SUBSTANTIVE REVIEW UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT: EDF v. CORPS OF ENGINEERS

No single piece of legislation has had as great an impact on environmental improvement as the National Environmental Policy Act of 1969. Requiring administrative agencies to weigh the environmental consequences of major federal actions has begun to give environmental values a secure footing in their competition with more traditional, development-oriented factors. This Note analyzes a recent decision by the Eighth Circuit Court of Appeals that promises to accelerate this movement. In holding that final agency decisions could be reviewed on the merits, the court insured that adverse environmental effects disclosed by impact studies will be considered on an equal basis with economic and technical benefits in reaching final decisions to initiate specific government projects. The opinion also implies that agencies must clearly state their reasons for such decisions, thereby providing public interest groups and courts a more sound basis for comment and review. Since substantive review is an uncharted area, the author concludes by suggesting three criteria—compliance with the section 101 standards, agency objectivity, accuracy of cost-benefit analysis—that may be examined by courts in evaluating agency decisions on the merits.

Until the recent decision in Environmental Defense Fund v. United States Army Corps of Engineers,\(^1\) no federal court interpreting the National Environmental Policy Act of 1969 (NEPA)\(^2\) had squarely held that the Act created substantive rights, or that the federal courts were empowered to review agency decisions on the merits. Despite a clear enforcement mandate,\(^3\) courts have consistently limited their scrutiny of administrative action to compliance with the procedural duties in section 102 of the Act. They have maintained that the purpose of NEPA was to disclose to the decisionmaker the full environmental impact of a proposed project, and once that requirement was met, courts could not consider the merits of the agency’s choice to authorize, prohibit, or alter a project.\(^4\)

1. 470 F.2d 289, 4 ERC 1721 (8th Cir. 1972), cert. denied, — U.S. —, 5 ERC 1416 (1973).
4. E.g., Committee for Nuclear Responsibility v. Seaborg, 463 F.2d 783, 3 ERC
In *EDF v. Corps of Engineers* the Eighth Circuit has taken a more expansive view of the function of NEPA and the role of the courts in assuring that environmental values are considered in the decision-making process of federal agencies. In reviewing the decision by the Corps of Engineers to build Gillham Dam on the Cossatot River in southwestern Arkansas, the court ventured beyond the usual procedural question of the sufficiency of the impact statement. It held that NEPA section 101 created judicially enforceable substantive rights and that courts thus have an obligation to review the agency’s decision on the merits. They must determine whether the agency conducted a full, good faith consideration and balancing of environmental factors and, applying the section 101 standards, whether its ultimate decision was arbitrary and capricious. In light of its holding, the court reviewed the decision of the Corps of Engineers to build Gillham Dam under the arbitrary and capricious standard and concluded that the decision was sound.

Part I of this paper analyzes the court’s novel holding that it is obligated to review on the merits, examining the statutory, judicial and


5. 470 F.2d at 298, 4 ERC at 1726. Subsequent to *EDF v. Corps of Engineers*, other courts have followed the Eighth Circuit’s holding prescribing substantive review. See Conservation Council v. Froehlke, 473 F.2d 664, 4 ERC 2039 (4th Cir. 1973); Akers v. Resor, 339 F. Supp. 1375, 4 ERC 1966 (W.D. Tenn. 1972). The court in *EDF v. TVA* (Tellico Dam), 468 F.2d 1164, 4 ERC 1850 (6th Cir. 1972), aff’d 339 F. Supp. 806, 3 ERC 1553 (E.D. Tenn. 1972) recognized the conflict among the courts, but declined to state its position. It seems likely that the Sixth Circuit will ultimately decide in favor of substantive review, since a more recent case has again followed the Eighth Circuit: EDF v. TVA (Duck River), — F. Supp. —, 5 ERC 1183 (E.D. Tenn. 1973). Cape Henry Bird Club v. Laird, 359 F. Supp. 404, 5 ERC 1283 (W.D. Va. 1973), citing the *EDF v. Corps of Engineers* and the Conservation Council v. Froehlke opinions, supra, also held that substantive review is proper.

Two other circuits, however, acting since the Eighth Circuit’s decision, have nevertheless limited the scope of review to procedural compliance: Jicarilla Apache Tribe v. Morton, 471 F.2d 1275, 4 ERC 1933 (9th Cir. 1973); Save Our Ten Acres v. Kreger, 472 F.2d 463, 4 ERC 1941 (5th Cir. 1973). However, the Ninth Circuit opinion, though stressing the narrowness of the scope of review, conceded that in some situations reversal of a substantive decision may be appropriate. See note 48 infra. The Fifth Circuit’s reasoning is inconsistent since it argues for a relaxed rule of reasonableness in reviewing the threshold determination as to whether an environmental impact statement is necessary, concluding that the spirit of NEPA would be violated if that decision were too well shielded from review. However, precluding review on the merits would equally thwart NEPA. See notes 41-43 infra.

policy reasons for this decision. Part II discusses three criteria—compliance with section 101 standards, agency objectivity, and accuracy of the cost-benefit analysis—by which courts may substantively test the validity of agency decisions to proceed with federal projects.

I

SUBSTANTIVE REVIEW OF AGENCY DECISIONS UNDER NEPA

A. Statutory Context: Previous Limits of NEPA Review

NEPA established a federal policy of environmental protection and restoration. The substantive portion of the Act, section 101(b), catalogs several environmental values as guideposts for federal action, including, inter alia, the right to safe and aesthetic surroundings, attainment of the widest range of beneficial uses of the environment without degradation, and preservation of environmental diversity. In order to implement these policies, section 102 prescribes a set of procedures for federal agencies, the crux of which is the preparation of an environmental impact statement (EIS). For each federal action significantly affecting the environment, the agency must compile a statement disclosing the environmental impact, unavoidable adverse environmental effects, and alternatives to the project. It must also discuss the interrelationship of long and short-term uses of the environment and any irreversible or irretrievable resource commitments involved in the proposed action. As a result, agencies which heretofore lacked a

7. 42 U.S.C. § 4331(a) (1970) stresses the importance of "restoring and maintaining environmental quality" and declares it the national policy "to create and maintain conditions under which man and nature can exist in productive harmony."

8. Id. § 4331(b).

9. (2) all agencies of the Federal Government shall —

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

(i) the environmental impact of the proposed action,

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

(iii) alternatives to the proposed action,

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

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

Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the
statutory mandate to consider environmental values are now compelled to weigh these factors from the outset. Action may be authorized by an agency only if it apprehends fully the environmental consequences.

Numerous decisions interpreting NEPA consistently held that neither section 101 nor any other provision in the Act created judicially enforceable substantive rights, and that plaintiffs were relegated to challenging compliance with the procedural duties imposed by section 102. Courts were willing to consider, for example, the threshold question as to what types of projects demanded impact statements and who should prepare them. They also scrutinized the required content and sufficiency of impact statements, including treatment of opposing views and discussion of alternatives to the project. However, courts

President, the Council on Environmental Quality and to the public as provided by section 552 of Title 5, and shall accompany the proposal through the existing agency review processes;

Id. § 4332.

10. E.g., Calvert Cliffs' Coordinating Comm., Inc. v. AEC, 449 F.2d 1109, 2 ERC 1779 (D.C. Cir. 1971); Zabel v. Tabb, 430 F.2d 199, 1 ERC 1449 (5th Cir. 1970).


For a thorough discussion of the case law on procedural review prior to EDF v. Corps of Engineers, see Note, Evolving Judicial Standards Under the National Environmental Policy Act and the Challenge of the Alaska Pipeline, 81 YALE L.J. 1592 (1972) (hereinafter cited as Note, Evolving Judicial Standards); Note, Complying With NEPA: The Torturous Path to an Adequate Environmental Impact Statement, 14 ARIZ. L. REV. 717 (1972); Seeley, supra note 3.


14. E.g., Greene County Planning Bd. v. FPC, 455 F.2d 412, 3 ERC 1595 (2d Cir. 1972), cert. denied, 409 U.S. 849, 4 ERC 1752 (1972); holding the agency's duty under NEPA nondelegable and, therefore that it may not substitute the applicant's draft EIS for its own. Contra, Citizens Environmental Council v. Volpe, — F. Supp. —, 4 ERC 1970 (D. Kan. 1973); National Forest Preservation Group v. Volpe, 352 F. Supp. 123, 4 ERC 1836 (D. Mont. 1972), two highway cases holding that preparation of the draft EIS by the state highway administration satisfied NEPA requirements since the EIS remained subject to review by the federal agency.


17. Potential abandonment of the project is a relevant alternative that must be considered. Abandonment is warranted "when the balance of the relevant public values . . . indicates that action is not in the public interest." ENVIRONMENTAL QUALITY: THE THIRD ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY 225
had refused to review decisions on the merits, on the assumption that once an agency had considered all relevant data, it had fully complied with the Act.\textsuperscript{18}

Courts tended to justify deferring to the agency's judgment by stock references to administrative discretion. In discussing the agency's duty to consider reasonable alternatives to the proposed sale of offshore oil leases in \textit{National Resources Defense Council v. Morton},\textsuperscript{19} the District of Columbia Circuit maintained that administrative discretion insulated the agency from judicial interference with its choice of action.\textsuperscript{20} Behind the unwillingness of courts to disturb ultimate agency decisions after consideration of environmental factors lay an uncertainty about exactly how far Congress intended NEPA to go towards changing the balance of power in environmental policy making.

At the very least, NEPA is an environmental full disclosure law. The Congress, by enacting it, 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.\textsuperscript{21} Courts had seized upon this "full disclosure" interpretation as setting the outer limits of NEPA's scope and as supporting judicial activism only within the confines of procedural review.

\section*{B. Factual Background and District Court Opinions}

The controversy in \textit{EDF v. Corps of Engineers} grew out of the proposed construction of Gillham Dam on the Cossatot River in Arkansas as part of a massive flood control plan authorized by Congress in the Flood Control Act of 1958.\textsuperscript{22} Although work on the project...
began in 1963 and nearly two thirds of it had been completed at a cost of 9.8 million dollars, the dam itself had not been started at the commencement of the litigation in 1970. Proponents of the project asserted that it was designed to provide effective flood control, a water supply to a near-by town, and water quality control. They also favored creating artificial lake-type recreational facilities and encouraging commercial development.23 Opponents of the project stressed the unique qualities of the Cossatot River and its environs—the scenery, the purity of the waters, the diverse rapids and pools, and the variety of game fish and wildlife. They emphasized the value of conserving the Cossatot as one of the few remaining free-flowing streams in south-western Arkansas and preserving recreational opportunities for stream fishing, hunting, and canoeing.24

The litigation extended over a period of two years during which the district court filed a series of six memorandum opinions dealing with venue, jurisdiction, standing, sufficiency of the complaint, appropriateness of an injunction, and application of NEPA to ongoing projects.25 The fifth Memorandum Opinion reviewed the Corps' second

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23. 470 F.2d at 292, 4 ERC at 1721.
24. Id. The plaintiffs in the action were Environmental Defense Fund, Inc., three private membership environmental organizations—the Ozark Society, the Arkansas Audubon Society, Inc., and the Arkansas Ecology Center—and two individuals, including a resident of Gillham, Arkansas, owning land along the Cossatot below the dam site.
25. Opinions One through Four are reported at 325 F. Supp. 728, 2 ERC 1260, Opinion Five at 325 F. Supp. 749, 2 ERC 1260, and Opinion Six at 342 F. Supp. 1211, 4 ERC 1097. Memorandum Opinion No. One (Nov. 16, 1970) concluded that venue in the Little Rock Division of the Eastern District of Arkansas was proper. Memorandum Opinion No. Two (Dec. 22, 1970) held that the court had jurisdiction over the named defendants and of the subject matter, that the plaintiffs possessed standing to maintain the suit, and that at least the first cause of action alleging non-compliance with NEPA stated a claim upon which relief could be granted. Memorandum Opinion No. Three (Dec. 22, 1970) dismissed plaintiffs' constitutional claims under the Fifth, Ninth, and Fourteenth Amendments and treated the allegations of violation of other federal statutes, e.g., the Fish and Wildlife Act of 1934 [16 U.S.C. §§ 661 et seq. (1970)], as subsumed by the NEPA claim. The court also denied a preliminary injunction on the ground that there was no threat of irreparable injury to plaintiffs or of disruption of the status quo before the hearing on the merits, since the Corps did not plan to award a construction contract for the dam itself prior to January or February, 1971. Memorandum Opinion No. Four (Jan. 21, 1971) concluded that defendants were required to comply with NEPA despite previous investment in the project, briefly
EIS, filed January 22, 1971, and concluded that it was as inadequate as the original one filed the preceding October. In preparing the EIS, defendants had failed to employ a systematic interdisciplinary approach; to assign values to presently unquantified environmental amenities, specifically the Cossatot as a free-flowing stream; to consult with and obtain comments of the appropriate federal agencies; to develop appropriate alternatives to the project as required by section 102(2)(D). The twelve page EIS submitted was found deficient in all respects. The Cossatot project was therefore enjoined pending procedural compliance with NEPA.

After the defendants filed an amended impact statement, on January 13, 1972, consisting of 200 pages of text and six voluminous appendices, the court concluded in its sixth Memorandum Opinion that the Corps had met the full disclosure requirements of NEPA. It rejected claims that the new EIS was not impartial and objective and that it misstated the facts regarding the effects of the dam upon use of the river for canoeing. The assertion that defendants had not adequately discussed and developed the alternative of preserving the Cossatot as a "scenic river" under the National Wild and Scenic Rivers Act similarly failed. In the district court's opinion, the Corps had made a good faith effort to comply with NEPA, and, in the absence of intentional misrepresentation or withholding of pertinent information, the defendant had fulfilled its statutory duty. The court accordingly lifted the injunction and dismissed the case.

C. Authorization of Review on the Merits

1. Holding of the Eighth Circuit

On appeal, plaintiffs again alleged bias, factual inaccuracies, and failure to develop appropriate alternatives. In addition, they argued that the administrative decision to build the dam should be reviewed on the merits. The Eighth Circuit held that the final EIS fully and

reviewed the deficiencies in the October, 1970, EIS, but again denied the motion for a preliminary injunction.

26. 325 F. Supp. 749, 2 ERC 1260. The document did not sufficiently discuss the project's full environmental impact, potential alternatives, irreversible resource commitments, and the comments received from state and local agencies.

27. 342 F. Supp. 1211, 4 ERC 1097.

28. 16 U.S.C. §§ 1271-87 (1970). The court found no intentional misrepresentation on the part of defendants either in regard to the effects of the dam upon canoeing or the scenic river alternative. It was satisfied that the EIS disclosed objections to the project such as those advanced by plaintiffs, even though a decision-maker, in order to comprehend fully those arguments, might have to search the "back pages" and appendices of the EIS. 342 F. Supp. at 1218, 4 ERC at 1101.

29. 342 F. Supp. at 1218, 4 ERC at 1101.

30. 470 F.2d at 294-97, 4 ERC at 1723-25.
accurately disclosed the information required by section 102(2)(C), and that therefore the Corps had complied in good faith with NEPA's procedural duties. It held further that the EIS conformed to the section 102(2)(D) requirements by its adequate treatment of alternatives. However, the court broke new ground in upholding EDF's contention that the Corps' administrative determination to construct the dam was reviewable on the merits.

The district court, interpreting NEPA as only a disclosure vehicle, had rejected plaintiffs' contention based on the language of section 101 that NEPA creates substantive rights. The Circuit Court responded: We disagree. The language of NEPA as well as its legislative history, make it clear that the Act is more than an environmental full disclosure law. NEPA was intended to effect substantive changes in decisionmaking. To this end, section 101 sets out specific environmental goals to serve as a set of policies to guide agency action affecting the environment.

Given an agency obligation to carry out the substantive requirements of the Act, we believe that courts have an obligation to review substantive agency decisions on the merits.

Once the reviewing court establishes that the agency acted within the scope of its authority, it must next determine whether the final decision was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." In judging whether the decision is ar-

31. Id. at 295, 4 ERC at 1723.
32. Id. at 297, 4 ERC at 1725.
33. 325 F. Supp. at 755, 2 ERC at 1264.
34. 470 F.2d at 297-98, 4 ERC at 1725-26 (emphasis supplied).
35. 470 F.2d at 300, 4 ERC at 1728. The test formulated by the court restates the traditional standard of judicial review of administrative action under the Administrative Procedure Act, 5 U.S.C. § 706 (1970). Section 706(2)(A) sets out the arbitrary and capricious standard; section 706(2)(E) contains the second major prong of judicial review, the substantial evidence test, applicable only where the agency acts pursuant to rule-making or a formal adjudicatory hearing in which a record is produced. The Eighth Circuit makes clear, however, that the substantial evidence test is not applicable in its decision, presumably because the court is reviewing informal agency action. 470 F.2d at 300 n.16, 4 ERC at 1727 n.16. See Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 415-16, 2 ERC 1250, 1255 (1971); Note, Scenic Hudson Revisited: The Substantial Evidence Test and Judicial Review of Agency Environmental Findings, 2 ECOLOGY L.Q. 837 (1972) (hereinafter cited as Note, Scenic Hudson Revisited).

The Supreme Court interpreted the arbitrary and capricious, abuse of discretion standard, as requiring the court to determine whether "the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment." Citizens to Preserve Overton Park, supra, at 416, 2 ERC at 1256 (1971). See L. JAFFE, JUDICIAL CONTROL OF ADMINISTRATIVE ACTION 586 (1965); Note, Citizens to Preserve Overton Park, Inc. v. Volpe: Environmental Law and the Scope of Judicial Review, 24 STAN. L. REV. 1117, 1122-25 (1972); Courts have often tended to
bitary or capricious, the court must ascertain whether all relevant factors were considered by the agency, or if the decision represented a clear error of judgment. In NEPA cases, the review process consists of two steps: first, determining whether "the agency reached its decision after a full, good faith consideration and balancing of environmental factors," and second, deciding "according to the standards set forth in section 101(b) and 102(i) whether 'the actual balance of costs and benefits that was struck was arbitrary or clearly gave insufficient weight to environmental values.'

The test includes overlapping elements of both "procedural" and "substantive" review, a distinction the courts have understandably blurred. In general, the "procedural" aspects of an administrative decision under NEPA constitute the factual input; i.e., the five required elements of an EIS, the consultation and comment process, and the development of alternatives under section 102(2)(D). Those sections imply that the agency must make a good faith effort to include all relevant factors—economic, social, and environmental. Hence, courts have reviewed compliance with this mandate under the "procedural" rubric and assumed that no further review was necessary; once the EIS disclosed all the relevant factors and pertinent data, the decision of the agency was presumed valid. The courts did not examine whether the decision complied with the section 101 standards. Applying "sub-

use "arbitrary and capricious," "abuse of discretion," and "clear error of judgment" interchangeably.

Thus a decision may be arbitrary and capricious if the agency fails to consider all relevant factors. See Citizens to Preserve Overton Park, supra; Mulloy v. United States, 398 U.S. 410 (1970); Scenic Hudson Preservation Conference v. FPC (I), 354 F.2d 608, 620, 1 ERC 1084 (2d Cir. 1965), cert. denied, 384 U.S. 941, 2 ERC 1909 (1966). The same result obtains if irrelevant or impermissible factors were given weight in the decision. See District of Columbia Fed'n v. Volpe, 459 F.2d 1231, 3 ERC 1143 (D.C. Cir. 1971), cert. denied, 405 U.S. 1030, 3 ERC 1950 (1972) (Secretary of Transportation yielded to improper political pressure); Wong Wing Hang v. Immigration & Naturalization Serv., 360 F.2d 715, 719 (2d Cir. 1966) (citing example of racial discrimination considered in decision). Jaffe suggests that abuse of discretion occurs where a "relevant consideration has been given an exaggerated or 'unreasonable' weight at the expense of others. The 'letter' has been observed; the 'spirit' has been violated." L. JAFFE, supra, at 586.

Even if all relevant factors are weighed, a decision is still reversible if it is a "clear error of judgment." Citizens to Preserve Overton Park, supra, at 416, 2 ERC at 1256. The Court based its interpretation on In re Josephson, where an abuse of discretion was defined as "a clear error of judgment in the conclusion . . . reached upon a weighing of the relevant factors." 218 F.2d 174 (1st Cir. 1954). Cf., Wong Wing Hang, supra ("clearly erroneous"); Frisby v. Larsen, 330 F. Supp. 545 (N.D. Cal. 1971) (denial of conscientious objector status held unreasonable on basis of whole record). The Eighth Circuit accordingly seems to have treated "clear error of judgment as a sub-category of the "arbitrary and capricious standard" in EDF v. Corps of Engineers.

36. 470 F.2d at 300, 4 ERC at 1728; see note 35 supra.
37. Id.
stantive" review, the Eighth Circuit rejected this presumption and proceeded further to review how the agency considered and balanced the relevant factors in arriving at the final decision. Under this test the reviewing court must scrutinize the agency's reasoning and value judgments to insure that the ultimate decision implements the substantive requirements of NEPA contained in section 101.38

After describing the process of review, the Eighth Circuit measured the Corps' decision to build Gillham Dam against the arbitrary and capricious standard. Remanding to the district court, which would be the usual procedure for such review, was not necessary since the complete record, including the EIS and the transcript of the proceedings below, was already before the Court of Appeals. Relying heavily on the advanced stage of completion of the project and the previous investment of nearly $10 million, the court concluded that, even if all factual disputes were resolved in favor of plaintiffs, the decision of the Corps must stand.39

2. Justification for the Holding

The Eighth Circuit justified its holding that NEPA creates substantive rights and that agency determinations are reviewable on the merits by reference to both statutory and judicial authority—specifically, statutory construction of NEPA, the Administrative Procedure Act's presumption of reviewability, and prior decisions in favor of limited review. In addition, the court's policy statement of the obligation to review40 suggests the importance of judicial review in protecting environmental values and implies a requirement that the agency expose the reasoning behind its decision.

38. The confusion between substance and procedure has been fostered by the courts' desire to avoid stricter scrutiny of agency action, largely out of deference to administrative expertise. Now that one court has expanded the scope of review to include what it terms "substantive" aspects, it might be more useful to abandon the attempt to dichotomize the reviewing process so sharply.

The traditional "procedural" category—the EIS's factual input—inevitably may be the product of value judgments as to what data to include, what constitutes an "adverse" environmental impact, and how to describe the relationship between long and short-term uses of the environment. If the data is biased or incomplete, the weighing process will be defective as well. Even if the relevant factors are disclosed fully and accurately in the EIS, an agency could make an invalid decision if, in considering and balancing those factors, it understated the detriments and exaggerated the benefits. Thus, good faith consideration is both procedural and substantive, since it is necessary for both a full disclosure and a fair result. The court's test means that the agency must make a full, good faith disclosure of environmental factors and consider and balance those factors in good faith in light of the section 101 standards. This will insures that the "actual balance" of costs and benefits is neither arbitrary nor the product of clearly under-assessed environmental values.

39. 470 F.2d at 301, 4 ERCA at 1728.

40. See text accompanying note 34 supra.
a. Statutory and Judicial Authority

The court relied on the language of NEPA and its purpose as elucidated by the legislative history to justify review on the merits.\textsuperscript{41} Section 102(1) indicates that the section 101 provisions are to be taken as standards against which administrative action is measured. The enforcement clause "directs, to the fullest extent possible," that federal action be administered "in accordance with the policies set forth in \textit{this Act} . . ." which includes the section 101 policies.\textsuperscript{42} The legislative history corroborates this interpretation of the section 102 requirements as "action-forcing procedures" designed to implement the policies enunciated in section 101.\textsuperscript{43}

In the absence of explicit legislative guidance as to reviewability in federal statutes, the Administrative Procedure Act defines the limits of judicial review.\textsuperscript{44} Since the stated exceptions to reviewability are not applicable to NEPA cases,\textsuperscript{45} and since no special reasons existed for not reviewing the agency determination,\textsuperscript{46} the Eighth Circuit concluded that judicial review of the Corps' decision was proper.

\textsuperscript{41} 470 F.2d at 297-98, 4 ERC at 1725-26.
\textsuperscript{43} S. REP. No. 91-296, 91st Cong., 1st Sess. (1969). The interrelation between sections 101 and 102 is illustrated in unambiguous language: A statement of national policy for the environment—like other major policy declarations—is in large measure concerned with principle rather than detail; with an expression of broad national goals rather than narrow and specific procedures for implementation. But, if goals and principles are to be effective, they must be capable of being applied in action. S. 1075 thus incorporates certain "action-forcing" provisions and procedures which are designed to assure that all Federal agencies plan and work toward meeting the challenge of a better environment.
\textsuperscript{44} Id. at 9.
\textsuperscript{45} Id. § 701(a)(1) makes review improper where the statute expressly prohibits review, which is not true of NEPA. Section 701(a)(2) precludes review where an agency's action is "committed to agency discretion by law." The Supreme Court has construed this exception narrowly, such that only "on a showing of 'clear and convincing evidence' should the courts restrict access to judicial review." Abbott Laboratories v. Gardner, 387 U.S. 136, 141 (1967). Review is precluded only "in those rare instances where 'statutes are drawn in such broad terms that in a given case there is no law to apply.'" Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 410, 2 ERC 1250, 1254; accord, EDF v. Ruckelshaus, 439 F.2d 584, 2 ERC 1114 (D.C. Cir. 1971); See Jaffe, \textit{Judicial Review: Question of Fact}, 69 Harv. L. Rev. 1020, 1045 (1956); Berger, \textit{Administrative Arbitrariness: A Synthesis}, 78 Yale L.J. 965 (1969).\textsuperscript{46} But see Saferstein, \textit{Non-Reviewability: A Functional Analysis of "Committed to Agency Discretion"}, 82 Harv. L. Rev. 367 (1968). The Eighth Circuit maintained that the substantive requirements of NEPA provide ample law for courts to apply. 470 F.2d at 298 n. 14, 4 ERC at 1726 n. 14.
\textsuperscript{46} 470 F.2d at 298, 4 ERC at 1726, \textit{citing} K. Davis, \textit{Administrative Law Treatise} § 28.05 (1958): "An Administrative determination affecting legal rights is reviewable unless some special reason appears for not reviewing."
In looking to prior case law, the court relied mainly on dicta in *Calvert Cliffs' Coordinating Comm., Inc. v. AEC* as its principal judicial authority for substantive review. In that decision, Judge Wright stated that a reviewing court could only reverse an agency decision on the merits if the resulting balance of costs and benefits was arbitrary or the product of underassessed environmental values. NEPA requires agencies to weigh the environmental costs of a project against the economic and technical benefits. They must also include an appraisal of all alternatives to the proposed action in order to compare the net balance for the project with the environmental risks posed by each alternative. In addition, the weighing of competing values must be performed in "good faith," although in earlier litigation courts often failed to clarify exactly what that meant or indicate how far the limits of good faith consideration extended. Since *EDF v. Corps of Engineers* requires the agency's cost-benefit balance to be made according to the standards set forth in section 101(b) and 102(1), the holding suggests that good faith consideration extends beyond procedural compliance to the implementation of NEPA's substantive policies.

The Eighth Circuit cited several other cases which did not clearly advocate the scope of substantive review posited in its decision. Thus,

47. 449 F.2d 1109, 2 ERC 1779 (D.C. Cir. 1971).
48. The reviewing courts probably cannot reverse a substantive decision on its merits, under section 101, unless it can be shown that the actual balance of costs and benefits 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. 449 F.2d at 1115, 2 ERC at 1783. This statement illustrates how substantive and procedural review can become confused. A remand, rather than a reversal, would be appropriate if the agency decision was procedurally deficient. See note 38 *supra*.
49. In *Calvert Cliffs'* it was assumed that "in some instances environmental costs may outweigh economic and technical benefits and in other instances they may not. But NEPA mandates a rather finely tuned and 'systematic' balancing analysis in each instance." 449 F.2d at 1113, 2 ERC at 1781.
51. One commentator has construed "good faith consideration" to include quantification of the costs and benefits of a project and available alternatives, full evaluation of the cost-benefit ratio, and altering agency procedures to institutionalize environmental planning. He concludes that although the "manner in which agencies make environmental decisions and the informational base or record compiled during the decision-making process" are reviewable, this is simply traditional procedural review. In his opinion the courts appropriately have not reviewed the "substantive wisdom" of the agency's decision in light of the section 101 precepts, because they lack justiciability. Note, *Evolving Judicial Standards, supra* note 12, at 1607-08. *But see* text accompanying notes 81-86 *infra*.
52. 470 F.2d at 300, 4 ERC at 1728.
53. The court relies mainly on dicta and Judge Oakes' dissent in *Scenic Hudson Preservation Conference v. FPC (II)*, 453 F.2d 463, 482, 3 ERC 1232, 1245 (2d Cir. 1971), *cert. denied*, 407 U.S. 926, 4 ERC 1750 (1972). It finds conflicting views on
in establishing precedent, the court relied heavily on policy reasons favoring substantive review.

b. Importance of Judicial Review

The court's perception that substantive review of agency action would enhance the quality of the decision-making process is based on assumptions about access to judicial review and the institutional roles of courts and agencies. One court has noted:

[C]ourts are increasingly asked to review administrative action that touches on fundamental personal interests in life, health, and liberty. These interests have always had a special claim to judicial protection, in comparison with economic interests in a ratemaking or licensing proceeding.\(^5\)

The argument for broad judicial review in environmental cases assumes that environmental protection is an important legal interest justifying judicial intervention and that the environment will be better protected by courts than by agencies.\(^5\) Therefore, the environmental plaintiff should obtain easy access to judicial review, and the scope of review should be expanded.\(^5\) In making these kinds of unstated assumptions, the Eighth Circuit was able to rely on policy reasons in support of substantive review, such as realizing the "broad purposes of NEPA,"\(^5\) rather than remaining confined by the traditional dichotomized notions of procedural and substantive review.\(^6\)

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\(^{54}\) See 470 F.2d at 299 n.15, 4 ERC at 1728 n.15.

\(^{55}\) See note 38 supra.

\(^{56}\) 470 F.2d at 299, 4 ERC at 1726-27.

\(^{57}\) [T]he more important the rights involved, the sharper the scrutiny of the relevant facts and the broader the scope of court review," on the theory that "judicial determination of facts affords greater protection than administrative determination." Sive, Some Thoughts of an Environmental Lawyer in the Wilderness of Administrative Law, 70 COLUM. L. REV. 612, 641-42 (1970).

\(^{58}\) Id. at 617-18. This is not a novel position, as Sive points out. In other areas of the law, procedural aids have developed to ease the burden on the underdog plaintiff. For example, in criminal law, the prosecutor has an independent duty to disclose exculpatory evidence to the defendant. Most recently, in an environmental case, attorney's fees were awarded to the successful plaintiffs, on the theory that they acted to protect and benefit a vital public interest. La Raza Unida v. Volpe, — F. Supp. —, 4 ERC 1797 (N.D. Cal. 1972). In addition, courts have expanded the scope of review in an analogous line of cases involving the determination of jurisdictional or constitutional facts. Sive, supra note 56, at 640.

\(^{59}\) See note 38 supra.
Although the Eighth Circuit did not squarely confront the problem of the relative competence of courts and agencies to deal with environmental issues, its decision to review on the merits implicitly rejected any extreme formulation of judicial deference to administrative expertise. The standard expression of deference appears in SEC v. Chenery Corp.,⁶⁰ where the Court upheld an SEC decision because it was "the product of administrative experience, appreciation of the complexities of the problem, realization of the statutory policies, and responsible treatment of the uncontested facts."⁶¹ However, since NEPA was designed to reform agency decisionmaking, this kind of absolute deference is inappropriate. Federal agencies have had little experience in dealing with environmental issues;⁶² it is also clear that some agencies will implement NEPA policies evasively at best.⁶³ On the other hand, courts are certainly capable of grasping the complexities of those issues, even in NEPA cases, where the facts often will be contested.⁶⁴

Furthermore, in considering an environmental problem, the agency's role is to balance its views or those of an applicant against those of opposing parties to determine what result will best serve the public's overall interest. Although the agency is not the adversary, too often

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⁶⁰. 332 U.S. 194 (1947).
⁶¹. Id. at 209. However, "expertness is not a magic wand which can be indiscriminately waved over the corpus of an agency's findings to preserve them from review." Jaffe, supra note 45, at 1039. Saferstein remarks that "while expertise may be involved in applying certain criteria to a complex set of facts, the courts may be as qualified as the particular agency to prescribe standards and criteria." Saferstein, supra note 45, at 384. See, Scenic Hudson Preservation Conference v. FPC (II), 453 F.2d 463, 482, 3 ERC 1232, 1235 (2d Cir. 1972) (Oakes, J., dissenting); SEC v. Chenery Corp., 332 U.S. 194, 215 (1947) (Jackson, J., dissenting). See also, Sive, supra note 56, at 629, where he argues in favor of court determination of the equities in environmental cases, since there is no technical formula under which "the preservation of natural beauty and historic shrines" can be weighed against the "cost of the project." Whether construction of a major roadway, the effects of which are far beyond the capacity of a mere engineer to measure, would be in accordance with "the national policy that special efforts should be made to preserve the natural beauty of the countryside" is more for a court than a transportation department.


⁶⁴. See, e.g., Scenic Hudson Preservation Conference v. FPC (II), 453 F.2d 463, 3 ERC 1232 (2d Cir. 1971).
its role as arbiter is transformed by attempting to advance its own policy conceptions, though disguised by the mask of objective expertise. In fact, "in most cases, the administrative action will be as much determined by power drives and legal attitudes as it is by technical considerations." \(^{65}\) Judicial review on the merits can better insure that the equities will be preserved, and that the agency will not advance self-serving notions of policy.

In \textit{EDF v. Corps of Engineers}, the issue of whether or not Gillham Dam should be built was not merely the sum of technical and economic feasibilities, but included important environmental values and policy judgments. Where the pertinent issues involve areas of constitutional law, ethics, or the philosophy of law and government, for example, courts are described as the experts. \(^{66}\) Although no court has yet accorded the environment constitutional status, \(^{67}\) and judges' experience with environmental issues is limited, judicial review on the merits can enhance the integrity of decisionmaking under NEPA. This will occur not only by checking the most egregious abuses of administrative discretion, but more importantly by rationalizing the administrative process. This was indeed the object of Congress in enacting NEPA, which the Eighth Circuit described as "intended to effect substantive changes in decisionmaking." \(^{68}\)

3. \textit{Requirement of Reasoned Conclusions}

The court's holding that review of the agency's final decision is proper implies that the agency must fully explain its reasoning. How it balanced each factor and what policy considerations or attitudes influenced its judgment must be examined by the reviewing court to determine whether the cost benefit ratio was arbitrary or the product of clearly underassessed environmental values. Otherwise, the court would have no sound basis for review and, in cases of reversal, would merely be substituting its preference for that of the agency. Decisions both under NEPA and before its enactment stress that the adminis-

\(^{65}\) L. \textit{Jaffe}, \textit{supra} note 35, at 580. The lack of agency expertise for deciding broad policy questions affecting important legal interests is stressed in Comment, \textit{Calvert Cliffs' Coordinating Comm. v. AEC and the Requirement of "Balancing" Under NEPA}, 2 ELR 10003, 10006 (1972), where the author states that expertise "inhibits conflict resolution where non-developmental environmental factors are at stake." \textit{See} text accompanying notes 120-24 infra.

\(^{66}\) K. \textit{Davis}, \textit{Administrative Law Treatise}, \S 30.09 (1958).


The administrative record must provide an explanation for the decision made in order to control discretion and facilitate review. The Supreme Court, in *Citizens to Preserve Overton Park, Inc. v. Volpe*, expanded that requirement and expressed strong disapproval of post-hoc rationalization, even suggesting that if the record on remand were inadequate to explain the Secretary's action, he might be required to testify in person before the reviewing court.

Judicial interpretation and the legislative history of NEPA imply further that the EIS was intended to record the reasoning behind the agency's trade-off of competing values. "To enable a court to ascertain whether there has been a genuine, not a perfunctory, compliance with NEPA, the [agency] will be required to explicate fully its course of inquiry, its analysis, and its reasoning." The court must decide whether the conclusion the agency reached was erroneous by evaluating the environmental arguments for and against the proposed action, in other words, by confronting the factual issues. For example, the agency's reasons must indicate: where there are adverse environmental effects that cannot be avoided by reasonable alternatives, that the project is justified by other expressly stated considerations of national policy; where there are local short-term uses of resources, that such uses are consistent with maintaining and enhancing long-term produc-

69. In SEC v. Chenery Corp., 332 U.S. 194, 196-97 (1947), the Supreme Court asserted that "[i]t will not do for a court to be compelled to guess at the theory underlying the agency's action; nor can a court be expected to chisel that which must be precise from what the agency has left vague and indecisive." In EDF v. Ruckelshaus, 439 F.2d 584, 596, 2 ERC 1114, 1121 (D.C. Cir. 1971), where the Secretary of Agriculture, without explanation, refused to suspend federal registration of DDT or to commence suspension proceedings, the court held that he "has an obligation to articulate the criteria that he develops in making each individual decision. We cannot assume, in the absence of adequate explanation, that proper standards are implicit in every exercise of administrative discretion." See Note, Confining and Structuring Administrative Discretion: EDF v. Ruckelshaus, 1971 Utah L. Rev. 388.

70. 401 U.S. 402, 2 ERC 1250 (1971).

71. Id. at 420, 2 ERC at 1257.

72. Ely v. Velde, 451 F.2d 1130, 1139, 3 ERC 1280, 1286 (4th Cir. 1971). Such precision was lacking, asserted Justice Douglas, regarding the value judgments made by the FPC in deciding to license the Storm King power plant project.

We know that the Commission rejected alternatives with less deleterious environmental consequences on the ground that they were "more" costly and "less" reliable. But we have no reasonably precise notion of how much reliability and money were gained at the expense of the destruction of Storm King Mountain. Whether or not courts review the Commission's ultimate balance of these competing considerations, the fact remains that Congress and the public are entitled to know those judgments. Scenic Hudson Preservation Conference v. FPC (II), 407 U.S. 926, 933, 4 ERC 1750, 1752 (1972) (Douglas, J., dissenting from denial of cert.).

tivity; and where the proposal involves irreversible and irretrievable commitments of resources, that such commitments are warranted.\textsuperscript{74}

In \textit{EDF v. Corps of Engineers} the court reviewed the Corps' determination on the basis of the EIS and the transcript of the district court proceedings which, in the court's view, constituted the "complete record."\textsuperscript{75} Presumably, if the district court were to review the agency decision initially, the EIS would constitute the sole record.\textsuperscript{76} A new decision of the Eighth Circuit, subsequent to \textit{EDF v. Corps of Engineers}, resolves any uncertainty. A complete EIS must contain an explanation of the agency's reasoning and analysis, in order to serve as an "accessible means for opening up the agency decisionmaking process . . . to critical evaluation by those outside the agency" and to supply a "convenient record for courts to use in reviewing agency decisions on the merits."\textsuperscript{77}

\section*{II

CRITERIA OF REVIEW

In ruling that the Corps' decision to build Gillham Dam could not be set aside as arbitrary and capricious, the Eighth Circuit opinion provided few clues as to how the court arrived at that conclusion. It only briefly considered arguments for and against the project and the balance struck between flood control benefits and the importance of a diversified environment. The court emphasized the prior financial commitment of nearly ten million dollars and the advanced stage of completion of the project, implying that these may have been the deci-

\textsuperscript{74} S. Rep. No. 91-296, \textit{supra} note 43, at 20-21 (emphasis supplied). The CEQ guidelines indicate that the EIS must include \textit{analysis} and \textit{evaluation}, in addition to description. For example, "a rigorous exploration and objective evaluation of alternative actions that might avoid some or all of the adverse environmental effects is essential." 36 Fed. Reg. 7724, 7725 (1971). In addition, the Army Corps of Engineers' own guidelines require the statement to discuss "adverse effects and the implications thereof, and identify the abatement or mitigation measures proposed to rectify these and the extent of their effectiveness." Engineering Circular, 1120-2-56, app. B § 5(d) (1970), \textit{cited in EDF v. Froehlke, 473 F.2d 346, 350, 4 ERC 1829, 1831 (8th Cir. 1972)} (emphasis supplied).

\textsuperscript{75} 470 F.2d at 301, 4 ERC at 1728.

\textsuperscript{76} Lathan v. Volpe, 350 F. Supp. 262, 265-66, 4 ERC 1487, 1489-90 (W.D. Wash. 1972) indicates that a sufficient EIS constitutes a record reviewable under the arbitrary and capricious standard. In line with its position that courts are not empowered to review agency decisions on the merits, the district court in \textit{EDF v. Corps of Engineers} stated that "the environmental impact statement is not to be equated to a trial record which is examined on appeal by a higher court." 342 F. Supp. at 1217, 4 ERC at 1100. This is now inaccurate, given the Eighth Circuit's decision to review on the merits.

\textsuperscript{77} \textit{EDF v. Froehlke, 473 F.2d 346, 351, 4 ERC 1829, 1832 (8th Cir. 1972)}; \textit{see Sive v. Lynn, — F.2d —, 5 ERC 1654 (1st Cir. 1973).}
sive factors against disturbing the administrative decision to build the dam.

With that exception, the court did little to elucidate how it applied the two-step review process announced earlier in the opinion—whether the Corps had performed a "full, good faith consideration and balancing of environmental factors" and whether the resulting cost-benefit balance was "arbitrary" or distorted in light of section 101 standards. In its conclusion the court neither mentioned explicitly section 101 standards nor developed others that might justify reversal of an agency decision on the merits. To advance the next step, this Part examines three possible criteria which courts might consider in testing the substantive validity of an agency decision under NEPA: compliance with the section 101 standards, agency objectivity, and accuracy of the cost-benefit analysis.

A. Section 101 Standards

Judicial review of an agency decision under the substantive standards of section 101 rests on an assumption that they are administrable and enforceable. Critics have alleged that the standards are simply vague, generalized policy statements, and thus devoid of legal effect.

78. Other possible criteria might include arbitrary segmentation of massive projects or development programs to reduce the scope of apparent environmental impact. Such "piecemeal" environmental evaluation would frustrate the basic purpose of NEPA. Sierra Club v. Froehlke, 359 F. Supp. 1289, 1323, 5 ERC 1033, 1053-55 (S.D. Tex. 1973). See also, Committee to Stop Route 7 v. Volpe, 346 F. Supp. 731, 4 ERC 1329 (D. Conn. 1972). Another criterion might be ignoring criticism of commenting agencies, Sierra Club v. Froehlke, 359 F. Supp. at 1346-49, 5 ERC at 1070-72, although this might simply be evidence of agency bias. See text accompanying notes 103-07 infra.

79. Section 102(1) states that "[t]he Congress authorizes and directs that, to the fullest extent possible: (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act . . ." 42 U.S.C. § 4332(1) (1970). This includes the section 101(b) policies directing federal agencies to "improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may—

(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.


80. See, e.g., Conservation Council v. Froehlke, 340 F. Supp. 222, 3 ERC 1687
On the contrary, they are no more vague or elusive of administrative application or judicial construction than are comparable provisions in other statutes. For example, in *Sierra Club v. Ruckelshaus*, the court relied on a policy statement in the purpose clause of the Clean Air Act to control agency action by invalidating an administrative regulation which would have had the effect of permitting deterioration of air quality. Similarly, the Federal Power Commission (FPC) must determine whether a project under its authority meets the Federal Power Act requirement that it is "best adapted to a comprehensive plan for improving or developing a waterway... and for other beneficial uses, including recreational purposes." Courts often have reviewed FPC decisions to ascertain whether the agency complied with this statutory standard.

The language of NEPA section 101(b)(3) directing the agency to shape its decisions to "attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences" parallels the standard in the Federal Power Act. If anything, it is more specific. The district court in *EDF v. Corps of Engineers* seemed to acknowledge that authorizing the project would violate at least some of the section 101(b) precepts: "It cannot be doubted that the damming of the Cossatot will reduce the diversity and variety of choice of recreational opportunities and will..."
reduce the choice of beneficial uses of the environment in that region.\textsuperscript{88} Similarly, in the Storm King case, where the FPC approved construction of a hydroelectric project in an area of unique scenic value on the Hudson River, the "beneficial uses" provision of NEPA apparently was flouted. Judge Oakes in dissenting would have reversed the agency's issuance of the license as an abuse of discretion, for failure, \textit{inter alia}, to follow the mandate of NEPA. In measuring the findings of the FPC against the section 101(b) standards, he suggested that they fell far short of compliance and "beg[ged] the question of environmental preservation."\textsuperscript{87}

Other section 101 standards are equally relevant in testing an agency's decision. For example, in \textit{EDF v. TVA},\textsuperscript{88} proposed construction of the Tellico Dam threatened to accelerate urbanization in an area unsuited to accommodate rapid growth. The court reversed on procedural grounds for failure to include that information in the EIS. Had the final agency decision, based on an adequate EIS, permitted construction despite that obvious risk, the reviewing court could have found that the agency violated section 101(b)(5). That section requires the achievement of a "balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities."\textsuperscript{89} The court might also have found that the potential threat of "degradation" had been ignored.\textsuperscript{90}

Section 101 has been interpreted as implying a requirement that agencies mitigate environmental impacts arising from a proposed project.\textsuperscript{91} Presumably, a sufficient EIS must consider, in its discussion of

\begin{itemize}
\item \textsuperscript{86} 325 F. Supp. at 760, 2 ERC at 1268.
\item \textsuperscript{87} Scenic Hudson Preservation Conference v. FPC (II), 453 F.2d 463, 493, 3 ERC 1232, 1254 (2d Cir. 1971). Moreover, Commissioner Ross, dissenting from the initial FPC decision to grant the license, noted that "it appears obvious that had this area of the Hudson Highlands been declared a State or National Park, that is, had the people in the area already spoken, we probably would have listened and might well have refused to license it." Scenic Hudson Preservation Conference v. FPC (I), 354 F.2d 608, 614-15, 1 ERC 1084, 1088 (2d Cir. 1965).
\item \textsuperscript{88} 339 F. Supp. 806, 3 ERC 1553 (E.D. Tenn.), aff'd, 468 F.2d 1164, 4 ERC 1850 (6th Cir. 1972).
\item \textsuperscript{89} 42 U.S.C. § 4331(b)(5) (1970).
\item \textsuperscript{90} Id. § 4331(b)(3). A similar argument could be made regarding Hanly v. Mitchell, 460 F.2d 640, 4 ERC 1152 (2d Cir. 1972), \textit{cert. denied sub nom.}, Hanly v. Kleindiest, 409 U.S. 990, 4 ERC 1745 (1972), where in approving construction of a jail in a densely populated urban setting, the General Services Administration failed to consider several factors affecting the quality of life of neighborhood residents.
\item \textsuperscript{91} Sierra Club v. Froehlke, 359 F. Supp. at 1339-41, 5 ERC at 1065-67. See \textit{EDF v. Froehlke}, 473 F.2d 346, 351-52, 4 ERC 1829, 1832 (8th Cir. 1972). The Environmental Protection Agency Guidelines note that where adverse impacts cannot be avoided, the agency must explore the implications of proceeding with the project and provide detailed reasons for approving the action. In particular it must specify which section 101(b) standards would be sacrificed. Proposed EPA Reg. § 6.45(b)(2), 37 Fed. Reg. 883 (1972).
\end{itemize}
the five elements in section 102(2)(C), what mitigation is possible in reference to the available alternatives to the project. If an agency grants approval without having attempted to implement mitigation measures disclosed in the EIS, this should alert a reviewing court to the probability that the agency has ignored section 101 standards. In other words, section 101 creates a presumption in favor of environmental preservation that requires agencies to undertake a "substantial effort to prevent or minimize environmental harm" in planning and approving projects.

*McPhail v. Army Corps of Engineers* provides one of the more shocking examples of disregard not only of specific section 101 standards but of the entire spirit of the section. The River Rouge Flood Control project near Dearborn, Michigan, the subject of the controversy, involved replacement of the natural river bottom and banks with concrete pavement. The Corps' impact statement conceded that "practically no natural, productive wildlife habitat will survive if the project is implemented and there will be a permanent loss to present recreational uses and aesthetic qualities afforded by the open natural area." Where such a project "will virtually destroy the natural environment," it would seem that the agency has failed to fulfill the implied mitigation requirement or overcome the presumption in favor of environmental protection. A reviewing court could thus find a violation of section 101 and accordingly reverse on the merits.

The effect of such a presumption in favor of environmental preservation is to place the burden of proof on the agency to show that its action comports with the policy directives of section 101. Since a valid agency decision is predicated upon the assumption that section 101 will be implemented "to the fullest extent possible," courts should construe the enumerated standards liberally in order to control administrative discretion. In *Sierra Club v. Froehlke*, the court approximated that approach in concluding that once plaintiffs have made a

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92. Sierra Club v. Froehlke, 359 F. Supp. at 1340-41, 5 ERC at 1066. The court ruled that the Corps' EIS failed to indicate that mitigation measures were "considered or implemented." *Id.* It is interesting to note that in construing the California Environmental Quality Act of 1970, *Cal. Pub. Res. Code §§ 21000 et seq. (West Supp. 1973)*, which was modelled after NEPA, the California Supreme Court remarked that "obviously, if the adverse consequences to the environment can be mitigated, or if feasible alternatives are available, the proposed activity... should not be approved." *Friends of Mammoth v. Board of Supervisors of Mono County, 8 Cal. 3d 1, 17 n. 8, 500 P.2d 1360, 1371 n. 8, 104 Cal. Rptr. 16, 27 n. 8, 4 ERC 1593, 1599 n. 8 (1972).*


94. *Id.* at —, 4 ERC at 1911.

95. *Id.*


prima facie showing of a NEPA violation, the burden falls on the agency to justify its action. The court reasoned that in the absence of a "public environmental 'ombudsman' to superintend agency compliance with NEPA," it is unrealistic to expect that conservation groups and individuals as environmental plaintiffs could "provide an effective check and balance against agency decisions affecting the environment."  

B. Agency Objectivity

Lack of objectivity on the part of the agency decisionmaker, may warp the "good faith" posture of the balancing analysis required by NEPA and render suspect the substantive validity of a decision. Clear bias or the implication of bias would invalidate a decision, as in *D.C. Federation v. Volpe,* 98 where the Secretary of Transportation's approval of bridge construction was influenced by the irrelevant outside pressure of a legislator. Consideration of an irrelevant factor constitutes an abuse of discretion, grounds for reversal of an agency decision on the merits. 100 While remanding the case for impartial reevaluation, the court stated that had the Secretary acted in a quasi-judicial capacity, plaintiffs could have argued forcefully that the decision was invalidated by the decisionmaker's bias. It further intimated that plaintiffs could prevail without a showing that the extraneous pressure had actually influenced the Secretary's judgment: "With regard to judicial decisionmaking, whether by court or agency, the appearance of bias or pressure may be no less objectionable than the reality." 101 It may be argued that such a stringent standard of objectivity, applicable to "quasi-judicial" decisions of administrators, also should apply in NEPA cases, where the same agency that prepares the supposedly "objective" impact statement may have a vested interest in approving the project. 102

One indicator of possible bias is the agency's treatment of opposition to the project. This is most clearly manifested in controversial projects, where the commitment of resources and the risk of environ-

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98. *Id.* at 1334, 5 ERC at 1062.
100. If the decisionmaker took into account "'considerations that Congress could not have intended to make relevant,' his action proceeded from an erroneous premise and his decision cannot stand . . . . His action would not be immunized merely because he also considered some relevant factors." *Id.* at 1247, 3 ERC at 1153. See note 35 *supra;* Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 416, 2 ERC 1250, 1256 (1971); Wong Wing Hang v. Immigration & Naturalization Serv., 360 F.2d 715, 719 (2d Cir. 1966); L. JAFFE, *supra* note 35 at 182.
101. 459 F.2d at 1246-47, 3 ERC at 1152.
102. *See* note 121 *infra* and text accompanying note 65 *supra.*
mental damage are likely to be extensive.\textsuperscript{103} In any project authorization, it is especially pertinent for the agency to weigh heavily opposition from the local community or residents of the state in which the project is to be located, since they are the persons most directly affected. Particularly in flood control projects, which are intended to benefit area residents, strong local opposition may be evidence that the purported benefits are illusory.

In the Tellico Dam case, \textit{EDF v. Tennessee Valley Authority} (TVA),\textsuperscript{104} testimony of professional planners for the development district where the proposed dam was to be located expressed their opposition to the project in light of environmental risks disregarded by the EIS prepared by TVA. They also stated that “power and flood control benefits are acknowledged as negligible.”\textsuperscript{105} Furthermore, the Governor of Tennessee reviewed the EIS and concluded that the state’s best interest would be served by discontinuing the project.\textsuperscript{106} In a more recent case, critics of the planned undertaking included not only the state governor and various state commissions but also officials of federal agencies and the Secretary of the Interior;\textsuperscript{107} such an array of responsible and influential opinion against the project should alert the reviewing court to the likelihood of bias on the part of the approving administrative agency.

Cases considering the bias of an impact statement provide a useful

\begin{footnotes}
\item[103.] See Note, \textit{Evolving Judicial Standards}, supra note 12, at 1637, for a discussion of criteria the author believes would justify remanding the ultimate determination to Congress. See note 135 infra.

\item[104.] 339 F. Supp. 806, 3 ERC 1553 (E.D. Tenn.), aff’d, 468 F.2d 1164, 4 ERC 1850 (6th Cir. 1972).

\item[105.] \textit{Id.} at 809, 3 ERC at 1555.

\item[106.] \textit{Id.} The position of the state may be a crucial ingredient in the decision-making process. In \textit{EDF v. Corps of Engineers}, for example, the director of the Department of Planning for the State of Arkansas wrote to the Regional Director of the U.S. Department of the Interior, Bureau of Outdoor Recreation (BOR), recommending the Cossatot for \textit{consideration} as a wild and scenic river. The BOR treated the letter as a recommendation that the Cossatot be so \textit{designated} and included the River in a list for further study by the Secretary of the Interior and the Secretary of Agriculture, under the National Wild and Scenic Rivers Act. 16 U.S.C. §§ 1271-87 (1970). However, the Corps of Engineers did not even include the state official’s letter in its EIS. Brief for EDF, Inc. as Appellants, unpaginated, EDF v. Corps of Engineers, 470 F.2d 289, 4 ERC 1721 (8th Cir. 1972) [hereinafter cited as Brief for Appellants]. The Corps asserted that the State of Arkansas had not “designated, recommended, or asked for any action on the Cossatot pursuant to the Wild and Scenic Rivers Act.” The district court allowed that this was \textit{not} an intentionally false statement and concluded that “the position of the State of Arkansas on the issue is ambiguous.” 342 F. Supp. at 1216, 4 ERC at 1100. The court apparently ignored the intent of the state to favor preservation of the Cossatot as a free-flowing river over construction of the dam by condoning the agency’s semantic subterfuge.

\item[107.] EDF v. Froehlke, 473 F.2d 346, 351 n.13, 4 ERC 1829, 1832 n.13 (8th Cir. 1972).
\end{footnotes}
analogy, for the same bias that distorts the EIS also may color the ultimate determination. In Greene County Planning Board v. FPC,\textsuperscript{108} concerning an application for a permit to construct a high voltage transmission line, the court remanded the case for noncompliance with NEPA’s requirement that the agency produce its own detailed EIS. The FPC had attempted to abdicate its responsibility by substituting the applicant’s EIS and merely appending comments of its staff and other federal agencies. “The danger of this procedure,” warned the court, “is the potential, if not the likelihood, that the applicants’ statement will be based on self-serving assumptions.”\textsuperscript{109} It is clear that the possibility of agency bias is not limited to such a blatant example, which the court was quick to condemn, but extends to more subtle risks that the agency may lack subjective impartiality.

In Conservation Council v. Froehlke,\textsuperscript{110} the district court denied an injunction to halt dam construction and accepted a less than impartial impact statement prepared by the Corps, on grounds that the statement included depositions of opposing experts giving damaging testimony on adverse environmental effects and discrepancies in the cost-benefit ratio. Despite its prior affirmation on appeal,\textsuperscript{111} the Fourth Circuit recently reheard the case in light of the Eighth Circuit’s decision in EDF v. Corps of Engineers and was persuaded that the courts have jurisdiction to review substantive agency decisions. Accordingly, it remanded the case to the district court for review on the merits and issued a preliminary injunction to restrain further work on the dam.\textsuperscript{112} On rehearing the district court should consider the extent of agency bias revealed in the impact statement as strong indication of a “clear error of judgment.”

Definitions of “good faith consideration” and objectivity thus vary widely. The district court in EDF v. Corps of Engineers claimed that NEPA “does not permit impact statements to be ‘consciously slanted or biased,’” implying “intentional misrepresentation.”\textsuperscript{113} This conflicts

\textsuperscript{108} 455 F.2d 412, 3 ERC 1595 (2d Cir. 1972), cert. denied, 409 U.S. 849, 4 ERC 1752 (1972).
\textsuperscript{110} 340 F. Supp. 222, 3 ERC 1687 (M.D. N.C. 1971).
\textsuperscript{111} — F.2d —, 4 ERC 1044 (4th Cir. 1972).
\textsuperscript{112} 473 F.2d 664, 4 ERC 2039 (4th Cir. 1973). In relying on the Eighth Circuit’s holding in favor of substantive review, the court cited that court’s most recent opinion, EDF v. Froehlke, 473 F.2d 346, 4 ERC 1829, reiterating its position in EDF v. Corps of Engineers. For an analysis of the case before the 4th Circuit’s about-face, see Note, Substantive Review under the National Environmental Policy Act of 1969, 51 N. CAR. L. REV. 145 (1972).
\textsuperscript{113} 342 F. Supp. at 1214, 4 ERC at 1098.
with the District of Columbia Circuit's more liberal standard of an "appearance of bias." Moreover, the district court concluded that the Corps' third and final EIS on the Gillham Dam project, "although obviously not as fair and impartial and objective as if it had been compiled by a disinterested third person, meets the full disclosure requirements of the NEPA . . . ." This interpretation also seems erroneous in light of Greene County, where the Second Circuit implied that the objective of NEPA was to obtain just such an impartial EIS prepared by the agency as a disinterested third party.

The Eighth Circuit stated that the test of compliance is one of "good faith objectivity rather than subjective impartiality," and quoted the district court opinion with approval:

It is possible for federal officials and federal employees to comply in good faith with [NEPA] even though they personally oppose its philosophy, are 'anti-environmentalists,' and have unshakeable, pre-conceived attitudes as to the 'rightness' of the project under consideration.

Such "unshakeable, pre-conceived attitudes" would constitute sufficient bias for challenging a prospective juror for cause in the adjudicatory framework of a trial, which is at least subject to mitigating control by a judge. Why, in the context of an administrative determination, where the risk of abuse of discretion is always present, should such attitudes be permitted to color the decision-making process? Any prejudgment on the part of the agency at the level of the balancing analysis is bound to affect the ultimate determination. "No decision-making procedure can meet the standard of 'full good faith consideration' if the ultimate deciding authority is committed in advance to one course of action."

Bias, however, is built into the system. Agencies, by their very nature, are mission-oriented and often cannot be truly impartial. As decisionmakers, staff personnel are also policy-makers, impelled to a

115. 342 F. Supp. at 1217, 4 ERC at 1101.
116. See text accompanying notes 108-09 supra.
117. 470 F.2d at 296, 4 ERC at 1724.
118. Id.
119. EDF claimed that the court's statement "flies in the face of the statutory purpose" of NEPA. Brief for Appellants, supra note 106.
120. Note, Evolving Judicial Standards, supra note 12, at 1526-27. Udall v. FPC, a pre-NEPA case, was remanded for reconsideration, since "implicit in the reasoning of the Commission and the Examiner is the assumption that this project must be built and that it must be built now." 387 U.S. 428, 448, 1 ERC 1069, 1075 (1967). See also District of Columbia Fed'n v. Volpe, 459 F.2d 1231, 3 ERC 1143 (D.C. Cir. 1971), cert. denied, 405 U.S. 1030, 3 ERC 1950 (1972); Sierra Club v. Froehlke, 359 F. Supp. at 1362-64, 5 ERC at 1082-83.
certain extent by power drives and political expediency. For example, in *EDF v. Corps of Engineers*, plaintiffs charged that Colonel Pinkey, the District Engineer under whose direction the EIS was prepared, made statements both at a public hearing and in a newspaper interview indicating clear bias. He expressed absolute certainty that the dam would be built although at that time the injunction was still in force.

Acknowledging the problem of self-serving agency attitudes, the Council on Environmental Quality has warned against using the EIS as a "promotional document." Even the guidelines of the Corps of

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121. See text accompanying note 65 *supra*. For a discussion of the pro-development bias of certain federal agencies, see Tarlock & Tippy, *The Wild and Scenic Rivers Act of 1968*, 55 *CORNELL L. REV.* 707 (1970). The authors note that the FPC has exercised only once its statutory power to deny a license for a project where environmental values are threatened: *Namekagon Hydro Co. v. FPC*, 216 F.2d 509 (7th Cir. 1954). See note 84 *supra*. An earlier article by Tippy, *Preservation Values in River Basin Planning*, 8 *NATURAL RES. J.* 259, 262-64 (1968), notes the politicization of the Army Corps of Engineers' planning process. A provision of the Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, 86 Stat. 816 (Oct. 18, 1972), 1972 U.S. CODE CONG. & AD. NEWS 3668, attempts to eliminate built-in bias on state water pollution control boards which had previously earmarked certain seats for representatives of industries which are major pollution sources.

The new provision prohibits a board which approves permit applications for non-municipal discharges of fluid waste into waterways from including as a member "any person who receives, or during the previous two years has received, a significant portion of his income directly or indirectly from permit holders or applicants." New York Times, Oct. 23, 1972, at 55, col. 1. The requirement aims at industrial connections of board members and does not cover other interest affiliations. *Id.* Cf. Comment, *Delegation of Power to Regulatory Agencies: Standards and Due Process in the Bayside Timber Case*, 1 *ECOLOGY L.Q.* 773, 779-81, 791-94 (1971), for an illustration of judicial alleviation of bias institutionalized by statute.

122. Col. Pinkey's statements, made while he was under an order of the district court to prepare a new, objective and impartial EIS, have been characterized as "a stump speech in favor of the project." Brief for Appellants, *supra* note 106. In an appendix to its sixth Memorandum Opinion, the district court responded to plaintiffs' allegations of bias. 342 F. Supp. at 1218-24 (the appendix is not included with the reported opinion at 4 ERC 1097). Congress placed the responsibility of preparing the EIS with the federal agency in charge of the project, "the very public servants who, by the nature of things, would probably be the least objective in reporting facts and urging arguments which would tend to negate the wisdom of projects within the traditional mission of such agencies." *Id.* at 1222. Nevertheless, Congress clearly intended the agency to report and evaluate objectively the environmental impacts of proposed projects. Thus, the court concluded that a "good faith effort" to comply with NEPA is all that is required, and that given the two-thirds stage of completion of the project, it would be unreasonable to expect complete open-mindedness of officials so involved in continuing the project. *Id.* at 1223-24.

123. CEQ Memorandum to Federal Agencies on Procedures for Improving Environmental Impact Statements, 3 ENV. RPTR.—CURR. DEV. 82, 84 (1972). The warning has not been taken to heart. In *Sierra Club v. Froehlke*, another case involving a massive flood control project, the court acknowledged that there were indications in the record that the Corps had been "less than objective by engaging in rationalizations and super salesmanship." 359 F. Supp. at 1342, 5 ERC at 1067.
Engineers cautioned against ignoring or slighting environmental effects in the EIS as a "means for assisting or supporting project justification." Reviewing courts should be fully aware of an agency's vested interest in getting projects underway and obtaining others. The existence of possible bias and prejudgment is thus a factor the court must examine carefully when reviewing an agency decision on the merits, as it may be strong indication of a clear error of judgment.

C. Cost-Benefit Analysis

The third suggested criterion of substantive review, the accuracy of an agency's cost-benefit analysis, may provide evidence of decisionmaker bias and indicate lack of compliance with section 101 standards. Potential abuses of the cost-benefit analysis tend to fall into three general categories: lack of specificity and substantiation, imbalance in the ratio itself, and influence of previous investment in the project. Consistent with their denial of substantive review, most courts have been reluctant to examine these abuses on grounds that determining whether the benefits of a project exceed its costs is a "legislative function;" i.e., once a project has been funded by Congress, courts have felt it improper to review the agency's decision to approve construction.

However, in EDF v. Froehlke, decided subsequent to EDF v. Corps of Engineers, the Eighth Circuit rejected this position, declaring that an appropriations act cannot serve as a vehicle to alter NEPA's requirement that construction projects be completed in accordance with its substantive provisions. The court held that "the Corps must reappraise the costs and benefits of the project in light of the policies of environmental protection found in NEPA," regardless of prior con-


127. 473 F.2d 346, 4 ERC 1829 (8th Cir. 1972).

128. Id. at 356, 4 ERC at 1836. The court referred to Committee for Nuclear
gressional authorization of the project. Furthermore, the Corps' new decision would be subject to review on the merits. Once access to substantive review on the merits is assured, it is not likely that courts will continue to rely on the "legislative function" argument as a justification for affirming agency decisions based on a distorted cost-benefit analysis.\(^\text{129}\)

1. **Lack of Specificity**

Lack of specificity and substantiation effectively prevents a realistic cost-benefit assessment of proposed projects and their possible alternatives, not only by the agency charged with the decisionmaking, but also by public interest groups commenting on the plans and courts reviewing the administrative determination. In *EDF v. TVA*\(^\text{130}\) construction of the Tellico Dam was enjoined on grounds that the draft EIS contained a cost-benefit analysis consisting almost completely of unsubstantiated conclusions. The court remarked:

> As a result, a non-expert reader is denied the opportunity to intelligently evaluate TVA's conclusions. In addition, it is impossible to determine the thoroughness of the research upon which TVA based the conclusions, or their relative merit.\(^\text{131}\)

However, at least one court has determined that use of gross figures in the cost-benefit ratio is sufficient, and that NEPA does not require refinement beyond an assessment of the five subsections of section 102 (2)(C).\(^\text{132}\)

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\(^{129}\) Responsibility v. Seaborg, 463 F.2d 783, 785, 3 ERC 1126, 1127 (D.C. Cir. 1971), for the proposition that "[t]here is, of course, nothing inconsistent with the adoption of appropriations and authorization measures on the *pro tanto* assumption of validity, while leaving any claim of invalidity to be determined by the courts."

Plaintiffs in *EDF v. Froehlke* had asserted an additional claim for relief under the cost-benefit provision of the Flood Control Act of 1936, 33 U.S.C. §§ 701 et seq. (1970), on the basis of an excess of costs over benefits. Section 701a states: ". . . the Federal Government should improve . . . navigable waters . . . for flood control purposes if the benefits to whomsoever they may accrue are in excess of the estimated costs, and if the lives and social security of people are not otherwise adversely affected." The court, however, treated this claim as subsumed by those filed under NEPA.


130. 339 F. Supp. 806, 3 ERC 1553 (E.D. Tenn.), *aff'd*, 468 F.2d 1164, 4 ERC 1850 (6th Cir. 1972).


Section 102(B) directs agencies to develop “methods and procedures” to “insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations.” It has been suggested that “quantification” and “monetization” of data, in addition to “description,” are essential if the cost-benefit analysis is to serve as a tool to compare realistically all conceivable effects of projects. In other words, the cost-benefit analysis should include estimates of the type and degree of environmental impacts and assign monetary values to them. These requirements pose problems inherent in NEPA itself, since it may be difficult or impossible in some cases to make “reasonably certain” or “probable” estimates of environmental effects and to place definite values in monetary terms on environmental amenities.

The guidelines of the Water Resources Council acknowledge the present impossibility of measuring all, or even identifying or anticipating some, environmental effects. For those which can be described qualitatively, standards may not exist to permit quantitative comparisons and ranking. The district court in EDF v. Corps of Engineers recognized such a deficiency in the Corps’ first two impact statements: “As a result, the defendants have been unable, as a practical matter, to take into consideration, in estimating costs and benefits, the ‘value’ of the Cossatot as a free-flowing stream.”

The Water Resources Council cost-benefit analysis did not violate NEPA, but conceded that it might reflect lack of good faith. Id. at —, 4 ERC at 1911.


135. Id. at 1601. The author suggests that the environmental cost or economic benefit of a particular project, e.g., the trans-Alaska pipeline, may be so uncertain and difficult to quantify that compliance with NEPA is rendered impossible. His solution in the case of a project of such immense proportions is a remand to Congress to remove the decision from the realm of administrative discretion and place it in a more politically responsive forum. That is what ultimately happened to the pipeline, though not specifically on those grounds. See Wilderness Soc’y v. Morton, — F.2d —, 4 ERC 1977 (D.C. Cir. 1973) (construction of pipeline enjoined for violation of maximum right of way width restriction of Mineral Leasing Act of 1920), cert. denied, — U.S. —, 5 ERC 1208 (1973). In refusing to hear the case, the Supreme Court stated that any remedy would have to come from Congress. See also Akers v. Resor, — F. Supp. —, —, 4 ERC 1966, 1968 (W.D. Tenn. 1972) (discussion of quantification problems regarding river channelization project); Note, Cost-Benefit Analysis, supra note 125, at 1097-98, 1106-08.


137. 325 F. Supp. at 757, 2 ERC at 1266. The court remarked, It does not appear that methods and procedures have been developed in consultation with the Council on Environmental Quality which would permit the defendants to assign values to presently unquantified environmental amenities, so that such values may be taken into consideration in decision-
cil states that in such a case, the agency must reveal the limitations of its knowledge in the cost-benefit analysis. However, the court did not indicate that valuation of the Cossatot was necessarily impossible or even especially difficult to accomplish, since it referred to testimony that some quantification is possible and has already been achieved by the classification system adopted pursuant to the Wild and Scenic Rivers Act.

The section 102(2)(B) requirement in NEPA to develop methods and procedures to quantify environmental values demonstrates a firm commitment to improving the art of environmental appraisal. In the future, fewer cost-benefit analyses will be approved by the reviewing court merely because no better method of precise quantification exists. Until that state of the art has been achieved, or in the absence of ultimate perfection of measuring techniques, the cost-benefit analysis should still be carefully scrutinized by the reviewing court. The National Resources Defense Council has suggested that when an agency uses a cost-benefit analysis, it should "specify the premises on which the analysis is based, including theoretical assumptions, analytic techniques, and data sources, so that independent evaluation of such decisions can be made."

2. **Imbalance in the Cost-Benefit Ratio**

The second category of abuses consists of imbalance in the cost-benefit ratio used in the overall balancing process. For example, over-
valuing one factor or undervaluing another, whether inadvertently or deliberately, will create an inaccurate comparison of costs and benefits of the project;\(^{141}\) in addition, the choice of interest rates, the estimated life span, and the characterization of specific recreation or commercial benefits and costs ascribed to the project are all important variables subject to error. Several recent decisions involving the Corps of Engineers indicate that abuse of these factors frequently has occurred.

In justifying a river channelization project in *Akers v. Resor*,\(^{142}\) the Corps listed among the chief benefits improved flood protection and drainage that would permit expansion of cultivable acreage, thereby increasing crop output and ultimately raising the low average income of area residents. However, the Corps failed to consult with the Soil Conservation Division of the Department of Agriculture which had issued a directive that channelization should not be employed to bring new lands into agricultural production.\(^{143}\) Thus, the Corps relied on benefits that another agency had expressly prohibited from being taken into account in planning water resource projects, without any consideration of that agency's opposing policy. In addition, the Corps substantially underestimated the cost of channel maintenance to be borne by the state and ascribed no money value to the loss of opportunities for hiking and birdwatching in the area.\(^{144}\) Although the court did not reach substantive issues since it found procedural noncompliance with NEPA,\(^{145}\) it would seem that such a distorted cost-benefit balance alone would warrant reversal on the merits by a reviewing court.

\(^{141}\) This type of abuse clearly is integrally related to the lack of specificity and substantiation previously discussed and may be subject to the same quantification problems. Tarlock & Tippy, *supra* note 121, at 708-09, describe the Corps of Engineers and the Bureau of Reclamation as having an infamous pre-NEPA history of consistently overestimating project benefits and underestimating costs. See also Note, Cost-Benefit Analysis, *supra* note 125, at 1102-11.


\(^{143}\) *Id.* at —, 4 ERC at 1967. The basis of this policy appears to be the problem of agricultural surpluses and crop support programs. The court also noted that the Corps' cost-benefit analysis did not indicate to what extent the increased agricultural income would actually end up in the hands of lower income residents. Also, the Corps' action bypassed efforts of the Soil Conservation Division, which, in conjunction with the Tennessee Department of Conservation, was undertaking a study to determine the best use of the river basins. *Id.*

\(^{144}\) *Id.* at —, 4 ERC at 1967-68. The court deemed the failure to consult the Tennessee Highway Department, the state body responsible for maintenance, one of the elements of procedural noncompliance with NEPA on which the remand was based. The Corps ignored the lost hiking and birdwatching opportunities on the assumption (termed "unreasonable" by the court) that most of the affected land was privately owned and therefore such costs need not be considered. It did, however, assign monetary values to the loss of hunting and fishing in the area.

\(^{145}\) The court stated that although substantive review seemed appropriate, in its view it would be difficult to find a situation involving full compliance with all procedural requirements of NEPA where a substantive decision could be held arbitrary and
The litigation arising out of the proposed construction of the New Hope Dam in North Carolina, *Conservation Council v. Froehlke*, provides one of the more striking examples of exaggeration of project benefits and underestimation of project costs. Although the Corps' EIS considered nutrient enrichment and algae growth in the lake as a likely environmental detriment of the dam when completed, it did not include the expense of nutrient removal in the cost-benefit analysis. As in *Akers v. Resor*, the total project cost was underassessed. Concomitantly, the Corps exaggerated potential recreation benefits and distorted flood control advantages by calculating flood frequency on the basis of regional data, although local data was available and thus should have been used. An expert witness, whose deposition was included in the EIS, stated that proper use of local data would reduce the estimated flood control benefits by more than half, necessitating readjustment of the net cost-benefit ratio.

The choice of interest rates will have a significant effect on the cost-benefit ratio. An unrealistically low rate will reduce a project's estimated economic cost to a favorable level. The history of the Tennessee-Tombigbee Waterway development shows an upward trend in the cost factor after several revision studies were undertaken following an initial adverse report on the project's economic feasibility. Capricious. *Id.* at ___, 4 ERC at 1966-67. One possibility might be where an EIS disclosed all relevant factors under section 102(2)(C), but bias prevented the agency from weighing them in good faith. Thus a particular detrimental factor could be under-assessed or ignored and the project approved. *See* notes 120-21 *supra.*


147. *Note, Substantive Review under the National Environmental Policy Act of 1969*, 51 N. CAR. L. REV. 145, 152-53 (1972). The author argues that the case presented a clear opportunity for reversal on the merits due to an inaccurate and contrived cost-benefit analysis. That is now a distinct possibility, in view of the recent rehearing by the Fourth Circuit and remand for substantive review. 473 F.2d 664, 4 ERC 2039 (4th Cir. 1973).

148. The interest rate refers to the discount rate applied to the costs and benefits estimated for the life of a project to compute its present value. *See* Note, *Cost-Benefit Analysis, supra* note 125, at 1101; *Krutilla & Cicchetti, supra* note 125. The choice of an unrealistic or abnormal life span for a project can also distort the cost-benefit balance. *See* text accompanying notes 153-55 *infra.*

149. *EDF v. Corps of Engineers*, 348 F. Supp. 916, 4 ERC 1408 (N.D. Miss. 1972). After the second restudy the benefit-to-cost ratio was estimated at 1.24 to 1.0, but the Secretary of the Army told Congress that the project was only "marginally justified," and that

[j]if the costs of the project prove to be even slightly underestimated ..., the present barely favorable benefit-to-cost ratio will be lost. All in all, the conclusion is inescapable that the Tennessee-Tombigbee navigation project continues to lack that margin of economic safety which typically marks federal investments in water resources development.

*Id.* at 924 n.10, 4 ERC at 1412 n.10. Unstable cost projections of course affect not only interest rate computations but the entire cost-benefit analysis. *See* *Sierra Club v. Froehlke*, 359 F. Supp. at 1369-70, 5 ERC at 1086-87.
Plaintiffs challenged the correctness of the benefit-to-cost ratio of 1.6 to 1.0 computed by the Corps partially on grounds that the 3 1/4 percent interest rate used was unrealistic and should be set no lower than 5 3/8 percent. They concluded that when other adjustments for environmental costs were taken into account, the total cost would exceed the benefits. The district court dismissed the case with a reference to the "legislative function" argument, thus disclaiming any judicial obligation to review the agency's cost-benefit analysis.

The decision in Sierra Club v. Froehlke, involving the proposed $29 million dollar Wallisville reservoir project in Texas, provides the most extensive judicial examination to date of the Corps' cost-benefit procedures under NEPA. Since the court based its remand on a finding of noncompliance with NEPA's procedural requirements, it did not have to rely on deficiencies in the cost-benefit analysis. However, the court did note that the EIS and record indicated that "the balance struck was 'arbitrary' and 'clearly gave insufficient weight to environmental values,'" quoting the Calvert Cliffs' test adopted by the Eighth Circuit in its substantive review holding. At one point during the early planning on the project the cost-benefit ratio was computed on a projected 100 year lifespan. When the Bureau of the Budget pointed out that the Corps normally uses a 50 year life span in its computations, the estimate was halved and the benefit-to-cost ratio dropped to below unity. The court also observed that the Corps' procedures for estimating recreation benefits apparently were weighted towards commercial development as opposed to natural recreation. In addition, the Corps had emphasized a $29,000 dollar per year benefit for fresh-water commercial fishing while failing to comment on an estimated $500,000 annual loss in salt-water commercial fishing.

The record in EDF v. Corps of Engineers exhibits the same kind of cost-benefit abuse both in undercalculation of environmental costs and inflation of purported project benefits. Plaintiffs had asserted that if the Cossatot were assigned a value as a free-flowing stream in excess of 5.5 million dollars, then the benefit-to-cost ratio would decline to less than one, thereby establishing grounds for reversal as a clear error of judgment. In addition, in presenting the currently estimated benefit-to-cost ratio of 2.2 to 1.0, both the Corps' first and second impact statements referred to the future creation of outdoor recrea-

150. 348 F. Supp. at 923, 4 ERC at 1413.
151. See text accompanying notes 126-28 supra.
152. 359 F. Supp. at 1289, 5 ERC at 1033.
153. Id. at —, 5 ERC at 1083.
154. Id. at —, 5 ERC at 1083-95.
155. 325 F. Supp. at 757, 2 ERC at 1266. This ratio presumed the use of an interest rate of 5 3/4% as recommended by the Water Resources Council.
tional benefits as a result of the damming.\textsuperscript{156} The district court, however, admonished the Corps for making no effort to determine whether the dam might result in any recreational losses and noted that the alleged benefits must be compared with the costs of destroying the stream-type recreation offered by the Cossatot as a free-flowing river.\textsuperscript{157} In effect, the Corps overstated the net recreational benefits by failing to counterbalance the equation with the cost factor of losing stream-type recreation.

Similarly, the Corps exaggerated the water quality and flood control benefits. The district court professed a certain bewilderment at defendants' claims that enhanced water quality would result from the project, since the free-flowing Cossatot "appears to be of very high quality, pure, and substantially free of pollution."\textsuperscript{158} The Corps reasoned that after construction of the dam, the resulting increase in economic and industrial development and population growth in the area below the dam would cause future pollution of the river which would be ameliorated by releasing water stored by the dam to dilute the pollution! The same circular reasoning was advanced to enhance the alleged flood control benefits of the project; i.e., that downstream structures built as a result of the project would be protected from floods by the dam.\textsuperscript{159} Such bootstrapping arguments should alert future reviewing courts to the probability of a contrived and inaccurate cost-benefit analysis supporting an agency's final decision to proceed with a specific project.

3. Previous Agency Investment

Prior expenditures in an ongoing project and an advanced stage of construction may tip even an accurate and sufficiently quantified cost-benefit balance in favor of project re-approval under NEPA. Such a consideration will only be relevant to projects begun or funded before enactment of NEPA, and consequently will appear less frequently in the future. Several courts have warned against allowing the factor of previous investment to interfere with an objective and accurate cost-benefit analysis. When a project has been partially completed, it will be difficult for an agency to avoid "an institutional bias"\textsuperscript{160} in favor of

\textsuperscript{156} Id. at 759, 2 ERC at 1268.
\textsuperscript{157} Id. It is not clear from either the final district court or the Eighth Circuit opinions whether these defects were remedied in the third EIS submitted by the Corps. Only 2\textsuperscript{1/4} pages of the 200 page EIS dealt with the adverse environmental effect of the dam. Brief for Appellants, supra note 106.
\textsuperscript{158} Id. at 761, 2 ERC at 1269.
\textsuperscript{159} Id.
\textsuperscript{160} EDF \textit{v.} Corps of Engineers, 470 F.2d at 295, 4 ERC at 1724. See text accompanying notes 99-104 supra.
proceeding. One court responded to this tendency by according diminished weight to factors such as cost increases and safety hazards that defendant argued would result from enjoining a half-constructed highway, since those considerations rested on an assumption that the road must be built.\textsuperscript{161}

The district court in the Cossatot case urged that the "degree of the completion of the work should not inhibit the objective and thorough evaluation of the environmental impact of the project as required by NEPA."\textsuperscript{162} Another court clarified the standard, such that only at such an advanced stage of project completion where the costs of altering or abandoning it definitely outweigh potential benefits\textsuperscript{163} should such prior investment be determinative.

Despite these admonitions, the Eighth Circuit in \textit{EDF v. Corps of Engineers} seems to have relied heavily on the factors of previous expenditure of nearly 10 million dollars and the two-thirds stage of completion of the Gillham Dam project as grounds for affirming the Corps' decision. As noted above, although courts reviewing agency decisions on the merits will not be confronted with this issue much longer, they should be wary of agency arguments that a project must be completed simply because there has been some previous investment and construction. Such rationalization may be a veiled attempt to obscure other abuses of the cost-benefit analysis.


\textsuperscript{162} 325 F. Supp. at 746, 2 ERC at 1275. The court noted that although in balancing costs and benefits, the Corps "may approach the problem of the ongoing project differently from a new project, . . . the end product should be essentially the same in both cases." \textit{Id.} at 756-57, 2 ERC at 1265. This ambivalence seems to be an attempt to interpret the CEQ Guidelines, 36 Fed. Reg. 7724, 7727 (1971), providing that, in cases of ongoing projects, "[w]here 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." \textit{See} Calvert Cliffs' Coordinating Comm., Inc. v. AEC, 449 F.2d 1109, 1128, 2 ERC 1779, 1792 (D.C. Cir. 1971) (discussing AEC's refusal to consider alterations in nuclear plants already under construction).

CONCLUSION

By interpreting NEPA as creating substantive rights and asserting a judicial obligation to review agency decisions on the merits, the Eighth Circuit decision in *EDF v. Army Corps of Engineers* has strengthened NEPA's function in assuring consideration of environmental values in agency decisionmaking. The requirement that the agency fully explain its reasoning on the record will aid in checking the most extreme abuses of administrative discretion, and, more importantly, help to rationalize the administrative process. However, in order to make substantive judicial review a meaningful process, courts will have to look beyond the generalized "arbitrary and capricious" standard for more precise criteria by which to assess the validity of an agency's decision. Three criteria which may elucidate that standard have been suggested: compliance with NEPA's substantive policies contained in section 101, agency objectivity, and accuracy of the cost-benefit analysis. In reviewing the agency's decision on the merits, uncertain cases may arise which compel neither reversal nor affirmance. The courts should then apply the presumption in favor of environmental preservation implicit in section 101 of NEPA. Consequently, the agency would bear the burden of proof to insure that its action comports with section 101 policies. Environmental assets are too irretrievable and environmental injury too irrevocable to apply any less stringent a test.

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