UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
CONSOLIDATED EDISON COMPANY	)	Docket No. 50-247
OF NEW YORK, INC.	)	(Extension of Interim
(Indian Point Station,	)	Operation Period)
Unit No. 2)	)	

CON EDISON'S MEMORANDUM IN SUPPORT OF PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

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Carolina Aluminum Co. v. FPC, 97 F.2d 435 (4th Cir. 1938) 64

Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402 (1970) 24

Conservation Society of Southern Vermont, Inc. v. Secretary of Transportation, 508 F.2d 927 (2d Cir. 1975) 3, 59

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Consolidated Edison Co. of New York, Inc. (Indian Point Station, Unit No. 2), ALAB-198, 7 AEC 475 (1974) 17

Consolidated Edison Co. of New York, Inc. (Indian Point Station, Unit No. 2), LBP-73-33, 6 AEC 751 (1973) 34

Consolidated Edison Co. of New York, Inc. (Indian Point Station, Unit No. 3), ALAB-287, 2 NRC 379 (1975), decision vacated in part, stipulation approved, CLI-75-14, 2 NRC 835 (1975) . . . . . passim

Consumers Power Company (Midland Plant, Units 1 & 2), ALAB-123, 6 AEC 331 (1973) 11

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Maine Yankee Atomic Power Co. (Maine Yankee Atomic Power Station), CLI-74-2, 7 AEC 2 (1974) 65

and the EPA Administrator's decision is granted?"[16/] In its response, Con Edison noted, inter alia, that a request for an adjudicatory hearing had been filed with EPA, automatically staying the May 1, 1979 date stated in the National Pollutant Discharge Elimination System ("NPDES") discharge permit for termination of once-through cooling at Indian Point 2.[17/] Con Edison also indicated that

> The practical effect of postponing action on the extension would mean a delay of two years or more, since the Company has every intention of seeking judicial review of any ultimate EPA determination contrary to the positions taken by the Company in requesting the adjudicatory hearing. Such a long delay would either make it impossible to adhere to the schedules as now set or would deprive the Company of any effective possibility of obtaining an extension consistent with its rights under the license. 18/

Provided with this information, the Regulatory Staff correctly commented in the Draft Environmental Statement:

> [g]ranting the applicant's requested extension of time for the termination of once-through cooling will permit the EPA proceedings to proceed without

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16/ Environmental Report to Accompany Application for Facility License Amendment for Extension of Operation with Once-Through Cooling for Indian Point Unit No. 2 (June 1975) ("ER"), at 9-6.

17/ Id. at 9-6; see Con Edison Exs. OT-18 and OT-19.

18/ ER at 9-7.

ARGUMENT

I

AN EXTENSION OF THE INTERIM OPERATION PERIOD UNTIL MAY 1, 1981 WILL FACILITATE, RATHER THAN PREJUDICE, CONTRADICT, INTERFERE WITH OR CONFUSE THE DISCHARGE PERMIT PROCEEDINGS UNDER § 402 OF THE FEDERAL WATER POLLUTION CONTROL ACT, AND IN ANY EVENT THOSE PROCEEDINGS ARE INDEPENDENT OF THE ADJUDICATORY LICENSING ACTIONS OF THE NUCLEAR REGULATORY COMMISSION IN THIS CASE.

The Regulatory Staff in this case sought to justify its analysis of the benefits and costs of the proposed extension of the interim operation period in large measure on the basis of some unexplained adverse effect on proceedings being conducted by EPA. This justification was first raised by the Staff in the Final Environmental Statement, was never adequately explained by EPA or examined by the Staff, and is in fact devoid of merit, for the reasons indicated below.

The question of the interaction between Con Edison's application to extend the interim operation period and the jurisdiction of EPA was adverted to in questions put by the Regulatory Staff to Con Edison in a letter dated July 7, 1975. Question No. 2 in that letter inquired in pertinent part: "On what basis can an extension be granted until the § 316(a) hearing is completed

grounded on incorrect legal premises. These will be discussed below in Part III. Finally, the Regulatory Staff committed other legal errors by failing to give proper consideration to alternative courses of action. These will be discussed in detail in Part IV below.

In summary, Con Edison submits that the record compels a conclusion that the environmental effects of an extension of interim operation, for one additional striped bass spawning season, to May 1, 1981, are negligible, and that important benefits vastly outweigh those costs. New empirical data from plant operations have been obtained and new analytical tools developed since the Indian Point 2 operating license hearing. The Commission should now afford Con Edison an opportunity for the hearing contemplated by the License based on such matters, and grant the requested extension.

considerations were not the basis of the Staff's change in position.[9/]

In explaining the Regulatory Staff's position, the Environmental Project Manager, Dr. Robert P. Geckler, first placed great emphasis on the comments of the Environmental Protection Agency ("EPA").[10/] In doing so he committed an error of law discussed in detail below.[11/] Dr. Geckler then stated that he also based his decision on the fact that closed-cycle cooling for Indian Point 2 had already been mandated and that this issue had already been litigated,[12/] and he reached that conclusion on the advice of counsel.[13/] This also is an error of law, which will be discussed below.[14/] In other words, the Regulatory Staff, having been told by its experts that the environmental impacts of the extension to May 1, 1981 were acceptable,[15/] nevertheless urged denial of the extension on the basis of erroneous views as to the applicable law. These initial legal errors were compounded by the Regulatory Staff's presentation of a benefit-cost analysis which was also

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9/ Tr. 736.

10/ Tr. 729-31.

11/ See pp. 14-16 infra.

12/ Tr. 732-33, 753, 966-68, 1005, 1134, 1332.

13/ Tr. 753.

14/ See pp. 17-19 infra.

15/ Tr. 736, 879.

that action should not be taken that prejudices the ultimate question.[5/] As long as any reasonable probability exists that a cooling tower will not ultimately be required, NEPA demands that no action be taken causing irrevocable environmental harm which might prejudice that decision. The commencement of cooling tower construction at Indian Point 2, with its destruction of a wooded area and excavation of a hillside in clear view of the Hudson River, would constitute such action.

The Regulatory Staff initially favored the grant of Con Edison's application.[6/] In the Final Environmental Statement the Regulatory Staff changed its position and recommended denial of the extension to May 1, 1981.[7/] The Regulatory Staff explained this change of position in terms of legal and policy considerations.[8/] The Regulatory Staff's biological witness stated unequivocally that environmental

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5/ Calvert Cliffs' Coordinating Comm. v. AEC, 449 F.2d 1109 (D.C. Cir. 1971); Conservation Society of Southern Vermont, Inc. v. Secretary of Transporation, 508 F.2d 927 (2d Cir. 1975). See also Public Service Co. of New Hampshire (Seabrook Station, Units 1 & 2), ALAB-349, 4 NRC 235 (1976).

6/ Draft Environmental Statement for Facility License Amendment for Extension of Operation with Once-Through Cooling for Indian Point Unit No. 2, NUREG-0080 (July 1976) ("DES"), § 6.4.3.

7/ FES § 6.4.3.

8/ Tr. 729-33, 753, 1134, 1332.

> demonstrating by a preponderance of the evidence[1] that closed-cycle cooling at Indian Point 2 is unnecessary.

The parties have agreed as to item (a). Both the Regulatory Staff and Con Edison have testified that environmental costs of the proposed extension are insignificant, and this conclusion has not been contradicted by any party to the proceeding. The Regulatory Staff has stated that the long-term impact on the striped bass population due to the requested extension would be negligible[2] and it adhered to this position throughout the proceedings.[3]

Con Edison and the Staff agree in part as to item (b), which will be discussed in Parts III and V of this Memorandum. It is important to state at the outset that a grant of the requested application supports a fundamental principle of the National Environmental Policy Act ("NEPA")[4]

1/ Consolidated Edison Co. of New York, Inc. (Indian Point Station, Unit No. 2), ALAB-188, 7 AEC 323, 357-8 n.143 (1974); see also Consolidated Edison Co. of New York, Inc. (Indian Point Station, Unit No. 3), ALAB-287, 2 NRC 379, 387 (1975), aff'd as to this point, CLI-75-14, 2 NRC 835, 839 n.8 (1975).

2/ Final Environmental Statement for Facility License Amendment for Extension of Operation with Once-Through Cooling -- Indian Point Unit No. 2, NUREG-0130 (Nov. 1976) ("FES"), § 3.2.2.1.

3/ Tr. 1230.

4/ 42 U.S.C. §§ 4321 et seq. (Supp. V, 1975).

INTRODUCTION

In this proceeding, Consolidated Edison Company of New York, Inc. ("Con Edison") has applied for an extension of the period of interim operation of Indian Point Station, Unit No. 2 ("Indian Point 2") with once-through cooling to May 1, 1981. This application is specifically authorized by Paragraph 2.E(1)(c) of Facility Operating License No. DPR-26 ("the License"), which permits application for this purpose based on "empirical data collected during this interim period."

The License does not specify what those empirical data must show. Since the application is only to extend the period of interim operation for a short period, the data obviously need not be sufficient to prove that once-through cooling is permissible for the life of the plant. That ultimate question is raised by Con Edison's application to vacate the cooling condition of the License, filed with the Commission on March 15, 1977. Rather, Con Edison submits that the record in the present limited case must show the following:

(a) There will be no significant harm to the environment during the period of the extension, and

(b) The results of Con Edison's Ecological Study Program merit independent review by the Commission and hold forth the possibility of

10 C.F.R. § 51.23(c) (1977) 20, 21

10 C.F.R. § 51.26(a) (1977) 20, 39

10 C.F.R. § 51.41 (1977) 20

40 C.F.R. § 125.35(d)(2) (1976) 11

40 C.F.R. § 125.36(n) (1976) 9

MISCELLANEOUS

Consolidated Edison Co. of New York, Inc., Environmental Report to Accompany Application for Facility License Amendment for Extension of Operation with Once-Through Cooling for Indian Point Unit No. 2 (June 1975) . . . . . passim

Consolidated Edison Co. of New York, Inc., Influence of Indian Point Unit 2 and Other Steam Electric Generating Plants on the Hudson River Estuary, with Emphasis on Striped Bass and Other Fish Populations (1977) 13

Draft Environmental Statement for Facility License Amendment for Extension of Operation with Once-Through Cooling for Indian Point Unit No. 2, NUREG-0080 (July 1976) 3

Final Environmental Statement for Facility License Amendment for Extension of Operation with Once-Through Cooling--Indian Point Unit No. 2, NUREG-0130 (Nov. 1976) . . . . . passim

Final Environmental Statement Related to Operation of Indian Point Nuclear Generating Plant Unit No. 3, NUREG-75/002 (Feb. 1975) 33

USNRC Regulatory Guide 4.2 (rev. 2) 26, 36

Metropolitan Edison Co. v. FPC, 169 F.2d 719 (3d Cir. 1948) 64

Murray v. Menzies Real Homes Co., 236 Mich. 77, 210 N.W. 217 (1926) 64

Northern States Power Co. (Prairie Island Nuclear Generating Plant, Units 1 & 2), ALAB-252, 8 AEC 1175 (1974), aff'd 1 NRC 1 (1975) 64

People of Enewetak v. Laird, 353 F.Supp. 811 (D. Haw. 1973) 59

Public Service Co. of New Hampshire (Seabrook Station, Units 1 & 2), ALAB-349, 2 NRC 235 (1975) 3, 59

Toledo Edison Co. (Davis-Besse Nuclear Power Station), ALAB-157, 6 AEC 858 (1973) 64

Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Plant Station), ALAB-167, 6 AEC 1151 (1973) 69

Washington Public Power Supply System (Hanford No. 2 Nuclear Power Plant), ALAB-113, 6 AEC 251 (1973) 11

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Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 et seq. (Supp. V, 1975):

Section 316, 33 U.S.C. § 1326 8
Section 509(b), 33 U.S.C. § 1369(b) 9

National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321 et seq. (Supp. V, 1975) 2

Section 102, 42 U.S.C. § 4332 . . . . . passim

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10 C.F.R. § 2.743(a) (1977) 11

10 C.F.R. § 2.743(c) (1977) 11

10 C.F.R. § 2.743(i) (1977) 63

10 C.F.R. § 2.759 (1977) 65

> requiring the applicant to begin construction of a closed-cycle cooling system prior to the EPA decisions [on Con Edison's request for an exemption from EPA thermal standards and for a determination that once-through cooling is the best available technology]. The staff considers this a major benefit of the proposed action to delay once-through cooling. 19/

In its terse benefit-cost "balance",[20/] the Staff observed that

> [d]enial of the proposed action would require start of construction of the closed-cycle system prior to the anticipated decision by the Environmental Protection Agency regarding the applicant's requests relative to section 316(a) and (b) of the FWPCA [Federal Water Pollution Control Act, 33 U.S.C. § 1326 (Supp. V, 1975)]. Should an exemption be granted under section 316(a) or once-through cooling be determined to be the best technology [sic] under section 316(b) the potential savings would be a benefit. 21/

In its summary of the DES, the Staff said that the preservation of "options with regard to the type of closed-cycle

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19/ DES § 4.1.1.

20/ See pp. 20-38 infra.

21/ DES § 6.4.1. The Staff appeared to assume erroneously, as matters now stand, see Applicant's Memorandum in Response to [Appeal] Board's Request (Mar. 4, 1977), Dkt. No. 50-247 (Selection of Preferred Alternative Closed-Cycle Cooling System) (Mar. 4, 1977), at 10-11, that the entire EPA process could be concluded within a relatively short time. However, the fact that the EPA proceeding will likely take longer than the Staff assumed does not negate the benefit correctly perceived by the Staff in the DES, since a benefit accures from an extension until May 1, 1981 even if the ultimate EPA decision were substantially delayed. See § IV(b) infra.

cooling system to be constructed as a result of hearings conducted by both NRC and EPA" constituted "the major benefit of the proposed action."[22/]

The Regional Administrator of EPA Region II submitted comments that took issue with the position stated in the DES.[23/] In these comments, EPA Region II (which does not have final authority with respect to contested discharge permit terms)[24/] asserted the following:

> We believe that any action by NRC should await EPA's final decision according to the regular procedures established for resolving such matters. By taking the proposed action [an extension of interim operation to May 1, 1981], NRC would contradict EPA's permit requirements, conflict with EPA's decisionmaking responsibility, and perhaps even prejudice the adjudicatory hearing on the closed-cycle cooling system and compliance schedule. In our judgment, the proposed action will serve no practical purpose and may even interfere with the expeditious resolution through normal channels of the questions concerning closed-cycle cooling at Unit 2. 25/

22/ Id. at i (emphasis added).

23/ FES at A-10.

24/ See 40 C.F.R. § 125.36(n) (1976); 33 U.S.C. § 1369(b) (Supp. V, 1975).

25/ FES at A-10.

In an attachment to this letter, Regional Administrator Hansler claimed that action favorable to Con Edison's request "would also confuse the issues currently under consideration by EPA" and speculated that "[i]t is quite possible that the amendment and any further extension granted by NRC would be rendered meaningless because, as noted on page 4-1 of the [DES], EPA action on Con Edison's 316(a) and 316(b) requests 'will constitute the final decision regarding closed-cycle cooling at Unit 2'."[26/]

This letter of comments was materially deficient in important respects. First, every one of the claims made by EPA as to interference with its own proceeding was unexplained. The correspondence is devoid of any indication of the manner in which EPA's processes would be confused, interfered with or prejudiced by NRC action on the present application for a license amendment. Nor is there any explanation of how the requested extension would contradict the § 402 discharge permit. Each of these allegations, indeed, may be readily seen to be specious.

As to the suggestion of "contradiction" of the EPA permit, Con Edison recognizes that the extension it has requested would fix a different date for termination of once-through cooling at Indian Point 2 for NRC purposes

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26/ FES at A-10.

than that which would be fixed by the EPA permit. That permit, however, has been automatically stayed,[27/] pursuant to EPA's own regulations,[28/] and the termination date will be an issue in controversy in the EPA adjudicatory hearing scheduled to begin during the summer of 1977.[29/] This,

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27/ Although it nowhere appears in so many words, the real gist of EPA's comments is an effort to use the Indian Point 2 NRC license as a means of subverting the automatic stay provision in EPA's regulations. EPA should not be permitted to use the NRC license as an alternative means of achieving success on an issue it is now litigating in its own forum.

28/ 40 C.F.R. § 125.35(d)(2) (1976); Con Edison Ex. OT-19; ER at 9-6.

29/ Con Edison respectfully reiterates its requests (Tr. 973, 1597) that the Board take official notice of the contents of the NPDES discharge permit, Con Edison Ex. OT-18 for Identification, and Notice of Adjudicatory Hearing, Con Edison Ex. OT-19 for Identification, to the extent that these evidence the provision for extensions of the EPA deadline to as late as July 1, 1981 and the effect of the automatic stay provision of EPA's regulations on the deadline stated in the discharge permit. Such official notice is in keeping with the status of these documents as official issuances of a Federal agency, and is consonant with the Commission's practices. See Washington Public Power Supply System (Hanford No. 2 Nuclear Power Plant), ALAB-113, 6 AEC 251, 252 (1973); cf. Consumers Power Company (Midland Plant, Units 1 and 2), ALAB-123, 6 AEC 331, 332 (1973); 10 C.F.R. § 2.743(i) (1977). In the alternative, the documents should be admitted into evidence on the basis of their authentication through the testimony of witness John J. Szeligowski. Tr. 1600-01. In view of the reliance of the Staff on EPA's comments, which dealt extensively (but incompletely) with the discharge permit and related proceedings, the documents are indubitably relevant and material to an issue in controversy in this case, 10 C.F.R. § 2.743(c) (1977), and "required for full and true disclosure of the facts." Id. § 2.743(a).

however, is not a "contradiction" in the sense that it has no effect on the underlying validity (vel non) of the EPA permit terms. All the extension would do is provide that for purposes of the Atomic Energy Act, the termination date would be May 1, 1981. This would leave the EPA date (whatever it turns out to be, after the EPA adjudicatory hearing) fully intact. Moreover, the EPA permit expressly provides -- a point nowhere mentioned in the letter commenting on the DES -- that the May 1, 1979 date in that permit may for good cause be extended beyond May 1, 1979 to as late as July 1, 1981.[30/] The latter date, of course, is a date later than that requested in the present extension proceeding. As a result, our response to the allegation of EPA that an extension would contradict the terms of the NPDES permit is that any such extension would leave EPA's permit exactly where it now stands, and in any event, that permit itself provides for extensions such as the one here requested.

The EPA claims of confusion, interference or prejudice have an equally hollow ring. The requested extension can certainly not bind EPA legally, since EPA's jurisdiction is separate from that of the Commission. We cannot even begin to speculate as to how EPA's hearing could be prejudiced by the extension of the date in the NRC license.

30/ See Con Edison Ex. OT-18, ¶ 11(d) and n. **.

The effect of the extension is to provide time to review the results of Con Edison's Ecological Study Program, including the Final Research Report submitted to the Commission on February 18, 1977.[31/] The Commission Staff's witnesses have testified that they will not be able to complete their review of that Report this year,[32/] even though the EPA proceeding will have begun in the summer of this year.[33/] In the circumstances, it would seem that the process of reviewing the Final Research Report will go on at the same time that the parties to the EPA case are working on that case. One would think that these two efforts would be complementary and synergistic, rather than contradictory, mutually confusing or prejudicial, as darkly intimated by EPA.

The fact of the matter is that the relief requested will facilitate the EPA hearing process by permitting a continuation of the status quo while EPA's hearing process runs its course. Investment in a cooling tower before EPA has had an opportunity to review the pertinent evidence could distort the issues in the case, and foreclose an

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31/ Influence of Indian Point Unit 2 and Other Steam Electric Generating Plants on the Hudson River Estuary, with Emphasis on Striped Bass and Other Fish Populations.

32/ Tr. 1128, 1156.

33/ See Applicant's Memorandum in Response to [Appeal] Board's Request (Mar. 4, 1977), Dkt. No. 50-247 (Selection of Preferred Alternative Closed-Cycle Cooling System), at 10-11.

option -- continuation of once-through cooling -- that lies at the heart of the issues in controversy in EPA's proceeding.

It remains only to be added that the Regulatory Staff, which conceded in testimony that it has an obligation to assess the intrinsic validity of the objections voiced by EPA Region II,[34/] failed in fact to do so in its FES. Instead, it uncritically accepted EPA's comments, docilely stating -- despite the provision for automatic stays under EPA's regulations -- that

> It is the staff's understanding that the NPDES permit reflects the EPA position that closed cycle cooling is required for this plant. The fact that a request for an adjudicatory hearing has been granted does not detract from this position, nor should the NRC take any action which could contradict EPA's interests as set forth in the EPA letter of September 2, 1976.
>
> * * *
>
> The staff decision not to recommend a 2-year delay in termination of once-through cooling is responsive to paragraphs 2 and 3 of the [EPA] Detailed Evaluation of the Proposed Action. 35/

The Staff therefore changed its position when it issued the FES. In so doing, it obviously gave great weight to the EPA comments. In the FES itself, it said that it was

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34/ Tr. 930.

35/ FES § 7.2.2.

changing its recommendation "[i]n response to numerous comments on the DES, and especially those from the Environmental Protection Agency."[36/] In testimony at the hearings, the Environmental Project Manager attempted to suggest that other comments on the DES had also been influential in the Staff's change of position,[37/] but it appeared upon cross-examination that the Staff had relied chiefly upon the EPA Region II letter,[38/] and largely ignored comments favorable to the May 1, 1981 extension such as those submitted by the New York State Public Service Commission.[39/]

According to the Staff's FES, the EPA comments were a principal, if not the only, reason for the Staff's change of position with respect to the request for an extension to May 1, 1981.[40/] The Staff, unaware of or ignoring the provision for extension of the deadline in the NPDES permit (to which EPA Region II had made no reference in its comments),[41/] uncritically accepted EPA's bare allegations that the NPDES hearing process would be harmed by the

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36/ FES § 4.1.1.

37/ Tr. 733.

38/ Tr. 729, 733, 945.

39/ FES at A-24 to -25; see Tr. 957-59, 1497. See also Tr. 749-52.

40/ FES § 4.1.1.

41/ See Tr. 931; FES at A-10.

requested extension. Without cogent reasons from EPA, the Staff was able to produce none of its own in this regard.[42/]

For these reasons, the Board should reject the Staff's reliance on EPA's vague and unsupported claims as an abdication of this Commission's independent responsibility to administer the terms of the License, including the provision for extensions of the interim operation period. Reliance on EPA's claims of interference or confusion would represent a denial of the rights expressly granted in Paragraph 2.E(1)(c) of the License.

42/ See Tr. 940-42.

II

THE REGULATORY STAFF'S USE OF PRIOR COMMISSION DECISIONS TO FORECLOSE FURTHER CONSIDERATION OF THE NECESSITY FOR CLOSED-CYCLE COOLING WAS ERRONEOUS.

The Regulatory Staff has stated that one of its principal reasons for recommending denial of Con Edison's application is its view that the question of closed-cycle cooling for Indian Point 2 has already been litigated.[43/] This is clearly incorrect because there is no decision in the entire history of the Indian Point 2 licensing case requiring termination of operation of the once-through cooling system which did not also specifically authorize the application filed herein.

The Commission's decision in the Indian Point 2 operating license case stands as ALAB-188[44/] as supplemented by ALAB-198.[45/] It is impossible to read ALAB-188 without recognition that there were substantial doubts in the Appeal Board's mind as to the necessity of closed-cycle cooling. For example, the Appeal Board rejected the Regulatory Staff's claim that the Hudson River was a

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43/ E.g., Tr. 733-34, 753, 1134.

44/ ALAB-188, supra note 1.

45/ Consolidated Edison Co. of New York, Inc. (Indian Point Station, Unit No. 2), ALAB-198, 7 AEC 475 (1974).

major source of the mid-Atlantic striped bass fishery;[46/] the Appeal Board said that interim operation would permit the gathering of additional information to allow an informed reevaluation of the proper choice for a cooling system for long-term operations;[47/] that Con Edison's model more nearly conformed to reality and was superior to the Staff's model;[48/] and that compensation could be expected to be a factor in off-setting losses incurred by the operation of the Indian Point facility.[49/] In explaining why it did not accept Con Edison's suggested date for termination of interim operations of September 1, 1981, the Appeal Board said:

> It is enough for us to note here that the May 1, 1979 date will permit the applicant to evaluate the impact of interim operation of Indian Point 2 during at least two striped bass spawning seasons. And, as is manifest in the language of modified license condition 2.E.(1) which ALAB-188 directed, the May 1, 1979 date is not cast in concrete. The applicant may, if it believes the empirical data collected so justifies, seek from the Atomic Energy Commission an extension of the interim operation period or such other relief as may be appropriate. 50/

The Regulatory Staff is perhaps referring to the Commission's decision in the Indian Point 3 operating License

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46/ 7 AEC at 365.

47/ Id. at 375.

48/ Id. at 383.

49/ Id. at 387.

50/ Id. at 476. It is also relevant to note that the Appeal Board referred only to a "reasonable termination date." Id. at 406.

proceeding.[51/] Without conceding the relevancy of that decision to this proceeding,[52/] Con Edison notes that the statement that "no further Commission consideration of the once-through versus closed-cycle question is necessary for either unit" is followed by this sentence:

> However, pursuant to the stipulation, the licensee can seek to reopen the matter based upon empirical data collected during the interim period of once-through operation. 53/

The instant application is precisely the type of application referred to by the Appeal Board in ALAB-198 and the type of application permitted by the Commission in its Indian Point 3 decision. Accordingly, it is a fundamental distortion of those decisions to use their existence as a basis for denying the very application which those decisions specifically allowed.

51/ Consolidated Edison Co. of New York, Inc. (Indian Point Station, Unit No. 3), CLI-75-14, 2 NRC 835 (1975).

52/ See generally pp. 65-68 infra.

53/ Id. at 839.

III

THE STAFF'S BENEFIT-COST ANALYSIS, AS ULTIMATELY PRESENTED, WAS LEGALLY DEFICIENT.

A. The Staff's Final Environmental Statement did not include a Benefit-Cost Analysis as required by the National Environmental Policy Act of 1969.

In the Draft Environmental Statement and again in the Final Environmental Statement, the Regulatory Staff failed to provide a benefit-cost analysis, though this is required by NEPA[54/] and the regulations of the Commission.[55/] The "evaluation" in the FES included an 11-line section entitled "Benefits"[56/] and a four-line section entitled "Costs,"[57/] followed by a three-line section (if that term is appropriate) styled "Benefit-Cost Balance."[58/] The sum total of this latter section was as follows:

> Although not all of the benefits and costs associated with the proposed action can be quantified, the staff considers that, on balance, the benefits exceed the costs. Thus, it is the staff's

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54/ 42 U.S.C. § 4332(2) (Supp. V, 1975); Calvert Cliffs' Coordinating Comm. v. AEC, 449 F.2d 1109, 1113, 1123 (D.C. Cir. 1971).

55/ 10 C.F.R. §§ 51.23(c), 51.26(a), 51.41 (1977).

56/ FES §§ 6.4.1.

57/ Id. § 6.4.2.

58/ Id. § 6.4.3.

> conclusion that a one-year delay is warranted. 59/

To call this "section" merely concise is to miss the point. In fact, as the Regulatory Staff witness conceded under cross-examination by Con Edison counsel, the FES did not include a benefit-cost analysis "per se";[60/] indeed, it did not include one at all. Far from quantifying the benefits and costs "to the fullest extent practicable" as required by the Commission's regulations,[61/] the Staff presented a conclusory and opaque ipse dixit.

Faced with this patently unacceptable document, the Board properly required the Staff to produce testimony quantifying and more fully elaborating the benefit-cost analysis.[62/] The merits of the benefit-cost testimony presented in response to this directive of the Board are discussed below.[63/] Here, however, it is important to note the deficiency in the Staff's benefit-cost "balance" as it appeared in the FES, since, as we will presently show, the

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59/ Id. The Staff's reference to a one-year delay was descriptive of an extension from May 1, 1979 to May 1, 1980. The proposed action in the case, of course, continues to be an extension of once-through cooling to May 1, 1981, as stated in the application. The Staff was accordingly urging a denial of the application.

60/ Tr. 737.

61/ 10 C.F.R. § 51.23(c) (1977); see also 42 U.S.C. § 4332 (Supp. V, 1975).

62/ Tr. 869-70.

63/ See pp. 23-38 infra.

Staff's later testimony was a mere post hoc rationalization[64/] of the Staff's preordained unsupported conclusion set forth in this "balance." The Staff's subsequent "analysis" testimony must be viewed as tainted by the prior "benefit-cost balance" it was intended to confirm.

64/ See pp. 23-26 infra.

B. The Benefit-Cost testimony submitted by the Staff was a mere post hoc rationalization of the unsupported conclusion presented in the Final Environmental Statement.

As just indicated, the Regulatory Staff submitted testimony "on the relative benefits and costs associated with" the extension request in response to the Board's directive.[65/] This testimony, made available three months after the FES was issued, stated in its very first paragraph:

> The Staff understands this request [by the Board] to seek greater detail and fuller quantification to support the Staff's conclusion that the benefits do not outweigh the costs of the proposed action. The testimony contained herein attempts to address that request and represents the Staff's fuller analysis and quantification of positions earlier articulated, including the considerations expressed in earlier testimony in this proceeding. 66/

It is apparent from this statement (as well as the Staff's unwillingness, as discussed below,[67/] to confirm that the "benefit-cost analysis" in this February 1977 testimony represented its judgment of the actual costs and benefits of the proposed extension to May 1, 1981) that the guiding concept behind the testimony was to provide support for a

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65/ Testimony of the NRC Staff on the Relative Benefits and Costs Associated with Applicant's Request for Extension of Operation with Once-Through Cooling of Indian Point Unit No. 2, Dr. Robert Spore and Dr. Webster Van Winkle ("Spore & Van Winkle"), following Tr. 1076, at 1.

66/ Id. (emphasis added).

67/ See pp. 36-38 infra.

position previously taken by the Staff. As with any post hoc rationalization, that provided by the Staff "must be viewed critically."[68/]

Cross-examination by Con Edison and redirect examination by Regulatory Staff counsel tended, if anything, to confirm the fact that the Staff's testimony was merely a ratification of a "position" earlier adopted by the Staff. Thus, the question was put to the Staff's panel of witnesses at the February 1977 hearings "whether it is the Staff's--these witnesses' understanding that the purpose of this testimony was to confirm the conclusions that the benefits do not outweigh the costs of the proposed action."[69/] The Staff's unqualified answer was "Yes."[70/] On redirect examination by its own counsel, the Staff reiterated that "[o]ur view of the purpose of this testimony was to elaborate the Staff's conclusion that the benefits do not outweigh the costs of the proposed action,"[71/] and simply quoted the language from the prepared testimony reproduced above.[72/] The entire colloquy on redirect does nothing to alloy the sense that the Staff

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68/ Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 420 (1970).

69/ Tr. 1132-33.

70/ Tr. 1133.

71/ Tr. 1351.

72/ Tr. 1351-52.

was merely attempting to buttress a position taken previously on policy grounds.

We believe that these circumstances impeach the Staff's "benefit-cost analysis" in this proceeding, particularly in light of the Staff's witnesses' testimony[73/] and repeated admissions[74/] that its benefit-cost case was itself only an illustration of conditions where the costs of the proposed extension could exceed the benefits.[75/]

73/ Spore & Van Winkle at 25 .

74/ Tr. 1130, 1141-43, 1152, 1319.

75/ See generally pp. 36-38 infra.

C. The benefit-cost testimony submitted by the Staff was based on circular reasoning, and did not constitute a true analysis of the benefits and costs.

The benefit-cost testimony that the Regulatory Staff ultimately submitted was grounded on erroneous views of the law of the case, and contained logical inconsistencies and unsupported assumptions. In sum, it does not represent a true benefit-cost analysis as required by the Commission's regulations[76] and NEPA.

(1) The Staff fallaciously assumed that the alleged damage to the fishery is equal to or greater than the cost of a cooling tower and incorrectly assumed, as a matter of law, rather than biology, that the decision to require termination of once-through cooling at Indian Point 2 was fixed and immutable.

In performing its benefit-cost analysis, the Regulatory Staff did not analyze the value of the striped bass fishery in the Hudson River,[77] despite its testimony that "[i]deally one would prefer to measure direct economic losses associated with the action."[78] Reasoning that the decisionmakers who imposed Amendment No. 6 to the License must have considered the benefits of their decision to equal

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76/ See USNRC Regulatory Guide 4.2 (rev. 2) § A.3.b.(2).

77/ Tr. 1331.

78/ Tr. 1118.

or exceed its costs, the Staff purported to compute the cost of the proposed extension by inferring that the value of irreversible reduction in the Hudson River striped bass population due to operation of the once-through cooling system must at least equal the cost of the cooling tower system.[79/] The source of that inference was Dr. Spore's view that an immutable decision had been made to require a cooling tower at Indian Point 2.[80/] He obtained that view from advice of counsel.[81/] Dr. Spore admitted that he was not aware of the conditions attached to the License and in particular was not aware of the condition that allowed Con Edison to seek an amendment of the License based on data from operations, the very provision which is the basis of this proceeding.[82/] In other words, Dr. Spore considered the prior decision to have only one possible outcome -- construction of a cooling tower system.

In effect, the Regulatory Staff appears to say that since the decision to require a cooling tower system is

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79/ Spore & Van Winkle at 20.

80/ Tr. 1189.

81/ Tr. 1188.

82/ Tr. 1189.

immutable, there is no benefit from reevaluating this issue, and therefore an opportunity should not be allowed for such a reevaulation. Besides being circular, the Staff's benefit-cost testimony flies in the face of the prior Indian Point 2 decisions, and simply amounts to an assertion, in purportedly quantitative terms, of the Staff's erroneous legal views in this proceeding. As noted above, the Commission's decision in the Indian Point 2 operating license case specifically permitted the instant application.[83/] Even if one assumes the relevancy of the Commission's decision in the Indian Point 3 operating license case, that decision also specifically permitted an application for changes in the license conditions based on data from operations.[84/]

The actual decisions imposing the license condition, therefore contemplated, in addition to the outcome considered by the Staff, several other possible outcomes, e.g., an extension of interim operation because of a failure to receive timely governmental approvals of the closed-cycle cooling system, an extension of interim operation based on data from operations, and a complete elimination of the requirement to terminate operation of the once-through cooling system.

83/ ALAB-188, supra note 1.

84/ CLI-75-14, 2 NRC 835 (1975).

Thus, even if one were to infer a set of "costs" from the earlier decision, one must consider the "costs" associated with the entire license condition, not some portion thereof that omits a central element. This requires consideration of the cost associated with each possible outcome of the decision and the probability of its occurrence as viewed by the original decisionmakers. The Regulatory Staff did not attempt such an evaluation. Instead it erroneously asserted that an immutable decision to require a cooling tower system had been made. The virtual impossibility of valuing these alternative outcomes illustrates the futility of the Staff's methodology. It is clear that these outcomes could not have been valued at zero, as the Staff has implicitly done, because in that event there would have been no reason for the decisionmakers to include the additional conditions in the License.

Since the erroneous premise of the immutability of the decision to build a cooling tower system is the keystone to the Regulatory Staff's analysis,[85] and the analysis must therefore fall.

(2) The Staff failed to support its novel methodology.

Even if one were to accept the Regulatory Staff's premise, the next step in its analysis was invalid. The

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85/ Tr. 1223.

Regulatory Staff purported to compute an index of the probability of incurring irreversible loss by determining the areas between the curves X and Z and X and Y on Figure 1 of its testimony, with those areas adjusted to account for discounting of future effects.[86] The record contains no explanation as to why it is correct or even appropriate to use these adjusted areas as an index of probability. Indeed, the record is to the contrary.

The Regulatory Staff concedes that this is not a real probability index because its value might exceed 1[87] and attempts to evade this problem by calling it a "proxy" is for probability.[88] Designating the factor a "proxy" is not a substitute for an explanation as to why it is appropriate to use this measure. The Regulatory Staff also testified that to the best of its knowledge this approach had never been used before in fisheries work.[89] The record contains no basis for the use of this measure for probability of irreversible damage other than the fact that it supports a particular conclusion.[90] Accordingly, even if one were to accept the Regulatory Staff's premise, the calculation of costs is improper.

86/ Tr. 1222.

87/ Tr. 1217.

88/ Spore & Van Winkle at 22.

89/ Tr. 1256.

90/ *See* ALAB-188, 7 AEC at 365.

(3) The Staff improperly excluded from its analysis any consideration of the possibility that the Commission might alter the cooling system license condition, even though the Staff recognized that substantial and important new evidence has been obtained and analytical tools developed in the years since the operating license was issued, and even though the Staff stated that independent assessment or reassessment of such evidence and analyses in numerous critical areas is necessary.

The Regulatory Staff excluded from its analysis of the benefits of the extension any consideration of the possibility that the Commission might alter the cooling system license condition.[91/] This is improper in view of the abundant evidence in the record which indicates that this condition might change.

The Regulatory Staff first took the position in this proceeding that additional data provided by the completion of Con Edison's research program would not be expected to change its position on the ultimate cooling system question.[92/] This was an admission that the Regulatory Staff had prejudged an application it had not yet seen based on a preconceived evaluation of data it had not yet received.

This position was negated by the testimony of Dr. Van Winkle during the hearing. The possibility of a change was clearly indicated by Dr. Van Winkle.[93/] In response to

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91/ Spore & Van Winkle at 14.

92/ FES § 4.1.2.

93/ Tr. 910.

a question as to which of two curves presented a more realistic picture of environmental impacts he said:

> I have seen enough new data that certainly relates to some of the key parameters that go into this model, like the distributional f factor maybe even more so the cropping factor, that, you know, I would just like to not answer your question and say that we would have to, you know, obviously reassess the whole family of curves.
>
> In general, if you put in smaller distributional f factors and smaller cropping factors, the power plant impact would be less, and if you put that in these life cycle models the curve will drop down to a lesser extent.

Dr. Van Winkle also stated that he was revising his models[94/] and that the results of Con Edison's research program would be of substantial value in re-assessing the basis for the closed-cycle cooling requirement for Indian Point 2.[95/] He stated that because of the new data there was a possibility he might change his estimate of entrainment mortality,[96/] that the factor for f_I is likely to be less than 1,[97/] that f_I might be different for different plants rather than the uniform number previously used,[98/] and that his new model would include a range of values for compensation.[99/] Finally, Dr. Van Winkle testified

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94/ Tr. 928.

95/ Tr. 896.

96/ Tr. 914.

97/ Tr. 917.

98/ Tr. 919.

99/ Tr. 926.

that the new data on contribution of the Hudson River striped bass population to the Atlantic coastal fishery required reconsideration of his position.[100]

The foregoing establishes at a minimum that there is a reasonable possibility of substantial changes in the evaluation of the environmental impacts of the once-through cooling system which formed the basis of the requirement for its termination. In this connection, it is important to note that Con Edison does not need to prove all of the new factors referred to above. If Con Edison establishes the validity of any one of several key items, it would achieve a substantial alteration of the environmental assessment and the possibility of a change in the cooling system condition of the license.

For example, the factor for entrainment mortality (f_c) is critical. In its first analysis of this subject the Regulatory Staff assumed all entrained organisms were killed. As data have been developed, that assumption has been modified.[101] New evidence indicates that survivability may be greater than indicated in the Regulatory Staff's prior assessment. In particular, the report on net-induced mortality[102] indicates that a substantial portion of

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100/ Tr. 1553.

101/ Final Environmental Statement Related to Operation of Indian Point Nuclear Generating Plant Unit No. 3, NUREG-75/002 (Feb. 1975)("Indian Point 3 FES").

102/ Con Edison Ex. OT-14.

mortalities previously attributed to plant effects may in fact be attributable to sample collection methods because of the higher velocities in the discharge canal relative to the intake. This report may lead to lower numbers for this factor.[103] Clearly if few organisms are killed in passage through the plant, the other factors affecting the distribution of organisms in the river and other environmental matters become much less important.

Compensation is also critical. If the Con Edison data on compensation are accepted, that alone would have a great impact on the model estimates of plant impacts.[104] If Con Edison proves its case on compensation in the proceedings on the March 15, 1977 application, the estimate of the environmental impact of plant operations would have to be substantially reduced.

The contribution of the Hudson River striped bass population to the Atlantic coastal fishery has previously been identified as a critical issue. In the Indian Point 2 operating license proceeding, the Licensing Board observed:

> The kind and urgency of measures taken to maintain the population might be entirely different if protection of the Hudson River fishery were the major consideration. [105]

103/ Tr. 916.

104/ Campbell, Lawler, Marcellus, May & McFadden at 51.

105/ Consolidated Edison Company of New York, Inc. (Indian Point Station, Unit No. 2), LBP-73-33 6 AEC 751, 768 (1973); see also ALAB-188, 7 AEC at 361-65.

Con Edison has testified that its new data show an overall estimate for the contribution of Hudson River striped bass to the Atlantic coastal fishery of approximately 7%[106] in lieu of earlier estimates which ranged as high as 80%. If this 7% estimate were eventually proven valid, that factor alone might lead to a different decision concerning the cooling system condition, regardless of the other factors referred to above.

Not only has Con Edison presented new data but it is clear that those data might lead to a different decision on the cooling system condition.

106/ Campbell, Lawler, Marcellus, May & McFadden at 63 (Table 1).

D. The Staff never testified that its benefit-cost testimony was a true account of the benefits and costs of the proposed action, but merely claimed that it described one set of conditions where the costs might exceed the benefits.

The final defect of the Regulatory Staff's benefit-cost testimony is that on its face it did not purport to be a true account of the benefits and costs of the proposed action. The Commission's guidelines for environmental analyses, reflecting the requirements of NEPA, require the use of values "which would be expected to yield estimates nearest the real case."[107] The Regulatory Staff repeatedly refused to state that its estimate was closest to the real case.[108]

Instead, the Regulatory Staff's testimony was to the effect that its benefit-cost analysis merely illustrated a possible situation where the costs of the proposed delay would exceed the benefits.[109] The Regulatory Staff recognized that it might also be the case that the costs would

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107/ USNRC Regulatory Guide 4.2 (rev. 2), § A.3.b(2). While a party is free to use an alternative approach to that stated in a regulatory guide, such guides are a statement of the Staff's posiiton. Here, however, the Regulatory Staff offered no justification for its use of an alternative approach. The Staff should be held, in this respect, to the standards it would impose upon others.

108/ See Tr. 1141, 1152, 1242, 1260, 1319.

109/ Spore & Van Winkle at 29.

not exceed the benefits.[110] This concession was compelled by the testimony which indicated the extreme sensitivity of the Regulatory Staff's analysis (even assuming the correctness of the methodology) to environmental variables.[111] The Regulatory Staff refused to defend the variables selected as a best estimate but merely stated this was a "severe case"[112] and represented conditions above the average of a family of impact curves.[113] As such the selection conflicts with the Appeal Board's condemnation of "the use of the most conservative assumptions" and represents a distortion of the benefit-cost analysis.[114]

For example, the Regulatory Staff's testimony is extremely sensitive to the placement of the line indicating risk of irreversible impact, which is at the 0.5 level in Figure 1 of its testimony. The Regulatory Staff earlier testified that this was an arbitrarily selected cutoff point.[115] The Regulatory Staff also testified that if this index of risk had been drawn at the 0.4 level instead of the

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110/ Tr. 1260.

111/ The importance of this sensitivity is heightened by the precariousness of the ultimate benefit-cost ratio (1:1.04) based on the Staff's figures. See Tr. 1140, 1152. As the Staff's witnesses conceded, any additional benefit would have a very critical effect on the benefit-cost ratio. Tr. 1153. See generally pp. 54-55 infra.

112/ Tr. 1260.

113/ Tr. 1241, 1249, 1260.

114/ ALAB-188, 7 AEC at 358.

115/ Tr. 1259.

0.5 level, the environmental costs would have been calculated as zero.[116]

Alternative curves showing lesser impacts were presented in the Indian Point 3 FES and Dr. Van Winkle declined to state which curve was more realistic.[117] A principal difference between the curve presented as Figure 1 in the benefit-cost testimony and a curve showing lesser impact was the use of the factor f_I in Figure 1 of 1 as opposed to 0.5.[118] Dr. Van Winkle then testified that it was likely that this factor is less than 1.[119] Dr. Van Winkle also stated that if this factor were less than 1 and no other changes were made to the models, the environmental impact indicated by the Regulatory Staff's analysis would be less.[120]

Taken as a whole, then, the Regulatory Staff's testimony stands for the proposition that it is possible for the Staff to select numbers that support its conclusions. This is not the purpose of benefit-cost testimony which must be an estimate based on the best evidence available as to what are the reasonably anticipated benefits and costs of the proposed action. The Regulatory Staff's own words indicate that its testimony does not meet this standard.

116/ Tr. 1254.

117/ Tr. 909-10.

118/ Tr. 917.

119/ Tr. 1254.

120/ See Proposed Findings and Conclusions at 64.

IV

THE STAFF FAILED TO GIVE PROPER CONSIDERATION TO CERTAIN IMPORTANT REASONABLE ALTERNATIVES TO THE PROPOSED ACTION

A. The Staff failed to consider meaningfully the possibility of an extension of the interim operation period beyond May 1, 1981.

The Commission's regulations and the terms of NEPA require that the environmental review of a proposed action address the reasonable alternatives to that action.[121] In this case, the Regulatory Staff purported to give consideration to such alternatives, but that consideration proves, upon examination, to have been materially deficient.

On such alternatives involved an extension of the interim operation period to some date later than May 1, 1981 (the date requested in Con Edison's application for a license amendment). This possibility was adverted to briefly in Con Edison's Part 51 Environmental Report,[122] and appeared to have been addressed in the Staff's Draft[123] and Final Environmental Statements.[124]

In the DES, the Staff rejected an extension beyond May 1, 1981, observing that such an extension "is a possible

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121/ 10 C.F.R. § 51.26(a) (1977); 42 U.S.C. § 4332(2)(c)(iii) (1970).

122/ ER § 5.2.

123/ DES § 5.2.

124/ FES § 5.2.

alternative only if it permitted an extension of the present research program or some other clearly defined benefit."[125] The Staff proceeded to deny that there would be a benefit in this respect since--in its view--Con Edison would merely be "collecting more and more of the same type of data."[126] The DES also noted that an extension "for less than one year [i.e., earlier than May 1, 1980] would not permit completion of the biological analyses," implying quite plainly that its own analyses would be completed within that one-year period. The Staff concluded that an extension past May 1, 1981 was not "a viable alternative" to the action requested by Con Edison. The "viable alternative" concept was not explained in the DES.

Elsewhere in the same document, the Staff observed that major benefits of the action requested by Con Edison would be to permit completion of evaluation of the results of Con Edison's research program and conduct of the EPA adjudicatory hearing prior to the dedication of resources to a cooling tower.[127] The Staff's conclusion, of course, was

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125/ DES § 5.2.

126/ This assertion completely misses the point, of course, since the possible value of an extension beyond May 1, 1981 is to permit evaluation of information Con Edison has already collected, not collection of more data. As the Staff has testified, Tr. 1128, 1156, such an evaluation may require a considerable period.

127/ Id. § 6.4.1.

that the extension until May 1, 1981 should be granted.[128/]

By the time the FES was published, the Staff's position was quite different. In that document it accepted uncritically the assertions of EPA Region II concerning the interaction between the two agencies' processes,[129/] and opined that "[t]he one year extension [to May 1, 1980] would provide an opportunity for the review and evaluation of all available information" from Con Edison's research program.[130/] Hence, apparently based upon its assessment that the NEPA review process could be completed before work would have to begin to meet the schedule for a termination of once-through cooling by May 1, 1980, the Staff changed its position to one of opposition to the May 1, 1981 date. The FES was changed in a mechanical fashion, so that the section dealing with the alternative of a greater extension of time was cast in terms of extensions for more than only one year--*i.e.*, extensions to a date later than May 1, 1980.[131/] The FES simply does not address the possibility of an extension beyond May 1, 1981, despite the fact that Con Edison's request for an extension was unchanged.

128/ *Id.* § 6.4.3.

129/ *See generally* pp. 6 - 16 *supra*.

130/ FES § 6.4.1.

131/ FES § 5.2.

Yet another change occurred when the Regulatory Staff submitted its benefit-cost testimony in response to the Board's directive. In that testimony, the Staff indicated for the first time that it in fact could not complete its analysis of Con Edison's Final Research Report--and that the associated hearing processes could not be concluded--by the date investment would have to be made in order to meet a May 1, 1981 termination date for once-through cooling at Indian Point 2.[131] Indeed, the Staff for this reason argued that there was no benefit to be achieved from an extension even to May 1, 1981[132]--a false contention which we discuss elsewhere in this Memorandum.[133] The testimony did nothing to evaluate the alternative of extension beyond May 1, 1981.

The difficulty with the Regulatory Staff's benefit-cost analysis with regard to such an alternative should now be clear: the key element in the Staff's prior position (in the FES) that an extension to May 1, 1980 would be sufficient and the maximum permissible was the advertised ability of the Staff to conclude its environmental analyses to permit a final agency decision on the ultimate cooling

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131/ Spore & Van Winkle at 14 & 17; Tr. 1115.

132/ Id.

133/ See pp. 44-48 infra.

system question in time to meet the May 1, 1980 date. The Staff's own testimony presented at the February hearings, however, deprived the Staff of this support of its position, for it was to the effect that it could not even complete its own review before the end of 1977.[134/] The Staff erred in failing, at that point, to go the further step of considering that a net benefit might be achieved if the extension granted were of sufficient duration to permit due analysis and review of the results of the Con Edison research program.

134/ Tr. 1128, 1156.

B. The Staff failed to consider the possibility that, assuming the period of once-through cooling were extended to May 1, 1981 there would be substantial savings to Con Edison and its customers even if a decision to allow operation with once-through cooling were made after construction work for the tower system had begun.

Related to the foregoing deficiency in the Regulatory Staff's environmental analysis is the failure to address the fact that there would be a benefit in the form of avoided cooling tower system expenditures even if a final decision to allow continuation of once-through cooling were not rendered by the time construction work for the tower system had begun. The Staff's witnesses, working from construciton schedules provided by Con Edison,[135/] indicated at the hearing that the middle of 1978 was the latest time by which a final decision would have to be made on the ultimate issue in order to avoid investment in a cooling tower system,[136/] but were unable to explain why the decision had to be made in a particular time frame to produce a benefit.[137/] They further testified that the possibility of a vacation of the cooling system condition had no value as a benefit because it would not be possible to complete review of Con Edison's environmental studies and hearings thereon prior to the time

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135/ See ER § 1.3 & Fig. 1-2.

136/ Tr. 1539-41.

137/ Tr. 1540-42, 1545-46.

irretrievable commitments were to be made to a closed-cycle cooling system.[138]

These assertions tell only a part of the story, for plainly a decision to halt work even after some portion of the cooling tower system expenditures had been made would still avoid outlay of very substantial sums. Dr. Spore apparently accepted as a given that a final decision on Con Edison's application to eliminate the cooling system condition had to be made before commitments to construction were made in order to produce the benefit of avoided expenditures. In this vein, the Staff assertions that it was not aware whether Con Edison might gain "to some extent" if the ultimate cooling system decision were made on some "intermediate ground"[139] -- e.g., after May 1, 1978 and after cooling tower construction had begun -- and that it had not examined the time schedule of expenditures for bringing such a system on line at Indian Point 2,[140] are to be contrasted with the Staff's estimates showing that the costs of cooling tower site preparation and excavation occurring during the first year account for only approximately one-third of the total direct costs of a cooling tower system.[141]

138/ Spore & Van Winkle at 17-18.

139/ Tr. 1316.

140/ Tr. 1337.

141/ Spore & Van Winkle Table 2.

In spite of this, no explanation was offered for the Staff's "no-benefit" assumption and there is no logic to it. If a favorable decision were reached on Con Edison's March 15, 1977 application after substantial construction costs have been incurred but before construction is completed, the saving of the balance of the construction costs and all of the operating costs constitutes a very substantial economic benefit. Furthermore, even if the tower were fully constructed prior to such a decision, there would still be a substantial saving in avoidance of subsequent annual costs. The Regulatory Staff's testimony estimates the total of these costs at $60,805,200.[142/]

If we assume

(1) that the proposed extension of interim operation to May 1, 1981 were granted,

(2) that, as the Regulatory Staff suggests, a final decision were not made until cooling tower construction had commenced; and

(3) that it is subsequently decided that once-through cooling is permissible for the life of the plant,

there is a clear economic benefit to the grant of Con Edison's application arising from the fact that the first year's construction expenditures have been deferred. In other words, if the instant application is granted and the decision to permit once-through cooling for the life of the

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142/ See Proposed Findings and Conclusions at 56.

plant were made at any time thereafter, there will necessarily be an economic saving in the avoidance of at least one year's construction costs. The Regulatory Staff's refusal to recognize this possible economic benefit constitutes a major error.

Con Edison does not contend that the deficiencies noted in this and the preceding subsection of this Memorandum are fatal to the FES prepared by the Regulatory Staff. We submit that the Board can and should hold that the record supports the conclusion that it is impossible to determine at present how long an extension would be necessary in order to permit the Staff to complete its review, and hearing and judicial review processes to run their course, with respect to the ultimate cooling system question at Indian Point 2. With the issues in this amorphous state, the Board need not quantify the benefit that would be achieved either from an extension beyond May 1, 1981, or from the fact that some portion of the total cooling tower costs may be avoided at whatever time a final decision is reached. It is enough for the Board to recognize simply that the benefit would be significant. The record should be clear, however, that it is erroneous to judge, as did the Staff, that neither such contingency could represent a benefit, particularly where, as here, the benefit-cost "balance" developed by the Staff is so precarious.

Moreover, Con Edison has filed an application with the Commission calling, inter alia, for an extension of the interim operation period to reflect whatever time will be necessary for compllletion of the review, hearing and judicial review processes, and construciton of the closed-cycle system, should one be required. As a result, an opportunity will exist for the Commission to assess these matters with the benefit of the Staff's view based upon its preliminary review of the Final Research Report and the Part 51 Environmental Report recently filed.

C. The Staff failed to consider stocking of hatchery-reared striped bass as a means of mitigating impacts during the period of the requested extension.

Another alternative action that could have been but was not considered by the Regulatory Staff is the use of stocking the Hudson River with hatchery-reared striped bass in order to offset any impacts on that species during an extension of the interim operation period. The possible use of stocking as a mitigating measure had been an issue in the operating license proceedings, and indeed, in ALAB-188, the Appeal Board stated:

> [W]e do not view the record as requiring a conclusion at this time that stocking cannot be a viable alternative either as a mitigating measure for short-term impacts or as a viable permanent alternative to closed-cycle cooling. . . . [I]t would appear that stocking could be used, at least to some degree, to offset any significant adverse damage which might result during interim operation . . . .[143]

Con Edison accordingly described its fish hatchery and stocking program in the June 6, 1975 Environmental Report,[144] and again in its testimony at the evidentiary hearing in this case.[145] In that testimony Con Edison's panel of expert witnesses presented the judgment that "if deemed necessary upon a balancing of the benefits and costs, stocking of striped bass could be continued during the interim

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143/ ALAB-188, 7 AEC at 402.

144/ ER § 3.4.1.

145/ Campbell, Lawler, Marcellus, May & McFadden at 75-81.

operation period as a measure to offset impacts."[146]

The Staff ignored the problem despite the prominence it had been given in ALAB-188 and the operating license hearings that preceded that decision. The FES makes no mention of this mitigating measure in the "alternatives" section[147] and provides only a cryptic reference to[148] and no meaningful description of this aspect of Con Edison's research program in its summary of that program.[149]

Con Edison submits that despite the Staff's failure to render a meaningful account of this alternative measure, the stocking of hatchery-reared striped bass could be considered by the Board as a condition to any order granting the requested extension until May 1, 1981, if it were shown that such a condition was justified by a balancing of the benefits and costs. On the record developed in this proceeding, however, it is evident that the total fishery impact of an extension for one year to May 1, 1981 would have such a small environmental cost attached to it that an offsetting program of stocking would not be warranted.[150]

146/ Id. at 81.

147/ FES Ch. 5.

148/ FES Fig. 3.2.

149/ Id. § 3.2.5.

150/ See generally Proposed Findings and Conclusions, Part II (A). Con Edison's new data with respect to the feasibility of hatchery rearing and stocking as a long-term mitigation measure represent another area where the benefits and costs of closed-cycle cooling should be reexamined.

V

THE BENEFITS OF AN EXTENSION OF THE OPERATION UNTIL MAY 1, 1981 CLEARLY EXCEED THE COSTS.

A. The Regulatory Staff and Con Edison are in agreement that the impact on the fishery will be negligible.

Both the Regulatory Staff and Con Edison concluded after examination of all available data and analyses that the impacts on the fishery of once-through cooling on the fishery at Indian Point 2 are slight.

The Regulatory Staff's FES addressed not only the negligible impact on the striped bass fishery,[151] but on other fish species and aquatic life as well.[152]

Con Edison presented the same conclusions in the ER. The Transport Model, predicted that reductions of young-of-the-year (Adult I) that would occur would be 0.49% (minimum) and 1.30% (maximum) for 1979. For 1980, the predicted reductions were 0.47% (minimum) and 1.23% (maximum).[153] Section 2.1.3.1.2.3.1 concluded that "in general, the model predictions involving Indian Point 2 alone suggest

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151/ FES § 3.2.2.1. "The incremental long-term impact on the striped bass population due to the requested extension of time is negligible."

152/ FES § 3.2.3.

153/ ER at 2-33.

that the project[ed] delay. . . will have only a small impact on the Hudson River striped bass population."[154] The ER also concluded that, based on the record of striped bass impingement at Indian Point since 1972, and on preliminary estimates of the size of the striped bass population in the Hudson River, that the extension will have "negligible impingement impact on striped bass."[155]

Addressing other fish species, Con Edison estimated that the extension and impingement resulting from the requested extension would not result in an irreversible or adverse impact on the Hudson River white perch[156] and the American shad[157] populations.

The Staff's witnesses stated that the biological impacts on the Hudson River fishery[158] due to the extension would be negligible. Con Edison's witness reached the same conclusion, with regard to the Hudson biota.[159]

Con Edison placed a value of approximately $112,000 on the environmental cost of a one-year extension to May 1,

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154/ Id. at 2-34.

155/ Id. at 2-48.

156/ ER at 2-53.

157/ Id. at 2-54.

158/ Spore & Van Winkle at 27; Tr. 1231-32.

159/ Campbell, Lawler, Marcellus, May & McFadden at 3.

1981.[160] Although the Regulatory Staff agreed with Con Edison that biologically the costs are indeed low, the Regulatory Staff attempted to inflate the economic cost figure by equating the value of the fishery to the cost of building cooling towers, resulting in a one-year cost figure of $11,053,500.[161] Such a figure must be rejected by the Board in view of the numerous errors in the Regulatory Staff's analysis, as discussed above.[162] Therefore, the Regulatory Staff's original concurrence in Con Edison's determination that Hudson River fishery impacts are insignificant is the correct cost item to be used by the Board in the benefit-cost analysis, and it is suggested that the Board adhere to the $112,000 figure as consistent with the undisputed biological testimony.

160/ Gueron, Szeligowski & Englert at 4.

161/ Spore & Van Winkle at 29.

162/ See pp. 26-30.

B. The benefits of the requested extension to May 1, 1981 are substantial, and plainly exceed the costs.

The Board should properly draw its benefit-cost analysis from Con Edison's evidence.[163] For the purposes of this proceeding,[164] it would be sufficient to conclude that the monetized benefits of the proposed action are in the range of $6,797,000 to $10,620,700.[165] Although there is limited disagreement between Con Edison and the Regulatory Staff over the appropriate figure for this benefit, in either case the sum arrived at far outweighs the environmental cost of $112,000 calculated on the monetary value of the impact to the striped bass fishery. Con Edison has produced a ratio of 60 to 1.[166] Even if the Board were to accept the Regulatory Staff's specious assessment of the value of the risk of irreversible reduction of the fish population as being equal to the cost of cooling towers, as discussed in § III(C)(1) supra, the Staff's benefit-cost ratio remains in a precarious state while excluding a major benefit, i.e., the possibility of avoidance of unnecessary commitment of resources pending a final decision on closed-cycle cooling. The Regulatory Staff has testified that its

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163/ See Gueron, Szeligowski & Englert; Con Edison Ex. OT-1.

164/ See Proposed Findings of Fact and Conclusions of Law at 52.

165/ Gueron, Szeligowski & Englert at 12; Spore & Van Winkle at 28.

166/ Gueron, Szeligowski & Englert at 12.

benefit-cost ratio is extremely sensitive.[167] As it stands, the Regulatory Staff's benefit-cost ratio is "close to one",[168] and yields a margin of only $432,800.[169] Con Edison has shown the logical necessity that the potential avoidance of unnecessary costs be made an element in the benefit-cost ratio, and as the Staff witness conceded, any additional benefit would have a very critical effect on the benefit-cost ratio.[170]

At the hearing Mr. Briggs suggested a possible procedure for valuing the benefit of the extension which was different from that suggested by any party. Mr. Briggs' suggestion concerned valuing the loss of reliability of Con Edison's electric service. The Regulatory Staff in its testimony stated there should be no value attributed to this factor for a cooling tower built in either 1980 or 1981.[171] The Con Edison testimony valued the decrease in reliability by determining the purchase cost of replacement capacity in

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167/ Tr. 1152.

168/ Id.

169/ Tr. 1142.

170/ Tr. 1153. As discussed at pp. 26-30, supra, the Staff witness was unwilling to endorse the benefit-cost ratio presented as being "the only possible one," (Tr. 1260, but rather, stated that it was simply one of a set of possible situations.

171/ Spore & Van Winkle at 12.

a similar manner for the 1980 outage and the 1981 outage, resulting in no significant difference in this factor between these two years.[172/] Mr. Briggs suggested one might assume there was no requirement for replacement power in 1980 with Indian Point 2 out of service, and that the loss of reliability for 1981 should be valued by the cost of bringing 1981 reserves up to the level which would exist in 1980 with Indian Point 2 out of service.[173/]

Con Edison respectfully submits that this concept is in error. It is incorrect for purposes of benefit-cost analysis to start with the premise that there is a specific amount of correct reserves, and that there was no cost applicable to decreases in that level. To the contrary, the concept of reliability inherently involves a gradient. The fact that power planning bodies establish minimum reserve requirements is not determinative for a benefit-cost analysis. The fact is that when a system loses 873 megawatts there is a decrease in reliability which must be valued in a benefit-cost analysis, whether the resulting planned reserve is above or below the specified minimum. It should be beyond question that the more reserve a system has, the greater its reliability, and any decrease in this reliability to any

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172/ Gueron, Szeligowski & Englert at 12, and Tables 2 & 3.

173/ Tr. 1631-32.

extent must be valued in a proper benefit-cost analysis. Accordingly, the loss of the full 873 megawatts in 1980 cannot be valued at zero, if one is going to evaluate the loss of reliability at all. Furthermore, this procedure would make the value of the loss of reliability and the results of the benefit-cost analysis totally dependent upon an extraneous circumstance, i.e., the total reserves in 1981. Since the suggested procedure involves bringing 1981 reserves up to the level which would exist in 1980 without Indian Point 2, if 1981 reserves were to decrease for some reason unrelated to Indian Point, the amount required to bring those reserves up to the 1980 level would increase. Therefore, the value of the loss of reliability by reason of the outage of Indian Point 2 would increase because of a fact which is unrelated to these proceedings.

Mr. Briggs suggested that the value of a decrease in reliability might fluctuate depending on how close it is to the required minimum. He suggested that changing the margin from 20% to 21% might have a different value than from changing the margin from 30% to 31%.[174/] While this is correct as a conceptual matter, it is not meaningful to measure this fluctuation for a benefit-cost analysis. Actual reserves will probably differ from reserves planned

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174/ Tr. 1624.

this far in advance, so that it would be difficult to determine the level of margin in question.

This is a similar problem to valuation of loss of striped bass by operation of the once-through cooling system. Both the Regulatory Staff and Con Edison assumed in their evaluation methods a direct relationship between the decline in population and value of the fishery loss. However, it is much more likely that decreases at large population levels would have a lesser value than decreases at a smaller population level.

C. The extension will permit minimization of commitments of resources pending the Commission's ultimate NEPA review of the Final Research Report.

The Board must view the extension request in the context of the overall regulatory framework to which Con Edison is subject. We respectfully submit, however, that the extension, rather than prejudicing the outcome of the proceedings with respect to the overall need for closed-cycle cooling at Indian Point 2, will in effect further the ends of that proceeding by minimizing irreversible and irretrievable commitments of resources to closed-cycle cooling before a final determination on that question can be made. That irreversible and irretrievable commitments of resources be prevented before the final Federal agency action is taken is one of the primary goals of the National Environmental Policy Act.[175/] It is essential under NEPA that agencies not embark on a proposed action until a full and complete NEPA review, based on an adequate benefit-cost analysis, is conducted.[176/] The Regulatory Staff fails to recognize the fact that this extension, as it relates to the

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175/ 42 U.S.C. § 4332(2)(c) (1970) see also People of Enewetak v. Laird, 353 F. Supp. 811 (D. Haw. 1973).

176/ Calvert Cliffs' Coordinating Comm. v. AEC, 449 F.2d 1109 (D.C. Cir. 1971); Conservation Society of Southern Vermont, Inc. v. Secretary of Transporation, 508 F.2d 927 (2d Cir. 1975). See also Public Service Co. of New Hampshire (Seabrook Station, Units 1 & 2), ALAB-349, 4 NRC 235 (1976).

commitment of resources within the meaning of § 102 of NEPA, will preserve the status quo, instead of creating a dilemma under which Con Edison might have to choose between proceeding with a closed-cycle cooling system while the need for that system was under active review, and running the risk of an extended outage after the May 1, 1980 date if the ultimate decision is to require a cooling tower system. Preservation of the status quo avoids the costs involved in either of these contingencies, and poses no substantial environmental concerns. For this reason, it is incumbent upon the Board to allow the requested extension until May 1, 1981.

D. The true test of whether the data base and analytical tools have improved sufficiently to warrant an extension to permit plenary review is not the Staff position expressed in the Final Environmental Statement in the Indian Point 3 case, but the Indian Point 2 record as it stood at the close of the operating license hearing in this docket in 1973.

The Regulatory Staff has placed considerable emphasis in its presentation in this case on the Final Environmental Statement it published in February 1975 with respect to issuance of an operating license for Indian Point 3. At times it has appeared that the Staff's underlying notion was that the issue before this Board was not whether the empirical data and analytical tools have been improved since the record was closed with respect to the Indian Point 2 operation license in 1973, but whether these empirical data and analytical tools have been improved since the Staff's Indian Point 3 FES was issued.[177/] This represents a fundamental misconception which the Board should identify as such, and reject.

Two months after the evidentiary session in December, the Regulatory Staff, in transmitting the benefit-cost testimony it was directed by the Board to file,[178/] indi-

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177/ See, e.g., Tr. 145, 861-62.

178/ Tr. 869-70.

cated that it would ask the Board to take official notice of the Indian Point 3 operating license FES published in February 1975.[179] The document had been in existence, of course, even before the application was filed in the present case, and was freely referred to by the Staff and other parties as might any similar environmental study. Nevertheless, after the December hearings had been extended (for the purpose, it might be added, of securing a quantified benefit-cost analysis from the Staff),[180] that Staff for the first time decided that it was necessary for it to seek an order taking offical notice of this FES.

At the reconvened hearing in February 1977, Con Edison objected on several grounds, including the extreme tardiness of the Regulatory Staff's request, and the immateriality of the Staff's position in another case, stated at a time even earlier than the extension application was filed.[181] It was also objected to on the grounds that official notice was unnecessary under the circumstances (since any party would be free merely to cite to the material, without such notice being taken),[182] and the request failed

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179/ Letter from Marcia E. Mulkey to the Board, February 14, 1977, at 1-2.

180/ Tr. 869-70.

181/ Tr. 1095-96, 1099.

182/ Tr. 1097, 1103.

to conform with the requirement of Commission's Rules of Practice that the portions to be noted be specified with "sufficient particularity."[183] With respect to the latter point, the Board required Staff counsel to designate those portions of the Indian Point 3 FES that the Staff desired to be noted.[184] The Staff responded by designating several chapters and an appendix to the Indian Point 3 FES, totalling over six hundred single-spaced pages of typescript.[185] Plainly it was not necessary to take official notice of these 600 pages to establish the limited point for which these pages were cited. In any event, to take notice of this material, makes a travesty of the "sufficient particularity" provision cited above.

(1) The Staff's Final Environmental Statement in the Indian Point 3 operating license proceeding was never subjected to cross-examination.

It is apparent that the Regulatory Staff's wish to make the Indian Point 3 FES a part of the record through an invocation of the official notice mechanism represents an effort to capitalize on certain comments made with respect to that FES by the Commission in the Indian Point 3 case.[186]

183/ Tr. 1102-03; 10 C.F.R. § 2.743(i)(1)(1977).

184/ Tr. 1099-1100.

185/ Tr. 1100-04.

186/ CLI-75-14, 2 NRC 835, 838-39 (1975).

As we will shortly demonstrate, the document is essentially immaterial to the question before the Board in this proceeding, but even if it were material, it would not be entitled to official notice. First, with regard to the Commission's Indian Point 3 decision, Con Edison would respectfully note that any reference in that case to the status of the Indian Point 2 licensing is obiter dictum, since that decision involved another facility.[187/] Reference to Indian Point 2 was manifestly not essential to the disposition of the question before the Commission.[188/]

More importantly, however, the course of the Indian Point 3 licensing--of which the Board can take official notice--did not include cross-examination of the Staff with respect to the FES. The case was settled by a stipulation which helped to avoid, in the public interest, what might have been a lengthy although premature hearing on the environmental issues. By entering into the stipulation, which on its face and by its terms purported to govern only

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187/ Arkansas Power & Light Co. (Arkansas Nuclear One Unit 2), ALAB-94, AEC 25, 30-31 (1973).

188/ Dicta are, of course, unappealable. See, e.g., Murray v. Menzies Real Homes Co., 236 Mich. 77, 210 N.W. 217, 218 (1926); Metropolitan Edison Co. v. FPC, 169 F.2d 719, 725 (3d Cir. 1948); Carolina Aluminum Co. v. FPC, 97 F.2d 435 (4th Cir. 1938); cf. Northern States Power Co. (Prairie Island Nuclear Generating Plant, Units 1 and 2), ALAB-252, 8 AEC 1175 (1974), aff'd, 1 NRC 1 (1975); Toledo Edison Co. (Davis-Besse Nuclear Power Station), ALAB-157, 6 AEC 858 (1973).

the Indian Point 3 licensing, Con Edison forewent its opportunity to conduct cross-examination of the Staff in that case. Any suggestion that the relinquishment of that right, provided under the Commission's Rules of Practice and the Administrative Procedure Act, is now to be construed to apply as well to the Indian Point 2 proceeding, would violate the stipulation, and its non-waiver provision.[189] We respectfully submit that the taking of official notice in the circumstances of this case would retrospectively and unfairly alter the terms of the parties' agreement, and would have a "chilling effect" on the use of the stipulation mechanism that the Commission's Rules of Practice purport to encourage.[190]

(2) Even if the Indian Point 3 Final Environmental Statement constitutes the Staff's "fresh look" as required by the Appeal Board in ALAB-188, the Staff's position as it stood in February 1975 is immaterial to the disposition of the present proceeding.

Central to the Appeal Board's April 4, 1974 decision in this case was the directive that the Regulatory Staff take a "fresh look" at certain of its positions, and reconsider the portions of the operating license FES to

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189/ CLI-75-14, 2 NRC at 845 (Stipulation ¶6).

190/ 10 C.F.R. § 2.759 (1977); Maine Yankee Atomic Power Co. (Maine Yankee Atomic Power Station), CLI-74-2, 7 AEC 2, 3 n.1 (1974).

which they relate.[191] The matter seemed so critical to the Appeal Board that the directive appears in italics in the decision. The Staff's Indian Point 3 FES was found deficient by the Appeal Board in its failure to take the requisite "fresh look",[192] a decision with which the Commission disagreed on this point.[193] The fact of the matter, however, is that whether or not the Indian Point 3 FES represented the requisite "fresh look" is an essentially academic inquiry as it relates to the present case.

First, the Indian Point 3 FES was published in February 1975, having been completed in late 1974. Thus, the data and analyses in that document are now more than two years old. Necessarily, the Indian Point 3 FES could not take into account the contents of the Environmental Report submitted by Con Edison on June 6, 1975, or any of the numerous individual ecological reports submitted after that FES went to press. In any event, it is difficult to perceive how the Indian Point 3 FES, as a statement of the Regulatory Staff's position as of a date before the extension application was even filed, could be material to the disposition of that application. The issues before the Board now do not include the question whether the Staff has

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191/ ALAB-188, 7 AEC 323, 407 (1974).

192/ ALAB-287, 2 NRC 379 (1975).

193/ CLI-75-14, 2 NRC 835, 838 (1975).

taken a "fresh look"; rather, they go to whether new empiricial data and analytical tools have been presented since the time of the operating license hearings for Indian Point 2.[194] Accordingly, to the extent that the Staff is seeking, by its request for official notice of the Indian Point 3 FES, to obtain Commission approval of its late 1974 "fresh look" it is not only beating a dead horse, but addressing the wrong issue.

The record of this case is replete with evidence that substantial and important new empirical data have been obtained and analytical tools developed since the time of the 1973 operating license hearings.[195] The Staff has conceded as much.[196] And even taking the Indian Point 3 FES as the starting point for this examination -- an approach we submit cannot properly be adopted -- the Staff has still conceded the presence of substantial and important new empiricial data and analytical tools. The Staff thus has recognized that a "second fresh look" is needed,[197] and its witnesses testified that data and analytical tools on important issues were being assessed and in some cases re-

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194/ See Tr. 66-67 (Remarks of Mr. Briggs).

195/ See generally Findings and Conclusions Pt. II(A).

196/ Supplemental Testimony of NRC Staff in Response to Board Comments on Aquatic Impact Analysis, Dr. Webster Van Winkle ("Van Winkle"), following Tr. 1069, at 4-5; Spore & Van Winkle at 15-16; Tr. 1274; 1297.

197/ Tr. 1309.

assessed[198] in connection with the Staff's review of the Final Research Report and other individual reports submitted by Con Edison. For these reasons, the Staff's position as stated in the FES for Indian Point 3 is immaterial to the instant case, and official notice should not be taken of it.

198/ Tr. 1273-94.

E. Important new evidence that bears on the need for closed-cycle cooling has been submitted and should be considered by the Commission.

The Appeal Board in ALAB-188 did not absolutely require cooling towers. Rather, it provided a framework under which, if Con Edison could produce substantial new data on the impacts of once-through cooling at Indian Point 2, Con Edison would be entitled to an externsion of operation with once-through cooling and subsequent reassessment of the need for closed-cycle cooling. In that Con Edison has produced important new evidence bearing on the need for closed-cycle cooling, the extension section of the condition is brought into play, requiring a thorough examination of this issue.

It should be noted that the Appeal Board's recognition of the need for an arrangement responsive to new information is not unique. In Duke Power Company[199/] the Appeal Board noted the importance of new information as it related to issues being adjudicated.[200/] Again in Vermont Yankee[201/] the Appeal Board reiterated the importance "of new evaluations",[202/] as they impact upon proceedings still

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199/ William B. McGuire Nuclear Station, Units 1 & 2, ALAB-143, 6 AEC 623 (1973).

200/ Id. at 625.

201/ Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Plant Station), ALAB-167, 6 AEC 1151 (1973).

202/ Id. at 1151.

before the Commission, and ordered a reopening of the hearing.[203]

Although both of these cases involved non-NEPA questions, the Appeal Board in a more recent decision[204] cited these earlier cases stating that "the single issue being considered in ALAB-167 was safety-related [i.e., fuel densification] and thus this board was not there called upon to decide whether the same test would apply to the reopening of a record on an environmental issue. We perceive no good reason, however, why different standards should be invoked."[205]

Hence, as the Appeal Board in ALAB-188 recognized, substantial new evidence on the environmental impacts of once-through cooling at Indian Point 2 would merit consideration by the Commission. As discussed in § V(C), supra, the Commission would be frustrating the goals of NEPA by refusing an extension pending the reassessment, called for by the Regulatory Staff,[206] of Con Edison's new evidence.

That such important new evidence does exist has been amply demonstrated. Con Edison and the Regulatory Staff concur that evaluation for the first time or reassess-

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203/ Id. at 1153.

204/ Georgia Power Co. (Alvin W. Vogtle Nuclear Plant, Units 1 & 2), ALAB-291, 2 NRC 404 (1975).

205/ Id. at 409.

206/ Van Winkle at 4-5; Spore & Van Winkle at 15-17; Tr. 1274-75, 1329.

ment, is necessary in the following areas: (1) the contribution of the Hudson River-spawned striped bass to the Atlantic coastal striped bass fishery;[207] in particular the significant advances made in calculating such contribution based on iterative and adjusted estimates;[208] (2) the operation of compensatory factors in the striped bass population near Indian Point 2;[209] (3) the new results relating to entrainment mortality, particularly with regard to net-induced mortality;[210] (4) the refinement of the f factors utilized by Con Edison and the Regulatory Staff in their impact analyses;[211] (5) the Equilibrium Reduction Equation Method for impact assessment;[212] (6) important new abundance and concentration factors resulting from empirical evidence gathered since ALAB-188, most importantly involving data from two years of full power operation.[213] Con Edison has also produced significant new information on the following two subjects: (1) the efficacy of mitigating measures,

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207/ Van Winkle at 4; Spore & Van Winkle at 15; Tr. 1274.

208/ Tr. 1553.

209/ Van Winkle at 4; Spore & Van Winkle at 15; Tr. 1274, 1328.

210/ Id.

211/ Id.

212/ Van Winkle at 5; Spore & Van Winkle at 16; Tr. 1273.

213/ Tr. 1328.

particularly stocking of hatchery-reared striped bass near Indian Point 2;[214] and (2) important new developments in mathematical modeling, particularly the Real-Time Two Dimensional Model utilized by LMS.[215]

Con Edison has testified that the new evidence and analyses developed would be incorporated into the 1977 Final Research Report.[216] Although the contents of the Final Research Report were not made a part of the extension proceeding record, the other reports and analyses submitted in this proceeding more than amply indicate the presence of sufficient new empirical evidence and analytical tools to require re-examination. The Regulatory Staff does not dispute that a substantially improved data base now exists. Based on the application of the principles set out in ALAB-188 to this situation, it is imperative that this new evidence be examined.

214/ Campbell, Lawler, Marcellus, May & McFadden at 3.

215/ Id.

216/ Campbell, Lawler, Marcellus, May & McFadden at 8-9, 16, 26, 30, 49, 65.

CONCLUSION

For the foregoing reasons, the Atomic Safety and Licensing Board should rule that the benefits of the proposed extension of the interim operation period to May 1, 1981 exceed the costs, and that, as a result, the application should be granted.

Respectfully submitted,

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