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Jon C. Cooper

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Broad Programmatic, Policy and Planning Assessments Under the National Environmental Policy Act and Similar Devices: A Quiet Revolution in an Approach to Environmental Considerations

JON C. COOPER*

Since the passage of the National Environmental Policy Act, there has been considerable debate about the procedures, content and role of the environmental impact statement. This article examines the legal background of broad-based environmental assessments and analyzes court decisions on timing, scope and other issues regarding these assessments. The author then explores the use of these broad-based assessments in both the U.S. government and international institutions.

* The author is currently the Director for Science Policy at Louis Berger and Associates, Inc.; Adjunct Professor of Law, Pace University School of Law; Adjunct Professor of Environmental Science, State University of New York, Purchase. He received a J.D. from Pace University School of Law in 1993, a Ph.D from the University of Wisconsin (Zoology) in 1974, and a B.A. from Lawrence University in 1969. The opinions expressed in this article are solely those of the author and do not necessarily reflect the views of Louis Berger International, Inc., Pace University School of Law, or The State University of New York.

I. Introduction

Since the passage of the National Environmental Policy Act[1] (NEPA), there has been considerable debate concerning the procedures, content and role of the environmental impact statement (EIS), which must be prepared whenever a major federal action could have a significant impact on the environment.[2] This comment focuses on the use of broad-based environmental assessments in the U.S. government and in international institutions.

An average of 425 draft and final EISs have been prepared annually during the late 1980s.[3] Most EIS activities have addressed specific projects, such as the construction of a highway or a federal facility such as a jail. Under the guidance of the United States Environmental Protection Agency (USEPA) Office of Federal Facilities, most of these materials are now available at public locations.[4] Each year the Council

1. National Environmental Policy Act of 1969 (NEPA) §§ 101-209, 42 U.S.C. §§ 4321-4370b (1988).

2. 42 U.S.C. § 4332 ("(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 . . . .").

3. V.M. FOGELMAN, GUIDE TO THE NATIONAL ENVIRONMENTAL POLICY ACT (1990).

4. Environmental impact statements are available to the public at the following locations: U.S. Environmental Protection Agency Library, Room 2904 Mall, 401 M Street, SW, Washington, DC 20460, 202-260-5926; Northwestern University, Transportation Library — NEPA, 1935 North Sheridan Road, Evanston, IL 60201, 708-491-5275; Cambridge Information Group, 7200 Wisconsin Avenue, Bethesda, MD 20814, 301-961-6744.

on Environmental Quality (CEQ)[5] reviews EISs submitted pursuant to NEPA.[6]

The primary purpose of an EIS is to "serve as an action-forcing device to ensure that the policies and goals defined in NEPA are infused into the ongoing programs and actions of the Federal government."[7] Intended as more than a disclosure or descriptive document,[8] an EIS is to be used by federal officials in planning actions and making decisions.[9]

CEQ Guidelines provide a standard sequence of events and organization for an EIS.[10] After an agency decides, usually through an Environmental Assessment (EA), that a proposed action may significantly affect the environment, it begins the EIS process. Under CEQ Guidelines, agencies are

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5. The Council on Environmental Quality is charged with ensuring that federal agencies comply with the policies and procedures of NEPA. However, the Clinton administration recently reduced the CEQ staff from forty to three employees, and cut over two million dollars from its budget. Strong protest by environmental groups has temporarily stayed CEQ's complete abolition. The administration is working with House members to transfer CEQ's authority to the USEPA's Office of Environmental Policy, but opponents have argued that EPA is not the proper body to ensure NEPA compliance by other federal agencies. At this time, CEQ's future remains uncertain. *See Clinton Cuts CEQ to Three Positions, Many Long-Time Staff Members Dismissed*, Daily Rep. for Executives (BNA), at 198 (Oct. 15, 1993); Gary Lee, *Browner Strengthens Enforcement Office*, WASH. POST, Oct. 15, 1993, at A29.

6. COUNCIL ON ENVIRONMENTAL QUALITY, ANNUAL REPORT (1991). CEQ plans a collection of these documents from 1991 to serve as models of NEPA compliance. This function is now changing as a result of Clinton Administration policies.

7. Dinah Bear, *NEPA at 19: A Primer on an "Old" Law with Solutions to New Problems*, 19 Envtl. L. Rep. (Envtl. L. Inst.) 10060 (1989).

8. 40 C.F.R. § 1502.1 (1992).

9. *Id.*

10. For further details on the EIS process *see, e.g.*, NICHOLAS A. ROBINSON, ENVIRONMENTAL IMPACT ASSESSMENT (1983); YUSUF AHMAD & GEORGE SAMMY, GUIDELINES TO ENVIRONMENTAL IMPACT ASSESSMENT IN DEVELOPING COUNTRIES (Hodder & Stoughton 1985); and additional materials available from the CEQ, including Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, *infra* note 27. For an example of the process of preparing an Environmental Impact Statement, *see, e.g.*, COUNCIL ON ENVIRONMENTAL QUALITY, THE EXECUTIVE OFFICE OF THE PRESIDENT, and ENVIRONMENTAL LAW SECTION OF THE NEW YORK BAR ASSOCIATION, ENVIRONMENTAL IMPACT ASSESSMENT, PROCEEDINGS OF A CONFERENCE ON THE PREPARATION AND REVIEW OF ENVIRONMENTAL IMPACT STATEMENTS, West Point, New York, Nov. 1987, (1987).

free to develop their own NEPA compliance procedure.[11] However, agencies usually follow a standard sequence.

First, the agency prepares an announcement for the Federal Register. Called the Initial Proposal (IP), the announcement describes the proposed action and invites public comments on the EIS as part of the scoping process.[12] The agency may elect any form it finds suitable for subsequent scoping sessions, including public meetings and written comments. Based on the comments received during the scoping phase, the agency prepares a list of issues to be addressed in the EIS, and usually, because of the "Hard Look Doctrine,"[13] comments on why it is not addressing certain issues. The agency then begins preparation of a draft EIS, often using a standard format recommended by the CEQ Guidelines.[14] The format usually includes a cover sheet, summary, alternatives to the proposed action, a description of the affected environment, and an analysis of the environmental consequences (i.e., the negative impacts) of the proposed action. The latter section also includes an analysis of the significance of any potential impacts. The draft EIS (DEIS) is then circulated for comments and modified as appropriate in a Final EIS (FEIS). Comments on the DEIS[15] and agency responses to the comments are included in the FEIS. Finally, the agency decides which proposed action to adopt and prepares a Record of Decision (ROD).

Several types of EISs are designed to view activities with a much broader framework, including environmental assessments of programs, policies or governmental plans.[16] The entire category of broad-based assessments is the subject of this comment and will be referred to as "programmatic" assessments, a term that for our purposes will encompass generic, program, policy, planning, legislative assessments and, in

11. 40 C.F.R. § 1507.3 (1992).

12. 40 C.F.R. § 1501.7 (1992).

13. *See* Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976), (citing Natural Resource Defense Council v. Morton, 458 F.2d 827, 838 (1972)).

14. 40 C.F.R. § 1502.10 (1992).

15. Since in large assessments over 10,000 comments may be received, at least summaries of the comments are included in the DEIS.

16. 40 C.F.R. § 1508.18 (1992).

some contexts, tiered assessments.[17] While there is little agreement on definitions for these concepts, the most meaningful differences may be the focus of and initial reasons for conducting the assessments. As a result, for the purposes of this comment, "programmatic" simply refers to broad-scale assessments tied to a variety of functions.

As with other EIS activities, programmatic EISs (PEISs) are a way to focus on environmental impacts of federal programs prior to the commitment of major funding, as well as an opportunity to consider environmental issues early in the planning process. Although there had been grudging use of the PEIS, over the past decade it has emerged as an important tool in both domestic and international situations. While there is little agreement on exactly what this programmatic assessment tool includes, many U.S. agencies and international organizations are now using these broad-based assessments in their planning process. Thus, the PEIS has become a logical extension of the environmental ethic that NEPA was designed to promote.[18] Despite its increasing use, there remain major unresolved questions concerning programmatic assessments, including:

- What is the proper trigger for initiating a programmatic assessment by an agency?
- How specific must the alternative proposed actions be?
- How broadly must basic assumptions to the alternatives be examined?
- What measures will be used to assess the significance of the environmental impacts?

17. Examples of various programmatic assessments are found in the discussions in Part IV. They cover subjects specific to an agency's function such as: the Department of Defense's programmatic assessments for the Star Wars program, the Department of Energy's ongoing assessment for the clean-up of nuclear and hazardous waste; the U.S. Agency for International Development's programmatic assessment on the environmental impacts of pesticides for control of locusts and grasshoppers used in eight African countries under foreign aid programs; and the U.S. Environmental Protection Agency's review of environmental issues related to the proposed North American Free Trade Agreement.

18. *See, e.g.*, discussion of NEPA goals in *Kleppe* dissent, *infra* note 64.

How should cumulative or synergistic impacts be evaluated?
In a broad-based assessment, how precisely does the affected environment, and the resulting impacts, need to be described?

In the international arena, NEPA-like processes can be seen as a gift from the United States to the world. Usually referred to as environmental assessment methodologies, they have been adopted as powerful planning tools in many countries.[19] Somewhat ironically, many international institutions have leaped ahead of the United States in using the programmatic environmental assessment process. These organizations have by-passed some of the legal procedural issues specific to the United States[20] (which in some ways has hampered the United States' progress in these matters) and are simply using this tool in the way in which it was originally intended: to take a careful and systematic early look at the environmental consequences of proposed actions.

While U.S. courts have sent mixed signals, at best, regarding the timing and scope of these assessments, there has been a quiet revolution within many federal agencies. Programmatic assessments are increasingly used to supplement many other planning tools. In 1990, 11 of the 394 EISs submitted were classified as programmatic assessments.[21] While the increasing usage has been partly in response to court decisions (as discussed in Part III), it is also due to the discovery that the programmatic assessment works. There are still significant differences in the way that programmatic assessments are conducted by different agencies (as discussed in Part IV). Nevertheless, the Department of Defense

19. *See* Nicholas A. Robinson, The Scientific Challenge of NEPA: Future Directions Based on Twenty Years of Experience, Address to Ninth Oak Ridge National Laboratory Life Sciences Symposium (Oct. 25, 1989).

20. Examples of these issues include the sequence of public involvement, the handling of specific issues within the DEIs, the administrative sequence within an agency, and the interplay between government agencies.

21. Attachment A to Summary of NEPA Implementation Discussions, Conference on the National Environmental Policy Act, Chicago, Ill., April 28-30, 1992 (hereinafter Chicago Conference) (on file with *Pace Environmental Law Review*).

(DOD), Department of Energy (DOE), Environmental Protection Agency (EPA), and the Forest Service (FS)[22] routinely use programmatic assessments. Yet, some agencies, such as the Bureau of Land Management (BLM) and the Forest Service (in non-forest programs) do not see utility in the programmatic assessment.

Internationally, the use of programmatic assessments is widespread and in some ways ahead of the application in the United States (as discussed in Part V). The U.S. Environmental Protection Agency (in international programs), World Bank, U.S. Agency for International Development and the United Nations Development Programme are strongly committed to the programmatic approach.

Part II of this comment explores the legal background for the programmatic assessment and its interpretation in the courts. Parts III and IV examine the domestic application of these assessments by U.S. agencies. Part V discusses the use of programmatic assessments internationally. Part VI points to future uses of this powerful tool.

II. NEPA Law and Regulations

A. NEPA Language and the Council on Environmental Quality Guidelines

NEPA defines the environmental assessment process in general and, whenever a "proposal" is made,[23] requires evaluation in an environmental impact statement of activities which may significantly affect the environment.[24] NEPA ensures mandatory and comprehensive consideration of the environmental effects caused by programs and projects conducted by U.S. agencies.[25]

The concept of the programmatic assessment comes from "tiering" in the CEQ Guidelines for NEPA. In general,

22. Programmatic assessments are used in National Forest programs. *See infra* note 258 and accompanying text.

23. 42 U.S.C. § 4332 (1988).

24. *Id.*

25. Coordination through public federal funding and the presence of state environmental policy acts ensures review of many state and private sector projects as well.

"[a]gencies are encouraged to tier their [EISs] to eliminate repetitive discussions of the same issues . . . . Whenever a broad [EIS] has been prepared (such as a program or policy statement) and a subsequent statement or environmental assessment is then prepared on an action included within the entire program or policy . . . [it] shall concentrate on issues specific to the subsequent action."[26] CEQ has prepared additional guidance on programmatic EISs and the tiering concept.[27]

A more detailed description of tiering was provided in a subsequent version of the CEQ Guidelines:

> Sec. 1508.28 Tiering
>
> "Tiering" refers to the coverage of general matters in broader environmental impacts statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared. *Tiering is appropriate when the sequence of statements or analyses is:*
>
> *(a) From a program, plan or policy environmental impact statement to a program, plan, or policy statement* or analysis of lesser scope or to a site-specific statement or analysis.
>
> (b) From an environmental impact statement on a specific action at an early stage (such as need and site selection) to a supplement (which is preferred) or a subsequent statement or analysis at a later state (such as environmental mitigation). Tiering in such cases is appropriate when it helps the lead agency to focus on the issues which are ripe for decision and exclude from consideration issues already decided or not yet ripe.[28]

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26. 40 C.F.R. § 1502.20 (1992).

27. *See* Guidance Regarding the NEPA Regulations, 48 Fed. Reg. 34,263, 34,267 (1983); Question 24, Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026, 18,033 (1981). *See also* California v. Block, 690 F.2d 753 (9th Cir. 1982); Foundation on Economic Trends v. Lyng, 817 F.2d 882 (D.C. Cir. 1987).

28. 40 C.F.R. § 1508.28 (1992) (emphasis added).

The CEQ Guidelines attempt to clarify both the timing and definition of the term "proposal":

> "Proposal" exists at that stage in the development of an action when an agency subject to the act has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal and the effects can be meaningfully evaluated.[29]

B. Court Review

1. Introduction

The Supreme Court, which last ruled definitively on the PEIS in 1976,[30] has set a high threshold before requiring the preparation of a programmatic assessment. In considering the scope of an assessment, beyond the "Hard Look" doctrine,[31] the courts defer to agency judgement as to the sufficiency of the EIS.[32] Thus, it is difficult to successfully challenge an agency's decision to forego a programmatic assessment, or a decision not to discuss a particular topic in detail. Despite the Supreme Court's lack of support for mandating the frequent and rapid use of this tool, agencies themselves are taking the initiative to use programmatic assessments in their planning process. While undoubtedly some of these actions are defensive, with some memory of the decision in *Scientists' Institute for Public Information, Inc. v. Atomic Energy Commission*[33] (hereinafter *SIPI*), ongoing agency usage means that the programmatic assessment is alive and well.

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29. 40 C.F.R. § 1508.23 (1992).

30. *Kleppe*, 427 U.S. at 390.

31. *Kleppe*, 427 U.S. at 390. "The only role for a court is to ensure that the agency has taken a 'hard look' at environmental consequences . . . ." *Id.* at 410 n.21.

32. *See* Chevron U.S.A. v. NRDC, 467 U.S. 837 (1984).

33. 481 F.2d 1079 (D.C. Cir. 1973).

2. Timing, Scope and Judicial Review

In *SIPI*,[34] the first major case to consider when a programmatic assessment is necessary, a public interest group challenged the need for a programmatic assessment of the Atomic Energy Commission (AEC) breeder reactor program. In the early 1970s, the government made a commitment to complete the successful demonstration of a breeder reactor by 1980 and to proceed towards full-scale development at an expected cost of over $2 billion.

Judge Skelly Wright of the D.C. Circuit held that an EIS reviewing the entire program was required.[35] The court held that two factors needed to be considered:[36] 1) the availability and extent of meaningful information on the proposed technology and its alternatives (since without such meaningful information the EIS itself would be pointless); and 2) the extent that irrevocable commitments were being made, and other options were being precluded, since such irrevocable decisions could impact the environment in the future, when it would be too late to change the decision.

Applying these factors to the AEC's breeder reactor, the court concluded that the AEC "could have no rational basis for deciding that the time is not yet right for drafting an impact statement."[37] The court noted that by the year 2000, some 600,000 cubic feet of high-level concentrated radioactive wastes would be generated, which would pose an admitted hazard to human health for thousands of years. The court found that this, and related environmental impacts, required "the most searching scrutiny under NEPA." Thus, the D.C. Circuit's approach was functional, looking to the purpose of the EIS rather than to a formalistic test. Because the court found that the purposes of NEPA would best be served by early preparation of an impact statement covering the entire

34. *Id.*

35. *Id.* at 1093.

36. ROGER W. FINDLEY & DANIEL A. FARBER, ENVIRONMENTAL LAW IN A NUT SHELL 37 (3d ed. 1992).

37. *SIPI*, 481 F.2d at 1095.

program, the court ruled that such an impact statement was necessary.[38]

While the D.C. Circuit was elaborating NEPA requirements in *SIPI*, there was a debate brewing between the Supreme Court and the district courts. The Supreme Court felt that the district court judges were exceeding their discretion. For instance, in *Vermont Yankee Nuclear Power Corp. v. NRDC*,[39] the Supreme Court held that a PEIS for a power plant's waste disposal and fuel reprocessing systems was unnecessary in addition to a PEIS for its overall operations. The role of the Court in a PEIS was, therefore, limited to procedural elements: in the absence of "*constitutional constraints or extremely compelling circumstances*" a court MAY NOT impose rulemaking procedures on an agency beyond those set out in section 553 of the Administrative Procedure Act.[40]

Over a number of years the Supreme Court had become increasingly impatient with what was perceived by some justices as excessive free-wheeling decision-making by the D.C. Circuit. One year later, in *Baltimore Gas and Electric Co. v. NRDC*[41], the Court left no doubt that it wanted the circuit court to leave the Nuclear Regulatory Commission (NRC) alone, and to "sit down and shut up."[42]

With this history of disagreement,[43] the Supreme Court took a much different approach to the issue of "programmatic" impact statements when it considered the first of three cases involving scope and timing issues. The first case was *Aberdeen & Rockfish Railroad Co. v. Students Challenging Regulatory Agency Procedures*[44] [hereinafter *SCRAP II*]. After the Supreme Court upheld the plaintiff's standing, the case was remanded to the district court to rule on the merits.

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38. FINDLEY & FARBER, *supra* note 36, at 38.

39. 435 U.S. 519 (1978).

40. *Id.* at 543.

41. 462 U.S. 87 (1983).

42. WILLIAM F. FOX, JR., UNDERSTANDING ADMINISTRATIVE LAW 135 (1986).

43. Its disagreement with the circuit courts' decision was not explicitly mentioned by the Court in its decision.

44. 422 U.S. 289 (1975).

The district court held that the Interstate Commerce Commission (ICC) had failed to comply with NEPA. The Supreme Court reversed on appeal:

> Under . . . the statute, the time at which the agency must prepare the final "statement" is the time at which it makes a recommendation or a report on a proposal for federal action. Where an agency initiates federal action by publishing a *proposal* and then holding hearings on the proposal, the statute would appear to require an impact statement to be included in the proposal and to be considered at the hearing. Here, however, until the October 4, 1972, report, the ICC had made no proposal, recommendation, or report. The only proposal was the proposed new rates filed by the railroads. Thus, the earliest time at which the *statute* required a statement was the time of the ICC's report . . . .[45]
> In order to decide what kind of an environmental impact statement need be prepared, it is necessary first to describe accurately the "federal action" being taken.[46]
> Having defined the scope of the "federal action" being taken . . . our decision of this case becomes easy.[47]

The test emerging from *SCRAP II* is that the determination of the timing and scope of an EIS is based on the identification of the specific action proposed. "The EIS is due at the same time, and not before, the proposal is issued. Moreover, the scope of the EIS is simply determined by the scope of the proposal itself. It is the scope, impact and alternatives to *that* proposal that must be discussed, not some broader set of issues."[48]

Three years later, in *Kleppe v. Sierra Club*,[49] the Supreme Court clarified and broadened the test for scope and timing issues developed in *SCRAP II*. *Kleppe* involved the leasing of coal reserves on public lands to private mining companies. The Sierra Club alleged that an individual leasing proposal within a large area identified as the "Northern

45. *Id.* at 320-21 (footnote omitted).
46. *Id.* at 322.
47. *Id.* at 326.
48. FINDLEY & FARBER, *supra* note 36, at 40.
49. 427 U.S. 390 (1976).

Great Plains regions" required a single EIS evaluating the potential interrelated environmental effects on the entire region.[50] Applying the test developed in *SIPI*,[51] the D.C. Circuit agreed and held for the plaintiff.

The Supreme Court disagreed with the lower court's creation of a balancing test when the plain language of the statute requires an EIS only where a report on a formal proposal for major federal action has been made.[52] The Court concluded that as there was no proposal for regional action, no regional EIS was necessary.[53] Thus, the Court decided that without an "action" (in the sense of a Federal action specified in NEPA,) there was nothing to trigger an EIS.

The Court also found flaws in Sierra Club's argument that individual mining operations had inter-related environmental impacts on the region. The Court observed that if Sierra Club's argument was construed as "an attack on the sufficiency of the EIS's already prepared by the government on those projects already approved,"[54] then, as such, it was not an issue properly before the court, "since the case was not brought as a challenge to any particular EIS."[55]

However, in so far as the "argument could also be viewed as an attack on the decision not to prepare one comprehensive impact statement on all proposed projects in the region,"[56] the Court seemed to agree with the plaintiff.[57] "The Court conceded that when several proposals are pending before an agency at the same time, and when those proposals have cumulative or synergistic environmental impacts, their environmental consequences must be considered together."[58]

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50. *Id.*
51. *See infra* note 63 and accompanying text.
52. *Kleppe*, 427 U.S. at 41.
53. *Id.* at 404-05.
54. FINDLEY & FARBER, *supra* note 36, at 41-43.
55. *Id.*
56. *Id.*
57. Indeed, the attorney for the plaintiffs, Bruce J. Terris, saw this as a great victory. Interview with Nicholas Yost (Jan. 6, 1993) (on file with *Pace Environmental Law Review*). Nicholas Yost is an attorney extensively involved in preparation of CEQ Guidelines, now active in litigation in this area.
58. *Kleppe*, 427 U.S. at 409-10 (*quoted in* FINDLEY & FARBER, *supra* note 36, at 42).

Unfortunately, this position was undermined by three serious qualifications. "First, the Court indicated in dicta that this consideration could be made as part of the issuance of the individual EIS governing each site. That is, a discussion of the general project could be tacked onto the EIS about each specific mine."[59] In essence this was a reverse tiering concept that might be adapted from the CEQ discussion of tiering.[60] Second, the Court gave deference to the agency's decision and held that the arbitrary and capricious standard applied to the synergism issue.[61] "So long as the agency does not act arbitrarily in deciding on the scope of the impact statement, the Court held that judicial interference was inappropriate."[62] This was the situation in the present case. Third, the Court rejected the four-part balancing test relied on by the D.C. Circuit as a unjustified judicial interpretation of NEPA.[63] Thus, *Kleppe* can be viewed as allowing, even requiring, a programmatic assessment, while at the same time establishing a very high threshold before the courts will intervene in forcing an agency to prepare one.

In his dissent to this opinion, Justice Marshall argued that the Court should intervene in requiring an environmental impact statement early in the planning process:

> [A]n early start on the statement is more than a procedural necessity. Early consideration of environmental consequences through production of an environmental impact statement is the whole point of NEPA, as the Court recog-

59. FINDLEY & FARBER, *supra* note 36, at 42 (referring to *Kleppe*, 427 U.S. at 410).

60. *See supra* note 26 and accompanying text.

61. *Kleppe*, 427 U.S. at 410, 412. See particularly *id.* at 410 n.21. This second criticism was suggested by FINDLEY & FARBER, *supra* note 36, at 42.

62. FINDLEY & FARBER, *supra* note 36, at 42.

63. This balancing test, put forth in *SIPI*, 481 F.2d at 1079, was used to determine the ripeness of the issues. In that case the court required an EIS covering the entire research and development program for the Liquid Metal Fast Breeder Reactor. The four factors are: 1) whether commercial implementation of the technology involved was more than speculative, 2) to what extent "meaningful" information on the environmental impact of development of the program existed, 3) to what extent irretrievable commitments of resources were taking place in the program, and 4) the severity of the anticipated environmental effects of the program. 481 F.2d at 1096-98.

> nizes. The legislative history of NEPA demonstrates that "(b)y requiring an impact statement Congress intended to assure (environmental) consideration During the development of a proposal . . . ." [*Kleppe*], at 409 (emphasis added).
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> Compliance with this duty allows the decision maker to take environmental factors into account when he is making decisions, at a time when he has an open mind and is more likely to be receptive to such considerations. Thus, the final impact statement itself is but "the tip of an iceberg, the visible evidence of an underlying planning and decision-making process that is usually unnoticed by the public." Sixth Annual Report, Council on Environment Quality 628 (1975).
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> Because an early start in preparing an impact statement is necessary if an agency is to comply with NEPA, there comes a time when an agency that fails to begin preparation of a statement on a contemplated project is violating the law. It is this fact, which is not disputed by the Court today, that was recognized by the Court of Appeals and that formed the basis of its remedy. The Court devised a four-part test to enable a reviewing court to determine when judicial intervention might be proper in such cases.[64]

The commentary following the *Kleppe* decision was abundant, and mostly negative.[65] Two criticisms of the decision are that the mechanistic test established by the Court does not support the underlying purposes of NEPA,[66] and that the

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64. *Kleppe*, 427 U.S. at 417-18 (citations omitted).

65. *See, e.g.*, Molly B. Warner, *Recent Decisions*, 26 EMORY L.J. 231 (1977); E.A. Lang, Jr., *Casenotes*, 12 LAND & WATER L. REV. 195 (1977); A. Koshland, *The Scope of the Program EIS Requirement: The Need for a Coherent Judicial Approach*, 30 STAN. L. REV. 767 (1978) (thoughts on the PEIS when NEPA was young).

66. FINDLEY & FARBER, *supra* note 36, at 41-45:

> The Court's position can best be understood as reflecting a desire to require the minimum change in agency decision-making processes in order to comply with the statutory language. Thus, the Court seems to view NEPA as merely a gloss on a general body of federal administrative law, rather than as reflecting a congressional desire for any radically new approach by agencies. In part, the Court seems to have been motivated also by the desire to have a clear, predictable test rather than requiring the kind of case-by-case balancing adopted by the D.C. Circuit.

decision does not provide specific guidance as to what constitutes a definitive proposal within the complex administrative process.[67]

The *Kleppe* test surfaced again in a third case of NEPA programmatic assessments. In *Weinberger v. Catholic Action of Hawaii*:[68]

> The issue before the Court was how to apply the EIS requirement when the government's action involved classified information. Specifically, the government established "nuclear capable" storage facilities, but would neither admit nor deny (for security reasons) that nuclear weapons were actually stored there. The Court held that if nuclear weapons were indeed stored at the facilities, an EIS had to be prepared, but his duty was not judicially enforceable. The plaintiffs were unable to prove the existence of a specific proposal to store nuclear weapons (because any such proposal would be classified): hence, under *Kleppe*, they were unable to prove that an EIS was required. Consequently, the suit was dismissed for the plaintiffs' failure to prove their cause of action, but with an admonition to the agency that a classified EIS had to be prepared if the military actually was storing nuclear weapons. Thus, both the need for an EIS and the actual contents of the EIS were committed solely to the agency's discretion.[69]

Id.

67. FINDLEY & FARBER, *supra* note 36, at 41-45:

> In fact, however, there is no talismanic significance to the word "proposal". The *SIPI* case is a good illustration. In the course of the development of the breeder reactor project, there were probably dozens and perhaps even hundreds of major memoranda prepared by various agency officials either sketching possible courses of action or attempting to evaluate those courses of action. Some reports are made at higher levels within the agency than others, and some seem to reflect a more definitive disposition of the issues than others. Nevertheless, no bright line divides those memoranda which are merely evaluations of possible courses of action from those which constitute "recommendations or reports on proposals for action," to use the statutory language.

Id.

68. Weinberger v. Catholic Action of Haw./Peace Educ. Project, 454 U.S. 139 (1981).

69. FINDLEY & FARBER, *supra* note 36, at 45-46.

Since that case, CEQ has attempted to summarize the court's holdings in the CEQ Guidelines and has defined "proposal" as noted above. This definition essentially captures the functional approach used in *SIPI* but restates that test in terms of the Supreme Court's emphasis on the determination of whether a "proposal" exists. Other CEQ regulations make it clear that the EIS should be "prepared early enough so that it can serve practically as an important contribution to the decision-making process, [and not simply] to rationalize or justify decisions already made."[70]

The CEQ regulations also require the EIS to consider connected, cumulative and similar actions together.[71] This seems to reflect an expansion on the *Kleppe* test by requiring agencies to consider other foreseeable actions, even if there has been no formal proposal on those actions. While it remains to be seen whether the CEQ regulations, if they remain in effect, will be successful in liberalizing the *Kleppe* approach from the view of the Court, they have been relied upon by agencies to justify creation of programmatic documents.

Consistent with the Supreme Court's position in *Kleppe*, the D.C. Circuit has refused to require the preparation of a PEIS for animal productivity research on the grounds that the products of the research were too diverse and discrete to constitute either major federal action, or activities sufficiently systematic and connected to require a programmatic EIS under the CEQ Guidelines.[72] More importantly, it concluded that NEPA was not a suitable vehicle and was not intended to resolve fundamental policy disputes.[73] In a companion case, the D.C. Circuit suggested that standing under NEPA based solely on a lack of desired information was inappropriate, but decided the case on other grounds.[74]

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70. 40 C.F.R. § 1502.5 (1992).

71. 40 C.F.R. § 1508.25 (1992).

72. Foundation on Economic Trends v. Lyng, 817 F.2d 882 (D.C. Cir. 1987).

73. *Id.* at 886. "As the Supreme Court recently admonished '[t]he political process, and not NEPA, provides the appropriate forum in which to air policy disagreements.'" *Id.* (quoting Metropolitan Edison Co. v. People Against Nuclear Energy, 460 U.S. 766, 777 (1983)) (citations omitted).

74. Foundation on Economic Trends v. Lyng, 943 F.2d 79 (D.C. Cir. 1991).

Legislative Environmental Impact Statements (LEISs)[75] were reviewed in *NRDC v. Lujan*.[76] Plaintiffs challenged the legal adequacy of the LEIS prepared by the Department of the Interior as a statutorily-required report to Congress regarding the potential for oil and gas development and future management of the coastal plain of the Arctic National Wildlife Reserve (ANWR). The D.C. District Court ruled that the plaintiffs had standing, but gave deference to the agency and found that the agency determination was not judicially reviewable. However, the court determined that a draft supplemental EIS (on oil and gas potential) would be required. Most importantly, the court ruled that the requirement for an adequate EIS for pending legislation "[c]ould be enforced by a private right of action."[77]

Of course, an agency may decide to prepare an EIS for a broad program.[78] The Forest Service did just that in *City of Tenakee Springs v. Clough*,[79] in which it examined impacts from a fifty-year-old timber sale contract between the Forest Service and Alaska Pulp Corporation for logging in the Tongass National Forest. The plaintiffs challenged the supplemental operation plan EIS for inadequate analysis of cumulative impacts.[80] They claimed that by disaggregating its analysis (i.e., by segmenting the impact assessments) to an area-by-area study, the Forest Service had violated NEPA by failing to study the impacts on the whole contract area over future contract years.[81] The Tongass Land Management

75. "A Legislative Environmental Impact Statement is the detailed statement required by law to be included in a recommendation or report on a legislative proposal to Congress. [An LEIS] shall be considered part of the formal transmittal of a legislative proposal to Congress . . . ." 40 C.F.R. § 1506.8 (1992).

76. 768 F. Supp. 870 (D.D.C. 1991).

77. *Lujan*, 768 F. Supp. at 870 (quoting Atchison, T. & S.F. Ry. v. Callaway, 431 F. Supp. 722, 728 (1977)).

78. 40 C.F.R. § 1502.4(b) (1992).

79. 915 F.2d 1308 (9th Cir. 1990). In a previous case, City of Tenakee Springs v. Block, 778 F.2d 1402 (9th Cir. 1985), the court held that large scale plans for regional development required both a programmatic EIS on the management plan and site-specific EISs for specific activities.

80. City of Tenakee Springs v. Clough, 915 F.2d 1308, 1312 (9th Cir. 1990).

81. *Id.* at 1312-13.

Plan and accompanying PEIS also contained no analysis of cumulative environmental impacts.[82]

The Forest Service admitted that it must consider cumulative impacts, and would do so in its planned revision of the TLMP. The court disagreed and found that the plaintiffs had raised "serious questions" as to the adequacy of the agency's cumulative effects analysis.[83] The court held that the Forest Service had not complied with NEPA's timing requirement which requires consideration of the potential impacts of a proposed activity before the action takes place.[84]

The plaintiffs also claimed that the Forest Service failed to seriously consider any alternative to the contract with Alaska Pulp, despite the fact that the amount of timber in the contract exceeded the company's ability to harvest it. The court agreed and directed the agency to consider alternatives.[85]

Thus, in this case, the court shaped remedies that fulfilled NEPA's objectives.[86] It narrowly tailored a remedy by requiring a closer look at the potential environmental impacts due to the loss of old-growth forests versus negligible economic harm to Alaska Pulp, and by allowing the company to continue logging at an undiminished level in some areas while also preserving the areas most critical to the plaintiff's concerns.[87]

Deference to agency interpretation of scientific facts also occurs when an agency is challenged on the failure to do a supplemental analysis to the programmatic analysis. In *Headwaters, Inc. v. Bureau of Land Management*,[88] the plain-

82. CEQ Guidelines note that a cumulative impact results from "the incremental impact of the action when added to the past, present, and reasonably foreseeable future action." 40 C.F.R. § 1508.7 (1990); *see* Sierra Club v. Penfold, 857 F.2d 1307 (9th Cir. 1988) (holding that where several actions have a cumulative or synergistic environmental effect, the consequences must be considered in an EIS).

83. *Clough*, 915 F.2d at 1313.

84. *Id.* at 1313-14.

85. *Id.* at 1311-14 (relying on 40 C.F.R. § 1502.14(d)).

86. *See* Yost & Rubin, *Analysis of the National Environmental Policy Act*, *in* NEPA DESKBOOK 1 (Envtl. L. Inst., ed., 1989).

87. *Clough*, 915 F.2d at 1313-14.

88. 914 F.2d 1174 (9th Cir. 1990).

tiff sued for failure to file a supplemental EIS that reviewed site-specific impacts resulting from a timber sale and pointed to new evidence, obtained since the original EA (filed in 1986), concerning the effects of timber harvests on the Northern Spotted Owl. This data indicated the importance of the Wilcox Peak area as a spotted owl habitat.[89] The Bureau had published a PEIS,[90] which was then supplemented by an EIS on the effects of alternative harvesting techniques, and tiered to a site specific EA on the Wilcox Peak Timber Sale. The court rejected this claim, ruling that no significant new factual information had been identified that had not been generally considered in the previous PEIS and site specific EA.[91]

The court was also unsympathetic to the need for a cumulative impact assessment and consideration of alternatives, feeling that cumulative impacts in the facts presented were too speculative.[92] The court rejected the plaintiff's arguments using the NEPA standard that "an agency [needs] to set forth only those alternatives necessary to permit a reasoned choice," and that an agency need not consider alternatives that are deemed infeasible, similar to alternatives considered, or incompatible with area management objectives.[93] This judgement was affirmed by the Ninth Circuit, although in his dissent Judge Fergum argued that the case should have been remanded to the district court, since the Northern Spotted Owl was being considered for listing as a threatened species under the Endangered Species Act and since the Wilcox Peak sale had been suspended.[94]

However, in *Seattle Audubon Society v. Evans*,[95] involving litigation on the same issue in the dispute over the Northern Spotted Owl, the court was convinced that sufficient new information did exist. It ordered BLM to prepare a supple-

89. *Id.* at 1177-80.

90. *Id.* at 1176. This was the Timber Management Plan EIS for the Jackson and Klamath Sustained Yield Unit.

91. *Id.* at 1181.

92. *Id.* at 1181-82.

93. *Id.* at 1180 (citing California v. Block, 690 F.2d 753, 767 (9th Cir. 1982)).

94. *Id.* at 1184-86.

95. 952 F.2d 297 (9th Cir. 1991).

mental EIS based on the new scientific information, not just an EIS for each district once every 10 years (which it last did in 1982).

In other recent cases, courts have generally deferred to agency judgement. In *National Wildlife Federation v. Appalachian Regional Commission*,[96] the court affirmed the district court's refusal to order the preparation of a site-specific EIS in connection with a highway in sufficient compliance with NEPA, since the highway had reached such a stage of completion that a programmatic EIS requirement could no longer practically apply. In *Atlanta Coalition v. Atlanta Regional Commission*,[97] no EIS for regional development plans was needed. In *Andrus v. Sierra Club*,[98] the court found that while CEQ regulations are entitled to substantial deference, Office of Management and Budget appropriation requests do not trigger NEPA.

3. Issues of Standing

Because programmatic assessments concern programs which can affect many people, it is often very difficult to satisfy the requirements for standing. As CEQ has commented, "[n]o one has standing because everyone has standing."[99] In this regard, standing for many of these cases is analogous to the early taxpayer suits, where for years the Supreme Court refused to grant standing to persons seeking to challenge government action merely on the basis that their tax dollars were somehow being misspent.[100] While the Court opened the window slightly in *Flast v. Cohen*,[101] it has scrupulously kept the test restricted to *Flast*-type facts and has rejected recent challenges.[102] Most tests of programmatic assess-

96. 677 F.2d 883 (D.C. Cir. 1981).

97. 599 F.2d 1333 (5th Cir. 1979).

98. 442 U.S. 347 (1979).

99. Interview with Lucinda Low Swartz, Deputy General Counsel, Council on Environmental Quality, in Washington, D.C. (Jan. 7, 1993).

100. *See, e.g.*, Massachusetts v. Mellon, 262 U.S. 447 (1923).

101. 392 U.S. 83 (1968).

102. In *Flast*, plaintiffs alleged that the Departments of Health and Human Services and Education improperly made payments to religious schools, violat-

ments would not appear to satisfy the strict requirements of the tests articulated in *Flast*.[103]

The Ninth Circuit recently addressed the standing issue in *People for the Ethical Treatment of Animals v. Department of Health and Human Services*.[104] The plaintiff alleged that HHS violated NEPA by failing to prepare an EIS to consider the negative environmental effects of funding projects involving animal research. The plaintiff citizen group, in moving for summary judgment, stated that the transportation and disposal of hazardous substances involved with the research injured their use of the Bay area.[105] The court rejected this argument, noting that the plaintiffs did not allege specific facts showing particularized injury because no specific areas of San Francisco were listed. The Court also distinguished this case from *United States v. Students Challenging Regulatory Agency*[106] by holding that *SCRAP II* was irrelevant to the current case because it involved a Rule 12(b) motion to dismiss, not a Rule 56 motion for summary judgement.[107] In so ruling, the court followed *Lujan v. National Wildlife Federation*,[108] in which the Court held that a Rule 12(b) motion to dismiss, unlike a Rule 56 motion for summary judgement,

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ing the First Amendment Establishment Clause. *Id.* at 86. Their injuries were that the expenditure came from tax revenues.

The Court articulated a two-part test: 1) a connection between their status as taxpayers and legislation attached (i.e. the legislation must call for the expenditure of tax dollars under the Taxing and Spending Clause of Article I, § 8 of the United States Constitution), and 2) a connection between their status as taxpayers and the constitutional infringement alleged (i.e. that an absolute prohibition on the expenditure of tax dollars, such as the Establishment Clause, is being violated). *Flast* satisfied both tests. *Id.* at 102-03.

Recent cases failing this test include: United States v. Richardson, 418 U.S. 166 (1974) and Schlesinger v. Reservists to Stop the War, 418 U.S. 208 (1974).

103. 392 U.S. at 102-03.

104. 917 F.2d 15 (9th Cir. 1990).

105. 917 F.2d at 16.

106. 412 U.S. 669, 686-88 (in which a citizen's group made up of students in the community gained standing by alleging that the solid waste management plan in the area had negative environmental impacts which injured its members).

107. 917 F.2d at 17; *see* FED. R. CIV. P. 12(b), 56.

108. 110 S. Ct. 3177 (1990).

"presumes that general allegations embrace those specific facts that are necessary to support the claim."[109] On the other hand, a Rule 56 motion for summary judgement requires that specific facts be put forth to establish alleged injuries, and does not allow presumption of missing facts.[110] The court concluded that plaintiffs in the present case failed to allege the specific facts required for a successful summary judgment motion (as the locations were not specified and the San Francisco Bay area as a whole is too large to be considered specific).

4. Final Agency Action

Review under the Administrative Procedure Act (APA) is one tool often used by plaintiffs to question an agency's assessment of a program.[111] Section 704 of the APA limits review to "final agency action for which there is no other adequate remedy."[112] With programmatic assessments, problems arise when someone seeks review of an undeclared program, such as an agency program announced through general directories, or policy statements or actions which result from internal agency procedures.[113] In *Lujan v. National Wildlife Federation*,[114] the court declared that a series of discrete agency determinations does not constitute a final agency action within the meaning of section 704.[115] Plaintiffs seeking to challenge application review procedures of the Bureau of Land Management could therefore not obtain review under this statute.

Thus, *Lujan* stands for the proposition that discrete agency determinations are not proposals which are subject to NEPA review. This decision follows in the tradition of

109. *Id.* at 3189.
110. *Id.*
111. Administrative Procedure Act, 5 U.S.C. §§ 551-559, 701-706 (1988) (hereinafter APA).
112. *Id.* § 704.
113. *See* E. Gates Garrity-Rokous, *Preserving Review of Undeclared Programs: A Statutory Redefinition of Final Agency Action*, 101 YALE L.J. 643 (1991).
114. 110 S. Ct. 3177 (1990).
115. *Id.* at 3189.

Kleppe,[116] which says that an agency proposal is not a proposal until the agency declares it to be so, in frustrating the purposes of NEPA. To counter this line of thinking, it has been proposed that agencies be required to conduct legislative environmental reviews even in the absence of specific legislative language, so as to ensure a thorough review of environmental impacts prior to the commitment of resources on a new program.[117] This also ensures that a final agency action has been taken (the LEIS), which will then be reviewable under the APA. Without such a change in legislation, agencies are now invoking *Lujan* to argue that their undeclared programmatic activities are unreviewable.[118]

The *Lujan* position is in direct contrast to CEQ's that, under NEPA, it inherently needs to look at agency actions including:

> a. adoption of official policies, such as rules, regulations and interpretations adopted pursuant to the Administrative Procedure Act, treaties and international conventions or agreements; b. adoption of formal plans, such as resource management plans; c. adoption of programs, such as a group of concerted actions to implement a specific policy or plan; systematic and connected agency decisions allocating agency resources to implement a specific statutory program or executive directive; and d. approval of specific construction projects or management activities in a defined geographic area, including actions approved by permit or other regulatory decisions.[119]

The CEQ position ensures that there will be an integration of environmental considerations under NEPA[120] and

116. 427 U.S. 390 (1976).

117. *See supra* note 75. Here again the timing for the preparation of an LEIS is in question.

118. *See* Sierra Club v. Yeutter, 911 F.2d 1405, 1418 (10th Cir. 1990) (relying on *Lujan* to hold that consistent agency refusal to contest water rights of federal wilderness lands in state court adjudication was not final agency action).

119. Dinah Bear, *National Environmental Policy Act Compliance*, C722 ALI-ABA 469 (1992).

120. MICHAEL R. DELAND, INTEGRATING ENVIRONMENTAL CONSIDERATIONS UNDER NEPA, *reprinted in* Bear, *supra* note 119.

"that presently unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations."[121]

III. NEPA Programmatic Concepts

A. Introduction

Weaving a tidy dance with the courts as they twist and turn on questions of judicial interpretation, the agencies have evolved their own approaches. This section summarizes the major arguments on the use, or lack of, programmatic assessments by U.S. agencies. In general, the widespread use of programmatic assessments is a de facto confirmation of the utility of this technique. The use of these assessments in specific cases is discussed in greater detail in Part IV.

As discussed earlier, the term "programmatic" used in this note is meant to be inclusive of other terms used for broad assessments: program, policy, planning, legislative, and tiering. There has been much discussion in an attempt to define these other terms, but even those working closely in the field were unable to develop good working definitions.[122] In the end, making distinctions between the individual terms may not be very useful.[123] Certainly, CEQ Guidelines do not differentiate between "program," "policy" or "planning," but lists them all as examples of broad-based assessments that might fit into tiering structures.[124] Legislative assessments are identified separately.[125]

The emphasis in this paper is on programmatic assessments as a *process* for evaluating environmental aspects of a program. Therefore, it is of limited importance what type of action (program, policy, planning or legislative) triggers the preparation of the broad assessment. Two concerns have lead to an attempt to make some of these distinctions. First, there

121. 42 U.S.C. § 4332(2)(B) (1988), *quoted in* Bear, *supra* note 119.

122. Interview with Joseph Montgomery, USEPA, in Washington, D.C. (Jan. 8, 1993).

123. Interview with Lucinda Low Swartz, Deputy General Counsel, Council on Environmental Quality, in Washington, D.C. (Jan. 14, 1993).

124. *See supra* notes 26-28 and accompanying text.

125. *See supra* note 28 and accompanying text.

is a somewhat unfounded concept that the triggering type of action will determine the materials to be included in the assessment. For instance, in the first section of an environmental impact assessment, the federal action proposed is set forth in some detail.[126] Presumably, in this line of thinking, the type of action will lead to different approaches in defining the action, i.e., a program will have one approach, a plan another, and a policy a third. Certainly, such consistency, if agreement on approaches could be reached, might simplify the work of an agency on the one hand, and set consistent expectations for intervenors and challengers on the other. However, no agreement currently exists on a connection between the origin or type of assessment and the contents of the assessment itself. Many would argue that anything more than broad, general outlines and guidelines for approaching these assessments would not be useful or desirable. The genius of NEPA has been that it is an extremely flexible vehicle.

In preparing guidelines for the NEPA process,[127] agencies generally have an incentive to be precise in a programmatic assessment. This allows for consistency in the preparation of and for managing the resources needed for the assessments. While the author has found no attempt in present agency guidelines to differentiate between types of programmatic assessments, apparently the goal of setting out in greater detail the expectations of an agency for each type of assessment has led to discussions on this matter.[128]

One working definition of a program or programmatic assessment is that an assessment, no matter how large-scale, is tied to a specific program, for example, the breeder reactor program of the Department of Energy.[129] Policy assessments might be tied to national approaches, such as the North

126. *See supra* note 10 and accompanying text for a discussion of the different parts of an Environmental Impact Assessment.

127. *See, e.g.*, NEPA DESKBOOK, *supra* note 86, as well as specific agency guidelines referred to in Part IV of this paper.

128. Interview with William Dickerson, Office of Federal Facilities, USEPA, in Washington, D.C. (Jan. 8, 1993); interview with Carol Borgstrom, DOE (Aug. 1992).

129. Interview with William Dickerson, Office of Federal Facilities, USEPA, in Washington, D.C. (Jan. 8, 1993).

American Free Trade Agreement (NAFTA) or energy policy.[130] The author would suggest another interesting distinction: a programmatic/policy assessment is an attempt by high-level officials to examine the implications of the programs/policies from top to bottom. Tiered assessments are usually in response to a specific activity at a lower level of management. A distinction may be drawn so that the NEPA programmatic assessment is seen as a viable tool in both situations: when a national program is planned, as well as when guidelines are set for solving a specific issue/problem in the field (the answer to which has been made through a proposal in the field).

Second, the type of action is seen as forcing a specific approach to the handling of the contents of the PEIS, including an approach to measures of significance in the analysis of alternatives. Unlike the first part of the argument, there appears to be an increasing desire to settle approaches to significance in these assessments. This aspect is discussed below in greater detail.

Finally, the court sees this type of action as instrumental in determining when to trigger an assessment and what to include in it. However, as discussed in Part II, courts are reluctant to change an agency's determination of the scope of the assessment, other than applying the hard look doctrine.[131] One issue to watch for the future will be to see if the courts will make a distinction between these origins in determining whether an agency has delved into a proposed action with sufficient depth.

B. Reasoning

Over a series of meetings and interviews with government officials and practitioners in the field, as well as through review of transcripts of government conferences on NEPA issues, the author has had an opportunity to review the substantial debate over the proper role for programmatic

130. *Id.* It is assumed that the Clean Coal and fuel programs of DOE would fall into this category. *See infra* notes 246-48, 255-56 and accompanying text.

131. *See supra* note 13 and accompanying text.

assessments in the work of the federal government. This section presents this discussion and the apparent reasoning on the major issues.

Many agencies argue that the use of the programmatic assessment process wastes limited resources, results in needless time delays in making decisions, is displaced by other program priorities, and in the end is not helpful in making decisions.[132] Instead, those agencies generally prefer to prepare a specific EIS in response to a specific proposal, long after a program or policy has been set. For example, the Coast Guard takes this position[133] and seems to be resisting, except in the context of specific proposals, the use of the EIS. BLM takes the position that no EIS, let alone a PEIS, should be done for the leasing stage of oil and gas exploration.[134] While a programmatic assessment would be most appropriate at the leasing stage if the agency chose to do it, BLM does not prepare an EIS until there is a proposal to develop an area under a lease.[135] Not only is there no proposal as defined under NEPA at the leasing stage,[136] but preparing an assessment at this point would be premature from BLM's perspective. The Forest Service has taken a similar position with respect

132. Agencies are also concerned about the high costs of these assessments, both directly and indirectly. *See, e.g.*, Stark Ackerman, *Observations on the Transformation of the Forest Service: The Effects of the National Environmental Policy Act on U.S. Forest Service Decision Making*, 20 ENVTL. L. 703, 717-18 (1990).

133. Memorandum from Allan Hirsch, Midwest Research Institute, to Dinah Bear, CEQ (Apr. 13, 1992) (summarizing discussions at Conference on the National Environmental Policy Act, Boston, Mass., Mar. 23-25, 1992) [hereinafter Hirsch Memorandum, Boston Conference] (on file with *Pace Environmental Law Review*).

134. *See, e.g.*, Sierra Club v. Hathaway, 579 F.2d 1162 (9th Cir. 1978) (in which the Sierra Club attempted to force the Bureau of Land Management (BLM) to prepare an EIS prior to issuing leases under the Geothermal Stream Act of 1970, 30 U.S.C. §§ 1001-1025; the court accepted BLM's argument that there was no major federal action at the leasing stage, since actual development is segmented into several phases, and environmental analysis will be conducted at those stages as specific projects are identified).

135. *Id.*

136. *Id.*

to non-timber operations and the courts have accepted this position in some 135 cases, but not in others.[137]

Those opposed to this position argue that, despite leasing decisions affecting 395 million acres of land under the Bureau of Land Management[138] and 160 million acres of public lands in the National Forests,[139] the environmental purposes of NEPA are not being considered early in the process.[140] Leasing can result in an irretrievable commitment of resources, since after the lease is executed, an agency might be challenged by a suit alleging a taking without compensation[141] if no development were allowed.[142] BLM claims that special provisions in the leases adequately cover environmental concerns,[143] but has apparently not considered the takings issues in this context.

As discussed above, CEQ has consistently taken the view that an assessment is appropriate in as many cases as possible and should be prepared early in the process.[144] Therefore, it appears that CEQ would agree with the need for an assessment at an earlier stage in BLM activities. USEPA concurs with the stated CEQ view.[145] One proposed solution, based on the concern that agencies may avoid programmatic assessments as long as possible, is to prepare a legislative EIS

137. *E.g.*, Natural Resources Defense Council v. Berklund, 458 F. Supp. 925 (D.D.C. 1978), *aff'd on other grounds*, 609 F.2d 553 (D.C. Cir. 1979); see discussion in Robert A. Nelson, *Oil and Gas Leasing on Forest Service Lands: A Question of NEPA Compliance*, 3 PUB. LAND. L. REV. 1, 8 (1982).

138. BUREAU OF LAND MANAGEMENT, U.S. DEP'T OF THE INTERIOR, PUBLIC LAND STATISTICS 1980 21 (1980) (Table 9) (*cited in* Heather Noble, *Oil and Gas Leasing on Public Lands: NEPA Gets Lost in the Shuffle*, 6 HARV. ENVTL. L. REV. 117, 119 (1982)).

139. *Id.* (Table 11) (*cited in* Noble, *supra* note 138, at 117).

140. *See* Noble, *supra* note 138.

141. U.S. CONST. amend. V ("No person shall be . . . deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use, without just compensation"). The takings issue has emerged as a possible restraint on the application of environmental law in recent years. *See generally Lucas v. South Carolina Coastal Council: Colloquium*, 10 PACE ENVTL. L. REV. 1 (1990).

142. *See* Noble, *supra* note 138.

143. *See* Noble, *supra* note 138.

144. *See supra* note 7 and accompanying text.

145. Interview with William Dickerson, Office of Federal Facilities, USEPA, in Washington, D.C. (Jan. 8, 1993).

(LEIS) at the time of a proposal to Congress for funding of a program. For instance, this tactic has been mentioned in the DOD approach to environmental matters.[146] This issue was raised often in a recent conference on NEPA.[147] Preparing a LEIS would please those who feel that congressional oversight of large administrative agencies is inherently limited.[148]

At present, however, agencies seem to have a wide degree of discretion in deciding whether to initiate a programmatic assessment. Many agencies rely on the reasoning in the *SIPI* case,[149] and are apparently careful to not make a proposal until they are ready to prepare an assessment. This was a consideration in preparing the DOD environmental compliance guidelines.[150] However, despite this fear when the *SIPI* and *Kleppe* decisions were announced that an agency would not call something a proposal until it was too late to review the consequences, it has been difficult to document any such specific occurrences. Certainly, in programmatic assessments, a government agency must first make a proposal, and *Kleppe* (relying on *SIPI*) makes it clear that the agency can do that at its discretion, not necessarily when it begins thinking about the issue.

While there is no clear documentation, it would be expected that agencies also consider the doctrines of standing and final agency action in evaluating the potential for success in a challenge to an agency decision not to initiate a programmatic assessment. For instance, as discussed earlier, there is an advantage in not declaring a program, since the decision not to prepare a programmatic assessment is not reviewable

146. *See infra* note 238 and accompanying text.

147. Memorandum from Allan Hirsch, Midwest Research Institute, to Dinah Bear, CEQ (June 24, 1992) (summarizing discussions at Conference on the National Environmental Policy Act, Anchorage, Ala., May 21-29, 1992) (on file with *Pace Environmental Law Review*).

148. *See* MARCUS E. ETHRIDGE, LEGISLATIVE PARTICIPATION IN IMPLEMENTATION: POLICY THROUGH POLITICS 31 (1985); *see also* Garrity-Rokous, *supra* note 113, n.88.

149. *See supra* note 33 and accompanying text.

150. *See infra* note 244 and accompanying text.

under the APA.[151] Once a proposal is made, the battleground shifts to the scope of the assessment. Once again courts have been reluctant to intervene in issues relating to the scope of an assessment. The most recent examples of this have been in the Forest Service cases over the Northern Spotted Owl,[152] in which the courts had to decide whether new information warranted an accelerated programmatic assessment.[153]

Agencies find the definition of alternatives in programmatic assessments to be very difficult. For instance, in the Programmatic Assessment on the Waste Management Program at DOE, the agency spent nearly two years defining the alternatives.[154] On another DOE program, DOE believed that the courts were pushing for consideration of more alternatives than were warranted.[155]

Programmatic assessments, by their very nature, cross the line from purely technical/scientific assessments of the environmental impacts of a program to ones that consider many other dimensions. This is the crux of the controversy for those agencies that do not want to accept programmatic assessments, or that want to limit the scope within such assessments.

Agencies are concerned that programmatic assessments will lead to binding precedents in other areas, or that they will lose autonomy in the ability to make decisions as a result. In broader programs controversial and high impact issues must often be considered within the scope of programmatic assessments.[156] For example, the Forest Service (Department of Agriculture) was forced to consider the

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151. *See* Garrity-Rokous, *supra* note 113, at 1.

152. *See supra* note 88 and accompanying text.

153. *See supra* note 96 and accompanying text.

154. *See infra* note 249 and accompanying text.

155. Memorandum from Allan Hirsch, Midwest Research Institute, to Dinah Bear, CEQ (Mar. 9, 1992) (summarizing discussions at Conference on the National Environmental Policy Act, Atlanta, Ga., Feb. 18-20, 1992) [hereinafter Hirsch Memorandum, Atlanta Conference] (comments of Carol Borgstrom, U.S. Dep't of Energy, regarding spent fuel rod reprocessing program and Sierra Club v. Watkins, 808 F. Supp. 852 (D.D.C. 1991)) (on file with *Pace Environmental Law Review*).

156. *See* discussion on these agencies in Part IV. This is true particularly in DOD, DOE and FS activities.

spotted owl listing under the Endangered Species Act. At issue was loss of Forest Service control over land management decisions, and the precedent this would set, because a listing would empower the U.S. Fish and Wildlife Service to acquire jurisdiction over the management standards applied. Decisions regarding listings were so politically explosive that the Forest Service scrutinized the political consequences and even considered the views of Congress.[157] Consequently, the decision was not made on a biological basis, even though the scope of the EIS was framed in that context.[158]

Forest plans are political decisions made under the cloak of technical expertise. Decisions on allocating scarce resources involve political choices and trade-offs. These plans cannot always be addressed as technical questions with technical solutions, but need to acknowledge the political dimension, and design mechanisms to deal with it.[159]

Even proponents of NEPA often claim that these procedures are better suited to discrete projects than broad, continuous and dynamic land management programs.[160] It is hard to pick alternatives in broad programs. Project-level decisions are often tiered to one or more programmatic decisions made years earlier. Conducting the multi-leveled analyses required to make project-level decisions often requires extraordinary amounts of time, money and manpower.[161]

While an agency often has broad discretion in the choices of the scope of an EIS[162] (subject to consideration of all items raised at a scoping session) it must be mindful of the political process. For example, the Forest Service had a clear choice in

157. Stark Ackerman, *Observations on the Transformation of the Forest Service: The Effects of the National Environmental Policy Act on U.S. Forest Service Decision Making*, 20 ENVTL. L. 703, 717-18 (1990).

158. *Id.* at 717 n.30. The cases at issue included Headwaters, Inc. v. Bureau of Land Management, 914 F.2d 1174 (9th Cir. 1990); and Seattle Audubon Soc'y v. Evans, 952 F.2d 297 (9th Cir. 1991).

159. Ackerman, *supra* note 157, at 721.

160. *Id.*; *see also infra* note 249 and accompanying text (on DOE choice of alternatives in Waste Management Program).

161. Ackerman, *supra* note 157, at 732.

162. *See, e.g.*, California v. Block, 690 F.2d 753, 765 (9th Cir. 1982).

deciding between alternatives for spotted owl management and the broader question of the management of old growth timber. It chose the latter, apparently to avoid the more intractable social, economic, and ecological issues associated with the former.[163] By defining the scope of the EIS narrowly to exclude some issues, the Forest Service may have improved its ability to defend its Regional Guide Amendment, but virtually guaranteed that the unresolved larger questions would jeopardize the political integrity of the decision.[164]

Another major debate revolves around the proper role for scientific specificity in defining environmental impacts. Both CEQ Guidelines and court decisions[165] support the concept that the scientific material must be meaningful information, i.e., information within a reasonable range of certainty. This is not to say that information with a low range of certainty should be ignored, since not applying such data runs the alternative risk of using assumptions that may be even further from the truth. Thus, any scientific information developed can be used within its range of certainty (and probably identified as to the level of confidence known for the information). In addition, ignoring science completely because of the lack of good quality information would give more weight to economic and political considerations than is warranted.[166] Nevertheless, there is a legitimate agency concern that the quality of an EIS is limited by the quality of the data available.[167]

In a related issue, agencies find the role of science in the NEPA process difficult, since no clear direction exists on defining the significance of an environmental impact in a broad

163. Ackerman, *supra* note 157, at 718.

164. *Id.*

165. The *SIPI* four-part balancing formula, *supra* note 53, includes a consideration of whether "meaningful" information on the environmental impact of development of the program exists. CEQ Guidelines require that alternatives as specific as possible be evaluated. 40 C.F.R. § 1502.14 (1992). The environmental consequences section of an EIS "forms the scientific and analytic basis for comparisons [in that section]." 40 C.F.R. § 1502.16.

166. For a good discussion of the role of science in the NEPA process *see* LYNTON CALDWELL, SCIENCE AND THE NATIONAL ENVIRONMENTAL POLICY ACT (1982).

167. Hirsch Memorandum, Boston Conference, *supra* note 133.

context.[168] While the environmental laws form an upper boundary for allowable impacts, in that most impacts that violate standards set in these laws will be considered significant, most of the debate centers on degradation below this threshold or where no law exists.[169]

C. Assessing Significance of Environmental Impacts in the Programmatic Assessment

1. CEQ Guidelines

The Council on Environmental Quality prepared regulations that defined significant effects in terms of context and intensity.[170] This means that the significance of the effect "must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality . . . . Both short-term and long-term effects are relevant."[171] Intensity refers to the severity of impact and considers:

> (1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.
> (2) The degree to which the proposed action affects public health and safety.
> (3) Unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
> (4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.
> (5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

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168. *See, e.g.*, Hirsch Memorandum, Atlanta Conference, *supra* note 155 (comments by Marvin Meier, U.S. Forest Service, regarding the difficulty that the Forest Service has in defining levels of significance in its assessments).

169. Interview with William Dickerson, Office of Federal Facilities, USEPA, in Washington, D.C. (Jan. 8, 1993).

170. 40 C.F.R. § 1508.27 (1992).

171. *Id.*

(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.
(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.
(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.[172]

2. Significance in U.S. Regulations

The starting point for assessing the significance of an environmental impact is whether an action will lead to a violation of federal law. Generally, such a violation leads to a finding of unacceptable impact, requiring redefinition of the program, justification on the grounds of risk management,[173] or referral to CEQ.[174] USEPA's present gameplan is for agencies to eliminate all effects that violate laws.[175] Next the debate on an EIS shifts to consideration of acceptable degradation of a resource, for which there is often no regulation or mechanism for regulating incremental impacts.[176] Consider-

172. *Id.*
173. *See infra* note 195 and accompanying text.
174. 40 C.F.R. § 1504 (1992).
175. Interview with William Dickerson, Office of Federal Facilities, USEPA, in Washington, D.C. (Jan. 8, 1993).
176. *Id.*

ation of cumulative impacts, and impacts on biodiversity fall into these categories.

The U.S. environmental laws which define significance provide the starting place for defining unacceptable impacts. These laws include: the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA),[177] the Resource Conservation and Recovery Act (RCRA),[178] the Federal Water Pollution Control Act (Clean Water Act or CWA),[179] the Clean Air Act (CAA),[180] the Safe Drinking

177. CERCLA §§ 101-405, 42 U.S.C. §§ 9601-9675 (1988). This law is also known as the Superfund program, because of the Hazardous Substance Superfund, 42 U.S.C. § 9601(11), a revolving fund for financing cleanups established under CERCLA.

The clean-up of abandoned and existing waste sites is mandated under the regulatory framework of CERCLA. The process by which clean-up standards, which are defined as Applicable or Relevant and Appropriate Requirements (ARARs), are selected is described in 40 C.F.R. section 300.430. This section summarizes the CERCLA process for a Remedial Investigation/Feasibility Study (RI/FS) and selection of a remedy for a site where hazardous substances have been released to the environment. Remedial standards are the acceptable residual contamination level on a site or the action level for requiring remediation.

USEPA is presently considering a new site remediation strategy called SARCEM which is intended to streamline the site characterization and selection of remedial alternatives. The Superfund Revitalization Team is even discussing in detail the concept of risk transfer. Nevertheless, ARARs remain the principal standards for cleanup in the CERCLA regulations. Interviews and telephone interviews with Tim Fields, USEPA, Washington, D.C. (Aug.-Oct., 1992).

ARARs for water bodies are principally derived from the Clean Water Act, CWA §§ 101-607, 33 U.S.C. §§ 1251-1387 (1988), for contamination related to surface waters, the Safe Drinking Water Act, SDWA §§ 1401-1465, 42 U.S.C. §§ 300f to 300j-26 (1988), for aquifer and groundwater contamination, and Resource Conservation and Recovery Act, RCRA §§ 1002-11012, 42 U.S.C. §§ 6901-6992k (1988), for standards concerning hazardous waste contamination of groundwater and surface waters. The process in 40 C.F.R. § 300.400(g)(2) does not offer comprehensive guidance as to when a requirement is "relevant and appropriate." Determining relevance and appropriateness of a requirement poses problems similar to those faced in selecting an exposure scenario for a risk assessment. *See supra* text accompanying note 195.

178. RCRA §§ 1002-11012, 42 U.S.C. §§ 6901-6992k (1988). RCRA was enacted as a "cradle-to-grave" system designed to protect the terrestrial environment against contamination from the treatment, storage and disposal of hazardous wastes.

179. FWPCA §§ 101-607, 33 U.S.C. §§ 1251-1387 (1988). The Clean Water Act regulates water pollution by: 1) specific regulations for concentration of

Water Act (SDWA),[181] the Toxic Substances Control Act (TSCA),[182] the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA),[183] and the Endangered Species Act[184]

Standards for clean-up in these federal acts are determined using applicable methodologies, based on laboratory studies for the toxicological properties of the materials, often referred to as the hazard of the material. The risk of the material is then derived by adopting a conservative exposure scenario and then multiplying the hazard by an exposure level which will result in acceptable human health risk. The major emphasis in risk assessment is on long-term toxicological risk, generally carcinogenicity, teratogenicity and

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pollutants allowed in discharges, the requirement of National Pollution Discharge Elimination Permits in order to discharge into the waters of the U.S., and requirements for the pre-treatment of wastes going to publicly owned sewage treatment plants (POTW's) from industrial facilities; 2) specific classification and protection of receiving water bodies, which considers allowable pollution loads to protect specific water uses; 3) special protection for wetlands; and, 4) special identification to control pollution associated with toxic materials and oil. *Id.*

180. CAA §§ 101-618, 42 U.S.C. §§ 7401-7671q (1988). The broad and complex Clean Air Act contains many regulations that may indirectly affect river pollution, including regulations to limit the emissions of specific hazardous chemicals, and limitations on chemicals that lead to acid precipitation and global warming.

181. SDWA §§ 1401-1465, 42 U.S.C. §§ 300f to 300j-26 (1988). The SDWA identifies chemicals which are considered dangerous to human health if they contaminate the aquifers that supply drinking water and specifies treatment methods to eliminate these hazards.

182. TSCA, §§ 2-311, 15 U.S.C. §§ 2601-2671. TSCA requires the testing of toxic chemicals and preventing the manufacture of those that are deemed too high a risk to the environment. Inventories of existing chemicals are developed and systematically selected for review of risk to human health and the environment. New chemicals must be reviewed by USEPA to determine risk prior to their commercial manufacture.

183. FIFRA, §§ 2-30, 7 U.S.C. §§ 136-136y. FIFRA presumes that a chemical is unsafe until it is proven safe by the company attempting to bring it to market. This is accomplished through testing procedures under the registration provisions of the Act. *Id.* § 136(a).

184. ESA, § 2-11, 14 U.S.C. §§ 1531-1544. The ESA requires the U.S. government to identify species in danger of extinction and their critical habitats. After appropriate scientific surveys, areas designated as critical habitats may not be used in any way that will further endanger that species. There is a safety valve in the Act that allows exemption of some areas due to national needs. *Id.*

mutagenicity. The process of identifying acceptable risk in public policy has been tortuous, and has ultimately remained a matter of response to public perception of the unacceptability of some risks compared to others.[185] To date the risks to other components of the ecosystem, including risks to animals and plants, have been largely ignored.[186]

3. Significance in Programmatic Assessments

CEQ Guidelines provide this additional guidance for determining significance in programmatic assessments:

> When preparing statements on broad actions (including proposals by more than one agency), agencies may find it useful to evaluate the proposal in one of the following ways:
>
> (1) Geographically, including actions occurring in the same general location, such as a body of water, region or metropolitan area.
>
> (2) Generically, including actions which have relevant similarities, such as common timing, impacts, alternatives, methods of implementation, media, or subject matter.

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185. USEPA SCIENCE ADVISORY BOARD, REDUCING RISK: SETTING PRIORITIES AND STRATEGIES FOR ENVIRONMENTAL PROTECTION (1990). Public priorities as to the need to address certain risks were substantially different from those concluded by agency scientists. For instance, the public perceived waste sites, including nuclear waste, as some of the highest risks. By contrast, scientists focused on air and water pollution. In essence, the scientific argument was that there was "more bang for the buck" in public expenditures for air and water pollution, i.e. the avoidance of risk or cleanup of risk to human health is greater for the per unit expenditure in air and water programs than in Superfund waste programs. The reason appeared to be that there are greater populations of people exposed to air and water pollution than to the risks associated with waste sites. Nevertheless, the legacy of Love Canal, *see, e.g.*, Sam Howe Verhouek, *At Love Canal, Land Rush on a Burial Ground*, N.Y. TIMES, July 26, 1990, at A1, continues to haunt the public, which still supports large funding in the waste site cleanup programs.

186. Concerns about threatened and endangered species are one exception to this rule. In addition, certain concerns, such as the possible loss of a complete animal population or the contamination of a National Forest have been seen as appropriate for regulation. *See* RICHARD G. CLEMENTS, ENVIRONMENTAL EFFECTS OF REGULATORY CONCERN UNDER TSCA (Dec. 2, 1983) (position paper prepared for USEPA). Scoring systems which are used to select sites for inclusion in the Superfund list do consider some ecological factors. *See also* SARCEM program, *supra* note 176.

> (3) By stage of technological development including federal or federally assisted research, development of demonstration programs for new technologies which, if applied, could significantly affect the quality of the human environment. Statements shall be prepared on such programs and shall be available before the program has reached a stage of investment or commitment to implementation likely to determine subsequent development or restrict later alternatives.[187]

Although CEQ Guidelines provide broad categories for consideration in evaluating significance in programmatic assessments, their application is still problematic and poorly defined by U.S. agencies. The starting place for this discussion is with the general structure of the EIS.

An EIS generally includes a description of a range of alternatives for the proposed action, a description of the affected environment, and an analysis of potential impacts on the environment from the proposed action.[188] The first problem in conducting a programmatic assessment is in defining alternatives to the proposed action with sufficient detail to conduct a meaningful assessment. In broad assessments, many actions will lack specificity at the PEIS stage, and will be developed in more detail at a later stage. The most common approach to this problem is to try to define alternatives that span the range of possibilities in the proposed action.[189]

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187. 40 C.F.R. § 1502.4(c).

188. *See supra* note 7 and accompanying text.

189. For instance, in the DOE Hazardous and Nuclear Waste PEIS, the DOE is considering alternatives which include: 1) make no changes in the present organization of the department in addressing clean-up issues, 2) merge operations that deal with old waste sites, on the one hand, and new waste production (and waste minimization) on the other (this considers the important link between the two operations, in that the old site clean-up will require new waste processing centers, which in turn will produce new waste, and must also consider waste minimization), and 3) consider informal changes to the present operation. Each of these alternatives has enormous implications because the projected cost of the clean-up effort is over $60 billion. Dep't of Energy/S-00097P, Environmental Restoration and Waste Management Five-Year Plan (the updated 1994 edition changed the estimates to over 200 million). In addition, each of these alternatives has different implications for major types of wastes streams (i.e. a mixture of waste associated with a specific process). DOE estimates that there are more than 2,000 types of waste streams involved here.

The second major problem is how specifically the affected environment can be defined. Once again the broad nature of the proposed actions may make determining geographic specificity very difficult. In the SDIO programmatic assessment[190] the military program would be conducted over a geographic range from Hawaii to the eastern United States. Even without considering questions of military security, it will be up to a decade, at the deployment stage, before more specific geographic areas are identified. Only then would a site-specific EIS be prepared. Programmatic assessments have attempted to broadly define major types of geographic areas that might be affected by the proposed actions. For instance, in the USAID Locust/Grasshopper Assessment,[191] broad types of African ecosystems were discussed in terms of soils, biota, rainfall and topography.

The third section of a programmatic assessment analyzes the potential impact of the proposed action on the described portion of the environment. It is in this section that the significance of the identified impacts must be assessed. One begins by examining potential impacts in light of existing U.S. environmental laws, considering the range of uncertainty imposed by the lack of specificity in earlier sections, and a lack of information in general. For instance, if an action will result in the creation of new waste sites, one must consider CERCLA and RCRA regulations. Air and water impacts are evaluated with respect to the standards contained in the Clean Air and Clean Water Acts.

However, this is just the starting point in an assessment of significance. As with the non-programmatic EIS, one must consider cumulative and other incremental impacts of a proposed action. As discussed later,[192] the opportunity to broadly consider these types of incremental impacts is one of

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Interview with Pat Whitfield, DOE, Washington, D.C. (June, 1992). Therefore, one wonders how specific an assessment can be without unduly burdening the planning process or the demand for resources. As discussed *infra* Part IV, DOE has spent over two years trying to define these alternatives.

190. *See infra* note 228 and accompanying text.

191. *See infra* note 297 and accompanying text.

192. *See infra* notes 211-216 and accompanying text.

the potential benefits of the PEIS process. This is one of the emerging areas for which there is presently no clear solution.[193]

By its very nature, this part of the PEIS calls into play discussions of public policy, which, through the political process, is the mechanism that the government must use to allocate resources. For example, in discussions about timber harvesting, should one consider only the implications to the spotted owl, or the implications for old growth timber in general?[194] It is indeed a desirable goal within the NEPA process to discuss scientific issues along with these political or economic issues. It is only by including a consideration of the political reality surrounding the PEIS that an agency can move ahead in its planning activities. Therefore, an important part of defining the *methodology* for assessing significance is incorporating considerations from a number of perspectives.

Within the scientific realm, assessing the significance of the actions has its own set of problems. Once again, one must consider how much scientific uncertainty is acceptable, and question whether future research and monitoring programs that will collect information as the action proceeds will be sufficient. Here, one of the key points is to carefully identify information that will be needed to better define significance. For instance, if the potential acid rain effects of a new facility are an issue, one must measure, at the least, the pH of receiving water bodies and the chemistry of the emissions from the facility. On the other hand, measurement of other factors may not be as useful.

In the scientific area, much of the measure of significance will be conducted through a risk assessment, where the potential harm to a specific (again!) biological population is evaluated. This is determined by considering the property of the materials in question and the potential for exposure to the population.[195] Once a risk assessment has been com-

193. *See infra* notes 211-16 and accompanying text.

194. *See supra* text accompanying note 161.

195. NATIONAL ACADEMY OF SCIENCES, RISK ASSESSMENT IN THE FEDERAL GOVERNMENT: MANAGING THE PROCESS (National Academy Press 1983).

pleted, one has technically defined the danger associated with an activity. At this point, it is strictly a matter of public policy to choose the acceptable level of risk.

Here, a federal agency may decide to conduct a risk management analysis, in which the good associated with an action is balanced against its risk.[196] A risk management analysis considers benefits and other public policy considerations in allowing an activity to proceed despite some level of risk. For projects that have an overarching public good, an agency may allow a project that has an overarching public good to proceed despite a relatively high risk level.[197]

To assess the significance of an impact in a PEIS, one must consider the dimension of the importance of the program. Science will have a role in defining physical parameters of the proposed action, but a manager may, in the end, make little use of the scientific information to decide the matter. This is sometimes referred to as the marginalization of the role of science. As will be discussed more in Part IV, the assessment of significance is exacerbated in the international arena, where there may be significant disagreement on the best public policy to pursue.[198]

The problem of determining significance is not unique to environmental considerations. One need only look to current debates on whether the impacts of tax increases will be significant to the old, the poor, etc. The important point is that the focus in the PEIS must be on the environmental implications of proposed activities.

D. Agency Use of Programmatic Assessments

Despite partial rejection by some agencies and reservations by many others, programmatic assessments are now widely used by agencies, apparently because they find them useful in making decisions. An agency may not call the assessment "programmatic," but the same functional effects

196. *Id.*

197. Military applications, including nuclear bomb production, are obvious examples of these types of projects.

198. *See infra* note 273 and accompanying text.

can result. Indeed, apparently because of a view that an agency will be tied to a requirement for public involvement or other standards in the NEPA process, agencies "go out of their way to label [programmatic assessments] something else."[199]

Former Secretary of Energy James Watkins made the programmatic assessment a very important tool for that agency's work. It was his way of building an environmental climate (although many feel there is still a long way to go), involving the public and settling controversial issues.[200] The Department of Defense sees the PEIS as a useful tool for complying with NEPA and reducing risk to programs and program managers.[201] The Department of Interior finds the process useful in its own decision making for the National Park Service, as does the Minerals Management Service. Thus, the NEPA process is firmly entrenched in the planning processes of many Interior agencies.[202] The Forest Service finds that its assessment process has become more comprehensive and has more involvement by the public and with other agencies.[203]

The Federal Energy Regulatory Commission (FERC) has attempted to save resources by tiering smaller assessments and incorporating them into a larger assessment.[204] It

199. Interview with William Dickerson, Office of Federal Facilities, USEPA, Washington, D.C. (Jan. 8, 1993).

200. *McNeil Lehrer Hour* (PBS television broadcast, Jan. 6, 1993). The DOE PEIS for the Defense Nuclear Complex is expected to identify alternative opportunities or new approaches to pollution prevention. Hirsch Memorandum, Boston Conference, *supra* note 133.

201. Thomas H. Lillie & Harold E. Lindenhofen, *NEPA as a Tool for Reducing Risk to Programs and Program Managers*, 2 FED. FACILITIES ENVTL. J. 31 (Spring 1991); Thomas H. Lillie & Susan Bowman, *NEPA Compliance for Air Force Space Systems Division Programs*, 1 FED. FACILITIES ENVTL. J. 411 (Winter 1990); Thomas H. Lillie & Harold E. Lindenhofen, Air Force Military Construction and the Environment, NEPA as a Blueprint for Compliance (unpublished, on file with the *Pace Environmental Law Review*) (submitted to the *Military Engineer*).

202. Hirsch Memorandum, Boston Conference, *supra* note 133.

203. Hirsch Memorandum, Atlanta Conference, *supra* note 155 (discussing comments by Marvin Meier, U.S. Forest Service).

204. Hirsch Memorandum, Atlanta Conference, *supra* note 155 (discussing comments by Dean Shumway, FERC).

adopted a new procedure, a cluster impact assessment procedure for salmon on the Snohomish and Owens Rivers, which included a geographic component (size of area), a resources assessment (what resources were potentially involved), and a resources impact study. This resulted in licensing some projects and denying others because of the varying significance of impacts. The approach took two years and was very expensive. FERC is currently using cumulative EAs, because it does not feel that there are sufficient connections between projects.[205]

The Office of Surface Mining, part of the Department of the Interior, which conducts 10,000 EAs per year, considered using a programmatic EIS to save resources.[206] It was under the impression that use of the PEIS would eliminate the necessity of conducting site-specific EAs. However, after being counseled against eliminating site-specific EAs, the agency did not see how the PEIS would save much labor.[207]

Several agencies view the programmatic assessment as a useful device for integrating compliance under several environmental laws. The Nuclear Regulatory Commission has adopted this position.[208]

Finally, many agencies see the programmatic assessment as the only tool available for dealing with hard issues such as cumulative impacts and biodiversity.[209] Expanded use of programmatic and tiered EISs could help address cu-

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205. *Id.*

206. Memorandum from Allan Hirsch, Midwest Research Institute, to Dinah Bear, CEQ (June 1, 1992) (summarizing discussions at Conference on the National Environmental Policy Act, Chicago, Ill., Apr. 28-30, 1992) [hereinafter Hirsch Memorandum, Chicago Conference] (discussing comments of Dave Ketcham, U.S. Forest Service).

207. *Id.*

208. NUCLEAR REGULATORY COMM'N, LICENSING RENEWAL OF NUCLEAR POWER PLANTS, NUREG-1437. Don Cleary of NRC indicated his support of the use of programmatic assessments. Interview with Lucinda Low Swartz, Assoc. Counsel, CEQ (Jan. 8, 1993).

209. Problems in the consideration of cumulative impact are also discussed in Terence L. Thatcher, *Understanding Interdependence in the Natural Environment: Some Thoughts on Cumulative Impact Assessment under the National Environmental Policy Act*, 20 ENVTL. L. 3 (1990).

mulative impact problems[210] because of NEPA's flexibility, as well as its usefulness as an integration tool. CEQ has proposed that climate change and loss of biodiversity be added explicitly to NEPA legislation.[211] The Forest Service noted difficulties in defining thresholds for cumulative impacts.[212] The Army Corps of Engineers found that there were no simple solutions to cumulative impact questions when it discussed the preparation of an EIS to examine the comprehensive water needs of Georgia, Florida and Alabama.[213] FERC was under pressure to do comprehensive river basin planning.[214] Consequently, it developed a procedure for looking at cumulative impacts, although this procedure was not adopted by the Commission because it did not want to take the lead.[215]

To assist agencies in conducting programmatic assessments, USEPA is developing items for reviewers in the areas of habitat protection, global warming, non-coal mining, grazing, onshore oil and gas, low-head hydro licensing and pollution prevention.[216]

The National Oceanic Atmospheric Administration (NOAA) is moving toward programmatic assessments in order to adequately cover cumulative impacts in fishing areas. For instance, in assessing cumulative impacts for NOAA activities on the Georges Bank, prevention of cumulative impacts was perceived as "always cheaper and more effective in the long run,"[217] but NOAA felt that such impacts could not be dealt with adequately in the short run. As a result, the

210. Hirsch Memorandum, Boston Conference, *supra* note 133 (discussing comments by William Dickerson, USEPA).

211. COUNCIL ON ENVIRONMENTAL QUALITY, ANNUAL REPORT at 26 (1991).

212. Hirsch Memorandum, Atlanta Conference, *supra* note 155 (discussing comments by Marvin Meier, U.S. Forest Service).

213. Hirsch Memorandum, Atlanta Conference, *supra* note 155 (discussing comments by James Sterling, U.S. Army Corps of Engineers).

214. Hirsch Memorandum, Atlanta Conference, *supra* note 155 (discussing comments by Dean Shumway, FERC).

215. Hirsch Memorandum, Atlanta Conference, *supra* note 155.

216. Hirsch Memorandum, Boston Conference, *supra* note 133 (discussing comments by William Dickerson, USEPA).

217. Hirsch Memorandum, Boston Conference, *supra* note 133 (discussing comments by Emily Batason, Conservation Law Foundation).

agency adopted the use of a programmatic assessment for areas, like biodiversity, which have not been accorded proper attention.

Several agencies view programmatic assessments as useful in recognizing the limitations of science at a particular time. Environmental assessments need to incorporate a feedback loop that recognizes this fact. This de-emphasizes the importance of prediction based on limited information and emphasizes the incorporation of new information through monitoring. This process is called adaptive management.[218]

The strongest proponents of the programmatic assessment view it as a part of establishing an environmental ethic in an agency. Since the early days of NEPA there has been much debate on the scope of the programmatic EIS.[219] "NEPA is an ethic," says USEPA.[220] This position is supported by language in NEPA stating that "all agencies of the Federal Government shall utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design areas in planning and in decision-making which may have an impact on man's environment . . . ."[221] The legislative history also calls for integration of environmental analysis and values into the activities of the Federal Government.[222] Many are concerned about conflicts between the NEPA process and its purpose: "The emphasis seems to be upon compliance with procedural requirements of NEPA rather than with its underlying purpose of improving protection of the environment."[223] The Sierra Club wants to see comprehensive detail as much as possible and is concerned about "the tyranny of

218. Hirsch Memorandum, Boston Conference, *supra* note 133.

219. *See, e.g.*, A. Koshland, *The Scope of the Program EIS Requirement: the Need for a Coherent Judicial Approach*, 30 STAN. L. REV. 767 (1978).

220. Interview with William Dickerson, Office of Federal Facilities, USEPA, in Washington, D.C. (Jan. 8, 1993).

221. 42 U.S.C. § 4332(2)(A) (1988).

222. S. REP. No. 296, 91st Cong., 1st Sess. 19 (1969).

223. Hirsch Memorandum, Boston Conference, *supra* note 133 (discussing comments by Jacqueline Wyland, USEPA).

small decisions."[224] It is essential to develop a programmatic and regional view.[225]

In summary, this position argues that assessments should be done as early as possible in the process, and should be on par with other considerations (economic, technical, etc.). It is only in this way that environmental factors can be considered early in the process before irrevocable actions have been taken. The benefits of a programmatic environmental assessment include: 1) it is a useful tool to settle difficult issues before an agency, including political as well as scientific issues; 2) it saves resources over preparing a large number of small EISs by the use of tiering; 3) it forces including matters which would be left out in a less-than-programmatic assessment, such as biodiversity, that by their nature can only be done in a cumulative assessment; and, 4) it forces the further development of an environmental ethic that gets to the basic purpose of NEPA.

IV. NEPA as Applied by the United States Government

A. Introduction

In this section, case studies of application of NEPA policies by U.S. agencies are explored.

B. NEPA at the Department of Defense

1. Strategic Defense Initiative

Under the Strategic Defense Initiative, the Department of Defense (DOD) had to grapple with many programmatic issues, including: 1) which issues were ripe for decision-making in the Research and Development program?; 2) what should the timing of environmental assessments (i.e., is an EA performed at the beginning of a research and development program or at the implementation of the research)?; and, 3) what role should the programmatic assessment play?

224. Hirsch Memorandum, Atlanta Conference, *supra* note 155 (discussing comments by Robert Drehr, The Sierra Club).

225. *Id.*

DOD's position is that it wants 100% environmental compliance, including compliance with NEPA.[226] It views NEPA as the heart of its decision-making process.[227] The Strategic Defense Initiative Organization (SDIO),[228] popularly known as the "Star Wars Program," has completed a framework for activity based on NEPA.[229] Two major components of the program are environmental planning and environmental documentation. The DOD plans to prepare a programmatic EIS for that program as part of the Full Scale Development (FSD) decision-making.[230] This is intended to allow for tiering as operations become more specific (siting, etc.).[231] Some items will be eliminated for consideration through categorical exclusions,[232] while other aspects will be explored through environmental assessment and environmental impact statements.[233] There has been considerable dialogue be-

226. *See, e.g.*, JAMES A. MILLER, MOVING TOWARD A COMPREHENSIVE AND LONG-TERM DEPARTMENT OF DEFENSE ENVIRONMENTAL STRATEGY: THE REPORT OF THE FORUM ON OUR NATION'S DEFENSE AND THE ENVIRONMENT 17-18 (1990).

227. *Id.* at 15.

228. By way of background, DOD has divided the program into three parts: theater missile defense, which are short-range, land-based weapons (such as Patriot missile); global protection of G.Pals defense, which are nuclear, land-based, intermediate range missiles; and Space-Pal, which are long-range, atmospheric defenses (such as brilliant pebbles). DOD differentiates Star Wars programs from brilliant pebbles. DOD committed itself to preparing a PEIS for the theater missile defense program, which has already been completed.

DOD began by preparing a programmatic EIS for the R and D for EPTAR program, which is the Environmental Program Technical Report (apparently based on a 1987 memo between CEQ and SDIO, which set a working agreement, but which no one has been able to locate). EAs are done for the framework of the program, not individual programs.

229. STRATEGIC DEFENSE INITIATIVE ORGANIZATION, U.S. DEP'T OF DEFENSE, STRATEGIC DEFENSE INITIATIVE: ENVIRONMENTAL IMPACT ANALYSIS PROCESS FRAMEWORK (1987).

230. Adam R. Lipinski, Exit Criteria, Environmental Requirements (Jan. 28, 1991) (unpublished manuscript, on file with the *Pace Environmental Law Review*). "The programmatic environmental analysis will begin immediately after Milestone I, Concept Demonstration Approval, in accordance with Title 40, Code of Federal Regulations, and Executive Order 12114." *Id.* (quoting DODI 5000.2 § 6(d)).

231. *Id.*

232. *Id.* Categorical exclusions are authorized for NEPA in 40 C.F.R. § 1508.4.

233. Lipinski, *supra* note 230.

tween DOD and CEQ about the timing of the programmatic assessment. As in the *SIPI* case, CEQ argues that delaying a programmatic assessment until FSD would mean performing the PEIS at a point where "[u]nder the current schedule no PEIS is contemplated prior to billion dollar expenditures for the six demonstration and validation ("Dem-Val") technologies."[234] DOD had been alerted earlier by the Department of Justice (DOJ) that EAs alone for the Dem-Val technologies failed to consider cumulative effects, or "general parameters of the SDIO program"[235] and that "[i]n the event that these problem areas are not addressed, we [the DOJ] believed that SDIO runs a significant risk in any environmental challenge brought in the district court."[236] DOD committed itself to "specific clarifications" in response to these memos.[237]

For the DOD, there are five basic triggers for a programmatic document: 1) an irretrievable commitment of resources; 2) the elimination of alternatives; 3) if the action harms the human environment; 4) if the action has commercial or military feasibility; and, 5) if meaningful information exists concerning the environmental impacts of the proposal and its alternatives.[238] DOD is also considering using legislative EISs. In this approach a draft programmatic EIS is prepared and forwarded to Congress along with a proposal for legislation, such as a request for funding of a military project. DOD notes that the congressional hearing can substitute for the normal public participation process. The congressional

234. Letter from Lawrence G. McBride, Asst. Chief, General Litigation Section, Land and Natural Resources Division, U.S. Dep't of Justice, to William H. Carroll, General Counsel, SDIO, U.S. Dep't of Justice (Jan. 11, 1988) (on file with the *Pace Environmental Law Review*).

235. Memorandum from Robert W. Rodrigues, U.S. Dep't of Justice to Files (Sept. 14, 1987), attached to Memorandum for Record by William H. Carroll, General Counsel, SDIO, U.S. Dep't of Defense (Sept. 17, 1987) (on file with the *Pace Environmental Law Review*).

236. *Id.*

237. Memorandum from James A. Abrahamson, Director, SDIO, U.S. Dep't of Defense, to U.S. Secretary of Defense (Sept. 17, 1987) (on file with the *Pace Environmental Law Review*).

238. Lt. Col. Michael Van Zandt, General Counsel's Office, SDIO, U.S. Dep't of Defense, Strategy Plan for the SDIO Environmental Impact Analysis Process (Jan. 1990).

committee can accept the EIS or require a full EIS process, which might include public hearings, comments and production of a final EIS.[239] DOD is still struggling with how to approach the question of significance in its PEIS process.[240]

For the preparation of a programmatic EIS, DOD has established a formal set of required support documentation, most importantly a Decision of Proposed Action and Alternatives (DOPAA).[241] Environmental impacts will be considered for significance in light of the applicable federal regulations:[242]

> Environmental analysis will begin at the earliest possible time.
>
> (a) The initial environmental analysis will look at the entire life cycle of the program. Environmental effects will be identified in detail adequate to be integrated with economic and technical analyses.
>
> (b) During Phase 0, Concept Exploration and Definition, the potential environmental effects of each alternative will be assessed. Substantial potential effects

239. *Id. See also* Lt. Col. Rich Ritter, U.S. Air Force, Strategic Defense Initiative Environmental Planning Strategy Decision Brief (Apr. 16, 1991) (on file with the *Pace Environmental Law Review*).

240. CH2M Hill, Analytic Approach: Theater Missile Defense PEIS (Sept. 2, 1991).

241. The full set includes the Research DOPAA, Research EIS, EA, Findings of No Significant Impact, Programmatic DOPAA, Programmatic EIS and Record of Decision. Lipinski, *supra* note 230.

242. Lipinski, *supra* note 230. Specifically: Clean Air Regulations, Clean Water Regulations, Noise Level Guidelines, Archaeological and Historic Preservation Regulations, Endangered and Protected Species Regulations (Wildlife and Vegetation), Special Use Areas (Farmland, Flood Plains, Coastal Zone, Wetlands Protection Regulations), and Hazardous Material Discharge and Clean-Up Regulations (CERCLA/SARA/RCRA). DOD internal regulations include: DODD 4210.15 (Hazardous Material Pollution Prevention), DODD 5000.1 (Defense Acquisition), DODD 5000.2 (Defense Acquisition Management Policies and Procedures), DODD 6050.1 (Environmental Effects in the United States of DOD Actions), DODD 6050.9 (Chlorofluorocarbons (CFCs) and Halons), DODD 6055.9 (The DOD Explosive Safety Board), DODD 6090.1 (Environmental Considerations in DOD Acquisitions). Lipinski, *supra* note 230.

Cumulative impacts will be considered as well. DOD, Analytic Approach; Theater Missile Defense Programmatic Environmental Impact Statement (Sept. 1991) (this document also discusses in greater detail how each federal law will be considered in the evaluation).

> noted in this initial analysis will be integrated into the assessment of each alternative.[243]

According to the DOD, a programmatic EIS:

> 1) To look to when the system being researched and developed will be fully operational;
> 2) To inform the program manager of potential environmental impacts from deployment;
> 3) To evaluate generic types of geographic areas for site candidates (without looking at specific site locations for deployment);
> 4) To evaluate known impacts and to identify areas of uncertainty (without revealing every impact from every operation of the program);
> 5) To incorporate a tiered document approach, which allows evaluation of a program at the conceptual level by projecting current understanding of the technology on the environment.[244]

This methodology was recently used to describe the SDIO program in the Kinetic Energy Anti-Satellite Programmatic EIS.[245]

C. NEPA at the Department of Energy (DOE)

1. Clean Coal Technology Demonstration Program

In the Clean Coal Technology Demonstration Program (CCTDP) programmatic assessment,[246] the PEIS discusses the potential environmental consequence of the widespread

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243. Lipinksi, *supra* note 230 (quoting DODI 5000.2 § 6(d)).

244. Lipinski, *supra* note 230. Another perspective on the functions of a programmatic EIS is found in Memorandum from William H. Carroll, General Counsel, SDIO, U.S. Dep't of Defense, to Director, Engineering Support, SDIO, U.S. Dep't of Defense (Dec. 14, 1989), which mentions that the main function is to demonstrate compliance with the criteria established in the *SIPI* case. *See supra* notes 42-43 and accompanying text.

245. U.S. Army Strategic Defense Command, Draft Description of Proposed Action and Alternatives, Kinetic Energy Anti-Satellite Programmatic Environmental Impact Statement (Jan. 18, 1991) (on file with *Pace Environmental Law Review*).

246. DOE/EIS-0146: Final Programmatic Environmental Impact Statement (PEIS).

commercialization (through private sector) of the CCTDP, once that program is shown to be viable. DOE is conducting a programmatic assessment in order to decide on specific proposals during the selection process. The CCTDP involves at least five solicitations for projects, each with individual objectives. While it was primarily directed at demonstrating technologies that could overcome impediments to increased use of coal created by the problems of acid rain, it was also designed to analyze the bigger question of the use of technical, environmental, economic, and operational information to confidently screen technologies in proposals. The PEIS also considered the relationship of the proposed action to federal energy policy. The PEIS was also used by DOE to consider coordination with other regulatory requirements under the Clean Air Act and the Clean Water Act.

This PEIS, which took one year to complete, was available as a draft to the public on July 7, 1989 (notice of availability publicized in the Federal Register on July 14, 1989). According to DOE, the Final PEIS, issued on November 1989, was intended to comply with CEQ regulations as well as DOE NEPA guidelines.[247] It appears to be a successful example of using the NEPA process. It went through elements of review, public involvement, and alternatives analyses. DOE plans to use tiering with site-specific EISs.[248]

2. Nuclear and Hazardous Waste Cleanup Programs

The DOE Office of Environmental Restoration and Waste Management is preparing a PEIS for the activities proposed in the Environmental Restoration and Waste Management Five-Year Plan.[249] This plan represents the cornerstone of the current strategy to develop plans for cleaning up DOE's nuclear-related waste sites and to bring its aging facilities into compliance with current environmental laws and regulations. The Office of Environmental Management was established to consolidate responsibilities and to accomplish

247. *Id.*
248. *Id.*
249. 55 Fed. Reg. 26,744 (1990).

the DOE's objective to have all of its facilities cleaned up and in compliance with all applicable environmental laws and regulations by the year 2019.

This project is a major undertaking because of the large and complex problems associated with nuclear waste. Not only must the PEIS consider technical competence and the role for new innovative technologies, but also economic resources needed to undertake a clean-up that has been compared in size to the USEPA Superfund program. Major components of the program are: 1) work associated with the restoration of old or existing waste sites; 2) planning for the treatment, storage and disposal of current or future wastes; 3) planning for decontamination and decommissioning of nuclear facilities; and, 4) planning for the role of new technologies in the clean-ups. The program encompasses both hazardous and nuclear waste. The PEIS is also designed to address all essential issues on a national basis that have been identified by the public and other interested federal agencies have identified.

There have been major issues raised about the appropriate scope of issues addressed in this PEIS. In fact, it has been charged that DOE officials "viewed the EIS [process as an obstacle to be overcome rather than a useful decision-making tool."[250] DOE documentation is extremely difficult to understand for the lay person and thus effectively excludes most public comments.[251] It has been argued that the PEIS should include most, if not all, of DOE facilities.[252] At the present time, the PEIS excludes consideration of high level waste repositories at the Waste Isolation Pilot Plant and the Yucca Mountain facility, as well as Naval Nuclear Facilities.[253] After these criticisms and a series of public hearings on the

250. Dan W. Reicher, NRDC, Regarding the Scope of the Programmatic Environmental Impact Statement on the Department of Energy's Proposed Integrated Environmental Restoration and Waste Management Program 5 (Washington, D.C., Feb. 7, 1991) (unpublished, on file with the *Pace Environmental Law Review*).

251. *Id.* at 16 ("DOE's EIS's are sometimes so indecipherable as to effectively classify an unclassified document").

252. *Id.*

253. *Id.*

PEIS, DOE prepared a series of implementation plans for the EIS.[254] At this time the implementation plan has not been finalized, nor have the substantive issues been settled for this program.

3. Fuel Use Act

In the Fuel Use Act PEIS,[255] the DOE examined environmental impacts of the Powerplant and Industrial Fuel Act of 1978,[256] relevant to issuing regulations to implement the Act. The main issue was of the consequences of employing fuel sources other than petroleum and natural gas fuels for larger energy production facilities in the U.S., essentially coal. This assessment was programmatic, with a plan to tier to site-specific activities by preparing appropriate EISs. The "No Action" alternative was to consider the use of no regulatory program. Some have called this PEIS a legislative programmatic impact assessment. As a result of the PEIS, DOE completed rules for the program in 1979.

D. NEPA at the U.S. Forest Service (Department of Agriculture)

The Forest Service NEPA implementation procedure is found in Chapter 1950 of the Forest Service Manual and in section 1909.15 of the Forest Service Handbook.[257] Within the agency, the trend is toward using programmatic documents for forest plans.[258] Site-specific tiering decisions are

254. *See, e.g.*, Implementation Plan, Environmental Restoration and Waste Management Programmatic Environmental Impact Statement, prepared by DOE, Environmental Restoration and Waste Management Program (Washington, D.C., Apr. 1993) (on file with the *Pace Environmental Law Review*).

255. U.S. Department of Energy, Final Environmental Impact Statement: U.S. Department of Energy DOE/EIS-0038 (Apr. 1979) (on file with the *Pace Environmental Law Review*). Notice of availability in Federal Register was published on Nov. 13, 1978 and Jan. 9, 1979, and a Final PEIS issued in Apr. 1979.

256. Powerplant and Industrial Fuel Use Act of 1978, Pub. L. No. 95-620, 92 Stat. 3289 (1978).

257. *See* Notice of Adoption of Final Policy, 50 Fed. Reg. 26,078 (1985).

258. Stark Ackerman, *Observations on the Transformation of the Forest Service: The Effects of the National Environmental Policy Act on U.S. Forest Service Decision Making*, 20 ENVTL. L. 703, 720 (1990).

made according to the Ninth Circuit's threshold which is at the point at which an "agency proposes to make an 'irreversible and irretrievable commitment of the availability of resources to a project at a *particular* site.'"[259]

The Forest Service is incorporating NEPA into its basic decision-making process.[260] It plans to coordinate all resources within a national forest through an inter-disciplinary analysis. This has led to a "new art form in the use of tiered assessment."[261] In response to increasing scrutiny of Forest Service decisions and increasing legal requirements placed on agency decision-making, the Forest Service consolidated its authority at higher levels and standardized its procedures.[262]

In some instances, agency ingenuity has been applied to devise means of avoiding NEPA,[263] rather than to integrate the Act into daily management and planning; one commentator claims that this ingenuity has been used by the Forest Service to create case-by-case categorical exclusions.[264] Together with other "government in the sunshine" legislation,[265] NEPA challenged the hegemony of agency experts, democratizing agency decision-making by encouraging public and inter-agency participation.

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259. California v. Block, 690 F.2d 753, 761 (9th Cir. 1982) (citing Sierra Club v. Hathaway, 579 F.2d 1162, 1168 (9th Cir. 1978)) (emphasis added). One of the commentators adds, from his experience with the Forest Service, an analysis for the need of future goals:

> To the extent that a forest plan makes programmatic decisions, the accompanying EIS need not be site specific. To the extent that a forest plan makes a final commitment of resources at a particular site, the accompanying NEPA analysis must be site specific — which most forest plans are not . . . . If forest plans are not site specific, there must be site specific NEPA analysis at some later decision point.

Ackerman, *supra* note 258, at 721.

260. Ackerman, *supra* note 258, at 719.

261. Interview with William Dickerson, Office of Federal Facilities, USEPA, at Washington, D.C. (Jan. 8, 1993).

262. Ackerman, *supra* note 258.

263. Myron L. Scott, *Defining NEPA Out of Existence: Reflections on the Forest Service Experiment with "Case-by-Case" Categorical Exclusion*, 21 ENVTL. L. 807 (1991).

264. *Id.*

265. *See, e.g.*, 5 U.S.C. § 552b.

As discussed previously,[266] with respect to the Forest Service, the NEPA case law is characterized by a recurring tension between the need for judicial scrutiny and the venerable concept of deference to agency decision. One line of NEPA cases emphasizes the judicial as well as the "Hard Look" doctrine, and the need for strict procedural compliance; the second line of NEPA cases emphasizes deference to agency expertise and agency discretion to formulate procedures and establish decisional agenda.[267] Agencies are usually given full authority to tier studies,[268] but cannot avoid detailed analysis of the site-specific and cumulative impacts of proposed action by tiering onto the general discussion in a programmatic EIS.[269] In one case, the Forest Service sought to avoid detailed cumulative impact analysis of multiple timber sales by tiering to the general discussion in the programmatic EIS for the Logging Management Plan (LMP), and by deferring analysis of site-specific impacts to individual timber sales.[270] The Agency characterized the Seven-Year Action Plan, which contained a schedule of seventy-five timber sale offerings, as a non-action for NEPA purposes, despite the fact that it had begun consummating the sales.[271] The Agency said that this was not a federal action, but only a "flexible planning schedule."[272] The district court rejected this attempt to completely ignore NEPA, and required a cumulative impact EIS.[273]

266. *See supra* text accompanying notes 13, 31, and 32.

267. *See* D. MANDELKER, NEPA LAW AND LITIGATION §§ 8:11-8:13 (1984 and Supp. 1989).

268. *See, e.g.*, Ventling v. Bergland, 479 F. Supp. 174, 179-80 (D.S.D. 1979).

269. *See, e.g.*, National Wildlife Federation v. U.S. Forest Service, 592 F. Supp. 931, 941 (D. Or. 1984); Southern Or. Citizens Against Toxic Sprays, Inc. v. Clark, 720 F.2d 1475, 1480 (9th Cir. 1983).

270. *National Wildlife Federation*, 592 F. Supp. at 939-41.

271. *Id.* at 939.

272. *Id.*

273. *Id.* at 942.

V. NEPA-Like Devices at International Institutions

A. Introduction

This section examines the wide-spread use of programmatic "NEPA-like" devices in the international context. As mentioned earlier, the term "NEPA-like" refers to environmental assessment processes that are similar in some fashion to the systematic examination of environmental impacts[274] of an action under NEPA. In many cases, the U.S. government has been a party to planning the assessment methodology, or international institutions have created devices based on NEPA.[275]

B. Use by Economic Commission for Europe

The Environmental Impact Assessment process in the Economic Commission for Europe has been influenced by: 1) the convention on Environmental Impact Assessment in a Transboundary Context;[276] 2) the Charter of Paris for a New

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274. Within the international community, the terms "environmental assessment" and "environmental impact assessment" are used instead of Environmental Assessment or Environmental Impact Statement as defined under NEPA. There is little consistency in the scope of a study associated with these terms in an international context.

275. *See, e.g.*, K.E. Lemons & Alan L. Porter, *A Comparative Study of Impact Assessment Methods in Developed and Developing Countries*, IMPACT ASSESSMENT BULL., vol. 10 no. 3 (1993).

276. Prepared under the auspices of the United Nations Economic Commission for Europe ("ECE") and signed in 1991 in Espoo, Finland. This convention has now been signed by representatives of 27 countries and the ECE. It stipulates the rights and obligations of parties to carry out the assessment of environmental impacts and to arrange for the application of the assessment at an early stage of planning for certain activities likely to cause adverse transboundary impacts. It provides for establishing procedures in an international setting, and establishes the principle that the assessment be done at an early stage of planning:

> 7. Environmental impact assessments as required by this Convention shall, as a minimum requirement, be undertaken at the project level of the proposed activity. To the extent appropriate, the Parties shall endeavor to apply the principles of environmental impact assessment to policies, plans and programmes.

Convention on Environmental Impact Assessment in a Transboundary Context, art. 2(7), 1992 O.J. (C 104) 5, 8.

Europe;[277] 3) the European Community Directive;[278] and, 4) the conclusions of the United Nations World Commission on Environment and Development.[279] In some countries these assessments may be initiated or developed at the highest level of government, while in others it is at lower levels of government (i.e., planning authorities, provincial or municipal governments). Legal systems have been established for environmental impact assessment of policies, plans and programs in at least twenty countries.[280]

The Senior Advisors on Environmental and Water Problems of the United Nations Economic Commission for Europe (UNECE) approved a proposal for a task force to study the application of the principles of environmental impact assessment to policies, plans and programs.[281] Through

277. Adopted at the Conference on Security and Co-Operation in Europe, 16 November 1990, it said:

> We emphasize the significant role of a well-informed society in enabling the public and individuals to take initiatives to improve the environment. To this end, we commit ourselves to promoting public awareness and education on the environment as well as the public reporting of the environmental impact of policies, projects and programmes.

Doc. A/45/859 at 16 (1990).

278. Council Directive 85/337 on the Assessment of the Effects of Certain Public and Private Projects on the Environment, 1985 O.J. (L 175) 40.

279. The Brundtland Commission report, "Our Common Future," addressed the need to integrate environmental protection with economic development at the policy level in relation to sustainable development:

> The ability to choose policy paths that are sustainable requires that the ecological dimensions of policy be considered at the same time as the economic, trade, energy, agricultural, industrial, and other dimensions—on the same agendas and in the same national and international institutions. This is the chief institutional challenge of the 1990s.

WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT, OUR COMMON FUTURE 313 (1987).

280. These are Canada, Czech and Slovak Federal Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, the Netherlands, Norway, Poland, Spain, Sweden, Turkey, United Kingdom and the United States. U.N. ECONOMIC COMM'N FOR EUROPE, APPLICATION OF ENVTL. IMPACT ASSESSMENT PRINCIPLES TO POLICIES, PLANS AND PROGRAMMES, U.N. Doc. ECE/ENVWA/27, U.N. Sales No. E.92.II.E.28 (1992).

281. Task Force on the Application of Environmental Impact Assessment with the United States as Lead Country, United Nations Economic Comm'n on Europe, Application of the Principles of Environmental Impact Assessment to

consideration of a series of case studies, it conducted an evaluation following a process similar to NEPA.[282] The group recommended that the systematic evaluation of policies, plans and programs were as important to the decision-making as to the assessments at the project level:

> A well prepared and timely environmental assessment of policies, plans, and programmes can anticipate and highlight potential environmental problems, prevent delays, assist in long-term planning, and prevent or simplify litigation . . . . [I]t ensure[s] that environmental concerns are fully incorporated into decision making.[283]

The recommended trigger for the process would be a provision (possibly legislated) for this review and it would flow from some formalized process such as a mandatory list or screening mechanism.[284] The tests for significance would include most of the elements of the U.S. NEPA process, including examining cumulative and synergistic effects.[285]

The case studies reviewed by the group were on large programs and covered eight countries.[286] The conclusions were summarized as follows: mechanisms for environmental

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Policies, Plans, and Programmes (1993) (unpublished draft, on file with the *Pace Environmental Law Review*).

282. The group accepted the following procedural elements: initiation of assessment, scoping, outside review, public participation, documentation and information, decision making, and post-decision making analysis (monitoring). *Id.*

283. *Id.*

284. *Id.*

285. *Id.*

286. These were: Ontario Hydro 25-Year Energy Plan (Derived from a Review of Several Federal and Provincial Plans) (Canada); Preliminary Screening Document for the Prairie Habitat Joint Venture, North American Waterfowl Management Plan (Canada); Ecosystem Approaches in Water Management (Czechoslovakia); The Kangasala Project: EIA Principles in Operational and Economic Planning on Municipal Administration (Finland); Environmental Impact Assessment in Local Development Planning (Federal Republic of Germany); Second Provincial Waste Plan II Utrecht (the Netherlands); Opening of the Barents Sea South, Troms II, Troms III and the Southern Part of Finnmark West for Petroleum Activities, Impact Analysis (Norway); Increased Environmental Awareness in Road Planning and Design (Sweden); Final Programmatic Environmental Impact Statement, Clean Coal Technology Demonstration Programme (United States); and Final Environmental Impact Statement: Fuel

review differ by country, ranging from an internal cabinet review in Canada, broad environmental statutes in the U.S. and the Netherlands, and authorization in a specific act (e.g. the Petroleum Act of Norway). The public is frequently not involved. Special evaluation issues included: 1) how to conduct assessments for low probability/high consequence events (dam failure is the classic case);[287] 2)technical and regulatory uncertainties; 3) assessing cumulative impacts; and, 4) external policy constraints.[288]

C. World Bank

At the World Bank, programmatic assessments *per se* do not exist by that name. However, the Environmental Action Plans and the Environmental Assessments[289] function in an equivalent role. Most recent environmental assessment processes at the World Bank follow a mandatory review by the World Bank Executive Director, who is appointed by the U.S. and bound to consider environmental consequences of World Bank programs.

Environmental Action Plans are efforts by the World Bank to comprehensively consider environmental consequences of programs within specific geographic areas like large cities.[290] Sectoral studies seek consistency in funding programs in specific sectors, such as forestry and water supply.[291]

The World Bank has prepared detailed guidelines for conducting environmental assessments at a technical

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Use Act (United States). U.N. ECONOMIC COMMISSION FOR EUROPE, *supra* note 280.

287. *See, e.g.*, NATIONAL RESEARCH COUNCIL, SAFETY OF EXISTING DAMS, EVALUATION AND IMPROVEMENT (1983).

288. *See supra* note 279.

289. THE INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT/THE WORLD BANK, THE WORLD BANK AND THE ENVIRONMENT FISCAL 1992 (1992).

290. *Supra* note 287. *See also New Directive on Environmental Action Plans*, ENV'T BULL. (Env't Dep't, World Bank, Wash., D.C.), Fall 1992, at 8.

291. *Supra* note 289.

level.[292] The NGO community has prepared explanatory information intended for lay audiences.[293] These processes are too new to be able to evaluate their success in controlling environmental impacts of programs, or in successfully trading off between conservation and development pressures.

D. NEPA at the U.S. Agency for International Development (USAID)

Each agency of the U.S. government is free to develop its own NEPA procedures. USAID created Regulation 216[294] under which the agency defines several categories of actions for which environmental impacts are expected (the black list), not expected (white list) or for which further analysis will be necessary (the gray list).

There is no requirement for a programmatic assessment under these regulations. Nevertheless, a PEIS is performed in two major areas: in subject areas where USAID finds such an assessment is warranted[295] or when an Environmental Impact Assessment (EIA) is required. In the latter case, the regulations require an EIA only when a program has international and widespread potential consequences.[296] An EIA then serves functionally as a programmatic assessment in these programs.

USAID recently developed assessment programs, called Programmatic Environmental Reviews (PERs), that involve one or more specific locations. The PER for the Casamance River system described below, is an example of these programs.

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292. ENVIRONMENT DEPARTMENT, WORLD BANK, WORLD BANK TECHNICAL PAPER NO. 154, ENVIRONMENTAL ASSESSMENT SOURCEBOOK, VOL. III: GUIDELINES FOR ENVIRONMENTAL ASSESSMENT OF ENERGY AND INDUSTRY PROJECTS (1991).

293. RICHARD HAEUBER, A CITIZEN'S GUIDE TO WORLD BANK ENVIRONMENTAL ASSESSMENT PROCEDURES (1992).

294. 22 C.F.R. § 216.2(d) (1993).

295. *See, e.g.*, TAMS CONSULTANTS AND CONSORTIUM FOR INT'L CROP PROTECTION, LOCUST AND GRASSHOPPER CONTROL IN AFRICA/ASIA (1989).

296. Such assessments are rarely performed.

1. Programmatic Environmental Impact Assessment (PEIA) on Pesticides Used in Locust Control Programs in Africa

USAID prepared this PEIA[297] in response to public concern about the impacts of pesticides used in the foreign assistance program in Africa for locust and grasshopper control. The assessment evaluated the potential impact of eleven pesticides on the ecology and human health of over eight Sahelian countries in Africa. The assessment led to a recommendation to continue research in non-pesticidal control mechanisms, particularly Integrated Pest Management.[298] The assessments were tiered to eight country environmental assessments for each program within that country.[299] The assessments also resulted in the release of guidelines for planning pesticide programs[300] from USAID/Washington to each USAID mission. A central recommendation was to avoid the use of dieldrin because of its long persistence in the environment and its potential to accumulate in food chains. Instead the program recommended using one of the eleven pesticides reviewed under the conditions specified in the report.[301] Ironically, the recommendation about dieldrin caused a major dispute between USAID and other donor countries in the locust control program. The United Nations Food and Agricultural Organization coordinated the total foreign aid package from all donor countries. Major European donor countries argued that dieldrin use was cost-effective for spraying large swaths of dessert against locust invasions; the use of other less persistent pesticides resulted in the need to spray at least twice as often. However, USAID argued that the pursuit of greater environmental protection justified this

297. *Supra* note 295.

298. *See also* TAMS CONSULTANTS AND CONSORTIUM FOR INT'L CROP PROTECTION, EXECUTIVE SUMMARY AND RECOMMENDATIONS: LOCUST AND GRASSHOPPER CONTROL IN AFRICA/ASIA (1989).

299. *Id. See also* Bureau of Africa, U.S. Agency for Int'l Development, Review of Environmental Concerns in A.I.D. Programs for Locust and Grasshopper Control (1991).

300. *Id.*

301. *Id.*

difference in resource needs and refused to donate to programs that used dieldrin. The USAID position prevailed.

2. Cassamance River in Senegal

Over the past year USAID has been preparing a PER on the Southern Zone Water Management Project.[302] This program consists of a series of small anti-salt and freshwater retention dikes used to better manage water for rice production in areas of the Casamance River that have become highly saline or totally dry during the drought over the past decade. While the impact to individual valleys was perceived to be low, the cumulative impact on all developed valleys in the river system (expected to be more than 30%) was of concern. USAID is evaluating the results of the assessment and is planning the most effective resource use while minimizing environmental impacts.

E. United Nations Development Program (UNDP) and Other UN Programs

The United Nations Development Program provides grants for international development programs, in some cases in conjunction with other donors/lenders, such as the World Bank or other Development Banks.[303] No guidelines exist for programmatic assessment use in projects funded

302. U.S.A.I.D./SENEGAL, DRAFT PROGRAMMATIC ENVIRONMENTAL REVIEW OF THE SOUTHERN ZONE WATER MANAGEMENT PROJECT (1993).

303. Four multilateral development banks fund activities concerning international development: The World Bank, the Inter-American Development Bank (Inter-American Bank), the Asian Development Bank (Asian Bank), and African Development Bank. These banks were established by Articles of Agreement that have the status of treaties. Articles of Agreement of the International Bank for Reconstruction and Development, *opened for signature* Dec. 27, 1945, 60 Stat. 1440 (1946), 2 U.N.T.S. 134, *amended* Dec. 16, 1965, 16 U.S.T. 1942, T.I.A.S. No. 5929; Agreement Establishing the Inter-American Development Bank, *opened for signature*, Apr. 8, 1959, 10 U.S.T. 3029, T.I.A.S. No. 4397, *amended* Jan. 28, 1964, 21 U.S.T. 1570, T.I.A.S. No. 6920, *amended* Mar. 31, 1968, 19 U.S.T. 7381, T.I.A.S. No. 6591, *amended* Mar. 23, 1972, T.I.A.S. No. 7437; Articles of Agreement of the Asian Development Bank, *opened for signature* Jan. 31, 1966, 17 U.S.T. 1418, 571 U.N.T.S. 123. The World Bank supports programs which "promote economic development, increase productivity and thus raise standards of living in the less-developed areas of the world . . . by providing finance to meet their important developmental requirements."

solely by the UNDP. However, the UNDP adopts guidelines for development agencies that cooperate in the project. For instance, the UNDP adopted World Bank Guidelines for reviewing the Kalu Ganga Development program described below, as well as the guidelines for the Central Environmental Authority for Sri Lanka.[304]

Sri Lankan Thermal Power Assessment[305]

Here a PEIA[306] considered the feasibility of additional coal fired power generation in Sri Lanka. A wide range of engineering and environmental considerations were addressed for sites throughout the country. The PEIA identified the high sulphur content in fuel oil used in the capital as a contributor to poor air quality in that region. The oil is acquired by bartering locally grown tea. The study proposed using oil washing techniques to remove the sulphur from the oil. The sulphur could then be used on the tea crops, saving the government large amounts of money used to import sulphur for this purpose.[307]

Kalu Ganga Development Project

Under the Kalu Ganga Project,[308] the UNDP considered environmental aspects of a large hydropower and water supply project in the central part of Sri Lanka. The UNDP

Articles of Agreement of the International Development Association, Jan. 26, 1960, art. I, 11 U.S.T. 2284, 2285-86, 439 U.N.T.S. 249, 252.

304. CENTRAL ENVIRONMENTAL AUTHORITY, SRI LANKA, HANDBOOK ON ENVIRONMENTAL ASSESSMENT (1987).

305. This section was prepared with the assistance of Dr. Sirapalan, Director of the Tea Research Institute of Sri Lanka.

306. BLACK AND VEATCH INTERNATIONAL, TRINCOMALEE THERMAL POWER PROJECT, PHASE III, BOOK 2: SOCIAL AND ENVIRONMENTAL ASSESSMENT (1988) (prepared for Ceylon Electricity Board, Sri Lanka).

307. These observations were contained in trip reports by the author, but were not included in the final report because they were considered tangential to the main purpose of the assessment.

308. TAMS CONSULTANTS, INC., ENVIRONMENTAL STUDIES, PART 1: KALU GANGA MULTIPURPOSE PROJECT, INITIAL ENVIRONMENTAL EXAMINATION AND REVIEW OF ENVIRONMENTAL ISSUES (1988) (prepared for UNDP).

adopted World Bank Guidelines,[309] as well as the CEA Guidelines. As with many of these programs, the major issues involved possible resettlement of people near the dam reservoir site, as well as impacts on the biota of the river itself. At the present time the program has been suspended because of the perception that the resettlement impacts are too great.

F. U.S. Environmental Protection Agency in International Programs

Under the Reagan and Bush administrations, USEPA was charged with taking a lead in the technical aspects of the environmental consequences of international activities involving the U.S. Government.[310] As part of these responsibilities, USEPA coordinated a review of environmental issues related to the U.S., Mexico, and the North American Free Trade Agreement.[311] Somewhat equivalent to a programmatic assessment, the USEPA performed an Integrated Environmental Plan for the border areas between the U.S. and Mexico, and examined many issues, including trade and water pollution.

VI. The Future of the Programmatic Assessment

Since the PEIS is increasingly being adopted by both U.S. agencies and international organizations, we now turn to a discussion of the proper role of the PEIS in the future.

First, it would appear that the programmatic assessment will have an increasing role in the activities of the U.S. government and international institutions. While these entities may find that there is a need to give up some of their independence, and that some of their decisions will need to be made more openly than in the past, there are at least two

309. These included World Bank Guidelines on Comprehensive Environmental Policy, Wildlands Conservation, Involuntary Resettlement, Cultural Property, Pollution Control and Use of Pesticides. *Id.*

310. They maintained then, and continue today, an uncertain relationship between their activities and those of the USAID, Department of State.

311. North American Free Trade Agreement, Sept. 15, 1992, U.S.-Mex.-Can. 1992.

important reasons to proceed with these assessments. First, they are necessitated by the increasing importance given to environmental matters in conjunction with other activities, and by a need for a mechanism to formally consider the consequences about proposed actions. The PEIS can be an excellent tool for forcing a systematic and comprehensive consideration of environmental matters early in the planning stage. Second, the PEIS is a tool that needs to be used to sort out matters as they become more interconnected in an increasingly complex world. For instance, the mere consideration of waste management implications, or of risk implications to a population, may force an agency to find ways to minimize both. No major impediments from the courts or the agencies for implementing additional PEIS activities can be seen at this time.

However, for the PEIS to take its place as a respected tool in environmental policy, it needs to become more sophisticated and its methodologies better defined, either on an agency or government-wide basis. On the sophisticated side, new ways of assessing cumulative and synergistic impacts need to be developed. As to methodologies, there are particular problems of assessing the significance of a potential impact, as discussed in greater detail in Part III, which need careful attention and development. The relationship of science, economics and law needs to be better defined in order to ensure appropriate use of these methodologies in decisionmaking. We have already discussed important features that need to be considered in a PEIS in Part II.

Undoubtedly there will be some setbacks and disagreements in the use of the PEIS; in fact, the time may be ripe for a new Supreme Court review of the proper use of this device. However, given the momentum and obvious agreement in its utility, one can envision a bright and important place for the PEIS in the future. Indeed, the programmatic assessment has been a major vehicle in installing an environmental ethic in the world in general. It allows equal consideration of environmental aspects of programs along with economic and political aspects that have long been dominant. The future

protection of the environment demands the use of the programmatic assessment.