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BALANCING ENVIRONMENTAL CONSIDERATIONS AND ENERGY DEMANDS: A COMMENT ON CALVERT CLIFFS' COORDINATING COMMITTEE, INC. V. AEC

A. Dan Tarlock†

The demand for energy is rapidly increasing at a time when public tolerance of the side-effects produced by the discharge of residuals from power plants is decreasing.¹ The accommodation of environmental and energy demands can take many forms, ranging from technological solutions, such as cooling towers and wet scrubbers to “desulphurize” stack gas, to a conscious political decision to accept a lower level of material abundance.² In my opinion the best long-run method of reducing the use of our air and the use of land and water resources as sinks lies in recycling the fuels and materials used in production, in the use of less residual-generating fuels and production processes and eventually in regulatory policies devised both to encourage these solutions in the design and operation of all new power plants and to discourage sole reliance on the waste assimilative capacities of our natural resources.³

Congress is very slowly coming to grips with the implications of the relationship between energy and environmental policies.⁴ For example, Congress is in the process of informing itself about the link between national energy policy and environmental quality levels, but it will be several years before the issues now being identified in committee studies will be translated into legislation.⁵ The federal government is also accelerating the flow of funds into research for more efficient methods of

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4. See Clean Energy Needs, Message from the President of the United States H.R. Doc. No. 92-118-117, 92d Cong., 1st Sess. (1971) [hereinafter cited as Clean Energy]. The message proposes that all important energy resource development programs be consolidated within a new Department of Natural Resources.

5. Staff of Senate Comm. on Public Works, 91st Cong., 2d Sess., Some Environmental Implications of National Fuels Policies (Comm. Print 1970). For an introduction to the dimensions of the problem, see Baldwin, Public Policy on Oil—An Ecological Perspective, 1 Ecology L.Q. 245 (1971). The problem of substituting a “clean” fuel such as natural gas for a “dirty” one such as high sulfur coal are discussed in Note, The Four Corners Power Complex: Pollution on the Reservation, infra at 704.
energy protection. However, at the present time and for the foreseeable future conflicts between energy demands and environmental considerations are being resolved in the context of regulatory proceedings which review individual utility management choices for the location of large scale nuclear and fossil fuel plants.

Initially, agencies charged with the protection of environmental quality tried to deal with the problem by the establishment of environmental quality standards, but this strategy has not been successful in resolving the conflicts. This failure has occurred because of legitimate questions concerning the inadequacy of current standards, because site location challenges raise broader questions of whether there is and, more importantly, should be a demand for the amount of energy which utilities consider themselves obligated to provide, and no other forum exists to litigate these questions.

Several states have attempted to provide a more systematic accommodation between energy demands and the environmental impact of energy production by enacting power plant siting and planning statutes, and federal legislation which would require all states to enact such laws is now pending. But, at the present time because regulation of power plants is fragmented among all levels of government, "no public agency [is] in a position to consider all of the public's interest and say 'Yes, you

6. The current research priority is the liquid metal fast breeder reactor which will produce more fuel than it consumes. Clean Energy, supra note 4, at H. 4716. For fiscal 1973, 182,000,000 dollars has been requested. Environmentalists have criticized current research priorities on the ground that they slight other environmentally more preferable energy sources such as magnetohydrodynamics. See Conservation Foundation Letter 6-7, Feb., 1972.

7. Environmentalists are likely to continue to rely on judicial procedures to assess the environmental impacts of power plants because they are suspicious of power plant siting legislation. Regulatory agencies and utilities often welcome siting legislation as a means of decreasing the delay in the licensing process. See Ramey & Murray, Delays and Bottlenecks in the Licensing Process Affecting Utilities: The Role of Improved Procedures and Advance Planning, 1970 Duke L.J. 25. Environmentalists are somewhat justified in fearing that new procedures will be used to choke off in-depth analysis of environmental impacts and to encourage environmental standard-setting agencies to compromise.

8. Some lawyers view intervention as a means of mobilizing public support to win a political victory "not attainable within the narrow confines of an agency proceeding," and thus consciously seek to broaden the issues raised in a hearing or judicial proceeding. See Like, Multi-Media Confrontation—The Environmentalists' Strategy for a "No-Win" Agency Proceeding, 13 Atomic Energy L.J. 1 (1971).

9. See Note, State Regulation of Power Plant Siting, infra at 742.

are authorized to put it here’ as well as ‘No, don’t put it there.’”  As a result, pending the design of more optimum institutions, one of the most constructive roles that courts can play in the accommodation of energy and environment conflicts is to provide criteria for the allocation of regulatory responsibility between levels of government and agencies and to formulate standards to review the procedures agencies use to resolve these conflicts.

When a power plant is challenged the courts are asked to decide three basic questions: (1) Did the utility and the authorizing agency sufficiently consider the environmental impact of the plant? (2) Given that power plant regulation is fragmented among all levels of government and that legislative consideration of the appropriate allocation of authority between the agencies with some power to regulate the utility has not been undertaken, what is the appropriate governmental unit or combination of units which should exercise final authority over the utility’s decision as to location and design of the plant? (3) Do the utility’s power projections justify the need for a plant at the time it is proposed?  To date, courts have not been asked to decide if we should adopt a neo-Malthusian policy and limit resource use to avoid future scarcities and consequent declines in this country’s or the world’s level of material progress. However, in *Calvert Cliffs’ Coordinating Committee, Inc. v. AEC,* the Court of Appeals for the District of Columbia Circuit recently considered the principles relevant to decide the first two questions and, by inference, the third. The court’s decision broadly construed the applicability of the National Environmental Policy Act of 1969 (NEPA) to the AEC’s licensing jurisdiction and procedures. The decision, therefore, provides an opportunity to examine the role the courts should take in promoting the more rational consideration of energy-environment conflicts under existing legislation.


12. See Brooks, Millstone Two and the Rainbow: Planning Law and Environmental Protection, 4 Conn. L. Rev. 54 (1971).

13. 449 F.2d 1109 (D.C. Cir. 1971). The lawsuit was not an appeal from the granting of construction permits for the plant; thus, construction is proceeding on the Calvert Cliffs plant and operational testing is projected for the fall of 1972. For a good case study of the utility’s decision to construct the plant and the AEC regulatory process with emphasis on radiological effects see Bronstein, *The AEC Decision-Making Process and the Environment: a Case Study of the Calvert Cliffs Nuclear Plant,* 1 Ecology L.Q. 689 (1971).

Nuclear plants have a major comparative environmental advantage over fossil fuel plants because they do not discharge particulate matter or oxides of sulfur or nitrogen into the atmosphere. However, the threat of damage to an ecosystem from thermal discharge is greater because nuclear plants are less efficient than fossil fuel plants; thus a comparably sized nuclear plant discharges up to fifty per cent more heat into the receiving waters. Attention was first focused on the regulation of thermal pollution in 1968 when Senator Edmund S. Muskie (D.-Me.) held a series of hearings, although several states had programs before that time. These hearings revealed that both the states and the federal government had given the establishment and enforcement of thermal water quality standards a low priority.

By 1970 most states had temperature standards, but many government scientists charged that the permissible limits were too high. Yet, even these high initial limits would require extensive plant modifications by many utilities, because the temperature of the water discharged by once-through cooling is considerably higher than the temperature limitations imposed under the standards. However, much of the problem of a thermal discharge often is not that it threatens to cause immediate and substantial damage to an ecosystem but that the long-term, cumulative effects of the discharge may prove detrimental. Existing concepts of pollution which require a causal connection between an activity and liability may not permit an agency to enforce its standards against a utility, because no damage in the conventional sense can be established.

Indeed, the information necessary to set standards which have a wide margin of safety against future unforeseen damage is still not presently available. Thus, the threat of an enforcement action was not a sub-

15. Hearings on Thermal Pollution Before the Subcomm. on Air and Water Pollution of the Senate Comm. on Public Works, 91st Cong., 2d Sess. (1968) [hereinafter cited as Thermal Pollution].


CALVERT CLIFF

substantial spur to force utilities to consider alternative sites and design modifications. 21 In addition, other elements of temperature standards were too vague to influence site locations. 22

In 1969, in response to the decisions of several midwestern utilities to construct plants on the shore of Lake Michigan, the federal government began to formulate stricter thermal standards. The federal government originally proposed to limit temperature rises to one degree in the lake, 23 but under pressure from the utilities they shifted their focus from water receiving standards to the elimination of direct discharges into the lake through the requirement of closed cycle systems and cooling towers. 24 However, only Indiana accepted the proposed federal standard; Illinois and Wisconsin still allow existing plants to operate but will prohibit new ones subject to a study of existing plants; Michigan remains undecided. 25

The problems of insufficient information and lack of a clear federal thermal standards policy were compounded because state agencies had little control over the sites and plant designs chosen by utilities in advance of operation. Most states require a permit to discharge wastes into public waters, but utilities generally did not apply for these permits until

21. For a good statement of the deficiencies of existing thermal discharge research for standard-setting purposes, see AEC STATEMENT, supra note 19 at 245, 267-75.
22. For example, one crucial decision in setting thermal standards is whether mixing zones should be allowed and, if so, how they should be defined. If a mixing zone is allowed, the utility is allowed to raise the water temperature above the level of the standards in the immediate vicinity of the plant, for the temperature limitations only apply at the edge of the mixing zone. When the Florida Power & Light Company decided to locate a large plant on Biscayne Bay, which had an average natural temperature at the upper tolerance levels of many species, Florida required only that the mixing zone be "reasonable," whereas current proposed regulations would confine plants to ocean sites and would not allow them on the edge of bays which are more shallow and hence more ecologically vulnerable. See Thermal Pollution, supra note 15, pt. II, at 728-42 (statement of Claude Kirk, former Governor of Florida). See generally Comment, Thermal Electric Power and Water Pollution: A Siting Approach, 46 IND. L.J. 61, 84-90 (1970).
23. The recommendation was based on a government laboratory study which concluded that no significant discharge of waste heat into Lake Michigan should now be permitted. GREAT LAKES FISHERY LABORATORY, U.S. DEP'T OF INTERIOR, PHYSICAL AND ECOCLOGICAL EFFECTS OF WASTE HEAT ON LAKE MICHIGAN, unnumbered document (1970).
25. Bulletin of the Lake Michigan Federation 4 (No. 12, Dec. 17, 1971). The EPA has now decided not to enforce the standard in court, so the question of whether closed cycle cooling systems will be required is still open and will be raised at the Lake Michigan Enforcement Conference scheduled for the summer of 1972. Bulletin of the Lake Michigan Federation 1 (No. 4, Mar. 31, 1972).
after the site and design were chosen. State procedures, therefore, make it very difficult to obtain an adequate review of the environmental impacts of the plant at the state level. Environmental groups and some states turned instead to the AEC, hoping to obtain an early and comprehensive review of environmental impacts.

The AEC was a logical choice primarily because of its two-step licensing procedure, which provides for review of the location and design of a plant prior to the commitment of a substantial portion of a plant’s costs, which today run to 250 million dollars. From an environmental perspective, however, the choice of the Commission as a forum has several major drawbacks. The AEC was created to guide the development of nuclear energy, both in response to the lack of knowledge about its potential for nonmilitary use after World War II and because of an awareness of its destructive as well as constructive potential. The AEC has been closely regulated and supported in Congress by the Joint Committee on Atomic Energy, which has been a firm believer in the gospel of nuclear energy. The Commission’s enabling legislation and operating policy reflect a dual and possibly conflicting mandate, for the AEC is charged with both the promotion and regulation of nuclear energy. As unbiased a source as the staff report to the Administrative Conference observes that:

While these two purposes may not be intrinsically incompatible, their conjunction does distort the AEC’s ability to make the broad social assessment of the extent to which, considering its special risks and advantages, society should rely on nuclear power to meet energy needs. The AEC’s commitment

26. Maryland’s problems regulating the Calvert Cliffs plant were the subject of Senate hearings in 1970. The first public disclosure of the plant site was made on June 1, 1966, by an application for a zoning change, but the utility did not file for a State Department of Water Resources permit to discharge until after construction was underway in late 1969, although the utility had started some research studies and had been in consultation with the department before filing. *Hearings on S. 2752 Before the Subcomm. on Intergovernmental Relations of the Senate Comm. on Government Operations, 91st Cong., 1st Sess.* 95-446 (1970).

27. James L. Oakes, the Attorney General of Vermont, testified in 1968 that intervention before the AEC was necessary because “it is now clear that the proceeding before the AEC for a construction permit is the only substantive point of which review of all factors relating to the proposed plant can, and perhaps should, be made.” *Thermal Pollution, supra* note 15, pt. I, at 317, 319.

28. Atomic Energy Act of 1954, 42 U.S.C. § 2235 (1970), requires a license granted only after a public hearing, before a plant can be constructed; objections can be raised when only about two per cent of the total investment has been committed. See Ellis & Johnston, *Licensing of Nuclear Plants by the Atomic Energy Commission*, 13 Atomic Energy L.J. 101, 112 (1971) [hereinafter cited as Ellis]. Another license is required after the plant is completed but before it starts to operate.
to the development of nuclear energy is likely to lead it to be unwilling to impose requirements that will make nuclear energy non-competitive with other energy sources.29

The AEC's historic attitude toward the environmental impact of a plant—aside from radiological hazards—reflects the dangers of entrusting regulation to a mission agency with a built-in conflict of interest. Prior to NEPA, the AEC excluded nonradiological considerations from their licensing jurisdiction and viewed public hearings as an opportunity to convince the populace about the benefits of nuclear energy rather than as a forum to decide whether a given location was the best possible environmental choice within the range of alternatives.

This jurisdictional position of the Commission was challenged in 1969, and the First Circuit held that the Atomic Energy Act of 195440 confined the AEC's jurisdiction to questions of radiological health—primarily because the Joint Committee had consistently refused to enact legislation specifically broadening their jurisdiction.81 The Commission's constricted view of its mission subsequently was considered by two of the Senate's major environmentalists in their respective committees, and they came to different conclusions. Senator Muskie, chairman of the Public Works Subcommittee on Air and Water Pollution, decided that the Commission's dual responsibility would prevent it from ever weighing environmental considerations equally with those for the provision of nuclear energy, and thus more environmentally sensitive agencies should be given a veto over the AEC. Thereafter, he secured the enactment of § 21 (b) of the Water Quality Improvement Act of 1970.82 Section 21 (b) prohibits a federal agency from issuing a license unless the applicant

29. Id. at 126-27. The internal separation of regulatory from promotional activities, the use of outside professionals to review license applications in the Advisory Committee on Reactor Safeguards and the independent atomic safety and licensing boards which review an application before the Commission can issue a license should be sufficient to preclude a court from holding that the Act is an unconstitutional delegation of legislative power. See Bayside Timber Co. v. Board of Supervisors, 1 ELI ENVIRONMENTAL L. RPTS. 20425 (Cal. D. Ct. App. 1971), which held that a statute allowing a board composed primarily of industry representatives to regulate timber cutting was unconstitutional because the legislature failed to supply standards or safeguards to guard against abuse of the delegated power. The role of the ACRS with respect to Calvert Cliffs is criticized in Bronstein. supra note 13, at 718.
31. New Hampshire v. AEC, 406 F.2d 170 (1st Cir. 1969), cert. denied, 395 U.S. 962 (1969). Prior to the litigation the Commission did recognize some responsibility to consider nonradiological environmental impacts and circulated the license applications to federal agencies such as the Bureau of Sport Fisheries and Wildlife in the Department of the Interior. See Shapar, AEC Implementation of Recently Enacted Environmental Legislation, in ENVIRONMENTAL LAW 73, 86 (C. Hassett ed. 1971).
presents a certificate from a state or interstate agency that the proposed
discharge will not violate applicable water quality standards. Senator
Henry M. Jackson (D.-Wash.) desired to establish general requirements
for all agencies that affect the environment and considered the AEC’s
jurisdictional position in the context of NEPA.

THE DECISION

The AEC, in its post-NEPA regulations, refused to consider water
quality standards if the licensee presented a proper 21(b) certification
and did not require hearing boards to make an independent environ-
mental review unless issues were affirmatively raised by the staff or
parties to the proceeding. Calvert Cliffs’ was an action by several en-
vironmental organizations to review the Commission regulation im-
plementing NEPA and to enjoin the construction of the Calvert Cliffs’
plant in Maryland. Judge J. Skelly Wright, writing for a unanimous
panel, invalidated both provisions of the AEC’s regulation as incon-
sistent with NEPA procedural duties, which were described as not in-
herently flexible:

We believe the Commission’s rule is in fundamental con-
flict with the basic purpose of the Act. NEPA mandates a
case-by-case balancing judgment on the part of federal agencies.
In each individual case, the particular economic and technical
benefits of planned action must be assessed and then weighed

33. The initial certification will be valid for all licenses required unless the state or
other appropriate agency notifies the agency that:
[t]here is no longer reasonable assurance that there will be compliance with
applicable water quality standards because of changes . . . in (A) the con-
struction or operation of the facility, (B) the characteristics of the waters into
which such discharge is made, or (C) the water quality standards applicable to
such waters. This paragraph shall be inapplicable in any case where the appli-
cant for such operating license or permit has failed to provide the certifying
State, or if appropriate, the interstate agency or the Administrator, with notice
of any proposed changes in the construction or operation of the facility with
respect to which a construction license or permit has been granted which
changes may result in violation of applicable water quality standards.
34. The AEC’s regulations implementing NEPA initially provided that AEC
would only forward the license application to other interested agencies for comment and
would prepare its impact statement on the basis of the comments rather than consider
environmental issues in license proceedings. 35 Fed. Reg. 5463 (1970). The regulations
were then revised to require the applicant to submit some environmental information, but
environmental considerations were still excluded from licensing proceedings. 35 Fed. Reg.
18469 (1970). The Calvert Cliffs regulations, which in part reversed this policy, were
against the environmental costs; alternatives must be considered which would affect the balance of values.\textsuperscript{35}

The necessity for an "independent," "rather finely tuned and systematic balancing" was found in NEPA §§ 102(a)(a) and (c),\textsuperscript{36} which require that in formulating policy and administering programs all agencies must consider the environmental impact of their decisions and any alternatives which are available.

The Commission first argued that certification by agencies with a special environmental expertise meets whatever procedural requirements § 102 imposes, but this was rejected as inconsistent with the mandated balancing analysis because:

Certification by another agency that its own environmental standards are satisfied involves an entirely different kind of judgment. Such agencies, without overall responsibility for the particular federal action in question, attend only to one aspect of the problem: the magnitude of certain environmental costs. They simply determine whether those costs exceed an allowable amount. . . . Certifying agencies do not attempt to weigh that damage against the opposing benefits. Thus the balancing analysis remains to be done.\textsuperscript{37}

Second, the Commission argued that § 104 required it to defer to state standard-setting agencies. Section 104 provides that:

Nothing in Section 102 or 103 shall in any way affect the specific statutory obligations of any Federal agency (1) to comply with criteria or standards of environmental quality, (2) to coordinate or consult with any other Federal or State agency, or (3) to act, or refrain from acting contingent upon the recommendations or certification of any other Federal or State agency.\textsuperscript{38}

The court's construction of § 104 is arguably inconsistent with the legislative history of the relationship between NEPA and § 21(b) of the Federal Water Pollution Control Act.\textsuperscript{39} The two bills emerged from

\begin{itemize}
\item 35. 449 F.2d at 1123.
\item 36. 42 U.S.C. §§ 4322(2)(a), (c) (1970).
\item 37. 449 F.2d at 1123.
\end{itemize}
separate committees but were considered together in the Senate in 1969. Senator Muskie was concerned that under NEPA the AEC would not be bound to require a § 21(b) certification. As a result, a compromise was reached with Senator Jackson, and § 104 was added to NEPA. Senator Jackson's explanation of the compromise supports the AEC's position:

The compromise worked out between the bills provides that the licensing agency will not have to make a detailed statement on water quality if the State or other appropriate agency has made a certification pursuant to section 16(c) [now 21(b)].

The language of this section is designed to insure that the provisions of section 16, and particularly section 16(c) of S.7 are consistent with the requirements of section 102 of S.1075. Section 16(c) of S.7 would have the effect of exempting the Corps of Engineers and the Atomic Energy Commission and some other agencies from the requirement [in S.1075] for a detailed statement on the environmental impact of proposed actions involving any discharge into the navigable waters of the United States. [This sentence is taken from the compromise statement of the two committees. 115 Cong. Rec. 29058-59 (1969).] Under the terms of section 16(c) of S.7 as now drafted, the State or other appropriate organization would be charged with certifying that any discharge is in substantial compliance with appropriate water quality standards. This certification would be a condition precedent to obtaining any Federal license or permit required by law before making any discharges into the navigable waters of the United States.

The court dealt with the legislative history of § 104 in a strained fashion. First, it created two classes of damage and held that § 104 speaks only to one of them, while NEPA mandates consideration of both classes:

[C]ertification does not mean that they found no environmental damage whatever. In fact, there may be significant

40. "The concept of self-policing by Federal Agencies which pollute or license pollution is contrary to the philosophy and intent of existing environmental quality legislation." 115 Cong. Rec. 29053 (1969). Speaking of the AEC, he argued "these agencies have always emphasized their primary responsibility making environmental considerations secondary in their view." Id.

environmental damage (e.g., water pollution), but not quite enough to violate applicable (e.g., water quality) standards.\(^{42}\)

In fact, given this assumption, the court's conclusions that (1):

Water quality certifications essentially establish a *minimum condition* for granting a license. But it does not require the Commission to grant a license once a certification has been issued. It does not preclude the Commission from demanding water quality control from its licensees which are more strict than those demanded by the applicable water quality standards of the certifying agency.\(^{43}\)

and (2) that this construction of § 104 was consistent with the Muskie-Jackson compromise follow quite logically. The flaw in the analysis is the distinction between discharges which violate water quality standards and those which conform but still cause significant environmental damage. The distinction misconceives the concept of pollution or environmental damage as it is used in setting standards. The National Technical Advisory Committee on Water Quality Criteria recommends that temperature criteria be based on the capacity of the most sensitive species to tolerate increases in heat, for the standards are designed to preserve the diversity and stability of an ecosystem.\(^{44}\) The real basis of the decision, then, is a judicial recognition of the current allegation that water quality standards are set too low.

Second, the court simply ignored the explanation of Senator Jackson, which the AEC argued permitted agencies to forego some NEPA procedures in the consideration of water quality, by describing the legislative history as "relatively meager and vague."\(^{45}\) The traditional canon of statutory construction, that the court should look to all relevant evidence in determining the purpose of the legislation, was rejected in favor of an application of the plain meaning rule.\(^{46}\) Despite the courts invocation of the plain meaning rule, the holding can be justified neither by a literal reading of § 104, which on its face is vague, nor in the context of its legislative history. Rather, the result is an example of the

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42. 449 F.2d at 1123.
43. *Id.* at 1125 (emphasis in original).
44. The major source of temperature criteria is *Federal Water Pollution Control Adm'n, Water Quality Criteria, Report of the National Technical Advisory Comm. to the Secretary of the Interior* 31, 42-43 (1968).
45. 449 F.2d at 1126.
46. Judge Wright wrote, "This rather meager legislative history, in our view, cannot radically transform the purpose of the plain words of section 104." *Id.* at 1124.
"creative" judicial interpretation in the characterization of legislative purpose which was urged by Judge Jerome Frank in his essay on the analogy between the romantic style of orchestra conducting and statutory interpretation.\footnote{47} 

*Calvert Cliffs'* is the first major court of appeals opinion construing NEPA, and the balancing it mandates expands previous constructions of the Act.\footnote{48} The decision seems premised on two assumptions. The first is that the calculus of environmental decision making is no more complicated than the process of assigning rights and liabilities between individuals which courts undertake in the development of common law and statutory doctrines. Thus, the court's emphasis on the desirability of a single agency balancing all the relevant factors can be explained as an assumption that the problem is of the same order as remanding a tort decision on the ground that the trial court gave improper jury instructions. The second and related assumption is that the model of the judicial process—the constant self-conscious search for dispute-resolving criteria—is the proper model to apply to control the discretionary decision making delegated to licensing agencies such as the AEC. Since the courts are constitutionally precluded from deciding ad-


\footnote{48}{Prior to *Calvert Cliffs*, the most important case interpreting NEPA was Environmental Defense Fund, Inc. v. Corps of Engineers, 325 F. Supp. 749 (E.D. Ark. 1971), which enjoined the construction of a dam on the ground that the impact statement did not contain the information on environmental damages of nondevelopmental alternatives required by § 102. The Corps partially conceded the inadequacy of its statement, for no new studies for the project were made after NEPA, and the principal issue was whether NEPA could be applied retroactively. The court held that it could but tentatively limited NEPA to requiring the production of new information rather than production plus a balancing:

\begin{quote}
At the very least, NEPA is an environmental full disclosure law. The Congress, in 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. . . . The record should be complete. Then if the decisionmakers choose to ignore such factors, they will be doing so with their eyes wide open.
\end{quote}

\textit{Id.} at 759.

\textit{But see} Conservation Council v. Froehlke, 3 BNA ENVIRONMENT REP.—CASES 1687 (M.D.N.C. Feb. 14, 1972). The court refused to enjoin a Corps of Engineers dam and reservoir on the grounds that the impact statement was inadequate. The Corps had included the "very damaging testimony" of plaintiffs' expert witness, and the court held, distinguishing *Environmental Defense Fund*:

\begin{quote}
The primary reason that the impact statement meets the requirement of full disclosure is because the defendants included in the statement the deposition of plaintiffs' expert witness.
\end{quote}

ministrative controversies on the merits, it is normal that they should instead seek to control the process of decision. This is desirable, for the underrepresentation of environmental interests in agency decision making is well known, and judicial intervention is necessary to promote a more rational process. But the balancing approach of Calvert Cliffs’ ignores the complexities of environmental decision making and the limits of reliance on process as a means of changing ultimate results. There is a danger that the courts may reduce NEPA to a mechanical check-list for agencies to follow and, thereby, the substance of agency policy and its application will remain unchanged. In short, there is a danger that NEPA impact statements will produce nothing except delay—and a vast amount of paper to be recycled—in the administration of federal programs.

The remainder of this article will examine the theory of NEPA and the AEC’s implementation of Calvert Cliffs’, in an attempt to determine if the Act can produce the balancing mandated by the decision. Further, it will compare the court’s approach to other methods of environmental decision making to determine if the concept of balancing is a meaningful and desirable approach to the resolution of environmental conflicts.

**History and Analysis of NEPA**

The basic scientific theory behind NEPA is that ecological considerations should be given more weight in decisions to interfere with the environment, because life support systems have a limited tolerance to absorb the stress of modification by technology and human activity and thus overuse may result in deterioration of these systems, with consequent damage to human life or at least the range activity open to future generations. NEPA also gives recognition to an increased societal taste for higher amenity levels. The Act is a commitment to the fundamental belief that:

Alteration and use of the environment must be planned and controlled rather than left to arbitrary decision. Alternatives must be actively generated and widely discussed. Technological development, introduction of new factors affecting the environment, and modifications of the landscape must be planned to maintain diversity of plants and animals. Furthermore such activities should proceed only after ecological analysis and projection of probable effects. Irreversible or difficult

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49. For a discussion of the doctrine of separation of powers in an environmental context, see Jaffe, Book Review, 84 Harv. L. Rev. 1562 (1971).

50. See Frankfurter, Reading of statutes—Some Reflections, 47 Colum. L. Rev. 527, 530, 535 (1947).
to reverse changes should be accepted only after the most thorough study.\textsuperscript{51}

These are worthy goals, but they cannot be realized in the near future because we are only beginning to develop theories with which to analyze problems within this framework. NEPA is intended to restructure existing methods of decision making which affect the environment, primarily by stimulating the development of benchmark criteria against which intervention can be measured. It is thus necessary to keep in mind that the major impact of NEPA is likely to be long-run rather than immediate, despite the reams of paper in the form of impact statements and regulations it has generated, for the Act aims at nothing less than the "achievement of an efficient dynamic equilibrium between man and his environment."\textsuperscript{52}

Federal legislation was necessary because the creation of program, mission-oriented agencies has insured that these environmental considerations have been systematically underrepresented in most short- and long-range decision making.\textsuperscript{53} Existing agencies were established to supervise the development of our natural resources consistent with the ethic which has prevailed throughout this country's history and, thus, they tended to overstress the benefits of development and to explore insufficiently the less environmentally detrimental alternatives to current methods of meeting their programmed objectives. The recognition of environmental values is also difficult because the arguments against present development made in most environmental controversies are often unprovable assertions that there is a possible risk of long-term damage to an ecosystem or that future generations will assign higher values to nondevelopment than do present generations. These considerations are difficult to quantify in dollar terms and are not protected through organized markets because the present bidders are fragmented and no one bids for future generations except, on occasion, legislative bodies. Furthermore, challenges to nuclear power plants often raise "either-or" rather than "how much" problems. The issue, from an environmental perspective, is whether unique resources or ecosystems will be impaired or threatened, not how much of an activity should be allowed. Asking


decision-makers to choose between a project and no project (as opposed to a project with strict conditions of operation) further contributes to the underrepresentation of environmental values. Thus, environmental values are generally ignored by the cost-benefit formulas which agencies try to use to develop objective, nonpolitical criteria for choosing among alternatives.

There are three strategies which stop short of legislative consideration of each controversy and which can be used to restructure decision making to redress undervaluation of the environment. Initially, the range of information decision makers are required to consider can be increased. This is a relatively neutral reform; the decision to increase information is primarily a commitment to a more rational process qua process than to a new pattern of substantive results, since no decision is generally made about the weight to be attached to the new information. It can be assumed, however, that if new information is made available decision makers will respond, in many instances, by modifying or prohibiting the activity.

Second, the legislature can decide to withdraw certain resources from development or can decide to give environmentally sensitive agencies a veto over the authority of agencies whose primary mission is development. Although this has historically only been done with respect to areas of high scenic attraction such as national parks and river systems, proposed power plant siting legislation and national land use planning legislation would encourage the preservation of ecologically sensitive areas in their existing state. The third strategy is to establish background standards and allow an activity so long as it does not exceed those standards. This is a theoretically effective method of controlling the discharge residuals, although it is a difficult to administer. However, at the present time we do not have the necessary scientific information to establish standards that accurately reflect the harm which various discharges pose over the long run; we must, therefore, rely on standards that err on the side of safety. Since we cannot model the effects of many activities on actual ecosystems, these activities are not susceptible to reduction to technical criteria. But if delegated discretion

54. See ALI, A Model Land Development Code § 8-402(3)(g) (Tent. Draft No. 3, 1971). Veto powers were recognized by a recent California decision which held that Public Utility Commission enabling legislation did not preempt the licensing of power plants and that both a regional air pollution control authority permit and a certificate of public convenience and necessity had to be obtained before a plant could be authorized. Orange County Pollution Control Dist. v. Public Util. Comm'n, 4 Cal. 3d 945, 484 P.2d 1361, 95 Cal. Rptr. 17 (1971).

55. See Joint House-Senate Colloquium to Discuss a National Policy for the En-
is to be meaningfully structured from an environmental perspective, a common basis must be devised by which to compare environmental costs with developmental benefits. Unless some method of quantifying environmental costs and benefits is found which will allow alternatives to be ranked, the concept of balancing will have very little meaning. "A national system of environmental cost accounting expressed not only in economic terms but also reflecting life-sustaining and amenity values in the form of environmental quality indicators. . . ." is needed.58

The designers of the National Environmental Policy Act of 1969, Senator Jackson and Professor Lynton K. Caldwell of Indiana University, did not envision that the courts would play a major role—at least in the first years of its administration—in enforcing the Act. Professor Caldwell is a leading public administration scholar and his writings and background papers for the Senate Interior Committee focus almost exclusively on the role of administrative agencies in policy formulation and decision making.57 Only after NEPA was passed did lawyers begin to argue that the Act was jurisdictional and imposed procedural burdens on the agencies, enforceable by private citizens, to prepare an adequate record to support their actions. The evolution of the Act's fundamental concepts can be traced through Professor Caldwell's writings. In a seminal 1963 article, Environment: A New Focus for Public Policy?, he argued that "[n]o massive research is required to document the inadequacy of our environmental decision making," which he defined as "our national tendency . . . to deal with environmental problems segmentally," as opposed to comprehensively. The basic reason advanced

vironment: Hearings Before the Senate Comm. on Interior & Insular Affairs & the House Comm. on Science & Astronautics, 90th Cong., 2d Sess. 73, 75 (1968) (statement of S. Dillon Ripley, Secretary, Smithsonian Institute).
57. Prof. Caldwell was critical of the American preference for government by judges and has predicted that the adoption of an environmental ethic would mean that "litigation would increasingly give way to administrative adjudication in the enforcement of law and the settlement of disputes over environmental and natural resource questions." Caldwell, Authority and Responsibility for Environmental Administration, 389 ANNALS 107, 113 (1970). See also Caldwell, Administrative Possibilities for Environmental Control, in FUTURE ENVIRONMENTS OF NORTH AMERICA 648, 666-67 (F. Darling & J. Milton eds. 1966).
59. Id. at 135.
60. Id. at 134.
for this inadequacy was that authority to modify the physical environment was fragmented among numerous technical mission agencies. Professor Caldwell saw the choice of institutions to protect and enhance the environment as one between planning and administration. He argued that administration was preferable to planning because it "implies action" and that environmental administration had two major advantages: (1) It would provide "a common denominator among differing values and interests" and (2) "A policy focus on the environment in its fullest practical sense would make more likely the consideration of all major elements relevant to an environment-affecting decision." There was little further consideration of the problems of restructuring existing decision making, and these basic concepts, in their unfinished form, eventually became the crux of NEPA.

The early drafts of NEPA were directed more toward filling a well-documented gap in the state of scientific knowledge relevant to informed environmental decision making and to the creation of a high level governmental unit to formulate "national policies to foster and promote the improvement of environmental quality," than to influence the administration of specific programs. Professor Caldwell and others criticized this approach on the ground that the legislation itself should contain "an adequate policy statement, accompanied by explicit provisions for its implementation." In response, § 102 was added but, beyond the section's general guidelines, little concrete analysis was given to the question of whether a coherent, comprehensive national environmental policy could be formulated by superimposing an idealized model of decision making on a maze of mission agencies. The Senate Report on NEPA recognized that a national policy did not exist but focused more on specific defects in the administrative process (such as the "lack of legislative mandate and responsibility" that all agencies "consider the consequences of their action on the environment") than on the more

61. Id. at 137.
62. Id.
63. Id. at 138.
66. Section 102 was added in executive session on June 18, 1969. Senate Report, supra note 64, at 11.
67. Id. at 13-17.
fundamental problem of trying to develop a consensus as to priorities for the use of biospheric resources. Decisions about optimum population level distribution and economic growth rates may have to be made before a meaningful set of priorities of resource utilization can be developed.

The response of the federal government to the current energy shortage illustrates the problems of trying to factor environmental considerations into existing departmental and agency programs in the absence of any consensus about fundamental questions. The Government is proceeding on a number of fronts to increase the amount of fuel available for energy production and has, in general, either narrowly interpreted NEPA or argued that, on balance, energy demands outweigh "speculative" environmental considerations. In the absence of a decision about such fundamentals as rate or distribution of growth, at least the costs we are willing to bear for increased environmental quality, there is little in NEPA that constrains the Government from the interpretations they have made.

On the floor, Senator Jackson recognized the weakness of vague policy declarations, but argued that NEPA was more, emphasizing its procedural effects:

A statement of environmental policy is more than a statement of what we believe as a nation. It establishes priorities and gives expression to our national goals and aspirations. It provides a statutory foundation to which administrators may refer to it for guidance in making decisions which find environmental values in conflict with other values.

What is involved is a congressional declaration that we do not intend, as a government or as a people, to initiate actions which could endanger the continued existence of health of mankind: That we will not intentionally initiate actions which will do irreparable damage to the air, land, and water which support life on earth. . . . If there are to be departures from this standard of excellence they should be exceptions to the rule and policy. And as exceptions they should be justified in light of the public scrutiny as required by Section 102. 68

68. 115 Cong. Rec. 40416 (1969). It has been argued on the basis of this statement that NEPA shifts the burden of persuasion to the initiator of an activity which might be environmentally detrimental. Hanks & Hanks, An Environmental Bill of Rights: The Citizen Suit and the National Environmental Policy Act of 1969, 24 Rutgers L. Rev. 230, 267-68 (1970) [hereinafter cited as Hanks]. Granted this interpretation of NEPA, the shift will have little relevance in many conflicts because, even under liberal definitions of "pollution," it is often difficult to prove that a proposed activity will cause irreparable damage. See Reserve Mining Co. v. Minnesota, 2 BNA Environment
The Act itself begins with a sweeping statement that man and nature should exist in "productive harmony" and declares that it is a "continuing responsibility of the Federal Government to use all practical means, consistent with other considerations of national policy . . ." to improve and coordinate its activities so 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.

(c) The Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.\textsuperscript{69}

The Senate version of § 101(c) stipulated that every person had a right to a healthful environment, but the final language was substituted, over the objections of Senator Jackson,\textsuperscript{70} by the Conference Committee.\textsuperscript{71}

\textsuperscript{70} H.R. REP. NO. 91-765, 91st Cong., 1st Sess. 8 (1969) [hereinafter cited as
The Senate version would have insured that private citizens had standing to challenge activities of the federal government that have a substantial detrimental impact on the environment.\textsuperscript{72} The final version weakened the argument that the Act intended to create the environmental interest required under current concepts of standing. However, the courts are increasingly impatient with the argument that standing should be a bar to a hearing on important legal questions which meet the constitutional case or controversy requirement, and § 101(c) has not been used by courts to deny standing under NEPA. Regardless of the change in the language of § 101(c), moreover, NEPA increases the rights that citizens have to an improved environment, for, as Professor Christopher Stone has argued:

In this regard, the lawyer is constantly aware that a right is not, as the layman may think, some strange substance that one either has or has not. One's life, one's right to vote, one's property, can all be taken away. But those who would infringe on them must go through certain procedures to do so; these procedures are a measure of what we value as a society. Some of the most important questions of "right" thus turn into questions of degree: how much review, and of which sort, will which agencies of state accord us when we claim our "right" is being infringed?\textsuperscript{73}

Thus, although NEPA may not contain a consistent set of resource use priorities to allow agencies and courts to fashion substantive environmental rights,\textsuperscript{74} Senator Jackson's statement of NEPA's purpose indicates that the Act was intended to create a more rational process for the evaluation of activities which may be detrimental to the environment. Although new procedures have a limited capacity to control decision-making processes, the imposition of procedural safeguards is

\textit{Conference Report].}

74. In \textit{Calvert Cliffs'}, Judge Wright wrote:

The reviewing courts probably cannot reverse a substantive decision on the merits, under Section 101, unless it can be shown that the actual balance of costs and benefits that was struck was arbitrary or clearly gave insufficient weight to environmental values.

449 F.2d at 1115.

a significant recognition of public environmental rights and is a firm basis for judicial intervention in the administration of NEPA.

The heart of NEPA is § 102(c), which requires that an environmental impact statement be prepared for "every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment." Section 102 has been characterized by Senator Jackson and the Senate Report as "action-forcing," and this phrase has been used by commentators and by the court in *Calvert Cliffs* to support the conclusion that NEPA requires a comprehensive balancing by the initiating agency. The concept, as originally presented to the Senate Committee by Professor Caldwell, did not, in my opinion, speak to the question of balancing, and current interpretations obscure some of the difficult questions raised when impact statements by existing agencies are relied upon as a means of restructuring decision making.

As noted previously, Professor Caldwell was concerned that if the Act declared only a vague set of national goals which were not capable of implementation, it would be ineffective. He therefore urged that a procedure be included to make the policy have an "action-forcing, operational aspect." He offered several examples of the need for an "action-forcing" policy:

For example, it seems to me that a statement of policy by the Congress should at least consider measures to require the Federal agencies, in submitting proposals, to contain within the proposals an evaluation of the effect of these proposals upon the state of the environment, that in the licensing procedures of the various agencies such as the Atomic Energy Commission or the Federal Power Commission or the Federal Aviation Agency there should also be, to the extent that there may not now exist fully or adequately, certain requirements with respect to environmental protection, that the Bureau of the Budget should be authorized and directed to particularly scrutinize administrative action and planning with respect to the impact of legislative proposals, and particularly public works proposals on the environment."

Senator Jackson agreed and added:

I am wondering if we might not broaden the policy provision in the bill so as to lay down a general requirement that would be applicable to all agencies. . . . I think the immediate example that comes to mind and has to yours already by the statement is that the Atomic Energy Commission, in granting permits or licenses in connection with nuclear power plants, should be required to make an environmental finding. 78

However, Senator Jackson's adoption of Professor Caldwell's critique of NEPA led to a subtle but significant shift in the meaning of the "action-forcing" concept. Professor Caldwell's statement stresses the utility of an "action-forcing" mechanism aimed at both short- and long-range considerations to effectuate long-term and fundamental changes in the standards and procedures by which crucial federal decisions affecting the environment, such as budget allocation for research and technology and legislative program structure, are made. 79 Senator Jackson stresses more the need for immediate, but less fundamental, implementation of an "action-forcing" policy by expanding the jurisdiction of existing agencies.

The "action-forcing" policy is written into § 102, which provides 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. . . ." 80 This language replaced attempts by the House to provide that NEPA would neither increase nor decrease agency authority. The Conference Report stated that the purpose of the change was to make it clear that all agencies should comply with NEPA "unless the existing law . . . makes full compliance with one of the directives . . . possible." 81

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78. Id. at 117.
79. Senator Jackson subsequently criticized the failure of the Council on Environmental Quality to develop these standards and procedures:
   The Council's preoccupation with environmental "brush fires" has detracted from other major responsibilities assigned to it under the Act. The Council, for example, has made little progress toward developing procedures for measurement and evaluation of environmental indicators. It has thus far made little contribution to the tremendous job of improving policies and procedures and developing an analytical methodology for making the hard tradeoff decisions between preservation and development that will measure our ultimate success in environmental management.

Jackson, The Environment and the Congress, 11 Natural Resources J. 403, 409 (1971) [hereinafter cited as Jackson].
Section 103 reinforces § 102 by requiring all agencies to review their enabling legislation to determine if there are any deficiencies which prohibit full compliance with NEPA. These two sections have been used as the basis for the conclusion that NEPA is a grant of jurisdictional authority to agencies and departments, but it is equally possible to characterize the Act as a congressional declaration that in construing their statutory authority to comply with NEPA all reasonable doubts should be resolved in favor of compliance.

Other legislative history also illustrates the conflict between NEPA as a means of restructuring decision making over the long term and as a means of achieving immediate modification of agency policies. The Senate Report explained that § 102 was intended to foster interdisciplinary team planning and "the development of an adequate methodology for evaluating the full environmental impacts and the full costs of federal actions." The concept of an impact statement was then defined in terms of its function and the findings that would be required. The statement's function is "to establish action-forcing procedures which will help insure that the policies enunciated in Section 101 are implemented." The findings required by § 102 fall into at least three categories. First, factual findings that the environmental impact has been studied are required. Second, conclusions about questions which are not capable of being reduced to factual findings or for which information is not available are required. Finally, the agency must evaluate the proposal in terms of its own policies and if its policies are environmentally detrimental it must suggest alternatives, because if the statement discloses "unresolved conflicts over competing and incompatible" resource uses, "it shall be the agency's responsibility to study, develop, and describe appropriate alternatives to the recommended course of action."

The duty to study less environmentally detrimental alternatives is one of the most innovative but difficult to define concepts in the legislation. It is, in part, based on a series of judicial decisions starting with Scenic Hudson Preservation Conference v. FPC, which held that a com-

81. CONFERENCE REPORT, supra note 70, at 9-10. For further legislative history, see Hanks, supra note 68, at 254-57.
82. See Hanks, supra note 68, at 251-57.
83. SENATE REPORT, supra note 64, at 19.
84. Id.
85. Id. at 20-21. E.g., irreversible resource commitments.
86. Id. at 21. 42 U.S.C. § 4232 (c) (iii) (1970).
87. 354 F.2d 608 (2d Cir. 1965), cert. denied, 384 U.S. 941 (1966). On remand the license was reissued, 44 F.P.C. 350 (1970), and the Second Circuit held that the Commission adequately balanced power and environmental considerations and complied with NEPA. 453 F.2d 463 (2d Cir. 1971).
plete administrative record in cases where environmental values were threatened must include a study of less detrimental alternatives which could be implemented by the agency. However, shortly after Calvert Cliffs', the District of Columbia Circuit reviewed the application of NEPA to off-shore oil and gas leasing to relieve the current fuels shortage and indicated that the duty under NEPA is much broader than that imposed by Scenic Hudson. In Natural Resources Defense Council v. Morton, the court held that the impact statement must discuss the environmental consequences of alternatives and that "[t]he mere fact that an alternative requires legislative implementation does not automatically establish it is beyond the domain required for discussion. . . ." The court found the discussion of alternatives inadequate, in part, because it did not consider the possibility of eliminating oil import quotas. This holding opens the possibility that agencies and departments will be required to undertake limitless and unmanageable inquiries. However, the court attempted to qualify the scope of its decision by a rule of reason:

In the last analysis, the requirement as to alternatives is subject to a construction of reasonableness, and we say this with full awareness that this approach necessarily has both strengths and weaknesses. Where the environmental aspects of alternatives are readily identifiable by the agency, it is reasonable to state them—for ready reference by those concerned with the consequences of the decision and its alternatives. As already noted, the agency may make references to studies already made by other agencies (including impact statements) or appearing in responsible journals.

Natural Resources based its holding on the ground that a broader statement of alternatives is required when the proposed action is part of a coordinated plan to deal with a broad problem. This expanded duty is consistent with NEPA but it fails to recognize that the consideration of alternatives must take place within the context of previously agreed upon choices. Otherwise the range of possible issues to be studied might be endless. The basic choices are usually made at the legislative level and the resulting enabling legislation allows an agency to limit the range of alternatives to manageable proportions. It is reasonable for a court to require an agency to expand its consideration of the environmental impact of its activities but I would argue that it is not reasonable to

88. 3 BNA Environment Rep.—Cases 1558 (D.C. Cir. 1972).
89. Id. at 1564.
90. Id.
require an agency to initiate basic legislative reforms or fundamental changes in program content. It is, of course, proper and desirable for Congress or the Executive to do so when it is considering the problem, but if courts follow the lead of Natural Resources the result may be administrative paralysis, for decision makers will be asked to balance considerations that are beyond their ability to define and rank.91

The Senate Report did not envision that agency or departmental evaluation of the impact statement would become the primary means of enforcing NEPA. The purpose of the impact statement was not to require all departments and agencies to undertake the kind of final balancing mandated in Calvert Cliffs', but to ensure that

the agency shall develop information and provide descriptions of the alternatives in detail for subsequent reviewers and decision-makers, both within the executive branch and in Congress, to consider the alternatives along with the principal recommendation.92

Title III of NEPA creates a three-member, full time Council of Environmental Quality Advisors to carry on continuing studies and analysis related to the status of the environment93 and to encourage the development of an effective system for monitoring environmental indicators.94 Day-to-day decision making and conflict resolution among departments was to be left to the Bureau of the Budget, the President or those to whom his authority has been delegated.

This model is appropriate for program and legislative proposals made by departments within the executive branch, but it does not fit the activities of the independent regulatory commissions;95 at least some


92. Senate Report, supra note 64, at 21.


95. The President's Advisory Council on Executive Organization, the Ash Council, would solve this problem by transferring many of the independent agencies' functions to new agencies directly responsible to the President. See President's Advisory Council on Executive Organization, A New Regulatory Framework: Report on Selected Independent Regulatory Agencies (1971). For critical commentary on the report, see
members of the Senate thought that more effective review of regulatory agencies would be provided by giving more environmentally sensitive agencies a veto over their decisions. Thus, on the floor of the Senate, Senator Boggs (D.-Del.) asked whether NEPA "deals with what we might call the environmental impact agencies rather than the environmental enhancement agencies, such as the Federal Water Pollution Control Administration. . . ."\textsuperscript{96} Senator Muskie answered that it did and observed that § 102 was intended
to bring pressure [on the AEC but] [o]f course this legislation does not impose a responsibility or an obligation on those environmental-impact agencies to make final decisions with respect to the nature and extent of the environmental impact on their activities. Rather than performing self-policing functions, I understand that the nature and extent of environmental impact will be determined by environmental control agencies.\textsuperscript{97}

AEC IMPLEMENTATION OF CALVERT CLIFFS':
AN ANALYSIS AND CRITIQUE

The Chairman of the Council on Environmental Quality, Russell Train, recently testified before the joint Senate Interior and Public Works oversight hearing on NEPA that the Act has five great merits:

It gave federal agencies authority in exercising their responsibilities to give positive protection to the environment in their programs.

It opened up the Government decision-making process to view and comment by relevant federal and state expertise and the public.

It required agencies to articulate their decisions and the basis for these decisions, resulting in more informed decision-making.

It required the agencies to develop in-house expertise in varied disciplines that will in time develop institutional view-

\textsuperscript{96} 115 CONG. REC. 40425 (1969).

\textsuperscript{97} Id. The CEQ Guidelines rely on this legislative history and exempt sections of the Environmental Protection Agency from compliance with § 102(c). Statement on Proposed Federal Actions Affecting the Environment: Guidelines, § 5(d), 36 Fed. Reg. 7724, 7725 (1971).
points more sympathetic to environmental, as opposed to purely programmatic, values.

It "carries with it court enforceability of its requirements," and cannot be ignored by top level agency management. 98

The importance of NEPA in promoting a more rational process of federal decision making cannot be underestimated, but there is a danger that the procedural requirements which the courts, following the lead of Calvert Cliffs', are imposing on departments and agencies may ultimately frustrate the purpose of the Act. The basic utility of NEPA is that it provides a mechanism to produce better information about the environmental dimensions of important federal decisions. 99 But, the basic weaknesses of the Act are that it neither provides a meaningful set of resource use priorities nor alters the basic missions of existing departments and agencies. 100 These weaknesses limit the effectiveness of the impact statement procedure, for, as the Act is interpreted by the courts, agencies and departments are now being asked to make decisions for which impact information is not available and to decide questions outside the scope of their normal mission.

In response to these demands, agencies are developing procedures to implement NEPA which instead of changing their narrow, mission-oriented approach to decision making (which was the original reason for the Act) are merely giving better explanations of what they have been and are doing. 101 Perhaps I am unduly cynical about the ability of an act such as NEPA to bring about the fundamental change in attitudes about the resource use it was designed to foster, but the manner in which Calvert Cliffs' has been implemented illustrates the limits of reliance upon a common law of NEPA procedures.

The court's requirement that the final balancing be undertaken by the agency does cure one substantial defect in early agency implementation

98. 3 BNA Environment Rep.—Current Developments 1324 (1972).
99. The unresolved conflicts NEPA ignores are illustrated in a recent article by Sen. Jackson in which he argued that NEPA did not include a no-growth policy or any cutbacks in scientific and technological advances. Jackson, supra note 79, at 413-15.
100. Testifying before Congress during NEPA oversight hearings, the Chairman of the Administrative Conference argued that NEPA does not alter the promotional mission of line agencies. 3 BNA Environment Rep.—Current Developments 1354 (1972). Licensing agencies are urging Congress to amend NEPA because agency resources are being strained by compliance.
101. Environmental intervenors continue to distrust the AEC's decision-making procedures, since the crucial decisions are still made through staff negotiation with the applicant prior to the public hearing—the first time other parties can participate in the decision. The important balancing has already been done, and the intervenor must face a united staff, Advisory Committee on Reactor Safeguards and applicant. Ellis, supra note
of NEPA. If the Act is to be successful, it must substantially improve the quality of information available to agencies about the costs and benefits of alternative courses of action. It is unlikely that this information will be generated, however, if a licensing agency can rely on an applicant's initial impact statement throughout all or even the initial stages of review. The applicant's statement is likely to be self-serving, for it will be generally perceived and prepared as an adversary document. Thus, if the agency is performing its role of deciding whether the applicant has demonstrated that a project is consistent with the public interest as defined by NEPA, the agency must independently gather and analyze information. The regulations adopted after Calvert Cliffs' require the AEC to do this, and the Second Circuit recently correctly applied Calvert Cliffs to the Federal Power Commission.102

The problems with NEPA's improved process approach are illustrated by the AEC guidelines issued after Calvert Cliffs'. The Commission, which had just acquired a new and more flexible chairman,103 expressly accepted the responsibility that the court imposed. Each applicant is required to submit an environmental report which "discusses" the requirements of § 102 and includes:

- a cost-benefit analysis which considers and balances the environmental effects of the facility and the alternatives available for reducing or avoiding adverse environmental effects, as well as the environmental, economic, technical and other benefits of the facility. The cost-benefit analysis shall, to the fullest extent practicable, quantify the various factors considered. To the extent that such factors cannot be quantified, they shall be discussed in qualitative terms. The Environmental Report should contain sufficient data to aid the Commission in its development of an independent cost-benefit analysis covering the factors specified in this paragraph.104

The Director of Regulation will then prepare a draft detailed statement of environmental considerations, and after the review process a final


102. Greene County Planning v. FPC, 2 ELI ENVIRONMENTAL L. RPTR. 20017 (2d Cir. 1972).

103. Dr. James R. Schlesinger replaced Dr. Glenn T. Seaborg as Chairman last year. See comment, 25 VAND. L. REV. 258, 271 1(1972).

detailed statement will be prepared. This statement requires:

- a discussion of problems and objections raised by Federal, State and local agencies or officials and private organizations and individuals and the disposition thereof. The detailed statement will contain a final cost-benefit analysis which considers and balances the environmental effects of the facility and the alternatives available for reducing or avoiding adverse environmental effects, as well as the environmental, economic, technical and other benefits of the facility. The cost-benefit analysis will, to the fullest extent practicable, quantify the various factors considered. To the extent that such factors cannot be quantified, they will be discussed in qualitative terms.

In the case of any proposed licensing action that involves unresolved conflicts concerning alternative uses of available resources, the Detailed Statement will contain an analysis, pursuant to section 102(2) (D) of the National Environmental Policy Act, of alternatives to the proposed licensing action which would alter the environmental impact and the cost-benefit balance. Compliance of facility construction or operation with environmental quality standards and requirements (including, but not limited to, thermal and other water quality standards promulgated under the Federal Water Pollution Control Act) which have been imposed by Federal, State and regional agencies having responsibility for environmental protection will receive due consideration. In addition, the environmental impact of the facility will be considered in the cost-benefit analysis with respect to matters covered by such standards and requirements, irrespective of whether a certification from the appropriate authority has been obtained (including, but not limited to, any certification obtained pursuant to section 21 (b) of the Federal Water Pollution Control Act).

Environmentalists have been uneasy with the AEC guidelines because traditional cost-benefit analysis, developed to evaluate water resource projects, systematically excluded intangible costs, such as the value of nondevelopment to preserve the scenic beauty or ecology of an area, and overestimated the developmental benefits of the project. The argument

106. Cost-benefit analysis seeks to simulate a demand curve for the goods and services to be produced by a public investment. Cost-benefit analysis is limited in its ability to solve problems because:

Knowledge of man's environmental needs and relationships and of ecological relationships generally is not presently sufficient to support this comparative
has therefore been raised that under Calvert Cliffs', "softer" environmental considerations will be submerged if they can be balanced against the benefits of development. Some of the Commission's responses to Calvert Cliffs' and district court applications of it confirm this fear.

Calculus to the extent needed for wisdom and rationality in environmental decisionmaking.

L. Caldwell, Environment, A Challenge to Modern Society 176 (1970) [hereinafter cited as Caldwell, Environment]. Further, conventional cost-benefit techniques cannot measure such elements of real individual income as the option demand for a resource:

This demand is characterized as a willingness to pay for retaining an option to use an area or facility that would be difficult or impossible to replace and for which no close substitute is available. Moreover, such a demand may exist even though there is no current intention to use the area or facility in question and the option may never be exercised.

Krutilla, Conservation Reconsidered, 57 Am. Econ. Rev. 777, 781 (1967). Knetsch, Value Comparisons in Free-Flowing Stream Development, 11 Natural Resources J. 624 (1971), argues that recreational benefits from projects such as reservoirs and power plants which include a beach or park are often overestimated because the accounting fails to take into account substitute facilities within the area.

107. The response of the AEC to the problem of applying NEPA to projects under construction before the passage of the act indicates that, in many instances, legislative relief rather than the development of new decision-making procedures will be the method it will choose to cope with its expanded duties. Pre-Calvert Cliffs regulations did not require a full NEPA review (if a construction permit application was issued before March 4, 1971). The Commission's current regulations follow CEQ guidelines and recent cases, holding that NEPA can be applied retroactively to projects not completed at the time the Act became applicable. However, they authorize the Commission to grant interim operating licenses during the period of ongoing NEPA environmental review and balancing. Thus, the environmental impacts of plants started prior to Jan. 1, 1970, would be considered at the operation license hearing which occurs after the plant is entirely constructed. These guidelines were invalidated as inconsistent with Calvert Cliffs in Izaak Walton League of America v. Schlesinger, 2 ELI Environmental L. Rptrs. 20039 (D.D.C. 1971), which enjoined the operation of the Quad Cities plant on the Mississippi River because the jet thermal effluent impact had never been studied. The Commission's regulations allowed it to consider "the effect of delay in the conduct of the activity upon the public interest," 10 C.F.R. § 50, App. D, at 263 (1972), in deciding whether to grant an interim operating license pending NEPA review. The AEC argued that the interim license was necessary to prevent brown or black outs. Judge Parker disagreed: "The people served by the Quad Cities will not be subject to irreparable injury due to a 'black or brown out' but may have to carry on their conscience the further degradation of one of the greatest rivers in the world." 2 ELI Environmental L. Rptrs. at 20042-43.

The AEC then requested legislation amending NEPA to allow it to issue interim licenses through June, 1973, without having to submit environmental impact statements in order to meet projected power emergencies. N.Y. Times, Mar. 17, 1972, at 6, col. 7. Several bills were introduced at that time. These bills differed widely in their protection of environmental claims; the Administration bill, H.R. 13731, for example, would have authorized the AEC to issue full-power operating licenses even if environmental issues were being contested. The bill finally enacted by Congress allows the AEC to issue only interim operating licenses and tightly circumscribes their authority. The new § 192 of the Atomic Energy Act of 1954 permits an applicant to apply for a temporary operating license after the final § 102 impact statement has been filed by the AEC. If the application for a final operating license was filed prior to September 9, 1972, the final statement need not be completed; but the applicable requirements of NEPA must be satisfied prior to the issuance of the temporary license. The Commission must find
To prevent this it has been suggested that the impact statement should be kept separate from a formal cost-benefit analysis.\(^{108}\)

The AEC has published proposed guidelines for the preparation of cost-benefit analyses to be included in the applicant's environmental impact reports.\(^{109}\) The applicant must present cost-benefit analysis for four alternative plant designs. Alternative one is the plant as constructed to date; alternatives two and three, the designs which "reduce[s] to a minimum feasible level with available technology the significant detrimental effects"\(^{110}\) to natural water bodies and ambient air and land; and alternative four is the plant for which licensing is being requested. The guidelines recognize that cost-benefit analysis is an evolving art but encourage applicants to provide dollar estimates of the cost impact of enumerated environmental effects. The cost guidelines follow federal water resource agency procedures and stress the annual loss of commercially valuable species.\(^{111}\)

The Commission's concept of cost-benefit analysis does little to further the objectives of NEPA, which was intended to induce the analysis of second order, longer-range consequences of decision making. The issue in power plant siting conflicts is seldom the loss of a commercial fishery, although that is important. The more significant question is that the operation will provide "adequate protection of the environment during the period of the temporary operating license," and that the operation is essential to the adequacy and reliability of the utility's power supply after duly considering alternative sources of supply and the foreseeable effects of a power shortage. A hearing is required if any party so requests; but, in the interest of saving time, it need not follow normal procedures. H.R. 4655, 118 Cong. Rec. H4047-48 (daily ed. May 3, 1972). The identical bill passed the Senate on May 17, 1972. Id. at S8064.


110. Id. at 4.

111. For example, the guidelines for impact on aquatic biota provide:
(a) A value for productivity per unit of surface area should be derived as the ratio of an assigned value of the affected fishery to its total surface area. The assigned value should be the total of values for sport fishing, commercial fishing, shell fishing, and harvesting of other aquatic products. Where available, values used should be those assigned by the U.S. Fish & Wildlife Service or other cognizant agency. Where local site conditions vary significantly from average conditions in a fishery region, e.g., either by their importance as a spawning area or their lack of importance, applicants should document their own estimate of the value of the affected area. Where dollars are used, the weight by species should be tabulated and reported as well.

Id. at 23.
whether the plant will cause the long-term deterioration of an ecosystem and thus threaten our basic life support systems, and the AEC's proposed cost-benefit guidelines do little to encourage consideration of these questions.

The guidelines' attempts to reduce environmental costs to manageable proportions are, however, understandable, for at the present time the information required to make the ideal decision NEPA contemplates is not available. In January, 1972, a conference on the future uses of Chesapeake Bay identified six information capabilities for effective decision making. These are "a measurement system to show the situation of an estuary at a particular time, the capability to analyze and display measurements, to predict, to test decisions in a sophisticated model, to command action and to follow up with decisions to see if predictions are met." The conference indicated that a three-year research effort was underway at Johns Hopkins University to study the use of a regulator model to help grapple with the problem of thermal pollution. The most frustrating paper was delivered by a biologist who observed that the Calvert Cliffs' plant would produce no observable effect on the biology of the bay because of the natural variations in the bay, and thus "such a situation will not enable man to project how many energy plants should be built on the bay." In many-cases it is likely that the AEC will do exactly what the state agencies are now doing—allow the operation of the plant, subject to use of the best available biological techniques to monitor its impact.

The AEC's implementation of Calvert Cliffs suggests to me that mandating an agency to balance more factors will not substantially increase the weight given to environmental considerations as long as the agency's basic mission remains unaltered. This is especially true with an agency such as the AEC, where the agency did not seek the increased responsibility and implementation requires information beyond the agency's existing capabilities to obtain. Balancing involves a choice

112. 2 BNA Environment Rep.—Current Developments 1114 (1971).
113. Id.
114. In commenting on licensing delays caused by Calvert Cliffs', the New York State Department of Public Service noted:

   The Atomic Energy Commission has only a relatively small staff to carry the additional work load. . . . At this time [Nov. 1, 1971], no budget action has been taken to finance extra staff, but approximately 30 people have been transferred from the General Manager's office to this environmental function. . . . The present Atomic Safety and Licensing Boards have not had time to build up general environmental expertise. . . .

between competing values which are found in legislative and administrative interpretations of an agency's mission. If a class of such considerations is found to be underrepresented in decision making, requiring an agency to make a choice among a greater range of factors by mandated balancing is likely to be futile in the long run, so long as the basic values which control the evaluation of information remain unchanged. The complexities of trying to balance energy demands against environmental considerations suggest that such a balancing is an unrealistic objective for a court or legislature to impose on any single existing agency. Instead, institutions should be created or recognized which have a clear mandate to consider the environmental dimensions of a problem and to prescribe standards and conditions, and to veto particular sites.

A better method of increasing the weight given to environmental considerations, and thus furthering the purpose of NEPA, would be the conscious fragmentation of decision-making authority. Speaking about the analogous problem of applying systems analysis to make budget choices, the political scientist, Aaron Wildavsky, has argued: "The time has come to cast aside the myth of comprehensiveness. Theory should be brought in line with experience. . . . The budget needs to be further fragmented." Similarly, technology assessment scholars such as Harold Green have concluded that "the basic problem of building an assessment institution is, therefore, providing a means whereby the negative factors, particularly the risks, will be vigorously, effectively, and responsibly pressed upon the decision-makers. . . ."

The experience in power plant siting and other areas, such as the reduction of jet airplane pollution, suggests that the objectives of NEPA might be better served by giving agencies charged with the assessment of environmental damage and the establishment of quality standards a veto over the final approval of a project, at least pending the design of more neutral comprehensive regulatory institutions. If agencies have a clear responsibility to protect the environment, they are more likely to press vigorously for environmental quality standards, although I realize that the danger of compromise is always present. Regulation

will remain in the hands of experts, but I am impressed by the fact that the important plant design modifications for environmental reasons have occurred not because of AEC action, but through vigorous action by state environmental agencies. For example, the utility constructing the Quad-Cities Nuclear Generating Plant, which was recently the subject of litigation challenging the AEC's procedures for plants begun prior to 1970, later agreed with Illinois to construct a twenty million dollar closed-cycle cooling system for the plant. It is true that the Calvert Cliffs' procedures have not been in operation a sufficient length of time to test their impact, but the initial AEC responses to the case indicate that environmental considerations will receive no more weight through AEC balancing than they now do through state standard-setting agencies.

On one level, Calvert Cliffs' does not contradict this analysis, for it holds only that the AEC must balance to determine if standards higher than those imposed by the state are in order. But on another level, the case does run counter to this analysis, for it shifts attention to the protection of water quality away from state and federal standard-setting agencies in a manner seemingly contrary to the thinking of both Senators Jackson and Muskie.

In interpreting NEPA the courts must realize that it was designed to foster new decision-making procedures within the executive branch by forcing all agencies to deal with the problem of the environment as a comprehensive whole, but at the present time this goal is beyond the capabilities of any decision maker because the conceptual tools for this task are in the process of development. If NEPA is successful, it will be a result primarily of the ability of the Office of the President, the Council on Environmental Quality and the Congress to both spur and apply a great deal of necessary scientific research. As NEPA is being administered, courts should continue to intervene to monitor cases where the statute has for all practical purposes been ignored by the body responsi-

119. For a discussion of the difficulties of moving from incremental to comprehensive decisionmaking, see CADDWELL, ENVIRONMENT, supra note 106, at 161-90.
120. It is clear that NEPA was not intended to be a means for the Courts to second guess congressional appropriations, but was intended to be a means of disclosing to Congress and other decisionmakers all environmental factors in order that decisions and appropriations could be made with as little adverse effect on the environment as possible. Conservation Council v. Froehlke, 3 BNA ENVIRONMENT REP.—CASES 1687, 1690 (M.D.N.C. Feb. 14, 1972). Unfortunately, "[o]ne reaches the reluctant conclusion that NEPA has been virtually a dead letter in this respect. Congressional committees appear to be considering legislation although Federal agencies have not prepared and filed the required statements." Cramton, supra note 91, at 18.
ble for the preparation of § 102 statements;\textsuperscript{121} but they must resist the tendency to reduce it to a set of mechanical principles,\textsuperscript{122} for the result will be increased delay in administrative decision making and licensing without a corresponding gain in environmental quality.

\textsuperscript{121} See, e.g., Hanley v. Mitchell, 460 F.2d 640 (2d Cir. 1972), in which it was held that a one-page memorandum by the General Services Administration, which concluded that a proposed federal jail and court house annex in New York's Foley Square would not have any adverse environmental effects, did not meet the requirements of § 102(c). The court reasoned that "it is 'arbitrary and capricious' for an agency not to take into account all factors in making its determination." \textit{Id.} at 468. The court directed the GSA to make a good faith determination of whether the proposed facility would significantly affect the quality of the human environment and thus whether a full impact statement was necessary. The court also held that the GSA's decision would be subject to review. \textit{See also} Natural Resources Defense Council v. Grant, 341 F. Supp. 356 (E.D.N.C. 1972).

\textsuperscript{122} For an example of one lawyer's attempt to do this, see Peterson, \textit{An Analysis of Title I of the National Environmental Policy Act of 1969}, 1 \textit{ELI ENVIROMENTAL L. Rptr.} 50035, 50039 (1971).
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