, 499 F.2d 982 (5th Cir. 1974); Sierra Club v. Froehlke, 486 F.2d 946 (7th Cir. 1973). The most common implication of institutional bias is an agency's commitment to and investment in a project or program prior to the enactment of NEPA. The courts have recognized that it is impracticable, if not impossible, for an agency to totally re-examine a tortuously evolved course of action when a significant investment of time, money, and foregone alternatives has been made, often as a result of prior governmental policy choices. *See, e.g.*, Environmental Defense Fund, Inc. v. Corps of Eng'rs, 492 F.2d 1123 (5th Cir. 1974). The Council on Environmental Quality (created by Title III of NEPA) has provided general guidance for circumstances of impracticability:

> 11. *Application of section 102(2)(C) procedure to existing projects and programs.* . . . Where it is not practicable to reassess the basic course of action, it is still important that further incremental major actions be shaped so as to minimize adverse environmental consequences. It is also important in further action that account be taken of environmental consequences not fully evaluated at the outset of the project or program.

Guidelines For Federal Agencies Under the National Environmental Policy Act, 36 Fed. Reg. 7,724, 7,727 (1971).

[142] Environmental Defense Fund, Inc. v. Corps of Eng'rs, 342 F. Supp. 1211, 1217 (E.D. Ark.), *aff'd*, 470 F.2d 289 (8th Cir. 1972), *cert. denied*, 412 U.S. 931 (1973).

[143] *E.g.*, Note, *The Least Adverse Alternative Approach To Substantive Review Under NEPA*, 88 HARV. L. REV. 735 (1975) and sources cited therein at n.2.

ton Park, Inc. v. Volpe.[144] In *Overton Park,* the Supreme Court applied the arbitrary and capricious standard of the APA [145] to the Secretary of Transportation's approval of federal funds to build a highway through public parkland. The Court required that a "searching and careful inquiry" be made into the facts supporting the Secretary's finding that statutory preconditions had been met.[146] In making that determination, however, the Court further explained that the standard is a narrow one: "The court is not empowered to substitute its judgment for that of the agency." [147] In NEPA cases this standard translates, in the language of *Calvert Cliffs',* into the question whether "the actual balance of costs and benefits that was struck was arbitrary or clearly gave insufficient weight to environmental values." [148]

It would be more reassuring to have concrete guidelines on what separates careful scrutiny from substitution of judgment, but the concept is necessarily more fluid than definitive. The court, as "senior partner" in the enterprise,[149] is obliged to leave the ultimate resolution of competing scientific opinion and differing data bases to the agency decisionmakers.[150] The agency in turn is required to set forth in detail why the policy emphasis in NEPA should not prevail.

How judicial application of the standard of substantive review articulated without elaboration in *Calvert Cliffs'* is to differ as a practical matter from procedural review—described in some detail in *Calvert Cliffs'*—is certainly not clear.[151] The best suggestion is that substantive review is a description of judicial attitude instead of judicial mechanics. Unable to find any quantifiable element in

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144 401 U.S. 402 (1971).

145 *See* note 44 *supra.*

146 The Secretary could approve funds only if (1)"there is no feasible and prudent alternative to the use of such land," Department of Transportation Act of 1966, 49 U.S.C. § 1653(f) (1970), and (2) "such program includes all possible planning to minimize harm to such park . . . resulting from such use." Federal-Aid Highway Act of 1968, 23 U.S.C. § 138 (1970).

147 401 U.S. at 416.

148 449 F.2d at 115. *Accord,* Environmental Defense Fund, Inc. v. Corps of Eng'rs, 492 F.2d 1123 (5th Cir. 1974); Sierra Club v. Froehlke, 486 F.2d 946, 953 (7th Cir. 1973); Conservation Council v. Froehlke, 473 F.2d 664 (4th Cir. 1973); Environmental Defense Fund, Inc. v. Corps of Eng'rs, 470 F.2d 289, 300 (8th Cir. 1972), *cert. denied,* 412 U.S. 931 (1973).

149 Friendly, *Some Kind Of Hearing,* 123 U. PA. L. REV. 1267, 1311 n.221 (1975).

150 Environmental Defense Fund, Inc. v. Froelke, 368 F. Supp. 231, 240-41 (W.D. Mo. 1973), *aff'd sub nom.* Environmental Defense Fund, Inc. v. Callaway, 497 F.2d 1340 (8th Cir. 1974).

151 *See* text accompanying notes 120-24 *supra.*

the congressional policy statement—because none exists—the courts have turned to a qualitative alternative. The goals enumerated in section 101 are broad and idealistic and, therefore, are a suitable tool for judicial activism. Substantive review may not be a test as much as a starting point. Federal agency programs and projects at odds with environmental preservation are placed by the activist court into an evidentiary hole. The depth of the hole is probably determined by the seriousness of environmentalists' objections. Agency officials must climb out before they can begin to build a case showing that NEPA's substantive goal has been reached.

Recognizing the bureaucracy's previous poor environmental track record and the limited potential for NEPA to affect substance through procedures,[152] it is appropriate that the courts give environmental values a sympathetic boost. NEPA is designed to make a great deal of administrative action—formerly entirely free of environmental concern—reviewable against a new standard. The force of judicial activism, however, must be tempered with a full understanding of the institutional limitations on the most exacting NEPA duty: balancing less environmentally detrimental alternatives against the proposed action.[153]

The danger in forcing agencies to consider an unbounded range of alternative solutions—involving a limitless mix of policy choices and implementation strategies—is overtaxing management capabilities. A complete analysis of every appropriate alternative might have to include the possibility of national priority reordering or of total program reform. Expecting years of incremental decisionmaking to be undone by one agency of limited jurisdiction and expertise is unrealistic and may be counter-productive. Excessive judicial emphasis on comprehensive consideration of alternatives may force the agency to treat the statement of alternatives as a court exhibit. The agency will thus be discouraged from candidly discussing the policy framework that dictates the range of manageable alternatives within the agency's control and from suggesting what policy restructuring might open up other alternatives. Instead, the agency will try to satisfy the courts' preference for data,

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[152] For a most critical look at the promise of NEPA reform, see Sax, *The (Unhappy) Truth About NEPA*, 26 OKLA. L. REV. 239 (1973).

[153] A full analysis of the implications is left to others but an appreciation of what can be realistically expected is essential in assessing the success of administrative innovations integrating mission procedures and NEPA. *See* Jordan, *Alternatives Under NEPA: Toward an Accommodation*, 3 ECOL. L.Q. 705 (1973); Zimmerman, *Alternatives to Proposed Actions Under NEPA: The AEC Response After Calvert Cliffs'*, 14 ATOMIC ENERGY L.J. 265 (1973); Tarlock, *supra* note 116; Cramton & Berg, *supra* note 111; Murphy, *supra* note 111.

tables, and charts demonstrating that the "optimally beneficial action" was proposed. Under such circumstances, it is not surprising that agencies channel their finite resources into project justifications.[154] A defensive posture is the agencies' only recourse as long as the judiciary fails to recognize that selection between alternatives is possible only if their relative merit can be ranked. Ranking in turn requires a valid priority ordering and quantifiable values. If either element is appreciably absent, the comparison of alternatives is only a facile word exercise, and in the NEPA context the first is significantly lacking.

As a consequence of the lack of priority ordering, the factual appearance of NEPA cost-benefit determinations acts as a disguise for difficult agency policy judgments. One example of the need for systematic ordering of priorities will serve to demonstrate its significance for purposes of the analysis undertaken here. Meeting energy needs by the use of nuclear power involves unavoidable costs—environmental sacrifices, risk of accidents, resource exploitation. Balancing the cost against the benefit produces a rough ratio of social worth. The term ratio must be used advisedly because most of the environmental costs and some of the benefits clearly cannot be expressed as integers. A cost-benefit ratio, then, is no more than a comparative value judgment disguised as a mathematical conclusion.[155] Building on this analytical fiction, the project cost-benefit ratio is the baseline for comparison with all alternatives.

The inability of nuclear power plant opponents to prove that either fossil-fueled plants or delay awaiting new power sources is a superior choice leaves only the comparison between building the plant or abandoning the project altogether—are the benefits of the project sufficiently in excess of the costs? Who is to say that satisfying the assumed need for electricity outweighs the cost and on what evidence? Should the NRC control energy supply by restricting the issuance of licenses on some strict standard of necessity and thereby cut back on energy demand? What new level of demand below the present high energy consumption produces the optimum mix of reduced risk, scarce resource allocation, unemployment and economic growth? These are the underlying policy tensions abstractly represented by the numerical ratios and resolution of these tensions is ultimately a matter of politics, not science. A federal agency trying to resolve even a small portion of these tensions looks

[154] *See* Cortner, *A Case Analysis of Policy Implementation: The National Environmental Policy Act of 1969*, 16 NAT. RESOURCES J. 323, 335-36 (1976).

[155] *See* Note, *Cost-Benefit Analysis and the National Environmental Policy Act of 1969*, 24 STAN. L. REV. 1092 (1972).

to the legislature for some ordering principle. Where Congress has, as in the case of NEPA, failed to give the agency the aid of a determinate ordering, substantive judicial review should be accordingly lenient.

The courts have been willing to relax the standards of "proof" when the legislature has clearly intended that the risk of harm be a sufficient predicate for protective regulations.[156] There is no apparent reason to take a different view when the legislature has refused to reconcile competing social values, such as environmental risk and expanding energy capacity. Resolving the unavoidable policy conflicts is left by default to the agencies. These bodies are more expert than Congress, which may partially explain the legislature's inactivity. In any event, the judiciary is not at liberty to indirectly require policy reconciliations by imposing standards of proof that agencies cannot meet.[157] In the NEPA context, it may be argued that most non-environmental agencies cannot shelter their risk assessments under the guise of expertise.[158] This skeptical approach ignores NEPA's purposeful introduction of environmental professionals into agency staffs and environmental factors into the decisional equation in general. Officials of the Nuclear Regulatory Commission may not be geologists or ecologists, but it is their responsibility—not the courts—to assess the evidence of the true experts and to make the appropriate speculations. Furthermore, the reserved area of scientific uncertainty can be identified sufficiently, even to generalist judges, to prevent free roaming agency abuse.

IV. Special Procedural Devices for NEPA Rulemaking: *NRDC v. NRC*

The NEPA draftsmen contemplated that environmental values would be protected by early comprehensive planning of federal activities. NEPA was specifically designed to break the incremental decision chain that too often results in irreversible commitments with unexpected effects on the environment.[159] Project by project investigations are often too narrow in scope or undertaken too late

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156 Casenote, 25 Cath. U.L. Rev. 178 (1975).

157 For a discussion of why adversarial procedures also need not, as a rule, be imposed by the judiciary in order to fulfill NEPA's substantive mandate, see the text accompanying notes 196-97 *infra*.

158 *See* Oakes, *Developments in Environmental Law*, 3 ELR 50001, 50011 (1973); Leventhal, *Environmental Decisionmaking and the Role of the Courts*, 122 U. Pa. L. Rev. 509, 523-524 (1974).

159 547 F.2d at 640-41, *quoting from* S. Rep. No. 296, 91st Cong. 1st Sess. 5 (1969); *see generally* Anderson, NEPA In The Courts 1-14 (1973).

to fulfill this design. Broad programmatic proceedings, on the other hand, are an effective means towards maximizing the timely consideration of all environmental factors. They are particularly suited for the consideration of the cumulative or synergistic environmental impacts of long range federal activities.[160]

Rulemaking, therefore, offers the most appropriate procedure for agencies to examine future programs and policies in the NEPA context. The rulemaking blend of fact-finding accuracy and legislative flexibility is distinctly suited for planning that must balance anticipated project benefits against possible detriments to the environment. Such planning must be done early enough so that important options are not inadvertently foreclosed, but not so early that the absence of experience or testing invalidates its practical usefulness. Better environmental decisions are possible if agencies are encouraged to expand the use of early rulemaking for planning their activities and forecasting the environmental results.

In order to encourage agency use of rulemaking under NEPA, a maximum amount of freedom should be left to an agency to institute participatory procedural innovations beyond the minimum required by its organic statute and the APA. Agency officials are in the best position to counterbalance the benefits of increased public participation against the burdens of over-formalized proceedings. The potential for gaining political acceptance of controversial decisions by opening up the decisionmaking process to the public is neither unrecognized nor unwelcomed by administrators.[161] But neither are they ignorant of the ulterior motives of some participants who find delay of official action enough of a victory. The rapid adoption and ultimate success of NEPA rulemaking, therefore, will be best assured by allowing federal agencies the latitude to formulate their own prescriptions for fairness, efficiency and accuracy.

The task for a court in reviewing NEPA rulemaking is a very delicate one. Without stifling the agency's initiative the court must insure that the rulemaking meets the particularized due process standards and implements NEPA's procedural and substantive

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[160] The Supreme Court announced in *Kleppe v. Sierra Club*, 427 U.S. 390 (1976), that the "cumulative or synergistic" environmental impacts of federal programs and practical considerations of feasibility are significant factors in determining when programmatic environmental impact statements are required. *Id.* 410. The desirability of programmatic statements for environmental planning is discussed in Miller, Anderson, and Liroff, *supra* note 117.

[161] *See, e.g.*, Remarks by Marcus A. Rowden, Chairman, United States Nuclear Regulatory Commission, before The International Symposium on the Management of Wastes from the LWR Cycle, Denver, Colorado (July 12, 1976).

mandates. At the same time, the reviewing court must be wary of the analytical difficulties involved: the hybrid-rulemaking doctrine has many ill-defined edges and the sketchy NEPA charter is equally ambiguous. The review of innovative proceedings combining the complexities of rulemaking and NEPA decisionmaking thus requires a careful conceptualization of the standards to be met. Unfortunately the analysis provided by the first court to authoritatively address NEPA rulemaking is inadequate in significant respects. Indeed, a crucial error is made by the majority opinion in *NRDC v. NRC* in characterizing as factual, issues essentially policy in nature. From this initial error the majority proceeds to further err by inappropriately prescribing adversarial procedures as the means to remedy an admittedly inadequate rulemaking record.

The opinion of the court, written by Chief Judge Bazelon,[162] held that given what was characterized as an inadequately developed "factual" record [163] it was arbitrary and capricious of the Commission to treat the environmental effects of fuel reprocessing and waste disposal as relatively insignificant for purposes of the licensing of nuclear reactors. Judge Tamm endorsed this finding and joined in the remand of the waste disposal portion of the rule for supplemental evidence showing that a hard look was taken at that issue. The majority and concurring opinions fundamentally disagreed, however, on the focus of the court's inquiry and on the remedial disposition. The judges agreed that the record generated was incomplete.[164] The controversial question was whether procedures

[162] Chief Judge Bazelon was joined in the opinion by Judge Edwards of the Sixth Circuit, sitting by designation.

[163] The court indicated in detail the record inadequacies relating to waste disposal. The court did not, however, explain what inadequacies existed with respect to the record on reprocessing. The only discussion of that subject was three insertions of the term "reprocessing" in the majority opinion. 547 F.2d at 647, 654, 655. Consequently, the remainder of this discussion will be concerned only with the waste disposal issue.

The primary environmental concern associated with nuclear waste is the presence of highly toxic radioisotopes. Many of these radioisotopes are extremely long-lived. Plutonium, for example, will decay to half its radioactive content in approximately 24,000 years. As a result of their continuing high toxicity, some constituents of nuclear waste must be isolated from the biosphere for extremely long periods of time. *See generally,* ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION, ALTERNATIVES FOR MANAGING WASTES FROM REACTORS AND POST-FISSION OPERATIONS IN THE LWR FUEL CYCLE (ERDA-76-43 1976).

The actual length of isolation necessary and the quantity of risk associated with disposal of radioactive wastes are subjects of great debate within the scientific community. *Compare* Harwood, May, Resniloff, Schlenger, and Tames, *Activation Products in a Nuclear Reactor* (NYPIRG, Inc. Report 1975) *with* R. Lapp, RADIOACTIVE WASTES: SOCIETY'S PROBLEM CHILD (1976).

[164] The Commission undeniably faired poorly on this score. The only support for the conclusions reached on waste disposal was a general statement delivered

of a more adversarial nature were necessary to "flesh out" the record. The prior case law demonstrates that the necessity of extra procedures depends upon the logical nexus between those procedures and identified procedural unfairness, or the requirements of judicial review.[165]

An examination of the majority discussion of the procedural unfairness that could only be cured by adversarial devices reveals an unexpected emphasis on generalities. The majority readily embraced the challengers' broad argument that denial of discovery and cross-examination denied them a meaningful opportunity to participate. Essentially reversing the *International Harvester* preference for "circumscribed and justified" requests on specific issues, the court evaluated in the abstract the "aggregate" adequacy of the Commission's procedures.[166] In so doing, it was admitted that the challengers did not even attempt to show issues that could not be explored except through the claimed right of cross-examination.[167] The majority evaded this inconsistency with precedent by the non sequitur that some issues could be properly "ventilated" by adequate discovery.[168] What the majority opinion omits, however, is a single reasoned statement explaining why the existing procedures were unfair or how any extra procedure would work to significantly improve the record the second time around. Chief Judge Bazlelon did not focus on the specifics of procedural fairness at all, or on specific facts that required procedural testing.

The majority opinion did adopt the new and diffuse position that the general comments proffered by the challengers were sufficient to alert the Commission that the waste disposal issue was a "soft and sensitive subject." [169] This reference to *International Harvester* only begins the inquiry, however. Identification of a critical subject is one element of procedural fairness analysis, but the threshold finding has always been a showing that the agency's choice of procedures cannot suffice on remand. In no prior instance has a challenge on procedural fairness grounds succeeded without particularized proof by the challenger that a full and true disclosure

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during the oral hearing by the Director of the Division of Waste Management and Transportation. This statement became part of a technical supplement which revised the original Environmental Survey. UNITED STATES ATOMIC ENERGY COMMISSION, ENVIRONMENTAL SURVEY OF THE URANIUM FUEL CYCLE (1974).

165 *See* text accompanying notes 23-60 *supra.*

166 547 F.2d at 643 n.25.

167 *Id.*

168 *Id.*

169 *Id.*

of the facts was impossible under the existing procedures.[170] Here the majority opinion makes no serious effort to specifically draw the connection between the inadequate record and securing the challenger's right to effective participation. All parties to the rulemaking had an opportunity to participate in legislative-type proceedings[171] and an opportunity to file written post-hearing rebuttals—all beyond the statutory requisites of informal rulemaking. When the Uranium Fuel Cycle rule was promulgated, the Commission commented on its perceptions of procedural fairness:

> All parties were fully heard. Nothing offered was excluded. The record does not indicate that any evidentiary material would have been received under different procedures. Nor did the proponent of the strict "adjudicatory" approach make an offer of proof—or even remotely suggest—what substantive matters it would develop under difference [*sic*] procedures.[172]

The court reached the opposite conclusion by the unexplained process of "immers[ing] itself in the record" and finding that "a real give and take" was not fostered on the central issues.[173] The decision to relieve a dissatisfied rulemaking participant of his obligation to demonstrate that the procedures used are per se unfair, however, would certainly require something more than these generalities. In an exceptional case, a reviewing court can supply the reasoned justification on its own findings.[174] Here, however, the majority inexplicably concluded that the unreliable, abbreviated statement of basis and purpose was proof enough that a "genuine dialogue" should be stimulated by special procedural devices.

Perhaps the majority's conclusion was that the requirements of judicial review dictated the use of extra hybrid procedures in a new

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[170] Notes 39-40 & accompanying text *supra*.

[171] Questioning of the participants was done by the Hearing Board in a method very similar to the procedure highly endorsed by the court in *International Harvester*. The only difference between the two instances appears to be the Court's conception of how vigorously the Board members pursued their questioning.

In response to a Commission motion to correct the opinion, the court deleted the majority opinion's three emphatic but erroneous assertions that the Hearing Board did not question the staff expert witness on waste management. Order Correcting Opinion in *NRDC v. NRC*, No. 74-1586 (D.C. Cir. October 8, 1976) (per curiam).

[172] 39 Fed. Reg. 14,189 (1974).

[173] 547 F.2d at 644-45.

[174] *Cf.* South Terminal Corp. v. EPA, 504 F.2d 646, 665-67 (1st Cir. 1974). The court there remanded for further proceeding even though the petitioners had done little or nothing in attempting to cure the record inadequacies by the procedures provided. The court did not require additional procedures to address the new issues, however.

rulemaking notwithstanding that the original rulemaking satisfied the requirements of procedural fairness. As discussed above,[175] the nature of judicial review varies, depending upon which part of the decisionmaking framework is under scrutiny. Any judicial conclusion on the desirability of burdensome adversarial procedures should carefully distinguish between what are genuinely disputed facts and what are policy controversies. Because many of the questions encountered in NEPA rulemaking involve complex mixtures of fact and policy, the difference can be difficult to discern. Agency and court must work harmoniously to identify the specifics in factual predicate or methodology arguably amenable to sharpening by adversarial steps, while protecting the legsilative function from unnecessary encumbrances. The difficulty of the task is demonstrated in this case.

The substantive arguments raised by petitioners and agreed to by the majority do have the appearance of disputes over fact and methodology. The majority opinion listed the three "more general comments" that is considered sufficient to demonstrate the lack of "thorough explanation" and "a meaningful opportunity to challenge" the agency's judgments: NRDC urged that the treatment of waste disposal was too vague to permit criticism, that no consideration was given to past experience with the storage of wastes, and that the "perpetual" care required for disposal of nuclear waste was infeasible.[176] Any or all of these contentions might well be sufficient to cast doubt on the thoroughness of the rule's explanation, but, as will be seen, none of them necessarily calls into question the adequacy of the factfinding procedures employed in the rulemaking.

The appellants' allegations standing alone do not distinguish fact and policy for individual consideration by the court. An undifferentiated judicial review is less likely to direct the agency's attention to the specifics of factual dispute and is certainly much more likely to unjustifiably burden the agency's freedom to formulate policy. For example, each of the petitioner's general criticisms of the waste disposal portion of the rule can be shown to contain a very important measure of policy judgment. Indeed the proportion of policy so far exceeds the proportion of data inputs that the propriety of a factfinding remedy is cast into serious doubt.

The petitioners first criticized the vagueness of the agency's conclusions. A charge of vagueness will generally attach to any decision that predicts future results based on a very thin data base.

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[175] Text accompanying notes 73-87, *supra*.

[176] 547 F.2d at 651.

The extrapolation of future environmental impacts of the undeveloped technology of nuclear waste disposal is a prime example. Although a conceptual framework for the management of commercial nuclear waste has been under study since 1957, the present scheme for bringing about the permanent disposal of waste in stable geologic formations—such as salt mines—took shape in 1975.[177] Earlier policies and programs were more or less ad hoc.[178] The reasons for the delay and setbacks in nuclear waste management are many and to a large degree political.[179] For present purposes, however, the most significant result is the unfortunate absence of meaningful technical data on the treatment and permanent storage of radioactive wastes. Although the data base is growing as the waste disposal issue receives more and more research and regulatory priority,[180] it is still true—and was even more so at the time of the promulgation of the Uranium Fuel Cycle Regulation—that the technical solutions to the problem are only slightly better than postulations.[181]

Decisions based on extreme uncertainty are quintessential policy judgments. Although the nature and degree of risk underlying an official endorsement of continued nuclear waste generation may be highly contested issues, the correctness of the official position is not assailable in the courts on policy grounds. NEPA sets no standards for factual predicate sufficiency. If the full scope of uncertainty is exposed and duly considered, the NEPA mandate is satisfied. Dissatisfied rulemaking participants may enlist the aid of the courts if they can prove that agency officials are being disingenuous about the unknowns involved, but they must turn to the avenues of political redress if they simply disagree that the full data base is sufficient to predict a negligible environment impact.[182]

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177 *See* UNITED STATES NUCLEAR REGULATORY COMMISSION, ENVIRONMENTAL SURVEY OF THE REPROCESSING AND WASTE MANAGEMENT PORTIONS OF THE LWR FUEL CYCLE D-1 to D-5 (1976) [hereinafter cited as REVISED ENVIRONMENTAL SURVEY].

178 *Id.* at D-3.

179 *See* Natural Resources Defense Council, Inc., *Memorandum of Points and Authorities in Support of Nuclear Regulatory Commission Licensing of the Energy Research and Development Administration's High-Level Waste Storage Facilities Under the Energy Reorganization Act of 1974*, 1-40 (July 28, 1975).

180 *See, e.g., ERDA Studies Geologic Formations Throughout Nation for Data on Potential Sites for Commercial Nuclear Waste Disposal*, No. 76-355, INFORMATION FROM ERDA (1976); REVISED ENVIRONMENTAL SURVEY at C-3 to C-5.

181 *See* REVISED ENVIRONMENTAL SURVEY at 1-1 to 1-4.

182 The most obvious forum for attacking the policy decisions is Congress; *see* Nuclear Energy Reappraisal Act of 1977, H.R. 881, 95th Cong., 1st Sess. 123 CONG. REC. H204 (Jan. 6, 1977), which calls for a moratorium on the granting of nuclear power plant construction licenses pending a five-year study by the Congressional

It is, of course, very difficult for layman to distinguish between the vagueness attributable to sketchy reasoning on the one hand and too thinly supported technical projections on the other. The difference nonetheless plays an important part in defining the courts' role in overseeing NEPA decisionmaking. It is incumbent on the expert agency to explain in comprehensible terms the full basis of the environmental trade-off with project benefits. In the case of rulemaking, this explication should emerge in the statement of basis or purpose. If it does not, there are two alternative inferences a court might draw. The first is that the inadequacy results from administrative oversight or negligence in drafting the conclusions. The cure is simple and effective: a remand for a fuller discussion and a reasoned statement that evidences principled NEPA decisionmaking. A second and more far-reaching inference is that inadequate development of the underlying facts is the root cause. By what course a court could divine the pertinent facts and judge policy discretion without further differentiated presentations by the agency and the aggrieved participant is very unclear; however, a protestant might convince the court that a second agency explanation would resolve nothing. The usual case, especially in areas of technical uncertainty, would require that the court be guided by the agency's expertise in setting out the factual and policy conflicts.

A preference for judicial restraint in this context is reinforced by the well-established concept that NEPA guarantees no particular result, only the genuine consideration of all relevant issues.[183] The best evidence of genuine consideration is the agency's description of the decisionmaking product. A reviewing court cannot evaluate whether an agency has sufficiently acknowledged environmental concerns without the benefit of a detailed explanation of the official assessment. A true assessment may hinge on yet undeveloped facts, but a reviewing court precipitously encumbers the smooth functioning of the partnership if it presumes that to be the case before allowing the agency a chance to prove otherwise. Indeed, the general analysis of NEPA presented above[184] predicted that, in light of the Act's failure to set definite priorities among conflicting social goals, more often than not NEPA issues are likely to turn on considerations of policy rather than of fact.

Office of Technology Assessment. Plant licensing cannot resume under the bill until Congress can determine that, *inter alia*, radioactive wastes can be disposed of with "no reasonable chance" of affecting "the land or people of the United States."

183 *See* text accompanying notes 123-58 *supra*.

184 *Id.*

The majority faulted the Commission for not organizing and distilling the major issues, thereby making their reasoned response to the "significant" information and criticism submitted difficult to discern.[185] This objection simply reiterates the inadequacy of the statement of basis and purpose. As Judge Tamm pointed out in detail, the "concise and general statement" required in informal rulemaking should provide all the necessary evidence of reasoned decisionmaking including the resolution of factual and normative controversies.[186] A remand for extra-hybrid procedures is premature before it is determined that the agency cannot provide reasoned answers to all substantial issues by processes of its own choosing. Again, the majority prefers to assume rather than explain why the Commission's processes are inadequate. This assumption is even weaker considering the majority's own admission that an agency is obliged only to acknowledge and consider the key criticisms, not positively rebut them.[187]

The majority's second criticism and reason for extra factfinding procedures is no more satisfactory than the first. The majority opinion makes two references to "past mistakes" in the storage of radioactive wastes generated by nuclear weapons production reactors. If a reasonable connection can be made between these past experiences and the proposed engineering solutions to the commercial waste problem, then the issue is at least potentially ripe for factual resolution. The connection, however, is not explained by the court, and it is certainly not obvious. The facts are that commercial waste and weapons waste differ significantly in chemistry, physical composition, and radioisotopic constituency.[188] Furthermore, weapons waste storage began under hasty wartime conditions and its environmental hazards continue to be subordinate in importance to national security considerations. The circumstances and considerations of commercial waste disposal are entirely different.

Even conceding some factual relevance, the larger question is whether the agency can ignore the "lessons" of past mistakes if it makes the policy judgment that changed circumstances and new programmatic solutions sufficiently diminish their value. The

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185 547 F.2d at 646.

186 *Id.* 658-59 (Tamm, J., concurring).

187 *Id.* at 646.

188 For description of military wastes, see UNITED STATES ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION, WASTE MANAGEMENT OPERATIONS, HANFORD RESERVATION, RICHLAND, WASHINGTON (1975) (Final Environmental Statement). For a description of commercial wastes, see REVISED ENVIRONMENTAL SURVEY at 3-6 to 3-12.

regulatory philosophy and technical approach to the disposal of radioactive waste has changed rapidly.[189] If the Commission can make a reasonably supported showing that major restructuring of waste management has permanently corrected the shortcomings of past decisions, further post hoc factfinding on the issue becomes pointless. One can conclude that the Commission did not abuse its decisionmaking discretion to ignore facts mooted by changes in policy. Laboring over past mistakes of remote relevance may instill general caution into administrative decisionmaking, but is certainly not an indispensable portion of the factual predicate for future solutions. It is even less likely that extra hybrid procedures are necessary to bring about these speculative benefits. As was the case in considering the criticism of vagueness, the prudent course would first call for the agency's explanation of relevant history before intruding further.

The final criticism—infeasibility of perpetual storage—best demonstrates the pitfalls in confusing the importance of facts and policy. The focus of this dispute is the time frame involved in providing for the ultimate disposal of radioactive wastes. Despite the absence of agreement on the precise number of years required for the toxic radioactive elements to decay to innocuous levels, one undisputed proposition is that waste repositories will be required to retain their integrity for unprecedented lengths of time—at least thousands of years. The critical technical inquiry centers on the probability that these engineered repositories will remain virtually impervious to natural and man-made forces for periods functionally equivalent to perpetuity.

Given the large number of variables that must be accounted for in assessing the risk of waste storage, including many unquantifiables, it is impossible to isolate any one as clearly determinative of the most accurate result. The results of risk assessment, furthermore, are never clearly drawn. Instead they are inexact representations of the range of hazards considered probable. For example, in simplified terms, the boundary levels of risk are usually estimated by assuming a worse case or conservative set of assumptions and a most likely or realistic set. The level of risk associated with each set can then be computed.[190] If the assumptions are reasonably quantifiable and carefully chosen, there can be a high degree of confidence that actual risk is bounded by the high-low values pro-

189 *See* REVISED ENVIRONMENTAL SURVEY at D-1 to D-4.

190 *See, e.g., United States Nuclear Regulatory Commission, Reactor Safety Study* (Executive Summary) (1975); Verkuil, *supra* note 14, at 222-26.

duced. Of course, the more uncertainty accompanying the selection and quantification of variables, the less confidence there is in the boundary values. This exercise resolves nothing, however. A high confidence or low confidence range of risk probabilities produces no real results. The ultimate decision is whether to accept the risk and the uncertainty that the risk estimate is in error. A decision to act in light of a risk assessment should be recognized for its true character: a policy decision that the anticipated cost of proceeding is within acceptable limits. Changing the data input of one variable in a risk assessment may change the best estimate solution or alter the conservative boundary value, but it may have no effect on the ultimate decision. This result is understandable if, for example, changing a necessary waste repository lifetime from one thousand years to two hundred and fifty thousand years changes the likelihood of a failure in geologic containment from once every trillion years to once every ten thousand years.[191] A policy decision to accept the risk is rational in either instance.

For purposes of NEPA rulemaking, the difference may be even less critical as the choice is clearly within the agency's discretion. It should be reemphasized that NEPA sets no concrete standards for the agency's choice among substantive alternatives. What is important under NEPA is airing the conflicting evidence and exposing the official position to criticism. Arriving at a correct result through procedural testing is meaningless in this context. There is no correct result because the final conclusion is primarily a function of expert policy judgment.[192]

Before the petitioners' attack on the perpetual nature of the waste disposal task in this case can justify extra-hybrid procedures, it should be at least probable that the NEPA cost-benefit disclosure will be significantly affected thereby. If the court is unable to judge whether the balance struck depends in any real sense on the issues in contention, then it cannot reach the further conclusion that adversarial procedures are necessary to draw them out. Judging the contribution to be made by considering the waste-disposal timeframe in turn depends upon whether the agency policy choice has subsumed the factual controversy. The court must find that the challengers' data input has not already been disposed of as an element of uncertainty found acceptable and that full disclosure is impossible without adversarial prompting. Such a finding is pre-

[191] This range of probabilities is close to the actual official estimate for the most likely events that could lead to the failure of geologic containment. REVISED ENVIRONMENTAL SURVEY at 2-11.

[192] Notes 183-84, 123-58 *supra* & accompanying text.

mature until the full basis of the rule is explained by the agency on remand if necessary. Although the court might be initially persuaded that the uncertainty involved was not sufficiently exposed, only a significant empirical dispute laregly independent of policy judgments warrants a remedy more involved than a fuller official explanation. No such case was made by the petitioners or analyzed by the court.

In each of the areas found in need of clarification through extra proceedings—the vague justifications presented by the Commission, the operational history in another program, and the risk assessment time-frame—the importance of sharpening the factual dispute is not as self-evident as the majority would make it. On the contrary, the importance of policy judgment seems much larger.

The court's mischaracterization of policy as fact in its examination of the alleged shortcomings in the waste disposal segment of the fuel cycle rule throws great suspicion on the appropriateness of the procedural remedy. Of course, the court was facilitated in this simplistic approach by the Commission's cursory presentation of the rule's basis. The inappropriateness of the remedy, however, has greater ramifications than a one-time penalty on an agency's inattentiveness. The court's opinion has all the indicia of a major pronouncement on the general desirability of adversarial procedures in NEPA rulemaking. This pronouncement, however, does not square with what one would prescribe on the basis of NEPA's procedural and substantive mandates. The subtle distinctions between fact and policy specifically presented by the criticisms of plaintiffs in *NRDC v. NRC* are likely to crop up again and again in the NEPA context. This state of affairs is attributable to the absence of concrete policy directions in the broad NEPA charter. A careful study of NEPA's administrative reform and substantive policy mandates indicates that adversariness is not necessarily an assurance of successful rulemaking; instead, the burden involved may well outweigh the benefit.

The court's formula for compliance with NEPA's procedural mandate introduced no new concepts beyond the well-established requirement that all relevant issues must be genuinely considered.[193] Full consideration is the key to administrative reform and the proof of consideration must obviously come from the record. The emphasis is, therefore, on the existence of a full record, not on how

[193] The majority opinion did contain some dicta concerning an agency's affirmative obligation to develop the issues independent of outside contributions, 547 F.2d at 645. How this concept relates to the procedures afforded participants is unexplained.

the evidence came into being or the perceived desirability of the result.[194] If there are possible conflicting lines of evidence, each perhaps lending support to a different policy alternative, a reviewing court is concerned that both are in the record and that the official reconciliation is explained. The court cannot judge whether the best evidence was adopted because such a judgment would ultimately consist of determining which policy alternative before the agency is to be preferred—a determination which NEPA confides to the play of political forces. Given the expository importance rather than the evidentiary significance of a NEPA record, an emphasis on adversariness is misplaced.

The petitioners in this case had three opportunities to expose the environmental dangers they found in the official position. If the Commission had presented an adequately supported decision and explained how the challengers' objections were discounted on policy grounds, if that was the case, the NEPA disclosure presumably would have been complete. All the evidence considered by the court, however, proved that the Commission's explanation was incomplete. The remedy tailored to fit the shortcoming, therefore, is a remand for the missing exposition. If NEPA does not require substantial evidence of an accurate result—the single judicial interpretation to this point[195]—then a remedy designed to promote fact-finding accuracy does not automatically return advantages commensurate with the accompanying burdens.

It is also doubtful that extra procedures genuinely improve the NEPA substantive policy results looked for by an activist court.[196] When fashioning a remedy, the court must realize that interference between conflicting environmental and agency-mission priorities limits the utility of adversarial devices in substantially policy-oriented decisionmaking. In this case, any expectations for meeting a NEPA substantive review standard must be tempered with the realization that any judgment on the present feasibility of radioactive waste disposal contains two policy choices. The first is the acceptable accuracy in predicting the risk involved in storing the toxic substances for exceedingly long periods of time. The second related judgment is whether the power generated is benefit enough to offset the unavoidable environmental costs, including the cost of uncertainty. Because a nuclear reactor generates approximately

194 For a discussion of NEPA administrative reform, see text accompanying notes 123-42, *supra*.

195 *See* text accompanying notes 123-58, *supra*.

196 For a discussion of NEPA substantive policy mandate, see text accompanying notes 142-58, *supra*.

the same waste per kilowatt-day regardless of design, the only alternatives available when considering the cost-benefit ratio of radioactive waste disposal are proceeding with nuclear power generation or abandoning that form of energy altogether. An agency chartered to consider an isolated portion of a national environmental problem will abandon an important, long-standing energy source only on the clearest evidence of overriding harm. Unfortunately, minimal evidentiary clarification is produced through the use of adversarial procedures in this situation. To be sure, cross-examination on the facts supporting predicted geologic stability of salt formations might produce insights into the uncertainty of the problem, but cross-examination on the "philosophy" of "stable social structures for unprecedented periods" [197] is a dialogue with the wrong participants, in the wrong setting, and for the wrong purposes that inefficiently produces highly speculative results.

The prudential interests that counseled against judicial intervention into agency policy decisions in the past are reinforced in the NEPA context. The structuring of remedial cures for inadequate decisionmaking should reflect this well-taken restraint as part of a more general precaution against unnecessarily frustrating administrative innovation. Separating out an undeveloped factual issue amenable to adversarial sharpening should not automatically trigger extra-procedural remand. The challenger must first demonstrate that one special device or another at least holds out a real potential for significantly improving the decisionmaking process.

A second necessary part of such proof should be a prima facie case that the line of evidence to be explored will contribute more than marginal worth to the NEPA cost-benefit balance. Neither of these threshold elements for establishing the desirability of extra procedures is unfamiliar to the court. On the contrary, challengers to a rulemaking decision have always had the burden of proving the necessity of hybrid proceedings [198] and protestants to NEPA environmental impact statements have always been required to establish the substantiality of their exceptions.[199] Logically, both tests should be combined when NEPA rulemaking is attacked as procedurally inadequate.

The majority's remedial approach departs dramatically from the one just outlined. A close examination of Chief Judge Bazelon's

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[197] 547 F.2d at 652. The correct forum and participants would be found in Congress; *see* note 182 *supra.*

[198] *See* text accompanying notes 18-40, *supra.*

[199] *See* text accompanying notes 143-50, *supra.*

opinion suggests that he was willing to overlook the absence of any details demonstrating unfairness or procedural inadequacy because of the intensity of the controversy. Judge Tamm's separate statement noted the "preoccupation of the majority opinion in this case with the half-life of the plutonium atom and the myriad of geological and other technical difficulties one faces in attempting to safely store a highly toxic substance for a quarter of a million years." [200] One cannot escape the strong inference that the type of issue alone was enough to convince the Chief Judge that the agency should be reprimanded for procedural "insensitivity." How does an agency display procedural sensitivity? Because the infirmity alleged lacks any concreteness, Chief Judge Bazelon did not try to assign specific procedural devices to specific shortcomings. Instead, a long list of procedural alternatives is enumerated—including the original procedures administered in a "more sensitive, deliberate manner"—capped by the consummate caveat: "It may be that no combination of the procedures mentioned above will prove adequate, and the agency will be required to develop new procedures. . . ." [201] The agency is thus cast into procedural limbo.

The impediments to efficient administrative reaction erected by the court's decision are apparent. Not only will the agency be unable to narrow its attention to particular areas of concern, it must blindly attempt to fit its fact-finding and policy considerations into an unspecified decisionmaking structure.

The Commission no doubt itself inflicted the rule's fatal wound when it failed to adequately set off the areas of factual uncertainty and directly address opinion contrary to the final policy choice. Consequently, the majority's heavy-handed intervention now requires that the agency forfeit its room to maneuver in policy decisionmaking. This addition of insult to self-injury threatens the flexibility of rulemaking with no clear benefit promised in return. Judge Tamm stresses that there is "little to be gained other than delay" by exacting additional proceedings.[202] This conclusion stems from his proper observation that part of the decision embodied in the agency's rule is one of policy or risk assessment.[203] It then fol-

[200] 547 F.2d at 660 n.8 (Tamm, J., concurring). Although Chief Judge Bazelon avows only to "systematically catalog the state of the record," 547 F.2d at 645 n.31, he explores the technical problems of waste storage in great detail—relying in part on articles authored after the case was argued in the court of appeals, *id.* at 648 n.46 & 47, 650 n.52—and concludes that only the negative side of the issue is sufficiently developed, *see id.* at 647-51.

[201] 547 F.2d at 653.

[202] *Id.* 660 (Tamm, J., concurring).

[203] *Id.*

lows, Judge Tamm reasoned, that the reviewing court must distinguish between the factual determinations and policy choices embodied in the rule. The former matter is subject to a test for self-evident rationality, but the latter demands only reasons and explanations, not "findings." [204] The Commission's error was not providing a suitable record for the court's differentiated review. The Commission confused the process even more by reducing its policy judgment to numerical values,[205] thereby giving a misleading surface impression that the entire endeavor was a factual determination.

Chief Judge Bazelon did not respond directly to Judge Tamm's argument. Instead, he again emphasized that NEPA demands articulation of reasoning and public exposure of the risks and problems [206]—a conclusion that is not disputed. Exactly how unspecified procedural devices were expected to improve the reasoning or expand the disclosure is not explained. The Chief Judge was definitely aware of the policy dimensions of the Commission's decision. For example, his majority opinion characterized the petitioner's principal concerns as "not merely technical, but involv[ing] basic philosophical issues." [207] Indeed, the Chief Judge's primary criticism of the Commission's decisionmaking was the failure to explain the "uncertainties [that] necessarily underlie predictions of this importance on the frontiers of science and technology." [208] He went so far as to point out in a separate statement that the development of scientific or technical standards is a prime example of the mixture of factual components and legislative judgments as to acceptable levels of risk.[209] He then circumvents the obvious inconsistency between these statements and his broad procedural remedy by mischaracterizing the Commission's proceedings as almost entirely technical factfinding.[210] This characterization is not only contrary to his own previous descriptions, but flies in the face of

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[204] *Id.* 661 n.11 (Tamm, J., concurring), *quoting from* Amoco Oil Co. v. EPA, 501 F.2d 722, 741 (D.C. Cir. 1974).

[205] The Commission summarized the Environmental Survey's findings in a tabular series of specified numerical values (Table S-3) that were to be factored into the cost-benefit analyses for all proposed nuclear power plants. *See* 39 Fed. Reg. 14,188, 14,191 (1974). The underlying policy determination was that the future environmental effects of radioactive waste disposal would not have a detrimental effect on cost-benefit balances.

[206] 547 F.2d at 654.

[207] *Id.* 652.

[208] *Id.* 653.

[209] *Id.* 658 n.3 (Bazelon, C.J., separate statement).

[210] *Id.*

Commission's announced purposes,[211] and a common sense analysis of the rule's content. Because no real experience, no existing facilities,[212] and no certain predictive methodology are available for assessing the environmental risk of radioactive waste disposal,[213] the level of uncertainty infusing every facet of the issue of nuclear waste disposal appears sufficient alone to shift the entire issue into the policy category. It is also highly probable that a certain degree of uncertainty will always be associated with a problem of such enduring length.[214] It remains unexplained, then, why Chief Judge Bazelon insists on labeling a highly complex legislative judgment as mere fact gathering and casts a procedural cloud over the whole rulemaking.

There are several clues to the Chief Judge's motivation, however. These are especially noticeable in light of his similar reactions found in other opinions. First, the Commission's staff expert testimony was undeniably, even in the majority's view, a prediction. This prediction was adopted by the five commissioners when they approved the rule. Chief Judge Bazelon, however, was not satisfied with this arrangement. Because of his acute skepticism of agency objectivity,[215] he recasts the expert forecasts as unadorned conclusions and vague reassurances.[216] Without further elaboration, Chief Judge Bazelon introduces subjective impartiality as a determinant in the NEPA formula—contrary to the majority of prior judicial interpretations and all reasonable expectations.[217]

A second recurring consideration for Judge Bazelon is the presence of public interests that have, in his view, a special claim

211 The Commission's first announced purpose was to consider regulations "that would specifically deal with the question of consideration of environmental effects associated with the uranium fuel cycle in the individual cost-benefit analyses for light water cooled nuclear power reactors." 37 Fed. Reg. 24,191 (1972). When the rule was promulgated, the Commission repeated that the regulations "address the question whether to consider the environmental effects associated with the uranium fuel cycle in the individual cost-benefit analysis for light-water-cooled nuclear power reactors." 39 Fed. Reg. 14,188 (1974).

212 The majority opinion cites the report of the Hearing Board as evidence of the lack of background evidence. The report noted the challenger's argument that, with respect to waste disposal, the Environmental Survey was unreliable because it dealt with non-existent facilities. 547 F.2d at 652 n.55. The proper inference to draw from this fact is that assessing the impacts of technology not yet developed necessarily admits of uncertainty. What weight this uncertainty bears toward the final decision is a judgment assigned to the agency's discretion.

213 *See* REVISED ENVIRONMENTAL SURVEY at 2-11.

214 *See id.*

215 In the majority opinion, Chief Judge Bazelon accuses the staff expert witness of "self-interest" with no explanation why his credibility as a regulator should be impugned. 547 F.2d at 647 n.43.

216 *Id.* 650, 653.

217 *See* text accompanying notes 131-42 *supra.*

to judicial protection. In his separate statement he returns again to the special cases analysis for "areas touching the environment or medicine [which] affect the lives and health of all." [218] What the special cases require, Judge Bazelon adds, is more vigorous development of scientific facts. This conclusion is unarguably valid, but it does not explain how to recognize the underdeveloped facts, what development is expected, or what the implication is for that large, crucial area of policy that does not rely on demonstrable facts.

Chief Judge Bazelon defends this simplistic approach by arguing that there is little difference between remanding because the record is incomplete or because the procedures were inadequate—a view first voiced by Judge Friendly.[219] What escapes both judges is the plain fact that there is a great deal of difference between requiring an adequate record setting out the reasonably supported policy choices, and binding administrator's legislative freedom with taxing and inconclusive adjudicatory trappings. No amount of time-consuming cross-examination or discovery will produce facts when only opinions are available. Ultimately, the agency must evaluate the uncertainty and rationalize the competing values. Then the agency must carefully display the steps taken and logic applied. The dictates of informal rulemaking and NEPA are in complete accord with this process. More adversariness in this portion of decisionmaking affords very little.

Conclusion

NEPA is an attempt to institutionalize a type of technology assessment for federal actions affecting the environment.[220] The composition, limitations, and ultimate objectives of technology assessment must be understood if the administrative agencies are to discharge their NEPA duties efficiently. Equally important, the reviewing courts must have the same degree of understanding if their oversight is to be meaningful yet unobtrusive. Both partners must have a clear conceptualization of the task and the tools if the partnership is to function smoothly.

Technology assessment is basically no different from any other decisionmaking process. There are three successive stages: information is gathered and logically arranged, inferences are drawn using the best available methodology, and final judgment is exercised in

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218 547 F.2d at 657 (Bazelon, C.J., separate statement).

219 Friendly, *Some Kind of Hearing*, 123 U. Pa. L. Rev. 1267, 1313-14 (1975).

220 *See* Tribe, *Technology Assessment and the Fourth Discontinuity: The Limits of Instrumental Rationality*, 46 So. Cal. L. Rev. 617 (1973).

light of the relevant interests.[221] What is especially sensitive in technology assessment, however, is the degree of scientific uncertainty that accompanies each stage. The most prominent limitation on assessments of emerging technologies is the inordinate cost, or the impossibility, of collecting objective information.[222] Furthermore, the time necessary to acquire a totally satisfactory empirical base would postpone new technologies for periods functionally equivalent to abandonment.

For NEPA assessments, the problem posed by the information deficiency is compounded by the problem presented by the judicially-imposed duty to comprehensively address policy alternatives absent concrete standards for preferring one over another. The balancing of benefits and costs associated with alternatives—including not proceeding at all—assumes some ordering relationship of national priorities. The inherent limitation of technology assessment is that it can produce useful results only if there is agreement on the controlling set of priorities. Otherwise, the narrow context of a single agency decision on one portion of a much larger problem distorts the assessment framework.[223] Unfortunately, a significant potential for such distortions exists in the NEPA context where the congressional intent to adjust the national policy balance to better account for environmental values is articulated only in the most general terms.

Finally, the ultimate objective of any technology assessment like NEPA is to build into the administrative process a device for identifying uncertainty and describing it in terms comprehensible to the public.[224] An environmental assessment provides the vehicle whereby the negative factors—particularly risks—are pressed upon the decisionmakers, the Congress, and the public. The political feedback from these disclosures supplies the governing policy choices: what priority is to be observed and what costs of uncertainty will be paid.

NRDC v. NRC demonstrates the extreme difficulty that flows from an oversimplification of the technology assessment task. The agency failed to catalogue the rulemaking products according to the steps of assessment decisionmaking. Its most serious failure was the

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221 *See* Gelpe & Tarlock, *supra* note 69, at 390-91. *See generally* Coates, *Technology Assessment: The Benefits . . . the Cost . . . the Consequences*, 5 THE FUTURIST 225 (1971).

222 *See* Gelpe & Tarlock, *supra* note 69, at 372-73.

223 *See* Green, *Limitations on Implementation of Technology Assessment*, 14 ATOMIC ENERGY L.J. 59, 65-67 (1972).

224 *See* Green, *The Resolution of Uncertainty*, 12 NAT. RESOURCES J. 182, 186 (1972).

inadequate explication of the areas of scientific uncertainty, without reasoned explanations of how it disposed of the policy conflicts and opposing opinions. As a consequence, the reviewing court was unable to discern the rule's full basis. The court majority in turn oversimplified and misconstrued the rule's multi-purposes into the single objective of factfinding. With a misplaced emphasis on subjective impartiality and accuracy in special cases, the majority imposed procedural strictures particularly unsuited for assessing politically sensitive environmental risk.

This failure of the partnership portends greater difficulty for administrative innovation in formulating NEPA assessments in areas of growing technological complexity. Agencies will be encouraged to curtail informal hybrid rulemaking in favor of protracted adversarial proceedings, lest their rulemaking results be summarily reversed for lack of sensitivity to general procedural demands of participants who disagree with the difficult policy choices made. Such a result will not promote the open decisionmaking and political discourse that are the most environmentally protective by-products of NEPA assessments.