REGULATORY DOCKET FILE COPY

UNITED STATES ATOMIC ENERGY COMMISSION

IN THE MATTER OF:

CONSOLIDATED EDISON COMPANY OF
NEW YORK, INC.

(Indian Point Station, Unit No. 2)

Docket No. 50-247

REGULATORY CENTRAL FILES

ORAL ARGUMENT

Place -

Date - Washington, D. C.

Monday, 2 July 1973

Pages 1 - 179

DOCKETED USAEC JUL 6 1973 REGULATORY MAIL SECTION DOCKET CLERK

Telephone:
(Code 202) 547-6222

ACE - FEDERAL REPORTERS, INC.
Official Reporters
415 Second Street, N.E.
Washington, D. C. 20002

NATIONWIDE COVERAGE

REGULATORY DOCKET FILE COPY

5272

8110150018 730702
PDR ADOCK 05000247
T PDR

C 566
CRAIG/Ro

UNITED STATES OF AMERICA

ATOMIC ENERGY COMMISSION

- - - - - - - - - - - - - - - - - - - -X

In the Matter of:

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

(Indian Point Station, Unit No. 2)

- - - - - - - - - - - - - - - - - - - -X

Docket No. 50-247

ORAL ARGUMENT

U. S. District Court
Bankruptcy Court
Room 2106
Third and Constitution Avenue
Washington, D. C.

Monday, 2 July 1973

Oral argument in the above-entitled matter was convened, pursuant to notice, at 9:00 a.m.

BEFORE:

SAMUEL W. JENSCH, Esq., Chairman, Atomic Safety and Licensing Board

DR. JOHN C. GEYER, Member

R. B. BRIGGS, Member

APPEARANCES:

LEONARD M. TROSTEN, EDWARD L. COHEN, EDWARD J. SACK, Esqs., 1821 Jefferson Place, N. W., Washington, D. C. 20036; on behalf of the Applicant.

MYRON KARMAN, Esq., Office of General Counsel, United States Atomic Energy Commission, Bethesda, Maryland; on behalf of the AEC Regulatory Staff.

JAMES P. CORCORAN and PETER N. SKINNER, Esqs., 80 Centre Street, New York, New York 10013; on behalf on New York State.

e – Federal Reporters, Inc.

Ro

ANTHONY ROISMAN, Esq., 1712 N Street, N. W., Washington, D. C. 20036; on behalf of Intervenor, Citizens Committee for the Protection of the Environment, and on behalf of the Environmental Defense Fund.

ANGUS MACBETH, 15 West 44th Street, New York, New York 10036; on behalf on Intervenor, Hudson River Fishermen's Association.

P R O C E E D I N G S

CHAIRMAN JENSCH: Please come to order.

This proceeding concerns an oral argument in the matter of Consolidated Edison Company of New York, Inc., in reference to its application for operating authority at full power limits for its nuclear power station designated as Indian Point Station Unit No. 2.

This proceeding is reflected in the Atomic Energy Commission Docket 50-247. This proceeding is convened in accordance with indications given at the last evidentiary session in this proceeding held on April 26, 1973, wherein it was indicated that the Atomic Safety and Licensing Board desired to have oral argument in this proceeding after the submittal of the proposed findings and conclusions.

The findings and conclusions have now been submitted, and a formal order designating this place and date for the oral argument was issued on May 31, 1973, and given general publicity distribution, which included publication in the Federal Register as reflected by Volume 38 of the Federal Register at page 14877, and this publication occurred on June 6, 1973.

The Board has, as I have indicated, received the proposed findings and conclusions and the Board has given consideration to the several submittals.

We do have several inquiries respecting these

2mil

several submittals, but we will propound them during the course of the presentation of oral argument.

For the record, appearances are appearances on behalf of the Applicant, Consolidated Edison Company of New York, Inc., by Messrs. Trosten, Sack, and Cohen.

And by the Regulatory Staff of the Atomic Energy Commission, by Mr. Karman.

Hudson River Fishermen's Association, by Mr. Macbeth.

The Environmental Defense Fund and Citizens Committee for the Protection of the Environment, by Mr. Roisman.

And the Attorney General of the State of New York, by Mr. Corcoran and Mr. Skinner.

After the submittal of the proposed findings and conclusions on behalf of the Applicant, the Board requested the Applicant to summarize the quite lengthy presentation that the Applicant had presented, as reflected in 250 pages, approximately, of their proposed findings and conclusions.

The Applicant did submit a summary of those proposed findings and conclusions. There was an additional statement, however, that the Applicant submitted in connection with that summary, which indicated that perhaps the Applicant felt the 25-page limitation that we had requested for a summary

3mil

was not adequate.

If the Applicant desires to resubmit or supplement its summary in that regard, will it kindly do so within 10 days from the date hereof?

MR. TROSTEN: We do not intend to resubmit, Mr. Chairman.

CHAIRMAN JENSCH: Very well.

The Citizens Committee for the Protection of the Environment transmitted a letter to the Board indicating that it did not withdraw from its position on radiological safety considerations, and its position was reflected in its proposed findings and conclusions which had been submitted by the Citizens Committee for the Protection of the Environment, at the time of the consideration of the testing license, which had been sought by the Applicant and the authority for which was issued, I believe, on July 14, 1972.

During the course of the presentation by the Citizens Committee for the Protection of the Environment, the Board requests the Citizens Committee to identify the particular proposed findings which are of special concern to the Citizens Committee.

We have reviewed the original submittal by the Citizens Committee and are not sure that the determinations which were made for the testing license did not adequately consider the proposals in that regard.

4mil

The other presentations of proposed findings and conclusions seem primarily related to the concern that involved a great deal of time in our hearings subsequent to July 14, 1972, and that is in reference to the recommendation by the Regulatory Staff which is supported by the Hudson River Fishermen's Association, that alternate closed cycle cooling system be installed rather than the once-through cooling system presently designed for operation by the Applicant.

During the course of the various submittals of the proposed findings and conclusions, a letter was received by the Atomic Safety and Licensing Board from the Mayor of Buchanan, which was filed by the Board thereafter its receipt, with the Public Proceedings Branch of the Atomic Energy Commission. The letter is not a part of the record in this proceeding.

The Board will give consideration to any statements by the parties here today as to what disposition should be made, if any, of that letter. And in that regard, the attention of the parties is directed to a submittal by the Applicant in its memoranda in support of its proposed findings of fact and conclusions of law, that is, on page 4 thereof.

The Applicant indicates, or rather let the inferences be drawn by those who read the statement, which is as follows:

There must also be considered the huge size of a

ce-Federal Reporters, Inc.

5mil

natural draft cooling tower approximately 400 feet high and the same width, will dominate the landscape around Indian Point and make the structure visible for many miles, assuming that the necessary permits can be obtained for its construction -- an assumption for which there is no reliable evidence, and indeed some contrary indications in view of the May 9, 1973, letter to the Board from the Mayor of the Village of Buchanan.

That is the end of the sentence.

The Board will welcome statements by the Applicant as to whether that statement is intended to say that there are some contrary indications of evidence as reflected by the letter to the Board from the Mayor of the Village of Buchanan. The reference to the letter from the Mayor, as utilized in this summary, appears to recommend that the letter be a part of the evidence in this proceeding.

And if that be the position of the Applicant, the Board will give consideration to statements of the parties as to their views respecting that matter, or how it should be considered.

As has been indicated, the Board has reviewed to some extent all of the proposed findings and conclusions submitted by the parties, but as to all of which, further examination will be made.

But in the arguments this morning, we would

Ace-Federal Reporters, Inc.

6mil

appreciate a summary reference to the several proposed findings, rather than a particular recital or a reading from the proposals which have been submitted.

Mention should also be made that during the course of the submittal of the proposed findings and conclusions, the Regulatory Staff of the Atomic Energy Commission has submitted a memorandum on the effect of the Federal Water Pollution Control Act Amendments of 1972, and the impact thereof on the Indian Point 2 proceeding. This memorandum deals not only with the Federal Water Pollution Control Act Amendments, but also the interim policy statement which was adopted by the Environmental Protection Agency and the Atomic Energy Commission in reference to the application of the Federal Water Pollution Control Act Amendments.

The Board has found this brief of the Regulatory Staff very helpful in its consideration of the several matters that are to be considered in this proceeding, and if formal reply is not contemplated by the parties to that memorandum from the Regulatory Staff, the Board will appreciate -- well, in addition, will appreciate hearing comments by the parties in reference to the memorandum from the Regulatory Staff and any other comments that the parties desire to give in reference to the Federal Water Pollution Control Act Amendments and the interim policy statement adopted by the Atomic Energy Commission and the Environmental Protection Agency.

7mil

With that as a preface, and intended as no limitation on the parties, may we hear first from the Applicant for whatever comments the Applicant desires to make in further support of its submittals, but also to deal with the contentions of the parties as reflected by the proposed findings and conclusions.

In the reply document which the Applicant filed to the presentation by the other parties, there are several conclusionary statements therein. Just an example -- I have just turned over the pages here -- here is page 52 of the Applicant's reply to the proposed findings of fact and conclusions of law submitted by the Citizens Committee for the Protection of the Environment, which was related to the March 10th -- that is, its reply was dated March 10, 1972, and deals with several of the matters which were reflected in the proposed findings and conclusions submitted by the Citizens Committee in reference to the testing license, where in the Applicant's statement these findings are not supported by evidence in the record.

If there are any references to the contrary, that type of thing, we would appreciate references in that regard, because we are concerned, among other matters, of course, with respect to the extent to which the radiological safety matters are still at issue in this proceeding.

May we hear from the Applicant first?

8mil

xxx

MR. TROSTEN: Mr. Chairman, I have remarks which I believe will take about 15 minutes in order to respond.

CHAIRMAN JENSCH: As to that, let us say that the Board does not intend to limit any presentation here. We have set aside the entire day and we will go into the night, if necessary, but we do like full exposition of the various positions of the parties.

MR. TROSTEN: Thank you.

Mr. Chairman, the evidentiary record in the Indian Point 2 proceeding has at least been concluded after two and one-half years. In many ways, this hearing has manifested the ills which have afflicted the Nuclear Power Program and the growing pains which have afflicted that program throughout the entire United States. Thus, many of the generic safety issues which have been raised in rulemaking and judicial proceedings around the nation had their counterpart in this hearing, and the environmental revolution which was wrought by the enactment of NEPA and the Calvert Cliffs decision has had perhaps a greater impact in this hearing than in any other before the Atomic Energy Commission.

Nevertheless, despite these complexities, the basic issues before the Board are relatively simple. The Board is charged with making a determination whether there is reasonable assurance that Indian Point 2 can operate without endangering the public health and safety.

Ace-Federal Reporters, Inc.

9mil

In essence, the hearing on that issue concluded last summer. Although the Citizens Committee was permitted to offer evidence and to cross-examine with regard to its additional contentions concerning fuel densification and thin-wall valves, the Citizens Committee failed to submit proposed findings and conclusions to the Board, although requested to do so, and hence, is in default.

Thus, the issues raised by the Citizens Committee with regard to the full-term, full-power license are essentially those which were dealt with in Con Edison's and the Staff's proposed findings and conclusions, and which were disposed of in the Board's July 14 decision. In that decision the Board rejected the argument by the Citizens Committee that Con Edison has failed to prove that Indian Point 2 should be allowed to operate.

The Citizens Committee thesis, then and now, is that not enough is known about nuclear reactors to allow them to be licensed to produce electric power, and that until we can be sure that there is essentially no risk associated with these plants, we should not build them, or to be more specific, we shouldn't operate them once they have been built.

The simple answer to this contention is that Congress has repeatedly considered it and has rejected this argument. The Congress has decided that there is sufficient benefit to the people of this country from the operation of these

10mil

1 facilities that they should be licensed, provided it can be
2 shown that they meet the AEC's exacting safety standards.
3 As Judge Pratt remarked last week in the course of
4 oral argument prior to his decision dismissing Mr. Ralph
5 Nadar's suit to shut down most operating power reactors in
6 the United States, the AEC's role is rather like that of the
7 Federal Aviation Administration in considering aircraft
8 safety. That is, the obviously best way of preventing air-
9 craft accidents is not to fly the planes. But there is a
10 sufficient benefit to be derived from the operation of air-
11 craft that an informed safety judgment has to be exercised
12 by the responsible agency and Congress has directed that that
13 type of a process go on.
14 We submit that voluminous evidence in this
15 proceeding on radiological safety matters fully justifies
16 a decision by this Board that the Atomic Energy Commission
17 safety requirements have been satisfied and that the requested
18 full-term, full-power operating license should be issued for
19 Indian Point 2.
20 Now, with respect to the environmental issues
21 presented here, a statement made in a recent talk by Russell
22 Train, the Chairman of the Council on Environmental Quality,
23 is particularly pertinent. Mr. Train summarized the
24 philosophical underpinning of the new environmental ethic as
25 follows: -- and I quote --

Ace-Federal Reporters, Inc.

llmil

Irreversible commitments of resources should be avoided where possible in order to maintain the broadest possible options for the future.

Mr. Chairman, this is the essence of Con Edison's position in this case, and the viewpoint that we earnestly urge the Board to adopt in its decision here.

Everyone agrees that Indian Point 2 should commence operation as soon as possible with its presently designed once-through cooling system and that the plant should operate for several years in that mode.

The dispute resolves to whether irreversible damage will likely be done to the Hudson River fishery if the plant is allowed to operate with its presently designed once-through cooling system until September 1, 1981, which is some three and a half years beyond the period recommended by the AEC Staff, while the studies necessary to determine the real as opposed to the hypothetical and speculative environmental impact of the plant and the best means of mitigating that impact are completed.

Now there are all sorts of subsidiary factual questions that have been presented, but these don't alter the basic issues. Ultimately, this Board has to decide whether it is reasonable to decide now, in July, 1973, that a huge financial burden must be imposed on Con Edison's customers for a closed-cycle cooling system, roughly $20 million a

12mil

a year for over 30 years, the next generation of human beings, together with the æsthetic and possible adverse environmental impacts associated with such a closed-cycle cooling system, rather than to allow the additional short period of time to complete these studies.

The postulated environmental impact of Indian Point 2 is in sharp dispute, but no one disagrees that a permanent mitigating measure, that is, closed-cycle cooling, is available and can be installed by September 1, 1981. Hence, in reaching its decision, the Board has to give perhaps its greatest attention to two factors, and these are the adequacy of Con Edison's research program, and the availability of alternative mitigating measures in the event it is decided during the course of the study program that unacceptable damage will be done.

CHAIRMAN JENSCH: May I interrupt?

MR. TROSTEN: Yes.

CHAIRMAN JENSCH: As to that last alternative, the last second point, would you elaborate on that? Is it your thought that the evidence in this proceeding does not show that there are several alternative -- alternatives available to Con Edison in that regard?

MR. TROSTEN: It is my thought that the evidence shows that there are several alternative mitigating measures, and that these can be effective and that these will be effective

13mil

1 to mitigate short-term damage and that they are very likely
2 to be effective to mitigate long-term damage.
3 The most prominent of these, although it is only
4 one of several, is the possibility of stocking the river with
5 striped bass, Mr. Chairman.
6 Does that respond to your question?
7 CHAIRMAN JENSCH: Proceed.
8 MR. TROSTEN: Now, it is unfortunately true that
9 as a society, we have failed in the past to give adequate
10 attention to environmental values. We have left undone those
11 things which we ought to have done, and we have done those things
12 which we ought not to have done.
13 In common with others in industry, the scientific
14 and conservationist community, and the government, Con Ed
15 did not foresee at the time Indian Point 2 was authorized for
16 construction, all of the environmental concerns which later
17 developed.
18 However, the company recognized that operation of
19 Indian Point plants could have a potentially adverse impact
20 on the Hudson River ecosystem, and thus, starting in 1969,
21 Con Edison commenced the study to determine empirically
22 the effects of the Indian Point plant's once-through cooling
23 system on the river.
24 Now, Mr. Chairman, the argument that Con Edison's
25 lack of complete precellence in this matter negates the validity

14mil

of this scientific inquiry is obviously baseless and so is the dogmatic head-in-the-sand viewpoint that we know all we have to know to make our decision here, despite the enormous controversies that have been brought out in this hearing over such matters as the contribution of the Hudson to the mid-Atlantic fishery, the effect of compensation, the portion of the river's fish population which will actually be entrained, the effect of entrainment on that portion, and the entire underlying experimental mathematical modeling technique which the Staff has used in this case to make its predictions of environmental impact.

The Board has heard the evidence on these subjects and we are confident, Mr. Chairman, that the Board will agree that Con Edison's research program has been designed, and is being conducted, by competent, experienced, objective scientists, that the program is adequate to achieve its objectives, and that it can do so in time to permit either temporary or permanent mitigating measures to be effective.

We further submit that the course of action which Con Edison has recommended to the Board, that is, to study the effects of plant operation in accordance with a carefully-articulated plan, having a clear timetable and clear objectives, and to be prepared to take remedial measures promptly, is fully consistent with the approach adopted for other power plants such as the Calvert Cliffs facility itself

15mil

whose environmental impact is the subject of sharp controversy and which are subject to the jurisdiction of the AEC and other agencies.

Turning to the crucial matter of alternatives to the presently designed once-through cooling system, the Staff has agreed with Con Edison that there are a number of short-term measures which Con Edison can and will take to limit damage to aquatic biota if severe impact or severe adverse environmental effects are observed during operation of the once-through cooling system.

And since these measures, which include artificial stocking of striped bass and reduced flow and other remedial techniques, are available, the obviously preferable course for the Board to follow in this proceeding is to allow the Hudson River ecology studies to be completed rather than to make an irretrievable commitment now to an arbitrarily selected closed-cycle cooling system.

During the course of these studies, Con Edison will also determine the best long-term means of mitigating the effects of operating a once-through cooling system, taking into account all of the benefits and costs, and in light of all of the relevant information that will be collected during that program. The results of this study, combined with the Hudson River ecology study results, will be exactly the kind of, quote, finely-tuned and systematic balancing analysis which

16mil

Judge Wright called for in the Calvert Cliffs decision.

In our view, Mr. Chairman, NEPA demands no less an analysis in a case such as this where the evidence shows, we submit, that there will be irreversible damage, or even substantial damage to the Hudson River fishery during the study period.

Mr. Chairman, I simply wish to state, in closing, with regard to my formal remarks, that our briefs and proposed findings deal at length with the various contentions which have been raised, as the Chairman has observed, and I, of course, need not repeat our positions. I do, however, refer the Board particularly to our response to the conditions proposed by the Regulatory Staff, the Hudson River Fishermen's Association, and Attorney General of the State of New York, which are stated starting on page 10 of our June 25 reply.

Now, I would like to address the matters which the Chairman raised this morning and one other subject, Mr. Chairman. We have just been presented with a set of environmental technical specifications which have been drafted by the Staff. I do not know whether copies are being, or have been made available to the Board and other parties.

MR. KARMAN: Not as yet. They have just arrived in the room.

CHAIRMAN JENSCH: We have not received them.

MR. TROSTEN: We have not had an opportunity, Mr.

ace-Federal Reporters, Inc.

17mil

Chairman, to address these matters or review them carefully, and I suggest that perhaps after a recess in this, we might return to the subject to discuss the next appropriate step.

The Chairman asked that the parties address two specific matters: first, the letter from the Village of Buchanan.

Mr. Chairman, I believe our position on the latter from the Mayor of the Village of Buchanan is stated about as well as I can state it in our June 1st response to your letter. We do not consider that the letter from the Mayor of the Village of Buchanan is evidence in this proceeding, and we respectfully suggest, Mr. Chairman, that we have never stated that the letter is in evidence in this proceeding. It is, as stated, a request for a limited appearance, and if the Board decides to grant the request, I assume the Board will give the same attention to that letter that it has given to the other limited appearances that have been made in this proceeding.

CHAIRMAN JENSCH: If that be the case, many of the statements from limited appearances have been regarded as a basis for the parties to decide what evidence they want to present in reference to the matter. Now, does the Applicant desire to present some evidence in respect to the matter, particularly in this regard?

If we may for the moment not consider the letter

ce-Federal Reporters, Inc.

18mil

as evidence, but just suppose a situation, that in a proceeding where the Applicant has proposed, if there were to be a closed-cycle cooling system, a natural-draft cooling tower -- and that is very expensive -- and again suppose that there was quite a bit of attention in the proceeding to the difficulties of a natural-draft cooling tower, and then by coincidence that is the precise method that the Mayor of some town would say, "Well, that you cannot construct." Now, not considering the letter from the Mayor as evidence in this proceeding, but just considered as a supposed instance, how would you think a Board should treat such a suppositi-tious instance of that as where the Applicant has spent all his time proposing as an alternative the very kind that the Mayor says you cannot do? And what obligation would you think would be on an Applicant in that situation to have searched out the permits during the course of the two and a half years or so that I think you mentioned this hearing's been going and the construction has been going on longer? Why was not that zoning situation discovered by Applicant during the course of this long history used as a basis for continual complaint about certain proceedings?

MR. TROSTEN: As we have explained in this letter, the Applicant has been aware for some time that indeed the Village of Buchanan has a zoning ordinance. And we have received construction authorizations from the Village of

Ace-Federal Reporters, Inc.

mil

1 Buchanan. We have been aware for some time and we have
2 testified in this hearing that there are many permits that
3 we will have to obtain in order to build a closed -- in order
4 to build a natural-draft cooling tower, indeed, another type
5 of closed-cycle cooling system.
6 And we have testified in this hearing that we
7 anticipate that we must submit considerable amount of
8 information to the responsible agencies and that we
9 anticipate that there may well be some difficulties in
10 securing the necessary approvals.
11 We regard the Village of Buchanan's ordinance,
12 which is simply one of many authorizations that must be
13 obtained, as falling in no different category than all of the
14 other authorizations.
15 We have not researched in detail all of the
16 difficulties or problems that we may -- that may obtain
17 when we seek to obtain the necessary approvals. We certainly
18 anticipate that there will be significant ones and this
19 we regard as falling in that category. We don't regard this
20 as something coming upon us in the last minute, Mr. Chairman.
21 CHAIRMAN JENSCH: The reason, I think, for the in-
22 quiry is this, that the Staff has made a recommendation
23 for an alternative closed-cycle cooling system, leaving the
24 option of selection to the Applicant. And of the many which
25 might be considered, was one that just precisely fits the

-ce-Federal Reporters, Inc.

20mil

1 objection of the Mayor of Buchanan. Now, that being so,
2 assuming this supposed instance that we are all talking
3 about, that the mechanical-draft cooling tower doesn't have
4 the aesthetic objection that this supposed Mayor we are
5 talking about might raise to an alternative closed-cycle cooling
6 system. Would you think that an Applicant in this supposed
7 instance might have selected something that was within or
8 beyond the objections of the Mayor of our supposed town?
9 MR. TROSTEN: Well, not necessarily, Mr. Chairman.
10 For one thing, the 40-foot height might very well affect or
11 could affect the mechanical-draft cooling towers, as well
12 as the natural-draft cooling towers.
13 CHAIRMAN JENSCH: How high is the hill from the
14 riverside up to the top? Is it more than 40 feet from the
15 river level?
16 MR. TROSTEN: I believe it is. I assume it is,
17 believe it is.
18 CHAIRMAN JENSCH: As I recall the evidence in the
19 record, for our supposed instance of mechanical-draft cooling
20 tower, be out of sight.
21 MR. TROSTEN: As I say, Mr. Chairman, in terms of
22 the formal requirement of the ordinance, it might affect
23 the mechanical-draft as well as the natural-draft towers.
24 The other aspect of this is that, although
25 Applicant agrees at this point in time that the natural-draft

21mil

cooling tower is probably the least, environmentally and otherwise, disadvantageous means, as contrasted with the other closed-cycle methods, this is not something that the Applicant is standing alone on, so to speak. All of the parties generally agree that if we are going to go to a closed-cycle cooling system, that the severe environmental disadvantages that are associated with the other types, or the severe physical limitations or other limitations that exist appear to make, on the basis of the investigation that has been done so far, the natural-draft cooling tower is the best system.

So this is a decision that is made without regard to the specific problem expressed by the Village of Buchanan, but in terms of the overall analysis of the problem.

So that is our situation, and as I say, we are not citing it as evidence; we have never cited it as evidence. We have not done, for example, what the Staff has done in its proposed findings and conclusions, a point -- something which we regarded as objectionable and called the Board's attention -- of actually citing in its findings and conclusions the statements by other agencies which appeared in the second volume of the final environmental statement -- the Environmental Protection Agency and Department of -- as if these were evidence.

The Hudson River Fishermen's Association also

22mil

1 made a great deal of these in its argument, although I will
2 have to say I do not recall their having cited them as
3 evidence in their findings and conclusions.
4 But in any event, there have been instances,
5 shall we say, in this proceeding of people taking non-evidentiary
6 materials and referring to them and calling them to the
7 Board's attention.
8 CHAIRMAN JENSCH: I think that probably might have
9 been encouraged, perhaps, by your statement on page 4 of your
10 memorandum in which you said, indeed there is some contrary
11 indications, and having been -- that phrase, having been
12 preceded by reliable evidence, might have been an indication
13 that you were relying upon the Mayor's letter as evidentiary
14 in scope also.
15 MR. TROSTEN: No, sir, we are not.
16 CHAIRMAN JENSCH: I was wondering why it was put in
17 there if it wasn't evidence, you see.
18 MR. TROSTEN: I see.
19 To the extent that phrase might have been
20 ambiguous, I hasten to add we were not relying upon this as
21 evidence and never regarded this particular statement as an
22 evidentiary --
23 CHAIRMAN JENSCH: Maybe these other parties will
24 hasten as fast as they can, too, on these other comments,
25 to even up in that regard.

23mil

MR. TROSTEN: I would hope so.

With regard to the brief by the Staff on the Federal Water Pollution Control Act and the interim policy statement, Mr. Chairman, the only comment we feel it appropriate to offer is that we agree with the Staff that the actions that have been taken are consistent with the interim policy statement. We concur in the Staff's analysis in that respect.

Unless the Board has some specific question to address to us, we do not have any other specific comment to offer on the Staff's brief.

CHAIRMAN JENSCH: Let me ask, dealing with reality, now, and particularly the evidence in this proceeding, if we look at the conditions in the Hudson River, particularly in view of the presentation by the Regulatory Staff of thermal conditions which are or may be created from the operations of the other fossil fuel plants in the river, together with the conditions to be created by the proposed operation of Indian Point No. 2, will Indian Point 2 be able to meet the environmental standards of the State of New York?

MR. TROSTEN: Yes, we certainly think they will, Mr. Chairman.

CHAIRMAN JENSCH: How?

MR. TROSTEN: Because the studies we have performed and the analyses that we have performed and all of the

ace-Federal Reporters, Inc.

24mil

work we have done, the mathematical modeling and physical modeling work we have done leads us to believe that Indian Point 1 and 2 will meet the present thermal criteria of the State of New York, and we disagree vehemently with the analysis that has been presented by the Regulatory Staff with regard to the combined effects, as well as to the effects of Indian Point 1 and 2.

CHAIRMAN JENSCH: We noticed in your calculational models, if I may use that term, that the Applicant here used downstream thermal measurements, rather than slack tide conditions or upstream effects, in determining the capability of the plant to operate within the thermal standards of the State of New York. And I wondered if you can refer us to some evidence in the record, that so far we have not been able to discover, that this situation of a heat sink -- which might be used as a term to describe the effects of thermal contributions from several of these fossil fuel plants -- moves up and down the river as a mass, and that the entire thermal condition has to be considered rather than the downstream effects which are reflected in the Applicant's testimony and which may be affected somewhat by the cooling effect of down flow of fresh water. So that perhaps the thermal levels are higher than portrayed by the evidence from the Applicant.

MR. TROSTEN: Would it be satisfactory to submit

Ace-Federal Reporters, Inc.

25mil

such a reference --

CHAIRMAN JENSCH: Yes, we will take enough of a recess, perhaps, so that we can give considerations to these final specifications.

MR. TROSTEN: All right.

el

#2

arl

MR. BRIGGS: Mr. Trosten, could you tell us briefly what the status of the plant is at the present time?

MR. TROSTEN: Yes. Would you wait just a moment?

MR. BRIGGS: Yes.

(Pause.)

MR. TROSTEN: Mr. Briggs, I wanted to check the latest status with Mr. Cahill. We have essentially finished the 20 percent testing, and we are moving up to the 30, 35 percent level. If all goes well, we hope to be concluded with the 50 percent testing in the third week of July.

MR. BRIGGS: Now, with regard to the ecological study, is that in progress this summer and will the operation of the plant during the summer permit one to get results concerning entrainment that would make this constitute the first year of research program in terms of operation of the plant?

MR. TROSTEN: May I confer again on that point, Mr. Briggs?

MR. BRIGGS: Yes.

(Pause.)

MR. TROSTEN: Mr. Briggs, I realize that this is oral argument, and on the other hand, on questions of this sort, and I would ask the Chairman, would it be acceptable if Mr. Woodbury would respond to a question of this sort, rather than --

ce-Federal Reporters, Inc.

1 CHAIRMAN JENSCH: Any objection from the parties?
2 Hearing no objection, proceed.
3 MR. WOODBURY: Mr. Briggs, the New York
4 University School of Environmental Medicine is conducting
5 entrainment tests this summer at Indian Point 1 and 2.
6 They are proceeding with the collection of eggs and larvae
7 in the river as a transsect in front of the plant. They are
8 collecting samples at two of the intakes at Indian Point 2,
9 and two of the intakes at Indian Point 3 in the manner that
10 has been described to you earlier by Dr. Lauer.
11 Similarly they are collecting samples in the
12 discharge canal at two locations and the new location at the
13 port where the discharge canal empties out into the river.
14 The sampling is being augmented by sampling by Texas
15 Instruments for eggs and larvae in connection with other
16 studies on the river. It starts at Coxsackie and extends
17 all the way down to the Tappan Zee Bridge.
18 Because of the delay in thermal loading on the
19 condensors at Indian Point this summer, and in order to get
20 a better data on the effect of temperature on entrained
21 organisms, the study this summer was expanded to include
22 entrainment tests at Lovett, across the river, where we have
23 reasonable assurance of maintaining a 15 degree delta t
24 through the condensors, that we have been unable to obtain
25 thus far at Indian Point.

Ace-Federal Reporters, Inc.

1 Similar entrainment data is being collected by
2 QLM at the Roseton and Bowline plants this summer, all of
3 which will be available to the company, to the several
4 companies, and to the AEC Staff.
5 Furthermore, the collections were made of fish,
6 striped bass this spring, in the spawning runs. A few of
7 them were taken from the river and stripped, and their eggs
8 fertilized. And we had a very successful hatching season.
9 These are small larvae, have been raised in part at Indian
10 Point. Some have been shipped, as we indicated to you,
11 plan to be shipped to Florida. Others have gone to the
12 University of Rhode Island, to Oklahoma, and to Auburn,
13 Alabama, for rearing.
14 MR. BRIGGS: Let's see. Possibly you could
15 answer the next question I have. It is along the same line.
16 It is indicated in your schedules that environ-
17 mental studies concerning the -- well, meteorological
18 studies and that sort of thing and the effect that the cool-
19 ing towers might have, would have to start in February of
20 1973 to meet the schedules you proposed.
21 What is the status of those studies?
22 MR. WOODBURY: We have a contract with Boyce-
23 Thompson Institute that was started last February, in which
24 the -- I believe it was -- it was about in February. The
25 exact date I would have to check -- in which Boyce-Thompson

Ace-Federal Reporters, Inc.

1 is taking selective species of plants in Westchester County
2 that were identified in an earlier contract with Dames and
3 Moore. They did the inventory of the botanical species in
4 the county, and are subjecting these species to different
5 levels of salt, entrainment in the air, to determine the
6 salt threshhold of these species, so that we will be able to
7 get some indication of the increased tolerance, the tolerance
8 level of botanical species in Westchester, and see if they
9 would be adversely affected by any increase in salt content
10 that might result from the operation of the cooling towers.
11 MR. BRIGGS: And the meteorological studies at
12 the 500 foot elevation, are those in progress?
13 (Counsel conferring.)
14 MR. WOODBURY: I am advised that the meteorological
15 program which was to have started in May, that is the
16 actual data collection, which was scheduled to have started
17 in May, has been delayed by administrative problems, and
18 just the business of getting a contract going, about two
19 months.
20 MR. BRIGGS: Thank you.
21 CHAIRMAN JENSCH: Meteorological studies, I
22 suppose the public record for Indian Point 3 is available
23 for reference. As I recall it, there was quite a meteorological
24 program contemplated there and that must be a couple years ago.
25 And at different elevations.

Ace-Federal Reporters, Inc.

1 I think we did give some consideration to that
2 matter in the course of the discussions in this proceeding.
3 I am sure the Board feels that data are certainly important
4 and valuable and necessary. But my own personal wonderment
5 is for how long can we keep up studies and studies? Is
6 there anything statistically significant likely to be
7 developed by a new approach, either in the fisheries or in
8 the meteorological area that justifies a great deal of
9 further consideration? Although we certainly would encourage
10 the Applicant to learn all it can about everything.
11 But dealing with the reality of today, I think
12 we have problems as to how long we can wait. I think that
13 is one of the problems the Board may have in this considera-
14 tion. I think that we will want to hear more from the
15 parties about that phase of it.
16 If the Applicant would like to address itself,
17 either now or in a rebuttal, we would like to hear further
18 from the Applicant in that regard. Perhaps it can again be
19 noted on the record here, the Board did have an opportunity
20 to not only view the site, but to look at some of the actual
21 research activity by having gone up to Buchanan, New York,
22 and did note the laboratory work that was being done.
23 I wonder if the Applicant or the other parties
24 could give us reference to the consideration of whether or
25 not any of the presently installed facilities will prevent

Federal Reporters, Inc.

1 the destruction of food stocks for the fish, and what
2 does that do to the environmental problem. If you destroy
3 the food stock, you don't have to worry so much about entrain-
4 ment or impingement. The fish will just die off by them-
5 selves, anyway.
6 I didn't have any recollection that the record
7 showed that the food stock would be maintained. And is
8 that an important consideration from the environmental point
9 of view, that, as I recall, some of this food stock is so
10 minute in structure that they could be pulled through about
11 anything, and that maybe instead of looking off at the fish
12 and larvae and that sort of thing, maybe the fundamental
13 approach is to the food stock.
14 MR. TROSTEN: Mr. Chairman, let me address two
15 of the points you raised.
16 First, with regard to the meteorological data,
17 I would like to reaffirm a point you are aware of. We are,
18 of course, seeking data at the 500 foot level rather than at
19 the lower level.
20 CHAIRMAN JENSCH: What is that lower level?
21 Significantly different?
22 MR. TROSTEN: Yes. It is approximately the 100
23 foot level.
24 CHAIRMAN JENSCH: I thought at Indian Point 3
25 there was something about a 300 or 400 foot level. Who was

...ce-Federal Reporters, Inc.

ar7

1 the gentleman who testified at Indian Point 3 -- and I noted
2 his absence in going through the record now -- that his
3 proposal for Indian Point 3 at the construction permit
4 was a dream of perfection, I am sure, in his planning. And
5 I don't know how we can raise to our levels higher or lower
6 to really get anything significantly different. I noted
7 his absence in this proceeding.
8 MR. TROSTEN: I remember, of course, the testimony
9 of Dr. Halitsky on this in the construction permit proceed-
10 ing, Mr. Chairman. I just don't remember that he was testify-
11 ing at the 500 foot level.
12 CHAIRMAN JENSCH: He wasn't, but I think it was
13 about 400 or 340 or some such. We can't get it precisely
14 at 501 feet, and, well, I think 502 feet would be better,
15 you know. We have to deal with a little more practical
16 approach, I would think.
17 If you can supply us within 10 days with some
18 reference to what Dr. Halitsky planned to do, just as a
19 reference to a public record. I don't think it is a matter
20 of which we can take official notice, official notice of our
21 own proceedings.
22 MR. TROSTEN: We will be glad to do that.
23 CHAIRMAN JENSCH: Thank you.
24 MR. TROSTEN: With regard to the matter of the
25 foodstuffs, this has been a source of interest. And we have,

Federal Reporters, Inc.

1 the Applicant has very carefully looked at this, as has
2 the Staff. The testimony in this record dealing with the
3 effects of entrainment and of chlorination and other plant
4 effects on zooplankton and phytoplankton is quite voluminous.
5 We believe that the record demonstrates that the
6 principal food stocks of the fish, primarily the gammarus
7 and the neomysis, will not be significantly affected by
8 plant operation.
9 There is some dispute between the Applicant and
10 Staff as to the exact level of precision with which we have
11 this data. But we feel that this -- we feel that the
12 evidence that the Applicant has presented on the insignificance
13 on the populations of these species, these important food
14 species, is essentially accepted by the Staff at this point.
15 We don't feel as if this issue really remains
16 very significantly. I hope the Staff agrees with that
17 characterization of their proposed findings and conclusions.
18 But certainly that is what I read from looking at theirs.
19 We feel that the evidence is essentially accepted
20 here that the food stocks of the fish will not be significantly
21 impacted by the plant.
22 CHAIRMAN JENSCH: Does the Hudson River Fishermen's
23 Association agree with you in that regard?
24 MR. TROSTEN: It is a little hard for me to tell
25 on that, Mr. Chairman. I think the Hudson River Fishermen's

Ace-Federal Reporters, Inc.

1 Association, its position in this proceeding with regard
2 to gammarus and neyomysis has been more in the nature of
3 just saying, well, we don't really know, without really
4 saying much more than that.
5 The extent to which they are adhering to that is
6 a little hard for me to tell by looking at their findings
7 and conclusions. Perhaps I just like to think that they
8 have seen the light a little bit more in their final sub-
9 mission, but I am not really sure.
10 CHAIRMAN JENSCH: We will get their view when
11 they present it, but I thought you might want to reply to it
12 if you felt there was some difference.
13 DR. GEYER: I would like to ask Mr. Trosten a
14 question about the definition of irreversible. When you
15 use the term "irreversible," what measures are you thinking
16 about in what time frame at what cost, and how does this come
17 into the whole cost-benefit balance that you mentioned?
18 MR. TROSTEN: Well, I would say that the concept
19 of irreversibility, Dr. Geyer, does not have associated
20 with it a very specific time frame. I think that the -- by
21 its very nature, the concept, if something is irreversible,
22 it is that. It means that it cannot be brought -- be mitigated.
23 DR. GEYER: So you are thinking in terms of
24 whatever means, it might require shutting down all the plants
25 on the Hudson River to get it come back, but this makes it

1 reversible?

2 MR. TROSTEN: No. No, I would not go that far,

3 go so far as to say that, Dr. Geyer.

4 I would say this: We view the concept of

5 irreversibility as being something that can be effected

6 within a reasonable length of time and not at an absolutely

7 fantastic cost. We certainly don't view it -- we don't view

8 the process whereby damage would be mitigated as being some-

9 thing that would take forever or which would involve shutting

10 all the plants on the river down or anything of that sort.

11 MR. BRIGGS: The Staff proposes that the fishery

12 is the -- has the major effect on the population. Would

13 you consider greatly restricting the fishing for several

14 years to be one of the measures that might be taken to permit

15 the effect to be reversed?

16 MR. TROSTEN: Well, we -- I certainly think

17 that that is something that could be considered. It is not

18 something this Board has the authority, I will certainly say,

19 to bring into effect. But I certainly think that if you were

20 looking at this in cost-benefit terms, and I think it has

21 to be looked at in cost-benefit terms, that a restriction

22 on the fishery for some period of time would certainly have

23 to be one of the things that ought to be looked at in terms

24 of what is a rational, realistic thing to do here.

Federal Reporters, Inc.

25 Certainly the fishery, notwithstanding the Staff's

arll

argument that the fishery is priceless, and just saying, well, that ends that discussion, the fishery is priceless, I don't think that that is a rational way in which a society can go about solving its problem.

CHAIRMAN JENSCH: Have you concluded?

MR. TROSTEN: Yes, sir, I have.

CHAIRMAN JENSCH: Very well. We will ask the Staff to kind of give us a summary after the other participants have made their presentations.

May we ask the Hudson River Fishermen's Association?

xx MR. MACBETH: Mr. Chairman, I think there are two points at the outset that I think I would like to underscore briefly.

As areas of agreement between Con Edison and the Fishermen, I think also the Staff and the attorney general, and the first of those is that Con Edison itself in its submission to the Chairman in May, in response to his inquiries about the research program, agreed that if there was a 40 percent annual reduction of the production of striped bass in the Hudson River and a consequent 32 percent reduction of the Mid-Atlantic catch five years later, that then a closed cycle cooling system should be installed at the Indian Point Plant.

And without explicitly saying it, I think that

1 makes it clear that at the level of damage that both the
2 Hudson River Fishermen's Association and the Staff have
3 predicted, that the Applicant in fact agrees with the Staff
4 and the Fishermen that the cost-benefit analysis requires the
5 installation of a closed cycle cooling system.
6 Further, there is the second point, the condition
7 which the Applicant has now suggested to the Board be
8 included in the license, that closed cycle cooling, closed
9 cycle cooling system be required at Indian Point 2 by 1981,
10 September, unless before that time Con Edison can show that
11 it is not needed.
12 Again, of course, there is no explicit statement,
13 but implicitly that's -- request for that condition must
14 mean that the Applicant believes that the record, as it now
15 stands, shows the evidence favors the position of the Staff
16 and of the Hudson River Fishermen's Association.
17 As we know, until the 17th of May, the Applicant
18 had very strenuously taken the position that it should be
19 granted a license for 40 years for full power operation with
20 no conditions. And that is, I think, quite a marked change
21 in the proposed conditions, proposed condition and the
22 proposed findings of fact.
23 That change comes, of course, at the end of an
24 extremely lengthy hearing at which we have primarily reviewed
25 the species of fish on the Hudson River about which most is

1 known, the striped bass.

2 I think that in reviewing the record, the Board
3 should not lose sight of the fact that there are many other
4 species of fish in the river, about which little is known,
5 and that real risks are posed for those species of fish
6 as well as the striped bass.

7 I think this hearing has been remarkable in the
8 amount of knowledge about species that it has been possible
9 to present. I am not intimately familiar with the Calvert
10 Cliffs case to which Mr. Trosten referred earlier as an
11 example of a situation in which further research can
12 properly be requested, but I know of very few hearings on
13 environmental matters for the Atomic Energy Commission or
14 anywhere else in which one species of fish has been as
15 thoroughly reviewed with as much factual information as has
16 been the case in the Indian Point 2 proceeding.

17 And in a very real way, the Consolidated Edison
18 Company deserves credit for the amount of knowledge that we
19 have. It was the company that financed the Carlson-McCann
20 report, and it really has been from the Carlson-McCann report,
21 that three-year research, that we have been able to develop
22 the case on all sides of this proceeding.

23 The questions now come down to a long step
24 forward from the Carlson-McCann report. Essentially the
25 questions of hydraulics of the river, how the water moves in

Ace-Federal Reporters, Inc.

1 the river and thus how the planktonic organisms move with it.
2 I think there that it is clear that the Staff and Con Edison
3 have both presented mathematical models which are simplifica-
4 tions of the -- of what the situation actually is in the
5 river.

6 I think that it is clear that the Staff model
7 verifies better than the Applicant's model, and that it
8 also is verified by Mr. Clark's calculations. But I think
9 that it is important to bear in mind that in talking about
10 any research program, that so far as I can remember in this
11 voluminous record, there is no suggestion by the Applicant
12 of a vast and extensive review of the hydraulics in the
13 river.

14 So that on that issue, the research program would
15 not add a great deal to our present knowledge.

16 The second major area of the analysis has been
17 the biology of the striped bass, particularly in the first
18 year of life. And there I think it is clear that the
19 essential element in that analysis is the presence or
20 absence of compensatory mechanism in the striped bass popula-
21 tion. And Con Edison has not been able to produce any
22 evidence that such a mechanism in fact exists in the striped
23 bass population in the Hudson River.

24 There has, of course, been evidence that it
25 exists in other animal populations. That would not for a

Ace-Federal Reporters, Inc.

1 moment be denied by the Fishermen or by the Staff. But,
2 neither the Fishermen nor the Staff believe that in the first
3 year of life of Hudson River striped bass, there is a
4 compensatory mechanism operating.
5 And they have presented evidence that indicates
6 that that is so. Perhaps the most dramatic evidence is
7 the growth of the striped bass population since the 16-inch
8 size limit was imposed on the fishery in the 1930s.
9 I think it is worth pointing out in response
10 to the notion of regulating the fishery that the fishery
11 is in fact regulated. And that it is the regulation of
12 the fishery as far as one can see from the history of the
13 last 40 years, that has allowed the growth of the striped
14 bass population in the Hudson River.
15 Essentially, of course, what the Fishermen are
16 asking for in this proceeding is that the same kind of regula-
17 tion be imposed on the utility. That the utility should
18 not be allowed to destroy the striped bass population in
19 its early life stages. That history of the growth of the
20 population shows, of course, the kind of continuous growth
21 that would only be possible if the compensatory mechanism
22 were not operating in the population.
23 There have, of course, been dips in that upward
24 curve, but we have had facts present indicating that those
25 can be accounted for by the shad fishery and by the

1 operation of the power plants presently using once-through
2 cooling on the central reach of the Hudson River between
3 Newburg Bay and the Tappan Zee. There have been other
4 indications that no compensatory mechanism was present.
5 The growth rates of the fish, the lack of overcrowding,
6 other evidence through the course of the proceeding.
7 And I think that on that point, crucial biological
8 point, the record solidly supports the position taken
9 by the Fishermen and taken by the Staff. And that there is
10 sufficient evidence before the Board to decide that issue
11 now in favor of the Fishermen.
12 Against that, the utility asks for a longer time
13 to construct the cooling towers so that it can perform the
14 research program. And if the Board goes past the initial
15 threshhold, which I think is that there are sufficient
16 facts, an overwhelming case, vast quantities of evidence
17 supporting the position taken by the Staff and the Fishermen,
18 if the Board goes past that, it must ask whether or not the
19 research program will in fact product the results that the
20 company wants from it by 1977.
21 And that really means, can the research program
22 demonstrate there is compensatory mechanism of this or that
23 magnitude operating in the first year of the striped bass'
24 life cycle.
25 There are a number of points that I think should be

Ace-Federal Reporters, Inc.

1 brought out there. First, the gross level at which the
2 company itself thinks that it will be able to identify changes
3 in the striped bass population, changes of only 25 percent
4 of the annual production or more.
5 Now it is perfectly clear that if there were,
6 say, a 20 percent reduction in the striped bass population
7 annual production, the situation would be possible if the
8 biology of the Staff and the Fishermen were correct, if
9 the hydraulics of the company were correct, they would not
10 even see such a change in the program, in the course of
11 the research program. But over the long time, with no
12 compensatory mechanism operating, we would in fact have the
13 same kind of enormous impact on the fishery as is predicted
14 by the Fishermen.
15 Secondly, of course, no mechanism, particular
16 compensatory mechanism has been indicated by the company.
17 And there is the problem of connecting the cause and effect,
18 demonstrating that any changes seen in the population are or
19 are not caused by the plant.
20 And I think that we have seen some preview of
21 what that problem will be in the issue raised by both Dr.
22 Lawler and Dr. McFadden of natural fluctuations, so-called
23 natural fluctuations in the striped bass population.
24 I think it is inevitable that if the kind of
25 decrease in the striped bass fishery that's been seen over

Ace-Federal Reporters, Inc.

1 the past five years in the Mid-Atlantic will be written off
2 as a possible natural fluctuation, that we would simply find
3 ourselves in 1977 with yet another round of research,
4 with another round of much longer, much more complicated,
5 and I think in the end, no more helpful argument as to
6 whether or not natural fluctuations or the operation of the
7 plant has caused a decrease in the production of fish.
8 In sum, I do not think that the research program
9 will be able to produce by 1977, or for that matter at any
10 time, the fine-tuned balancing that the Applicant would
11 like to apply to this case. There is always a realm of un-
12 certainty.
13 I think that all the parties agree to that.
14 The Board must face it. In the face of that uncertainty,
15 the facts strongly support the position taken by the
16 Fishermen and by the Staff.
17 That is not to say, of course, that on the face
18 of it, research is not a good thing. Obviously we would all
19 like to know more than we do. And I don't think that it's
20 been the Fishermen's position that research should be
21 absolutely barred.
22 If the company wishes to engage in research, the
23 Fishermen have no objection to that. But they see no basis
24 on which to put off a decision that should be made now on
25 the basis of a program unlikely to produce the kind of

Ace-Federal Reporters, Inc.

1 knowledge that would clearly resolve the issue a few years
2 from now. And that judgment has to be set partially in the
3 context of the history of this case and the history of the
4 present effects of plants on the Hudson River.
5 The company has, after all, been engaged in
6 research on the river now for eight years. The Carlson-
7 McCann study began in 1965. We have had a great deal of
8 research. And it has gone on from year to year gaining
9 constantly in complexity and fine-spun analysis of what the
10 problems are.
11 I think that eight years have borne sufficient
12 fruit to make a decision. I very much doubt that the authors
13 of the National Environmental Policy Act expected the research
14 programs were intended to extend for longer than eight years.
15 We have also, of course, the history of the Indian
16 Point 1 Plant itself, the constant problem of impingement
17 of the plant for which solutions are constantly suggested,
18 but which no lasting solution which can clearly show the
19 reduction of the number of fish impinged does not reflect
20 the production of the fish population of the river has ever
21 been found.
22 There is a great deal of activity going on in
23 the lab and on the dock at Indian Point. Much of it may
24 bear some fruit. But I think that the Board should not be
25 led to believe that the fact that a great deal of money and a

great deal of activity is undertaken as a substitute for making what are admittedly difficult, but increasingly significant and important decisions for the life of the river. And the life of the river is very much at stake.

We have seen in the course of the proceeding the vast increase in electrical generating units on this stretch of the Hudson River, between Newburg Bay and Haverstraw Bay. We have had for a number of years the units at Lovett, Danskammera, and Indian Point 1 operating. We now have the first of the units at Bowline Point in operation, second scheduled to go into operation next spring, adding another 1200 megawatts, only four and a half miles downstream from Indian Point.

We have 1200 megawatts at Roseton, 22 miles north of the plant, which begun on-line sometime in the course of this summer.

Then we have an additional 875 megawatts at Indian Point 2. So that the risk that we face on the river is enormous. It would be one thing if we were faced with operating a small plant, something perhaps the size of Indian Point 1 all by itself on the river. I think it is a very different situation when we have an enormous plant the size of Indian Point 2 coupled with two more vast installations in the spawning and nursery habitat of the striped bass.

1 I think it is against that background and that
2 very immediate risk to this fishery that the Board must
3 consider the proposed environmental conditions in the
4 license.
5 Now, further, I think there is one point that comes
6 out of the documents on the Federal Water Pollution Control
7 Amendments that Mr. Karman forwarded to everyone in the last
8 few weeks. And that is that it is the policy, not only of
9 the state government, but of the federal government, to
10 protect the indigenous fish in Class A, for that matter, Class
11 B, federal waters.
12 That is set out in one of the appendages to
13 Mr. Karman's brief. So that we have not only the policy
14 of the National Environmental Policy Act itself, which I
15 think here clearly mandates the construction of a closed
16 cycle cooling system, but we have the further policies of
17 both the state and federal government to protect a healthy
18 population of indigenous fish.
19 There remain, then, the questions of what kind
20 of conditions should be included in an operating license
21 for the plant. In a sense, the conditions proposed by the
22 Fishermen and by the Staff are not as far apart as perhaps
23 they seem, particularly in the question of some kind of
24 restricted operation of the plant.
25 The Staff has set out as its fourth condition that

Ace-Federal Reporters, Inc.

1 a plan of action of operating procedures and design for
2 the once-through cooling system for Indian Point Unit 2 will
3 be developed by the licensee in order to minimize detrimental
4 effects on the aquatic biota in the Hudson River.
5 That is, of course, exactly what the Fishermen
6 are aiming at with their proposal of restricted operation.
7 I think it is important that in this situation the Staff
8 and the Intervenor come to the development of this kind of
9 a program from somewhat different situations.
10 The Staff knows that it will be there after the
11 license is issued, that it will be able to negotiate with
12 the utility and develop out of a process of negotiation,
13 rather than through the confrontation of the hearing room,
14 a clearly workable program.
15 I think that on something as detailed as exact
16 forms of restricted operation, ways to reduce the volume
17 and velocity with which the water enters the plant, the
18 whole array of problems that are involved, that is probably
19 a very sensible way of going about things.
20 That is really one of the reasons that the Inter-
21 venors have pressed to have some voice in the operation of
22 the plant, at least to be heard by the Staff and the Applicant,
23 after the license is issued.
24 I have had recently very direct personal
25 experience of that being fruitful. The Fishermen, as the

Ace-Federal Reporters, Inc.

1 Board knows, sued the Orange and Rockland Utilities Company
2 and the Army Corps of Engineers at the end of last year
3 over the failure to produce an environmental impact statement
4 at the Bowline Point Plant.
5 The Army Corps of Engineers issued a general
6 instruction to the company as to how that plant should be
7 operated in June and July, and the parties among themselves
8 are now at the final point of having worked out an arrange-
9 ment for the operation of that plant this summer.
10 In fact, since the beginning of June, that plant
11 has been operated on a restricted basis. I think that that
12 kind of negotiation, the ability to work out the practical
13 details away from a situation where we have the natural
14 impediments of a judicial confrontation is very valuable.
15 I think for that reason, it is very important
16 that the Fishermen's Association, which I think has made a
17 very real contribution to this proceeding, be included in
18 that kind of negotiation in the future. I don't think it
19 is the -- in the interest of the Commission or Staff or
20 utility or Fishermen to leave them in the situation where
21 their only recourse is to petition the Commission for
22 further hearings on whether or not this or that license term
23 is being complied with.
24 It is much more effective, it seems to me, to
25 try to work those things out in an atmosphere that is much

...ce-Federal Reporters, Inc.

1 less formal.

2 I think another important point is that if the
3 Board agrees with the Fishermen's Association that a closed
4 cycle cooling system must be installed at Indian Point 2,
5 that that installation begin immediately on the fastest
6 practical schedule.

7 In light of the full record in the hearing, the
8 Fishermen are confident that such a closed cycle system
9 can be operating at the plant by the 1st of December, 1976,
10 and that we must start out by assuring in every way that every
11 effort is being made to move the construction of the cooling
12 towers along at the fastest possible pace.

13 And that really is the basis of the other condi-
14 tions, proposed conditions for the license that the Fishermen
15 have put forward. We all know that for better or worse,
16 the company's actual record in construction has involved a
17 great deal of slippage and delay, obviously on plants they
18 themselves want very badly to have constructed, and in opera-
19 tion.

20 And I think that it is crucial in a situation
21 where that kind of slippage and delay may unfortunately get
22 into the system once again through nobody's fault, that
23 every effort be made at the start to move the construction
24 forward.

Federal Reporters, Inc.

25 And, of course, one of the major issues there has

1 been how much time beyond the slightly more than three years
2 needed for construction is needed for every kind of
3 regulatory and government apporval. And I think that if the
4 company is going to come in, as they may well, we have seen
5 the beginning of the letter from the mayor of Buchanan,
6 if they should come in in two or three years from now and
7 ask for an extension of time, it would very likely be on the
8 basis of some kind of regulatory delay.
9 And for that reason, I think it is very important
10 that at a very early date the actual regulatory agency to
11 which the Applicant thinks it has to go to construct whatever
12 kind of cooling tower it in the end feels is most proper be-
13 spelled out.
14 I can assure the Board and the company that they
15 will have the full cooperation of the Fishermen's Association
16 in obtaining those permits. The Fishermen feel the burden
17 rests on them to some extent to, having fought as hard as
18 they have, to see that the closed cycle cooling system is
19 installed, to also see that the company, as far as within
20 their power, which is limited, but as far as within their
21 power, that the company manage to get the permits to build
22 the tower.
23 It would not serve their interests in the least
24 to have any delay on that issue.
25 CHAIRMAN JENSCH: May I interrupt?

Federal Reporters, Inc.

1 MR. MACBETH: Yes.

2 CHAIRMAN JENSCH: How many approvals do they really
3 need? Perhaps you can help, too, in the answer. You have
4 got the village of Buchanan and how many others? Do you
5 have any one-stop service in New York?

6 MR. TROSTEN: We would not be able to utilize
7 that type of a one-stop service with regard to this, Mr.
8 Chairman. We need to secure approvals from the Department
9 of Environmental Conservation, we need to secure an approval
10 from the Federal Aviation Administration, we need to secure
11 approvals probably from the Corps of Engineers, and there
12 are others -- and there are local building approvals that
13 must be secured.

14 I can, if -- after the recess give you a more
15 complete discussion.

16 CHAIRMAN JENSCH: Would you do that?

17 Doesn't the Environmental Portection Agency take
18 over under this Federal Water Pollution Control Act?

19 MR. TROSTEN: There has to be a discharge permit,
20 yes, sir, under 402, with regard to that, and this would either
21 be by the EPA or the State of New York, depending upon
22 which entity is administering the program.

23

24

Ace-Federal Reporters, Inc.

25

CHAIRMAN JENSCH: Excuse me for interrupting. Would you proceed.

MR. MACBETH: Let me address for a moment the question of the Federal Water Pollution Control Act Amendments.

I take it that the Staff's position is that at the present time the Board is not barred from imposing conditions proposed by the Staff or by the fishermen in this license, and for that position, the Fishermen's Association agrees.

There is further language that, should the Environmental Protection Agency take certifications in the future, certain of the Board's powers may be curtailed; and that the Staff would submit a supplemental memorandum at that time.

All I would say is that if that happens and if the Staff does believe, or for that matter, if the Board has questions as to whether its powers have been curtailed, I would request an opportunity to brief that issue.

It is really impossible to talk about it, it seems to me, in the abstract, until we see what happens between the Environmental Protection Agency and the AEC. But for the moment I agree with the position that has been taken by the Staff to this question.

CHAIRMAN JENSCH: May I interrupt again?

MR. MACBETH: Certainly.

CHAIRMAN JENSCH: Would you consider this situation

1 I have mentioned earlier with these specifics: one, is there a
2 food destruction likely to be present and would that be
3 significant; and is this a heating situation with all these
4 other fossil fuel plants operating so that there is a mass of
5 heat moving up and down; will the Applicant be able to meet
6 the New York Standard; what are the specific facts to support
7 your conclusions that you feel justify the imposition of the
8 cooling towers now?

9 MR. MACBETH: Let me take those in turn.

10 On the food stocks, the Fishermen's Association takes
11 the position that there will be some damage to the food stocks
12 in the form of the lower life to plankton and zooplankton, but
13 they do not feel that the present record indicates that it will
14 be of a magnitude where it would itself clearly damage the
15 fishery. Now, there are other foods beside zooplankton that
16 the striped bass eat; they eat a great many white perch. And,
17 of course, there is a destruction of white perch going forward.
18 There -- I think that that is really where the Fishermen's
19 Association would take the position that the food stock is being
20 imperiled.

21 Now, if it -- it becomes somewhat more complicated
22 than that in that there are a number of other species of fish
23 that have not been reviewed in this proceeding and if there is
24 a severe impact on those fish, we may begin to find other
25 changes in the entire ecological balance of the area. And we

Federal Reporters, Inc.

simply don't -- we aren't in a position in the state of the art, as I understand it, to be able to predict what that would be. So, I think there is a very real risk there.

But I would not propose to the Board that there is -- that the record presently shows that there will be such a significant impact on the food stocks that, by itself, that would deplete the fishery in a major manner.

On the question of the thermal criteria, that really is a question which I don't feel competent to address the Board on. The Fishermen's Association hasn't had a thermal expert, and I really think it would be going beyond the competence of what we could present to discuss that with the Board. We did not put in proposed findings of fact on the thermal question, and I simply am in a position of not taking one side or the other in that dispute.

We did put in evidence on what would happen to the fish if the Staff's predictions were right. But not directly on the termal question itself. On the issue of why cooling towers should be installed now, I think the record shows that the operation of this plant will reduce the annual production of striped bass in the Hudson River by approximately 40 percent annually. It will vary, somewhat, obviously, with the flows. That in turn will produce a reduction of somewhere around 30 percent, 32 percent of the catch in the Midatlantic area, five years later some further unknown reduction in the catch in

1 Connecticut and New England waters, and it is conceded by all
2 the parties that with that kind of impact, the cost benefit
3 analysis requires the installation of a closed cycle cooling
4 system.
5 The benefits of the fishery cannot be measured solely
6 in monetary terms. The fishermen believe and presented
7 evidence that the value in fact is very great, something on the
8 order of millions of dollars. But there are other benefits
9 of an unquantifiable sort connected to the fishery, and the
10 kind of thing that the Staff obviously means when it calls the
11 fishery something on which no price tag can be put. And the
12 evidence clearly indicates that in that situation, installation
13 of a closed cycle cooling system is required.
14 Beyond that, the proposal of the utility that a
15 research program be undertaken when it focuses as it does on
16 the question of compensation, is something that the Fishermen's
17 Association think, first of all, is not needed on the present
18 state of the record.
19 The facts support our position without any further
20 research; but further that if the research were undertaken,
21 it is very unlikely that a clearance or any clearer answer than
22 we have now would be presented in 1977 when the research program
23 was complete; and that in the meantime, the risks to the
24 fishery are too great to allow further research to go forward,
25 both because of the -- well, primarily because of the presence

Federal Reporters, Inc.

1 of the large number of other plants on this reach of the river.

2 And those conclusions are based on two foundations:

3 One, the National Environmental Policy Act itself, which calls

4 for man living in harmony with the environment, and if that is

5 to be achieved here, it seems to me that this fishery must be

6 protected and preserved; and also the policy that both the

7 state and the federal government for the protection of the

8 indigenous fish populations of the river; and that on the

9 basis, those major points of evidence, and obviously I have

10 now gone over the material in the very quickest manner -- this

11 has been a long and complicated case -- and I can only

12 emphasize again to the Board that even in the 85 pages of

13 findings, it is hard to cover all the points that have been

14 gone over with the care which they probably deserve, but on

15 the basis of that, it is the position of the Fishermen's

16 Association that a closed cycle cooling system should be

17 installed at Indian Point 2 on the fastest possible schedule;

18 that we think that the date certain of December 1, 1976 should

19 be set in the license conditions; that there should be every

20 effort to get that effort moving immediately, a conclusion

21 of this hearing and the issuance of the initial decision, and

22 that there should be every effort made to mitigate the impact

23 of the plant's operation on the fishery in the period before

24 the closed cycle system is operating.

25 We have proposed a method of restricted operation

1 that we think will achieve that. We are also ready to engage
2 in any kind of negotiations for some other practical proposal
3 that the applicant would come forward with, and we think that
4 it is important in those terms that the fishermen have
5 authority for access to the negotiations on any program of
6 limited or restricted operation of some sort that the Board
7 would propose in its initial decision if it accepted the
8 fourth condition of the Staff rather than that of the
9 Fishermen's Association.
10 CHAIRMAN JENSCH: May I ask: Your premise or your
11 position really rests upon your assertion that there is a 40
12 percent fish kill.
13 MR. MACBETH I would say, Mr. Chairman, that that is
14 supported by the record.
15 CHAIRMAN JENSCH: Yes.
16 MR. MACBETH: I would also say that a much smaller
17 percentage would also support the finding that the cooling
18 towers are required.
19 CHAIRMAN JENSCH: Would you put a number on that?
20 MR. MACBETH: Well, I would insist that the question
21 before the Board is whether 40 is big enough. But in a
22 situation where there is no compensatory mechanism and our
23 evidence supports that and the Applicant has no evidence to
24 the contrary for this fish population, then even something
25 where you had a cumulative effect of the plants up and down the

Ace-Federal Reporters, Inc.

1 river of 10 percent would inevitably over the course of the
2 life of this plant over 40 years drive that fish population
3 very close to extinction. It would not probably wipe it out
4 entirely; it would not be irreversible in that sense, but it
5 would drive it a long, long way down.
6 We have seen over the last 40 years the history of
7 this fish population. When that 16-inch size limit was imposed
8 on this fishery, it started to grow at an incredible rate.
9 From every indication, it will go on growing if we allow the
10 fishery to be depleted by 10 percent a year. We are probably
11 foregoing much more than 10 percent. We are foregoing all the
12 possible growth until we reach some saturation level for the
13 nursery. And if we allow even 10 percent from this collection
14 of plants, we inevitably start to drive that fishery down.
15 Some day it is possible undoubtedly to bring it back
16 by imposing again through some other method the kind of
17 regulation that was imposed on fishermen by the 16 inch size
18 limit. Fishermen have accepted that kind of regulation.
19 What we ask this Board for is the same kind of
20 regulation on the utility as we will. They should not be
21 allowed to impose this enormous impact, this enormous burden
22 on the river for what is now going on for what has been a
23 considerable period of time, and through that method deplete the
24 fishery that the state government and fishermen have made every
25 effort to preserve over a long period of time.

Ace-Federal Reporters, Inc.

CHAIRMAN JENSCH: What is your answer to the implications I infer, at least from the Applicant, that why should Indian Point 2 be selected with some restricted operation with Roseton and Bowline and other plants making significant thermal contributions and possibly affecting the whole thing?

MR. MACBETH: The Fishermen's Association has not selected Indian Point 2 alone. They have outstanding lawsuits against the Orange Brockton Company and Army Corps of Engineers for failure to produce an environmental impact statement, which I alluded to earlier, and the Army Corps of Engineers is now recirculating a draft impact statement and turning its attention to the problem of entrainment.

A similar suit is outstanding against the Central Hudson Gas and Electricity Company and Army Corps for failing to produce an impact statement at Roseton.

And the fishermen are, of course, intervenors in the Indian Point 3 proceeding.

There are no outstanding proceedings against either the Lovett plant or the Danskammera plant, but I would -- must point out to the Board that the fishermen have very limited resources. The effort that has gone into this is already very severely taxing their ability to produce lawsuits and to produce some overall protection for the river.

I would hope that if the Atomic Energy Commission and the Army Corps of Engineers and the Department of the

Federal Reporters, Inc.

1 Interior, and perhaps in time the Federal Environmental
2 Protection Agency, saw the case from the point of view that the
3 fishermen have taken here, that it might not be necessary to
4 prosecute suits at other plants, that the companies themselves
5 might begin to step forward and take some of the immediate
6 steps on their own.
7 But I can assure the Board that the Fishermen's
8 Association have not favored Indian Point 2 with their presence
9 while allowing everybody else to go on operating helter-skelter
10 any way they can.
11 Of course, some of the other agencies did not have
12 hearing processes that are as well structured as the Atomic
13 Energy Commission. The Army Corps is an example, have good
14 reasons for assuming that a fuller hearing and more complete
15 hearing of every sort would be possible here than elsewhere,
16 and I think that this very lengthy proceeding, great investiga-
17 tion into the facts has supported the approach the fishermen
18 have taken on this case.
19 CHAIRMAN JENSCH: There is a very intriguing term the
20 Applicant used about the finely tuned balance. How far do you
21 think that the National Environmental Policy Act has provided
22 a guide for a balance in a situation of, let us say, a certain
23 amount of killing of fish by the fishermen and a certain
24 amount of killing of fish by the Applicant, each activity
25 apparently providing a certain benefit that is not to be

1 overlooked perhaps in this finely tuned balance, and if there
2 is a demand, assume it for the moment, for electricity, does
3 this finely tuned balance kind of count the number of fish
4 or percentage of fish or the opportunities of going --
5 MR. MACBETH: I think it does.
6 CHAIRMAN JENSCH: -- to another kind of fish,perhaps,
7 someplace? Is there a special taste for the striped bass that
8 kind of compels the balance to swing a bit one way or the other?
9 MR. MACBETH: I had a very excellent striped bass
10 for dinner Saturday evening, Mr. Chairman, and I think that has
11 led me to --
12 CHAIRMAN JENSCH: You can only share your experience
13 by indirection, but go ahead.
14 MR. MACBETH: I can assure you, Mr. Chairman, that
15 had you been there, I think that you would have been convinced
16 immediately of the strength of the fishermen's case, even if
17 you do not enjoy actually fishing for the animals, that
18 eating them is a great joy.
19 Yes, I think that the finely tuned balance does allow
20 for some destruction. But I think clearly that should be
21 minimized. It is obvious that even with a closed cycle system
22 there will be some withdrawal of water and the planktonic
23 organisms that will be killed.
24 In the best of all possible worlds, obviously, the
25 Fishermen's Association would prefer not to have that happen.

1 But it certainly is the position of the fishermen that with the
2 magnitude of damage that this case presents, that the
3 installation of a closed cycle system is called for, and that
4 we are not in a situation of finely tuned balancing or arguing
5 about one or two percent of the fish here, and just what we
6 will do about some small effect. We are talking about 40 per-
7 cent of the striped bass in this river, God knows how many of
8 the other species, enormous effects on the coastal fishery, and
9 enormous risks from this whole array of plants up and down
10 the river.
11 If the utilities had wanted to engage in finely
12 tuned balancing, the thing to do would have been to have
13 built a small plant first and had a classic before-after
14 study where the whole range of the problem is still -- can be
15 contained.
16 CHAIRMAN JENSCH: Are you suggesting that a study
17 could resolve it? Now, they are proposing that their study
18 will resolve it, but you haven't recognized the value of their
19 study.
20 MR. MACBETH: I think the question is resolved.
21 Obviously a research program will give more knowledge, but I
22 don't think it is necessary. I think there is enough knowledge
23 here and now.
24 I also think there are very real problems of whether
25 or not they will be able to resolve it. They are talking about

1 a 25 percent reduction of being what they can see in the
2 population. That is a very, very great magnitude, even if
3 the reduction were 20 percent per year, which would be -- a
4 fantastic impact on the fishery; the study would not protect
5 it. Such a result would be possible if the hydraulics of the
6 utility were correct, the biology of the Staff and the fisher-
7 men were correct.
8 CHAIRMAN JENSCH: Does the record show where the
9 greater number of sportsmen do the fishing, in the New York
10 bite, or up the river? Is there an alternative, if there are
11 a lot of sports fishermen; just putting it on a numerical basis
12 versus the commercial fishermen, is there an alternative to
13 give them boats and send them down to the Chesapeake?
14 They seem to have quite a collection, and would
15 that be cheaper than restocking and -- or draw a seine out of
16 the Chesapeake and haul it up to the New York bite, and let
17 the --
18 (Laughter.)
19 CHAIRMAN JENSCH: Is there such a demand for
20 sports fishing in the Hudson River that is compelling?
21 MR. MACBETH: The importance of the Hudson is
22 primarily, obviously, as the spawning and nursery habitat of
23 the fish. I mean, in a sense, as the food stuffs support the
24 fish, the spawning and nursery ground supports the fishery on
25 the coast of New Jersey, on the South Shore of Long Island and

all around Long Island Sound, and probably into New England, to the extent that we can't put an absolute figure on.

I think that it is important to recognize that it is very much a poor man's game fish, that it is a fish that is caught from on the beach, from the surf, on the end of docks and piers, that it isn't people who have boats that can quickly get to the Chesapeake, even with a boat you get quickly to the Chesapeake, to change their fishing habits. It is not a situation where you have a lot of yacht owners; you could simply go to a different area and take something else.

There are, of course, other fish in the sea; I will not pretend there are not other fish that could be taken, but that would simply, you know, expand the issues that I think the Board would have to look at very considerably. We would have to get into the history of all those fish. And I don't think that at all is the policy that NEPA or any of the other agencies suggest, that we should write off the striped bass and rely on bluefish or porgies or some other species.

CHAIRMAN JENSCH: Well, I don't minimize the importance of the striped bass as a food supply. At the same time, is there an alternative what the percentage of catch when a sportsman goes out, I mean, can you give them a fish from the Chesapeake and he wouldn't have to even take the time to fish for it, food supply situation, I think something; it is worthy of consideration, there is no question about it.

At the same time, I think the other balance is electricity. And if the sportsman or food supply situation can be provided for in some other alternative and still get the electricity, there may be other ways to get electricity, by Canada transmission and that sort of thing, but is this the sort of balancing that is worth considering?

MR. MACBETH: Of course, the fishermen have always tried to strike a balance so that when the power from the plant is needed to supply the City of New York and Westchester County, that the plant would operate, so that even in the interim period, we have not proposed that the plant be entirely shut down.

The only proposal of a practical nature in the way of providing other fish that I can think of in the record, is the hatchery restocking proposal. I think that the evidence indicates that there is no basis for relying on that scheme to produce the kind of fishery that the Hudson would produce naturally.

It is, of course, limited only to the striped bass, not to the other fish, and the rate of production in the hatchery is such that it indicates it is unlikely that it would be able to replace the natural fishery.

I don't know how far beyond that the Chairman thinks that the question should go.

CHAIRMAN JENSCH: What is the evidence on spawning

Ace-Federal Reporters, Inc.

ground in this area? Is it limited principally to the striped bass, or do other fish have that problem, too?

MR. MACBETH: There are other fish as well. There is in the -- I think in Mr. Clark's July 14 testimony a chart indicating where the -- how many of the fish in the area spawn there. I believe that the white perch are among them, the tomcod, and others. I would have to look back at the record for that.

There is also in the Environmental Impact Statement in one of the appendices, short life histories of the major fish in the area, and that again would indicate how many had spawning and nursery grounds around Indian Point.

CHAIRMAN JENSCH: Thank you.

I wonder if we should give the reporter a little rest. Let us recess to reconvene in this room at 11 o'clock.

1566
End 3

(Recess.)

#4
1566

CHAIRMAN JENSCH: Citizens Committee for the Protection of the Environment and the Environmental Defense Fund.

MR. ROISMAN: The Chairman asked the question regarding the status of the radiological matters after the Board's decision on the 50 percent testing license. The critical section that would control that is Section 50.57(c) under which that license was issued and we believe that that section makes quite clear that the only findings which the Board was authorized to make the 50 percent level was a license regarding 50 percent testing, and we will point out in the Board's decision places where the findings were specifically conditioned, or where the Board made note of the fact that this is only for 50 percent testing.

But of significance in Section 50.57(c) is the statement -- this is a statement of the parties' rights to be heard, and it said including the right of any party to be heard to the extent that is contentions are relevant to the activity to be authorized. So that the proposed findings which we filed while conceded by all parties to be the findings for both 100 percent full term operation and 50 percent testing could not legally have been considered by the Board for any purpose other than the activity to be authorized which was a relatively short period of operation at only 50 percent of power.

1 At the -- near the end of that section in
2 referring to what the Board should do it says that there
3 should be an initial decision with respect to the contested
4 activity sought to be authorized.
5 So from purely legal standpoint, we would say that
6 the Board's decision on 50 percent testing, while it may very
7 well reflect the Board's opinion at that time on the longer
8 range impliations of the licensing, is nonetheless nothing
9 more than a determination that the plant would safely be
10 operated for the period of time which I believe has now been
11 clarified by the parties to be 90 or 100 days at a power level
12 not to exceed 50 percent.
13 CHAIRMAN JENSCH: May I interrupt? I think the
14 problem we have is not the scope of the decision but the
15 scope of the proposed findings. Your analysis, then, your
16 proposed findings, were limited solely to the 50 percent
17 testing license and, in effect, there is no proposed finding
18 in the radiological matter for the full power operation.
19 MR. ROISMAN: No, Mr. Chairman. We made clear that
20 our proposed finding Number 19, which refers specifically to
21 the 50 percent testing, that that alone was the reference to
22 50 percent testing and the applicab-lity of these proposed
23 findings to that issue.
24 We also made clear that it was our intent that
25 these proposed findings which we filed were to cover a 100

Ac[illegible]deral Reporters, Inc.

1 percent radiological full term operation, but that many of
2 them, as we identify in Finding 19, are applicable to 50 per-
3 cent testing.
4 One in particular that I will discuss this
5 morning, the question of the iodine spray removal and the
6 validity of the Staff and Applicant's assumptions regarding
7 how effective that system will be, we explicitly said did not
8 apply to 50 percent testing. The Board made note of that on
9 page 57 of the Initial Decision.
10 We would say that any opinion which the Board had
11 expressed at that time regarding that problem would be in the
12 nature of dicta, at the most, and certainly not a finding
13 because no party had put into issue for 50 percent testing the
14 question of the effectiveness of iodine spray removal.
15 CHAIRMAN JENSCH: Are you suggesting that the
16 only one, proposed finding that is carried over to the full
17 power testing is the iodine spray?
18 MR. ROISMAN: Not at all.
19 CHAIRMAN JENSCH: You see, if this delineation of
20 the extent to which you intended to apply it, it is that that
21 is giving us a problem. Sometimes it is for 50 percent and
22 sometimes it is for 100 percent.
23 MR. ROISMAN: I am sorry.
24 CHAIRMAN JENSCH: We haven't been able to select it
25 out.

Acc eral Reporters, Inc.

1 MR. ROISMAN: Finding 10 and 19 are not applicable
2 to this full term license. All other findings in our opinion
3 are. Ten deals with the question of some outstanding matters
4 that had not been resolved at the time of 50 percent testing
5 which subsequently has been resolved, and 19 dealt explicitly
6 with the 50 percent testing license.
7 All of the other findings, in our opinion, the ones
8 related to emergency core cooling system, possibility of
9 accident, pressure vessel rupture, security emergency plans, are
10 all in our opinion relative.
11 Now, we realize and we continue to push the issue
12 only to make sure that we preserve our position, that for
13 instance as to the ECCS points, the questions were certified
14 out of that 50 percent testing license and a decision adverse
15 to our position was rendered by the Appeal Board.
16 On the question of pressure vessel, further
17 investigation of the issue was ultimately authorized by the
18 Atomic Energy Commission providing a certain showing was
19 made and that this Board has concluded the showing has not been
20 made.
21 We do not agree with those decisions but we
22 realize at this point we are bound by them and that our
23 relief is in another forum and not before this Board.
24 But what is in these findings is still our
25 position, and they were filed initially and all parties at

that time understood they were filed for the purpose of dealing with the question of 50 percent testing, but also representing the parties' filings on 100 percent radiological matters except to the extent that subsequent radiological matters required some supplementing of these findings.

CHAIRMAN JENSCH: Well, we will try to work it out some way.

Proceed.

MR. ROISMAN: I wanted to go through what I think are ones worth looking at again this morning, but in no way to suggest the others are not pertinent.

CHAIRMAN JENSCH: Somewhere or sometime we would like to have a list of what radiological matters you contend are still present for this full power license and where those have been asserted by you previous to this time.

MR. ROISMAN: All right.

CHAIRMAN JENSCH: You can do it next week --

MR. ROISMAN: No. I can do it right now.

Proposed Findings 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15 --

CHAIRMAN JENSCH: Let's not go quite so quickly. I think you have covered everything except 9 and 11.

MR. ROISMAN: No. Ten and 19 are the only ones I am leaving out. Those are our positions on radiological safety matters. They are in our proposed findings which were

Federal Reporters, Inc.

1 filed in the early part of 1972.

2 CHAIRMAN JENSCH: Proceed.

3 MR. ROISMAN: With regard to the question of the
4 iodine spray, we note that the Board made a point on page 27
5 of its decision on the 50 percent testing license of noting
6 that we were not contesting the 50 percent testing license on
7 that issue.

8 Our porposed Findings 3A and 4 we think have still
9 not been dealt with directly by the Board and we trust that
10 they will be dealt with in the final decision.

11 The essence of that position is not dissimilar
12 from the position taken by the Applicant with regard to
13 cooling towers.

14 There is not enough data now to reliably say that
15 the iodine spray removal system if it is called upon to work
16 will be able to remove the quantity of iodine from the air
17 which it is assumed by the Staff and the Applicant will happen.
18 And the documents about which Applicant and the Intervenor
19 had entered into a stipulation underlie the doubt that still
20 exists.

21 Our proposed Finding 4 takes you through the
22 process of looking at those two documents and using assumptions
23 different than the one the Staff used, but also found in the
24 findings of those two documents, and producing results which
25 show that if we used a slightly different figure for the amount

Ace Federal Reporters, Inc.

1 of organic iodine that would be present following a loss of
2 coolant accident, that we would come up with a different
3 amount of iodine release that would exceed the limits of
4 10 CFR Part 100. And what we are asking the Board to do is
5 to look again at the proposed Findings 3A and 4 in the
6 context of the question can it be stated that as to this
7 plant there is assurance, reasonable assurance, that if there
8 were a loss of coolant accident there would not be releases
9 in excess of 10 CFR Part 100.
10 We would note the fix is quite obvious since we
11 have indicated that at 50 percent of power there would be no
12 problem, and that is a reduction of the power level of the plant
13 so that the total quantity of iodine available for release
14 at any given moment in the event of a loss of coolant accident
15 would be sufficiently reduced so that even using the figures
16 which we use as opposed to the ones which the Staff has used
17 you still would not come up with a release in excess of 10 CFR
18 Part 100.
19 With respect to the question of pressure vessel
20 integrity, certainly there is one item left outstanding and
21 left outstanding by the Board in its decision of 50 percent
22 testing.
23 On page 17 in reference to a point made in our
24 Finding Number 9 the Board specifically makes reference to
25 its concerns that the in-service inspection program of the

1 Applicant which involves a promise, but no evidence of the
2 ability to fulfill the promise, that they will comply with
3 Section 11 of the ASME code and of methods for doing
4 in-service inspection inside the vessel within ten years.
5 We come back to the same point which we make in
6 Finding Number 9 which is that the Applicant must choose and
7 that this Board must force it to choose if it won't choose
8 itself -- it must choose either not to operate this plant
9 or to commit itself to have the in-service inspection
10 program required by Section 11 of the ASME code operable
11 within ten years or to shut the plant down if it cannot do
12 that.
13 What the Applicant prefers is a system in which it
14 tells us without going into the tech specs that it is sure it
15 will have such a system but it is unwilling to put its plant
16 where its mouth is and is unwilling to risk the likelihood
17 that the plant will be shut off if it doesn't come up with the
18 program required by the code.
19 With regard to the question of plant security,
20 without going into any in camera matters, of course, which are
21 covered in Finding Number 15, we note that the Board in its
22 decision on 50 percent testing in pages 33 and 34 made reference
23 to what it considered were future actions to be taken by the
24 Applicant, and we believe that first of all in this proceeding
25 so far although it has been almost a year since this decision

1 was handed down, there has been no evidence offered to
2 suggest that those future actions have in fact been implemented.
3 One deals with the complete plan for security, its
4 implementation and the Staff's satisfaction that such a plan
5 has been implemented.
6 We think that the recent Appeal Board decision in
7 the Midland case -- and I believe it is ALAB 133 -- handed
8 down within the last week which dealt with a condition imposed
9 upon the Applicant in the Midland proceeding in ALAB 106, an
10 earlier decision in the Midland case, in which the Appeal
11 Board ordered the Applicant to make certain reports dealing
12 with the status of its quality assurance program, in ALAB 133,
13 if I have the number correctly, the issue was whether or not
14 the Applicant had complied with that, and the Board took great
15 effort to point out that it expected that the Staff would
16 file some detailed explanation of what was materially a very
17 generalized statement by the Staff that it thought the
18 Applicant had met the required of ALAB 106 in its first
19 filing under that.
20 We think that the Board in page 33 has perhaps not
21 quite so directly as the Appeal Board did in ALAB 106 made
22 clear by saying the Board understands, namely that the Board in
23 effect relies upon, that the Applicant is going to complete its
24 plan in accordance with a specified schedule and to the
25 satisfaction fo the staff -- to date, nothing has happened on

1 that. And at this point in the record we are still left with
2 some doubt as to the -- whether this highly complicated
3 security plan has been implemented.
4 We also note that on page 34 of the Board's decision
5 on 50 percent testing the Board says since Applicant depends
6 on the police forces to handle situations that are beyond the
7 capabilities of the plant security force, it seems only prudent
8 that there should be some kind of testing of the procedures
9 and the preapredness of the police force as to respond to
10 a request for assistance. And yet despite the Board's
11 conclusion that such action would be prudent, this record does
12 not reflect such a course of action having been taken and that
13 has been a year since that statement of prudence was made by
14 the Board.
15 With regard to the emergency core cooling system
16 and the interim acceptance criteria, we think there are several
17 really important matters here to focus on.
18 First of all, we had several findings, 5, 6 and 7,
19 that dealt with the question of the emergency core cooling
20 system. But also we would like to direct the Board's
21 attention to our proposed Finding 18 which dealt with the
22 Staff's fulfilling of its functions in this proceeding and
23 whether or not the Staff really was acting affirmatively
24 to protect the public interest.
25 We think that as the Board, as the Appeal Board

1 in ALAB 124 did in looking at the Staff's concluding statement
2 in the ECCS proceeding and taking official notice of what
3 occurred there, without I might state the request of any party,
4 that this Board too needs to take official notice of a Staff
5 filing in the ECCS proceeding and that is the Staff's environ-
6 mental statement which now puts the staff on record as
7 believing that the present interim acceptance criteria
8 should not be retained and that new interim accpetance
9 criteria should be implemented.
10 Ithas been stated that those implemented ECCS
11 criteria might cause the reduction of as much as 25 percent
12 in the operating level of plants whose systems were based on
13 the old system, but who had to meet the new set of criteria.
14 Yet not a single word from the Staff in this proceeding to
15 draw the Board's attention to that fact. Not one attempt on
16 their part to suggest that they have now internally
17 concluded that the interim acceptance criteria are not all
18 they were cracked up to be and that they are now proposing
19 changes be made to it.
20 That, I think, is extremely important here
21 because whether this Board authorizes operation of Indian
22 Point 2 based upon the current criteria, it certainly, it
23 seems to me, would have been the Staff obligation to step
24 forward and suggest that a condition of this license be that
25 this plant must immediately come into compliance with the new

1 interim acceptance criteria as proposed by the Staff at
2 and when they are adopted by the Commission.
3 It is stated in the Board's decision on 50 percent
4 testing with regard to the question of interup acceptance
5 criteria that Indian Point Number 2 would have to comply with
6 the new interim acceptance criteria. We find no basis for
7 such a statement in the record.
8 The old interim acceptance criteria when they
9 were adopted had grandfather clauses built into them. Plants
10 that were then operating and had operating licenses before
11 1969 were excused until January of 1974 from showing compliance
12 with the interim acceptance criteria, and plants which had
13 their licenses after 1968 but were operating as of June of '71
14 were given an extended period for showing compliance with
15 the interim acceptance criteria.
16 The Commission has shown no willingness to be
17 tough-minded about the application of these standards on ECCS
18 and we think that the Board, once the Staff reached the
19 conclusion that something should be done in the interim
20 acceptance criteria area, was obligated to step forward and
21 say to this Board we want you to put a condition in this
22 license so that Con Ed doesn't slip away from the requirement,
23 and so we raise the ECCS issue again in a context of our
24 proposed Finding 18 to again point out the Staff's failure
25 to do what we think it should do, to affirmatively move to
protect the public.

CHAIRMAN JENSCH: May I interrupt?

MR. ROISMAN: Yes.

CHAIRMAN JENSCH: Is it your thought that if the Commission adopts new interim criteria, that in their adoption thereof they won't make it applicable to plants to which they want to make it applicable?

For instance, if they, making a change in the ECCS criteria, won't they go down the line and say Plant A, do this; Plant B, do this; Plant C, so that whether there is any commitment or further report by the Staff in this case, the Commission, if it makes a change, is going to direct compliance anyway, won't it?

MR. ROISMAN: Mr. Chairman, I wish I could state that I think that is true. But I must confess in all candor that the performance of the Atomic Energy Commission in the area of emergency core cooling system and interim acceptance criteria has been so bankrupt of any responsibility for the public interest that I have no basis, and I think this Board has no basis to conclude that the Commission is going to do the "right thing," and the Commission has argued extensively that it has broud discretion to do whatever it pleases. And it does have the discretion to excuse Indian Point No. 2 or any plants operating at the time the new interim acceptance criteria come in.

Whether the exercise of that discretion would be an

ar2

abuse is a matter which might very well have to be litigated in the courts. But we can foreclose all of that right here. We have the largest operating plant in the United States located in the largest population center of the United States running today, presumably, with an emergency core cooling system that the Staff concluded four months ago and put out in a Final Environmental Statement meets a set of criteria which are no longer good.

I don't think that any game of procedural -- the Commission will do this and the Staff will do that -- answers the public's concern that that plant is not proven to be safe. The Commission has refused to bite the bullet on this issue, Mr. Chairman, and we know why, because bullet-biting on this issue means power reduction, and the Commission isn't willing to do it.

But this Board is now in a position to breach that gap and to bring the Commission back in compliance with the law. And it can do it through the failure of the Staff to act here and this Board's conclusion that that failure needs to be corrected in its initial decision authorizing the operation of this plant. You do it impliedly because you will put into that license, as all licenses say that the plant must be operated in compliance with the rules and regulations of the Commission and the Act.

We ask you only to do it explicitly, by saying as

Reporters, Inc.

to one particular rule, that is the final interim acceptance criteria, that those final standards may not be grandfathered to convenience Indian Point No. 2, but that Indian Point No. 2 must meet the standards as applicable to all plants at the time that it receives, if it receives, its license to operate.

CHAIRMAN JENSCH: May I interrupt?

MR. ROISMAN: Yes.

CHAIRMAN JENSCH: Assuming that position were to be adopted, the Commission could reverse, modify or change, and to use the term you have used, grandfather an application for Indian Point 2. So the limited authority that a hearing board has may not achieve the objective you seek, do we not agree?

MR. ROISMAN: That is true, but the Board, of course, does not reach its decision based upon what it thinks the chances of success on appeal of a party aggrieved would be, but on the assumption that at this moment you possess the authority of the Atomic Energy Commission and your words are the words of the Atomic Energy Commission until someone higher than you in authority chooses to reverse them.

CHAIRMAN JENSCH: But, you see, if the emergency core cooling criteria at the present time of these, as you say, grandfather exceptions in certain particulars, this

ral Reporters, Inc.

1 Board can't change that kind of an arrangement. Because
2 this Board is obligated to follow the regulations of the
3 Commission, in spite of the fact that I think there is in
4 one of the SLIP OPs in this Indian and Michigan, the other
5 day, ALAB 124 --
6 On page 18, it says quite apart from whatever
7 obligation we may have to follow the regulations of the
8 Commission, in my limited experience, I have understood
9 that the agency had to follow its regulations or be violating
10 due process. But on page 18 of the SLIP OP on the Indiana-
11 Michigan statement is that statement. But I feel that this
12 Board, for the emergency core cooling criteria, is limited
13 by what provision is made.
14 Now if the criteria are at "X" level of power
15 operation, and yet whatever be the exemptions the Commission
16 has provided, we can't change that arrangement and those
17 criteria.
18 MR. ROISMAN: That is clearly true. The question
19 here is that with regard to future operation of Indian Point
20 No. 2, you are at this point in a position to speak, because
21 the Commission, for its own reasons, has chosen not yet to
22 speak.
23 The interim acceptance criteria the Staff now
24 no longer thinks are sufficiently conservative, and the
25 Director of Regulation, at the time the Staff released its

1 Final Environmental Statement, pointed out that it would be
2 prudent for utilities to look to the early part of 1974
3 for the adoption of interim acceptance criteria in a period
4 of, I think, something like 12 months thereafter for implementa-
5 tion of whatever corrective steps need be taken.
6 We are suggesting that here it is prudent, if not
7 required, that this Board acknowledge the existence that it
8 is authorizing the operation of this plant on a set of
9 criteria which I concede it is bound to.
10 CHAIRMAN JENSCH: In fact, there is some ruling
11 by the Commission that says all the hearing board should do
12 is find out whether a plant will comply with those criteria
13 under that regulation, which is -- embraces all these facets
14 to which you refer.
15 MR. ROISMAN: That's correct, but we know as a
16 fact and official notice can be taken of it that the Staff
17 does not agree with those criteria any longer.
18 CHAIRMAN JENSCH: Well, the Commission sometimes
19 disagrees with the Staff.
20 MR. ROISMAN: I am aware of that. My question
21 is whether or not the Staff fulfills its responsibility in
22 this proceeding when it hides that news from the Board,
23 although trumpeting every release of the Applicant from a
24 safety standard that it comes up with.
25 CHAIRMAN JENSCH: Maybe they will persuade the

al Reporters, Inc.

1 Commission to do differently than the Commission has
2 adopted for the emergency core cooling system criteria presently
3 outstanding; but those are the ones, those criteria are the
4 ones we must comply with as a Hearing Board, do you not
5 agree?
6 MR. ROISMAN: I don't dispute that. The question
7 is that the Board is in a position to write a condition
8 into the license of an "if" condition, if those interim
9 acceptance criteria are changed, Indian Point 2 is obligated
10 to comply with them as most stringently adopted.
11 That does not violate any regulation of the
12 Commission because there is no Commission regulation now
13 outstanding that talks about what does Indian Point No. 2
14 have to do if it changes the interim acceptance criteria.
15 CHAIRMAN JENSCH: What would be the basis for the
16 condition you propose for this record? What factual basis
17 would indicate that Indian Point 2 should operate -- I
18 don't know what the ECCS Staff position is, but assuming
19 it is at a lower level --
20 MR. ROISMAN: Proposed findings one and two which
21 deal with the fact that Indian Point 2 is of its size
22 and its orientation to the City of New York. I mean the only
23 relevant consideration in deciding whether the most stringent
24 ECCS criteria should be applied to the plant would be, in
25 our opinion, the likelihood of the accident and the

-ce- ral Reporters, Inc.

1 consequences thereof. Let's assume for a moment, because
2 this record does not disclose to the contrary, at least
3 not that I can think of, and I will assume for the moment
4 the record doesn't disclose that an accident, Indian Point
5 2, is more or less likely to occur, although I think I can
6 make an argument it is more likely to occur at Indian 2,
7 but let's assume it is equally likely.
8 Then the only question is consequences. Indian
9 2's consequences will be substantially more severe and we
10 have that in proposed findings one and two, because of its
11 orientation to heavy population centers, namely New York
12 City and the Northern New Jersey area.
13 Therefore, it would be the one for which the most
14 stringent criteria should be applicable because it would be
15 the one for which a failed ECCS, in the event of a loss-of-
16 coolant accident, would have the most severe consequences.
17 CHAIRMAN JENSCH: Excuse me for interrupting.
18 I think the dilemma that I am trying to
19 express is this: that whether the Board agrees or disagrees
20 with what your statement -- your statement you are now making,
21 the Board has been told that its jurisdiction is to look
22 at these criteria under this regulation and that is the
23 extent of its jurisdiction.
24 Once we comply in that direction from the Commis-
25 sion, whatever more stringent arrangements are made or what

Ace Federal Reporters, Inc.

1 we think would be grand to do, take Indian Point 2 and hoist
2 it up to the Finger Lakes or some place like that, we can't
3 make any arrangement like that.
4 So I think that we are limited under the -- not
5 only the criteria, but the rulings which have been made
6 under the criteria, that we look to the criteria and that
7 they will comply, assign the situation for further considera-
8 tion.
9 MR. ROISMAN: I will say only this final thing:
10 I think the Board sells itself short and sells
11 its powers short. I think you have the authority to deal
12 with the conditional situation that the interim acceptance
13 criteria get changed and that no ruling of the Commission
14 has ever addressed that issue, but I will not belabor it
15 at this point.
16 Finally, I would like to look at finding 11, on
17 which no statement is made in the 50 percent testing license.
18 And in finding 11, really, I think is to many respects the
19 heart of the position that the Citizens' Committee for Pro-
20 tection of the Environment has taken here.
21 No matter where you look in the safety positions
22 of the Applicant or the Staff, or which portions of their
23 testimony you read, you find interspersed words like
24 "conservative," "probable," "likelihood," and other fairly
25 imprecise qualitative words. No quantity has been assigned

1 them. We don't know, for instance, that a loss-of-coolant
2 accident has a 6 percent probability or 1 percent probability
3 or 50, we have words like "it has a low probability."
4 We are told that the rupture of a pressure vessel
5 is considered incredible, not impossible, but incredible.
6 We don't know where between the words "impossible" and
7 "probable" the word "imporbable" comes up, or "incredible"
8 comes up.
9 Yet those qualitative words are the basis upon
10 which this Board is supposed to decide whether this plant
11 is safe to operate, and is just as though we were to come
12 in here and identify 50 different issues, all of which the
13 Board would concede are relevant, things like spray removal,
14 the containment structure.
15 And as to each one of them, we would simply say,
16 no matter what data you look at, the conclusion is this is
17 safe enough. Or this isn't safe enough. And this Board
18 would rightly say, well, that won't do it. You have to give
19 some value to those concepts.
20 I think what the Board has in this proceeding
21 in the radiological record, in addition to a set of facts
22 which may or may not prove that the plant is safe, is just
23 a bunch of opinions from people, that it is probable
24 or it is likely or it is incredible or it is conservative,
25 or it is something else like that. And the particular --

1 particularly the technical members of the Board, with all
2 due deference to the Chairman, who is not a technical member,
3 but is becoming one through overexposure, I think it must
4 be very frustrating because you are being asked to put your
5 faith in the opinions of these other individuals who do not
6 understand their opinions well enough to explain them much
7 better than to say that it is not credible, or it is not
8 likely, or that it is not possible, or that it is not
9 probable.

10 And in your own experiences, you know that when
11 you have a judgment to make, and the best that you can do
12 for your judgment when it gets down to that real nitty-gritty
13 of deciding what to do, is to say, "I have just got a feeling
14 that I am right."

15 You know how subjective that is, how subject that is to
16 all kinds of things which you don't fully understand. If all
17 you were deciding was whether or not to get up in the morning
18 or to draw a line on a piece of paper or to propose a study
19 program, you might take action.

20 The question you really are being asked here by
21 the Citizens' Committee is do you take action of the magnitude
22 of allowing Indian Point No. 2 to run 24 miles north of
23 New York City for 40 years because a group of people told
24 you they don't think it is probable that anything very
25 serious will happen up there, or that they think it is

incredible that some accident they haven't planned for will occur. That is really the heart of the safety consideration.

I know what is on the other side. The other side is, well, these plants have to get licensed one way or the other, and ultimately we have to do the best we can. But the Applicant gave us the answer to that question today. Its position on cooling towers is exactly the position of the Citizens' Committee on Protection of the Environment with regard to safety. When you are still studying a problem, don't do anything. Wait until the study is completed.

And in this proceeding, WASH-1150 details the studies left to be done in the nuclear reactor safety area. Apply the Applicant's standard on cooling towers, and you come to the conclusion that what we should do is hold the plant operation until the studies are completed. And that is precisely what we are asking this Board to do, to apply that standard to the question of cooling -- of the operation of the plant.

CHAIRMAN JENSCH: Excuse me --

MR. ROISMAN: And do not allow the plant to move ahead on the basis of even educated guesses at a time when the safety research is still in its infancy, if we can believe the statements, and I think we can, that are in WASH-1150 regarding the status of safety research.

1 MR. ROISMAN: I am not familiar with any decision
2 other than Maguire, but I think the Maguire decision at least
3 has some relevant teaching on the subject.
4 In that decision the portion that might have dealt
5 specifically with your concern was a contention by the
6 Intervenor regarding the probability of a pressure vessel
7 head rupturing, coming off of the vessel due to the failure
8 of a series of stud bolts.
9 Both the Licensing and Appeal Board rejected the
10 Intervenor's contention with regard to that. And in part
11 relied upon "engineering judgment."
12 But I just go further to state that they did it
13 in the context of an improved set of codes and standards
14 by the industry that dealt with the particular studs and the
15 vessel head for reactors. So that they had some -- they had
16 something to -- that represented an exercise of that judg-
17 ment in more detail than merely a gut statement, as I can
18 remember Mr. Moore making on the stand when we got down to
19 the question of why an error factor of 20 percent was used
20 in one of the calculations for loss-of-coolant accident
21 consequences, and not 21 or not 19.
22 And all he could tell us was that it was his
23 judgment that 20 was the right one, although 21 would have
24 meant reducing the power of the plant.
25 It always seemed interesting to me that everybody's

1 judgments always exercised just a percentage point below
2 the point where it starts having an impact on the plant opera-
3 tion. That coincidence, it seems to me, reflects perhaps
4 on what is the underlying reason for the judgment.
5 But another part of ALAB 128 was quite significant.
6 That was the portion of 128 that dealt with the quality
7 assurance program. In that proceeding, this is a construc-
8 tion permit, the Applicant had identified its quality assurance
9 program for the construction period and indicated in a
10 particular respect where it was not going to be in technical
11 compliance with the wording of 10 CFR Part 50, Appendix B.
12 But the Staff said that in its judgment, overall safety was
13 going to be taken care of with this quality assurance program.
14 And the Applicant even tried to give a reasonable
15 explanation as to why its deviation from the quality assurance
16 requirements would improve rather than reduce safety. The
17 Board said in that proceeding that it was incumbent upon
18 the Staff, if it were going to excuse compliance with the
19 regulation, to unequivocally determine that there was
20 compliance, or if it could not do it unequivocally, to come
21 up with both the authority and the basis for the deviation.
22 I think the word "equivocal" is very important,
23 because it meant in our opinion that the Appeal Board did not
24 want some wishy-washy answer such as it had gotten from
25 the Staff at that point that this would be safe. It wanted

Federal Reporters, Inc.

1 some specific indication that there was going to be the kind
2 of compliance.
3 Now, for instance, looking at the question of
4 pressure vessel. If we look back, as this Board has done,
5 to the loss-of-coolant accident definition, you will see
6 that the loss-of-coolant accident does not preclude the
7 pressure vessel rupture. It is there. It is part of the
8 primary coolant boundary and a break in it, equivalent in
9 size to the break of the largest pipe, could occur. And
10 the consequences if that should occur would be enormous.
11 Now, against that we have the Staff telling us
12 that it is not a credible accident. And we do not think
13 that one can square that vague answer with the detailed
14 requirement that ALAB 128 was talking about.
15 Now we have got -- the Staff and Applicant have
16 put in a lot of figures and statistics dealing with how
17 this vessel was constructed in compliance with various
18 codes and so forth. But what they don't explain is how
19 the effect of that relates to the fact that the regulations
20 of the Commission still contemplate that a postulated acci-
21 dent includes a pressure vessel rupture, or for that matter,
22 that the ACRS even in 1965 was saying that by the time we
23 get to the big reactors, and if this isn't that time, I don't
24 know when it is going to come, it's been eight years now,
25 we ought to have a way to deal with the consequences of

1 vessel rupture.

2 In conclusion, with regard to the radiological
3 questions, our point is simply that in our judgment, if
4 this Board reads this record with the kind of piercing analysis
5 that we think the Board has already indicated it is going to
6 apply throughout the case, that it will come to the conclu-
7 sion that perhaps it is more probable than not that the plant
8 is safe. But that it is not sufficiently probable that it is
9 safe that the Board should impose upon the people who live
10 in the vicinity of this plant, including the 8 million people
11 who live in New York City, the continuing risk that that
12 admittedly low probability accident with that admittedly
13 low probability malfunction of the safety system will destroy
14 the life of those people or subject them to illness, and, of
15 course, to enormous property damage.

16 Let me turn now and put on my hat for the
17 Environmental Defense Fund, if I may, and talk just very
18 quickly about a couple of points that deal with the environ-
19 mental considerations.

20 And I might say, that going back to the CCPE hat
21 for one moment, if the Board finds the environmental con-
22 siderations troublesome, it need not reach them, because, of
23 course, it will not have to decide that question if it
24 decides not to allow the plant to operate. And if the studies
25 that the Applicant proposes can be completed in a five-year

1 period, that might be the time in which we will have enough
2 knowledge to seriously consider whether to allow Indian
3 Point to operate, and also to answer the cooling tower question.
4 In any event, assuming the Board does reach the
5 question of environmental considerations, it seems in the
6 questioning this morning that the Board was concerned about
7 the studies that the Applicant is going to undertake. And
8 it talked about what should be the standard that the Board
9 applies in deciding how to do the finely-tuned balance. And
10 I think that the Calvert Cliffs case and the histories
11 since that time indicate that the Board should apply much
12 the same kind of standard that it applies in the safe area.
13 You are constantly seeing the results of a finely-
14 tuned balance, so we are told, in which the Staff attempts
15 through its regulations to determine whether or not a
16 certain accident is possible or not possible, whether or not
17 a certain system should or should not be required to be
18 installed in which it always comes out on the conservative
19 side. That has been the bellwether of safety analysis
20 for nuclear power plants. Parties have criticized whether
21 or not it is conservative enough, but no one has ever
22 argued that given a choice between the conservative and the
23 realistic, we should always opt for the realistic.
24 It is clear that we always err on the side of
25 protecting the public health and safety. What the Court said

Ace Federal Reporters, Inc.

in Calvert Cliffs was that you, in effect, go through the same hearing process, but you carry environmental matters through. And when you do that, you must again err on the side of what it is that the Act, in this case the National Environmental Policy Act, is geared to. There isn't any doubt what that is. It is to protect the environment.

Now, Applicant asks for this Board to allow it to operate Indian Point No. 2. If it is to receive that permission, then this Board must decide to impose upon it the most conservative conditions in order to assure that there is protection. And this Board is well aware of the opinion of a fellow Board in Vermont Yankee, faced in a sense with the same problem and coming to exactly that conclusion. Faced with a situation in which the lack of data then available made it not possible to determine whether that plant, which already had cooling towers, should be required to run those cooling towers full time, or to run them as the Applicant requested, only intermittently, it concluded quite rightly there that that plant must use its cooling towers until it had amassed sufficient amount of information to indicate that it didn't have to use those cooling towers, that the burden lay with the proponent of the right to operate. And that if the proponent wanted to operate without the cooling tower, then they had to have the proof.

Applicant's position in this case is a frank

Federal Reporters, Inc.

1 admission that they don't have the proof. And that they are
2 going to need five years to get it. It is not the position
3 of either the Hudson River Fishermen's Association or the
4 Environmental Defense Fund that they should not, if they wish,
5 take five years or 10 or 15 or 20 or the lifetime of this
6 plant, to get the answer. The issue is, who suffers while
7 they are doing that. And we say that the National Environ-
8 mental Policy Act and the way this Commission has dealt
9 with issues since the day it was formed dictate that it not
10 be the environment, but that it be, if you can call if suffer-
11 ing, the Applicant. And that the Applicant must be committed
12 the day this Board authorizes it to a full-term operation to
13 enter into a crash program directed to the quickest possible
14 installation of the cooling towers on this plant, because
15 the record at this time by Applicant's own admission cannot
16 substantiate the opposite finding.
17 And there is no authority for the study-now-and-
18 fix-later philosophy that Con Ed is urging this Board to
19 adopt. That philosophy, if it were applied to the safety
20 side of this plant, would mean that we might have a plant
21 operating with no dome, without an emergency core cooling
22 system, with no in-service inspection program, no quality
23 assurance program, with no spray removal system, because for
24 all of these systems we are studying.
25 But the Board has concluded, and even the Applicant

-ce eral Reporters, Inc.

and Staff have agreed, we have got to do the best we can. And if a study later shows we didn't need it, we will at least know that during the interim we did the best we could. And the best that Indian Point No. 2 can do is to start, and tomorrow is already too late to get these cooling towers built.

This is not a new issue to Con Ed. If it was new when our hearings began in the fall of 1970, it was certainly not new by the time the Hudson River Fishermen's Association, the Environmental Defense Fund began to present their case. And the time that has passed since then is time in which the towers could already have begun to be constructed.

The only prudent course that this Board can follow, the dictate of the statute, the regulation, the whole philosophy of this proceeding, is that this plant must begin and complete the construction of cooling towers in the shortest time possible, taking the most conservative, from the standpoint of protection of the environment, of what is possible, and that date is December 1, 1976 for operation of the towers; or shut-down of the plant.

And we don't think the Board has a choice. It is bound by the statute to provide adequate protection for the environment.

Thank you.

Federal Reporters, Inc.

CHAIRMAN JENSCH: Adequate protection for the environment means what? In your opinion. Related to this question, I think I gave the Hudson River Fishermen's Association. 40 percent fish kill, 35, 30, 25, pick a number.

MR. ROISMAN: 40 is the conservative figure. Just as TID 144844 says, use the conservative assumptions to calculate the consequences of loss-of-coolant accident. Here the Board is required to use the conservative assumptions regarding possible damage to the fish. It is not speculative.

You have the extremely competent report from the Staff in the form of the Final Environmental Statement that makes that figure of 40 percent a very firm figure, not a guess, not a speculation. And the testimony of Dr. Clark to the same effect. That is the conservative figure. That is the figure which the Board must put into its mind, and then say, "Can we afford to allow this plant to operate and kill" -- and keep in mind, it is an enormous concession that has been made by the Staff and the Intervenors here that for three years the plant be allowed to kill up to 40 percent of the fish in the Hudson River, with hopefully some controls on its operation to cut that down.

But 40 percent of the total population of the Hudson River's striped bass, that is incredible. Whatever the figure means for adequate protection of the environment, it does not mean wiping out 40 percent of an important

Ace Federal Reporters, Inc.

environmental and economic aspect. 30, 20, 10, any of those figures are more than should be taken.

The Board asked the question about, well, don't fishermen kill fish, and therefore isn't it a question of who does the killing? Not at all, because when you kill a larva, you don't get any benefit, none. At least when you kill the -- and in a way I am sorry that we did not think to have before this Board as evidence during the proceeding a striped bass dinner which certainly would have been receivable as an exhibit, although not necessary a preservable one.

(Laughter.)

There is a world of difference between eating a striped bass and a tomcod. And more than that, that industry, the people that fish it, don't necessarily have more tomcod to go catch if the striped bass aren't there. It is a harvest. You might as well tell the farmer that is growing wheat, "We are going to cut out all the wheat you are growing, you are going to grow rice." It is not a trade-off.

The important question is not between the killing issue, which takes place on both sides, but the benefit that comes from the killing and the availability of alternatives. We all know that the Applicant has an alternative to killing these striped bass. It puts up two cooling towers or one, or whatever the number. That is its alternative.

1 To the striped bass fisherman, if you tell him
2 that the striped bass won't be there five years from now,
3 he has no alternative but to sit on the dock with a hook
4 and wish that there were striped bass down there. And that is
5 not an alternative. Whatever NEPA means, it means that
6 when you are faced with those choices, you save the striped
7 bass fishermen and you tell the Applicant to put those cooling
8 towers up.
9 I must say in all candor that it is not possible
10 to read this record and not conclude that cooling towers are
11 the answer. I think the issue, if there is still an issue
12 in contest, is do we put them now, do we put them on in
13 1978, do we put them on in 1981? And that can be answered
14 by looking to the question of which is the most conservative,
15 which provides the best protection.
16 In fact, the earlier you require them, the cheaper
17 it will be, first of all, because the cost is going up and
18 we are still in an inflationery period. If the Applicant
19 is installing towers in '81, it will install it with a
20 dollar that will buy less than they will today. Two, if
21 you install them now, the Applicant will probably not find it
22 necessary to spend as much on the study program since the
23 real -- study program was to use cooling towers.
24 Third, the striped bass that do get killed from
25 the operation of the plant after 1976 will be striped bass

that do not get into the catch in subsequent years, that therefore reduce the income of the striped bass fishermen, and conceivably also the income of the fishing companies that provide the tackle for the sports fishermen who won't have as many fish to catch, either.

So the most economical thing to do is to get the towers built as soon as possible. And it is also the safest thing from the standpoint of protection of the environment.

Thank you.

1mil

xxx

CHAIRMAN JENSCH: Thank you.

State of New York, Attorney General?

MR. CORCORAN: Mr. Chairman, as was pointed out by the Board in the Vermont Yankee case, the Board and Atomic Energy Commission should take into consideration the views of the various states, in this case the State of New York.

It is our opinion that the Staff's model, Dr. Goodyear's model on the entrainment of the eggs and larvae is the most valid model that was presented to this Board and that the 30 to 50 percent figure is a valid figure.

It is the State's policy as expressed in the Environmental Conservation Law, to preserve indigenous species.

It is the State's responsibility to hold the fish and the game of New York State in trust for the people, and to preserve these species from destruction.

We feel that the once-through cooling system is not consistent with New York State's policy in this regard. And also that the once-through cooling system in its effects, may actually be in violation of a state statute. That particular issue, unfortunately, will not be determined until sometime this fall by the State's highest court. But the statute does say that no person may take fish from the river by drawing off water.

And it would seem quite clearly under the plain meaning rule, that this statute would apply to Defendant's

2mil

activities and prohibit such large-scale destruction that has and will take place.

CHAIRMAN JENSCH: Are you suggesting that this fine case is being appealed to the Court of Appeals?

MR. CORCORAN: Yes, Mr. Chairman.

CHAIRMAN JENSCH: Is that the one that the lower court said you would have to prove the intention was to kill, and if there was an intention to test or something, that that, whatever the consequences, were all right?

MR. CORCORAN: The Court also said it would be a a defense if Defendant were using the best available technology. So that is another issue that the Court of Appeals will have to decide.

CHAIRMAN JENSCH: Proceed.

MR. CORCORAN: It also appears to be the policy of the federal government under the Water Pollution Control Act of 1972 to also preserve indigenous species. There are many other laws in the environmental field, endangered species laws, for example, which express the same policy.

CHAIRMAN JENSCH: May I interrupt?

MR. CORCORAN: Yes, sir.

CHAIRMAN JENSCH: I think a question I gave to the Applicant, and I wonder if you would give us your opinion -- in view of the contribution made by the fossil fuel plants, the thermal releases, in your opinion, can Indian Point 2

ol Reporters, Inc.

3mil

in its proposed discharge without closed cycle cooling, comply with the standards of the State of New York?

MR. CORCORAN: I don't believe that the multi-plant effects would comply with the thermal criteria. Indian Point 1 and 2 itself, the State is not sure whether they will or not. I know that the Staff in its proposed findings went into great detail on this point. I think it is another very serious problem which the Applicant faces in its use, is the once-through cooling system.

CHAIRMAN JENSCH: Proceed.

MR. CORCORAN: And I think for that reason, the natural-draft closed-cycle cooling system is also preferable.

Now, the Applicant attempts to reduce the estimate of the Staff model by several means. One is to use compensation on what they call F factors. We don't feel that the record substantiates either their claim of compensation or of so-called F factors.

Even if Dr. Goodyear's model, the Staff's model is too high, if it is not 30 to 50 percent, but 15 percent, 20 percent, it seems to me that all this means is that the damage will not be done within a particular period of time, but a longer period of time; but that substantially the same damage will be done to the fishery of the Hudson River and Long Island Sound and other areas as well.

So that it seems to me even if the Staff model is

ce-ral Reporters, Inc.

4mil

1 an over-estimate, that the problem which it focused on remains
2 and has to be dealt with. Natural-draft cooling towers, it
3 seems, deal with the three major problems which -- three
4 major environmental problems which this plant presents.
5 That is, the entrainment of eggs and larvae, the impingement
6 of fish on the screens, and the thermal pollution problem.
7 Now, the Board was talking before about this ques-
8 tion of balance, balancing the need for power with the
9 admitted need for the protection of the fisheries. But it
10 seems that the installation of a closed-cycle cooling system
11 does strike this balance. It gives the people of New York
12 the power that they admittedly need, but it also protects
13 their valuable and provides less fishery.
14 So that I think that what has been proposed by the
15 Staff and Intervenors does strike this balance very well.
16 It is not a case of where one has to choose between closing
17 down a business and conforming to a particular pollution
18 control law. We can have power and we can have the protec-
19 tion of our fisheries.
20 I would say that the State is very concerned about
21 what is going to happen in the Hudson River estuary
22 during the next three to four years, even assuming that
23 Applicant is required to install a closed cycle cooling
24 system. However, because of the admitted need for power,
25 we feel that the plant should go ahead. But that the cooling

e-F al Reporters, Inc.

5mil

towers should be constructed as soon as possible. And we would urge this Board to require completion of cooling tower construction by January 1, 1977.

Now Applicant has raised the issue of delay due to obtaining necessary permits. But it seems to me that if that happens, at that particular time the Applicant can come to the Board and present its case and say that delay has been caused due to the State of New York or the Mayor of Buchanan's unduly delaying the proceedings, delaying the issuance of a permit. And at that time they can get an extension of time. But I don't think we should presume that there is going to be unreasonable delay in the issuance of permits, State or local.

We feel also that the research program of the Applicant is not -- is defective, and is not going to shed any more light on the problem than we already have. We feel that the record amply supports this. We feel with regard to the hatcheries that it has not been substantiated that hatchery fish will be able to survive in the Hudson River estuary or in any similar estuary.

With regard to the State's issuance of a permit in this case, which I think is of some concern to all of the parties, the Attorney General has had discussions with the State Department of Environmental Conservation about this matter, informal discussions, and there have

Reporters, Inc.

1 been a number of opinions expressed and concerns expressed
2 with regard to the issuance of a permit. One is the grave
3 threat to the fishery which we all fear from the once-through
4 cooling system.
5 Secondly, there doesn't seem to be sufficient
6 evidence that cooling towers are environmentally harmful
7 themselves. And this is something, of course, which the
8 State would consider in the issuance of any permit. But
9 based on this record, it seems that it is the once-through
10 cooling system that is environmentally harmful, but not
11 cooling towers.
12 Also, the State must give great weight to the
13 views of a federal agency with expertise in this field,
14 especially after that agency has conducted exhaustive
15 hearings, heard expert witnesses from all sides, and concluded
16 that it is in the best interest not only of the State of New
17 York, but of perhaps other states as well, to require the
18 installation of a closed-cycle cooling system.
19 It is quite possible -- likely, in fact -- that the
20 people of the State of New Jersey, the State of Connecticut,
21 and other states, may be adversely affected by the use of a
22 once-through cooling system.
23 CHAIRMAN JENSCH: Are you suggesting --
24 MR. CORCORAN: In the sense that the striped bass
25 population will be substantially reduced.

Federal Reporters, Inc.

7mil

CHAIRMAN JENSCH: Are you suggesting that there is a proceeding from which there has been a ruling, the State of New York, that cooling towers should be installed by Con Edison?

MR. CORCORAN: No, I am saying that discussions have been held about cooling towers, and that --

CHAIRMAN JENSCH: That isn't reflected in this record, is it?

MR. CORCORAN: No, it is not.

CHAIRMAN JENSCH: Well, it would help us a lot by telling us what your views are of what is in this record.

MR. CORCORAN: In this record, yes, sir.

As I said before, we believe that the Staff model is the most valid model that has been presented to this Board; that compensation and F factors were not substantiated by the Applicant, that the effects of impingement will also have a serious effect on the estuary.

I believe the Applicant itself estimates that up to 1.2 million fish may be impinged annually on the intake screens at Indian Point 2. I think this will inevitably have an effect not only on the white perch population, which is the majority of those impinged, but also on the striped bass, because another species, because of the inter-dependence of the species. Evidence also substantiates the factor that the Hudson River is the major contributor to the Atlantic, mid-Atlantic striped bass population.

Federal Reporters, Inc.

8mil

I refer to the tag studies and also to the fact that the Delaware River is so polluted as to make it very unlikely that it contributes greatly to the mid-Atlantic fishery, striped bass fishery.

That concludes my remarks, Mr. Chairman.

CHAIRMAN JENSCH: Very well.

Before we ask the Staff, I think we gave some thought at one time in the record, and I don't know if an answer was given or not -- I wanted to ask the Applicant, are there any rate base considerations affecting the proposed cooling towers of concern to the Applicant?

The reason I ask, in the Palisades case, as I recall it, the Applicant there expressed itself and may have been a part of some stipulation that was arrived at that they would build cooling towers in the rate regulatory commission approved the incorporation of the cost thereof in the rate base.

Now, are you having any problem about that affecting your judgment about cooling towers in this proceeding?

MR. TROSTEN: Well, let me see if I can answer the question this way, Mr. Chairman: We have no assurance of which I am aware that this definitely would be approved by the Public Service Commission. We have -- there has been nothing that I am aware of that has been presented to the Public Service Commission that indicates that they definitely

9mil

1 would or that they would have a problem if it were presented,
2 or either way, Mr. Chairman.
3 We do not have any definite commitment of which
4 I am aware on this subject.
5 CHAIRMAN JENSCH: Is the regulatory policy of the
6 Public Service Commission of New York such that whatever
7 would be the facility and its cost, if it reflects a prudent
8 expenditure, it will be a proper portion of the rate base
9 for regulatory purposes?
10 MR. TROSTEN: I think that is probably a proper
11 statement of it, Mr. Chairman.
12 CHAIRMAN JENSCH: Let me ask it this way: Would
13 it be of assistance in the regulatory field to have an order
14 for dooling towers so that you will get it in the rate base?
15 MR. TROSTEN: Would it be of assistance in the --
16 CHAIRMAN JENSCH: Regulatory --
17 MR. TROSTEN: In the rate proceeding if the Board
18 were to order this?
19 MR. TROSTEN: Well, if the Board were to order
20 this, in presenting the matter to the Public Service
21 Commission, I would think that this would certainly be
22 evidence that it should be included in the rate base, Mr.
23 Chairman.
24 CHAIRMAN JENSCH: That is the Public Service
25 Commission doesn't concern itself primarily with

Reporters, Inc.

10mil

environmental concerns, but takes the cost determinants as the Applicant presents them. And if they reflect prudent expenditure, they will be allowable components of a rate base, is that correct?

MR. TROSTEN: I believe that is a generally correct statement, yes.

MR. CORCORAN: Mr. Skinner would like to supplement my remarks, if that is all right.

#7

CHAIRMAN JENSCH: Well, we are trying to take it from the attorneys. If you haven't had an opportunity to confer, if you have something further after a recess -- we are going to hear first from the Applicant -- may we hear from the Staff?

xxx

MR. KARMAN: Yes, Mr. Chairman.

I would like first to possibly spend just a moment or two in responding to Mr. Roisman, while wearing the first of his two hats today.

Mr. Roisman has raised issues dealing with the radiological health and safety aspect of this particular hearing, such matters as pressure vessel integrity at the time, and ECCS matters which, as this Board well knows, have already been determined with respect to this hearing.

For Mr. Roisman to say that the Regulatory Staff in this proceeding is hiding a Regulatory Staff recommendation in an environmental statement on a rulemaking hearing

al Reporters, Inc.

11mil

dealing with ECCS, is just blatant nonsense. The Commission has already indicated that the criteria to be used is the interim acceptance criteria. And if the plant meets that criteria, then nothing further will be admitted in evidence in a particular licensing proceeding.

The rulemaking hearing is still going on. There has been no -- at the moment, the criteria to be used is the interim acceptance criteria. When the Commission comes out with new criteria, regardless of what is done at that hearing -- Boards and Commissions and Appeal Boards have been known not to follow recommendations of the Regulatory Staff, although in this particular proceeding, I am hopeful that the Licensing Board will do so.

But I believe the Commission, in addition, has indicated that with respect to pressure vessel integrity, we had a certification by this Licensing Board which went to the Appeal Board and went to the Commission -- I believe it was in October of last year -- the Commission has indicated that unless the Intervenor can show something of a special nature with respect to pressure vessel integrity with respect to the Indian Point 2 pressure vessel, then that, too, is a matter not to be gone into.

Mr. Roisman endeavored to show this Board some matter which he deemed as of a special nature and in April of this year, the Board ruled it was not so.

Reporters, Inc.

12mil

So I believe it is not proper at this time to rehash these matters over and over again and again.

And Mr. Roisman's reluctance to file any further findings of fact on the radiological matters in this proceeding, I believe should allow the Board in submitting its -- in preparing its initial decision with its proposed findings, to take all these matters into consideration which have already been resolved for the most part.

Since December of 1970 and particularly since about January of 1972, mountains of evidence have been presented to this Board by the Applicant, by the Intervenors, by the Staff, and by the other parties to the proceeding. Exhaustive examination and cross-examination and recross-examination and redirect and re-opening of issues, has taken place during this rather lengthy hearing. Of course, the length of the hearing may have been due to matters outside of the province of the Licensing Board and the parties to this proceeding.

But inasmuch as we do have some many, many thousands of pages of transcript references and evidence, there is no question that we have had an exhaustive hearing. The Regulatory Staff in its final environmental statement which was submitted pursuant to the provisions of the National Environmental Policy Act, made its recommendations for the operation of the Indian Point 2 plant. They came to the

Reporters, Inc.

13mil 1 conclusion that as a result of the operation of Indian Point
2 2, there could conceivably be an irreversible damage to the
3 fish and biota of the Hudson River, particularly the striped
4 bass. It is unnecessary for me to recapitulate the various
5 figures which have been enunciated in the evidence, and again
6 this morning with respect to the entrainment and the impinge-
7 ment and the contribution of the Hudson River to the Atlantic
8 fishery -- the compensation effects, the thermal effects.
9 Needless to say, that after much direct and cross-
10 examination, it is our opinion, the Regulatory Staff's opinion,
11 that this plant cannot operate for the full term license with a
12 once-through cooling system, without causing a serious and
13 possibly irreparable damage to the biota of the Hudson.
14 As a result thereof, the Regulatory Staff has
15 recommended to this Board that the Applicant, as a condition
16 for the operation of this plant, be required to install
17 a closed-cycle cooling system. And our recommended date was
18 January 1, 1978.
19 This was not a magical date. We didn't pull this
20 out of the hat. January 1, 1978, was the date which we felt
21 was the earliest practical time that the Applicant could have
22 these towers constructed. Certainly we feel if it was possi-
23 ble, that they should start operation with those towers
24 next week, next month, next year. But we did not feel it was
25 a feasible date for them to have it at an earlier time.

Reporters, Inc.

14mil

January 1, 1978, date was the date set -- the testimony of the Staff witnesses indicated that that was the date based on our examination of what we thought the time period should be, and we thought would reasonably be for the earliest construction of the cooling towers.

CHAIRMAN JENSCH: May I interrupt? What is your judgment, as I recall it, of the Hudson River Fishermen's Association date of '76?

MR. KARMAN: It is our opinion that by 1976 the Applicant will be coming in and saying, "We can't build it. Please give us an extension of time."

CHAIRMAN JENSCH: Isn't that a feasible procedure? I think they do that sometimes when they get a construction permit. They get a date, and they can come in and perhaps many people, at the time of the date situation, realize they can't do it. But let them push it along a little if the demand is as great as they say it is, and extend it if they have good cause.

MR. KARMAN: This date was not written in stone, Mr. Chairman. We are not irrevocably committed to January 1, 1978. This was the date we felt would be a reasonable date. If the Board feels that possibly an earlier date is feasible and practical, the Regulatory Staff would have no objection. But we did want the operation of the cooling system, closed-cycle system, at the earliest practical date because we, too,

15mil 1 were concerned with the operation of the plant with a once-
2 through cooling system.
3 CHAIRMAN JENSCH: The reason I asked was this:
4 Let me just take a supposed instance, a supposititious
5 instance, that even in the area that they have built the
6 nuclear reactor, they apparently don't know that a zoning re-
7 quirement might prohibit the very precise type of alternate
8 cooling system. Now, that may be a coincidence, you see, but
9 this is just a supposed instance.
10 Would that, in your judgment, reflect that you
11 can't expect much speed on behalf of a supposed Applicant if
12 they are working in an area and they didn't even know that the
13 zoning of the very particular area would prohibit the precise
14 kind of a selection they had made?
15 Now this is, of course, just a supposititious
16 instance.
17 MR. KARMAN: I would hesitate to categorize
18 the Applicant's action or lack of action.
19 CHAIRMAN JENSCH: Don't characterize, but just give
20 it a label of some kind, if you can. Do you think that
21 indicates unnecessary delay? Would you say it was an indica-
22 tion from that experience, an assumed supposititious case,
23 of course?
24 MR. KARMAN: It is conceivable, without admitting
25 that it is an unnecessary delay. The Regulatory Staff, of

e-F l Reporters, Inc.

16mil

course, must, on the basis of its own testimony and the -- particularly a final environmental statement and the exhaustive supplemental testimony by the Regulatory Staff's witnesses, will agree, or as the Hudson River Fishermen has done, agree with us as to the various effects of operation of the plant. And, we, too, will -- have come to the conclusion that with respect to some of the mitigating circumstances, the restocking, the research program, these are -- our conclusions are well-known to the Board in all the testimony and our proposed findings of fact, we feel that they have -- they will not be able, even after this somewhat exhaustive research program, indicate the extent of the damage and that the longer we delay with the imposition of the closed cycle cooling system, the more certain will be the devastating effects of the nuclear power plant on the biota of the Hudson River.

The Applicant has indicated -- implied, rather than indicated, that the idea of a cooling tower seems to be a unique one, novel imposition of a regulatory body on a utility, when the Applicant well knows that there are many, many cooling towers being erected in plants all over the country.

The balance, Mr. Chairman, members of the Board, is that there is a need for power. I believe we all agree that there is a need for power, because had there not been that urgent need for power, it is questionable whether the recommendation of any of the Intervenors or the Regulatory

al Reporters, Inc.

17mil

Staff would be, go ahead, at all. There is a need for power.

We say that that plant should be operated, but in balancing that need for power, there is also the potential for the destruction of the striped bass fishery in the Hudson River which, while the Applicant has indicated is not quantifiable, the Regulatory Staff has said it is priceless, yes, it is priceless.

This is a priceless environmental heritage to the people of the State of New York and to other people, as well, as indicated by the testimony of the contribution of the Hudson River to the fishery of the Atlantic Coast.

So it is not just this narrow confine of the estuary in the Hudson that we are concerned with. We feel this Board, in weighing and making such balance, must come to the conclusion that the need for power, while it is as great as we all indicate it is, must be balanced by the fishery of the Hudson River and, in making such a balance, it will be necessary for the Applicant to install a closed-cycle cooling system.

CHAIRMAN JENSCH: Let me ask: Is there a calculation in the record -- I know we have heard these figures from the Applicant again this morning, $40 million a year -- has that been applied, well, in several ways, but one of which would be to the expected output, what it will do per kilowatt or what is the average usage by a

18mil

customer in New York, how many kilowatts do they use say per month, what would that do per month to the average rate of take?

MR. KARMAN: Offhand, I can't recall, Mr. Chairman.

CHAIRMAN JENSCH: Are the figures in the record available for that computation, do you know?

MR. TROSTEN: We don't know.

CHAIRMAN JENSCH: At least we know the expected output of the plant in assuming whatever capacity level has been indicated, 60 percent or 80 percent, you could derive how much per kilowatt increase based upon that --

MR. TROSTEN: I am not sure you could do that, Mr. Chairman, with the numbers in there. There are many numbers in the record, Mr. Chairman. There is none that have been specifically directed to that, whether one could sit down and try to put this together. I don't think so, but it is possible.

CHAIRMAN JENSCH: Are there any rate schedules at all shown in the record? I guess Mr. Sack worked on that phase of it.

MR. SACK: No, sir, I don't believe we put in anything in environment report on rates, on rate structures.

CHAIRMAN JENSCH: There is no -- I mean there has been a lot of talk about the overall cost. I wondered if

al Reporters, Inc.

19mil

it was translatable to some specific customer use so that it may be approached from a different point of view than just the overall cost. You know of no figures adequate to give that computation?

MR. SACK: No, sir, I believe they are not in the record.

CHAIRMAN JENSCH: Very well.

Well, I might say that on the understanding of say a $20 million cost, one of my very capable colleagues figures it would be about three mills per kilowatt based on the figures that are in this record, and if anybody would like to dispute that, we would welcome an addition by way of a supplement within 10 days hereof.

Can anybody indicate whether three mills per kilowatt is enough to break the Bank of Monte Carlo -- I mean of --

(Laughter)

CHAIRMAN JENSCH: -- of any customer -- I mean, to your judgment, does it seem a significant adverse impact on the customer to have the three-mill-per-kilowatt increase?

MR. KARMAN: No.

CHAIRMAN JENSCH: Very well.

Have you concluded?

MR. BRIGGS: At one time nuclear power was only supposed to cost three mills per kilowatt hour.

al Reporters, Inc.

20mil

MR. KARMAN: Everything has gone up.

(Laughter.)

CHAIRMAN JENSCH: It wasn't frozen.

MR. KARMAN: No, Phase 4-1/2.

MR. ROISMAN: For instance, I think Vermont Yankee is at 22 mills now. It was in the four-mill prediction. But, I don't know, prices are higher in New York.

MR. KARMAN: I think everything else has been covered, Mr. Chairman.

CHAIRMAN JENSCH: Very well.

There is one matter that has not been covered in these presentations, and it is one that may be of particular concern to Appeal Board considerations.

Starting with the Midland case, under a sua sponte procedure, and I hope I pronounce these words correctly, Mr. Reporter, s-u-a s-p-o-n-t-e, and slip op, s-l-i-p o-p -- in the Midland proceeding the Appeal Board decided that the quality assurance matter should be examined, and also in the Vermont case the Appeal Board has indicated that, in fact, the Appeal Board had some statement, there is no record evidence of a satisfactory quality assurance operating manual, and that matter was developed in some respects.

Then this recent McGuire-Duke case, the Appeal Board, sua sponte, I believe, has decided that there would be some question and answer, by mail procedure, on quality

Reporters, Inc.

21mil 1 assurance. But I think I noticed that the Licensing Board
2 has set that down for an evidentiary presentation under regu-
3 lar procedures.

4 Well, now, there are three cases where none of
5 the parties, I believe, dealt specifically with quality
6 assurance prior to the issuance of the initial decision
7 except that in the Vermont case there was a letter discussed
8 in the record, but not offered in evidence. And since the
9 consideration of quality assurance arose prior to the time
10 of the issuance of an initial decision, as I read the
11 opinions, the Licensing Board should consider quality
12 assurance matters that are raised prior to the time of the
13 issuance of initial decision.

14 The public record, at least the public corres-
15 pondence record in this proceeding, reflects that certain
16 contentions have been made about quality assurance. And what
17 is the reasonable risk, gentlemen, that the parties should
18 assume for this proceeding as to whether the initial
19 decision comes out without any contention raised by one of the
20 parties or any of the parties on quality assurance, and
21 then the application of the sua sponte procedure for a remand
22 for further consideration? What chance do you gentlemen
23 prefer to take in this procedure?

24 MR. TROSTEN: Mr. Chairman, I think that the record
25 in the proceeding, as a matter of act, contains a great deal

Reporters, Inc.

22mil 1 on the quality assurance aspects of this. There have been
2 letters; in addition to what has actually appeared in the
3 record, there is an additional letter that has just recently
4 been sent by Mr. O'Reilly, of the Directorate of Regulatory
5 Operations, in response to a letter by Mr. Roisman to Mr.
6 O'Reilly.
7 The Applicant would have no objection to having
8 that letter being received in evidence in this proceeding,
9 if it was considered to be desirable or useful from the
10 standpoint of the Board.
11 Mr. Roisman has in the past offered letters from
12 the Regulatory Staff in evidence in the proceeding. The
13 letter is dated June 26. I feel that, as a matter of fact,
14 the record is acceptably complete at the present time on
15 matters of quality assurance because of the many contentions
16 that have been raised by Citizens Committee with regard to
17 quality assurance aspects.
18 CHAIRMAN JENSCH: Well, I think it is a matter
19 that should be seriously considered by the parties, because
20 I am sure it will contribute to some delay if this Licensing
21 Board -- with a matter that perhaps the Appeal Board may on
22 later consideration, should decide have been more, quote,
23 particularly articulated, unquote, and I think this is a
24 matter that all parties should consider because there is a
25 risk; it is difficult to anticipate how they will regard the

Reporters, Inc.

1 quality assurance program. But the theme, as I read the
2 Appeal Board decisions, is that quality assurance stands
3 in priority, and may well be entitled to further considera-
4 tion by us now, and perhaps while we take a recess and we
5 hear further from the Applicant, as I understand you will
6 do, maybe some of these technical specifications, and the
7 other parties, too, if they have a chance to review them,
8 but to give some thought as to what risk the parties want to
9 take for this proceeding.
10 I think in some instances the Licensing Boards have
11 felt that when they made a general determination that a
12 plant could be operated without undue risk to the health and
13 safety of the public, that that general determination embraced
14 thousands of items that may be related to radiological safety,
15 quality assurance, environmental matters, without specific
16 determination.
17 And, furthermore, the rules of the Commission
18 limit a Board to only deciding those matters which are
19 placed in contention by the parties. So presumably the Board
20 would not be allowed to take into consideration quality
21 assurance matters if it is not placed in contention by the
22 parties. But yet this recent Duke power case, the McGuire
23 case, I am not so sure that the parties placed it in conten-
24 tion. And yet the Licensing Board was directed to give
25 further consideration to the quality assurance.

Reporters, Inc.

24mil

As I say, as I read the theme of these cases, and I think it is an important concern of the Commission, because the Commissioners in many of their public statements over the past several years, have emphasized the absolute importance of quality assurance in construction and operation and in guidance and selection of personnel and all other aspects. And I don't think we should in anywise minimize the importance of their primary concern and these recent expressions by Appeal Boards of the great importance, and rightfully so, of all quality assurance.

So, gentlemen, it is a matter that invites your further expressions.

MR. ROISMAN: Could I make a suggestion, Mr. Chairman, that we might perhaps to -- the Applicant indicates at least some interest in putting into evidence this most recent letter. Maybe in five days, let the Applicant identify any documents not in the record that deal with quality assurance that it wishes to put in, and five days later any other parties any additional documents that are not in the record that they wish to put in.

And also let the Applicant indicate the portions of the record that already have quality assurance in it, without in any way by doing that implying that the doing of that offering automatically re-opens the record.

In other words, normally if a party puts in a

25mi1 document, any other party might have the opportunity to suggest
2 cross-examination. Just have a rule that this, that the
3 submittal and offering of that in no way waives anybody's
4 claim that the matter is irrelevant or anything like that,
5 but so that the Board physically has in front of
6 it this material.
7 CHAIRMAN JENSCH: Unless it gets in the evidence,
8 it won't be before the Board.
9 MR. ROISMAN: No, I mean it goes into the evidence.
10 CHAIRMAN JENSCH: Both of you can squawk to the
11 Public Proceedings Branch, file anything you want.
12 MR. ROISMAN: No. I am sorry. I mean that it be
13 received in evidence, but that the fact a party offers it and
14 it is received in evidence does not make the burden less on
15 any party that wishes to cross-examine.
16 In other words, that to cross-examine onto that
17 someone would have to meet all the requirements of a motion
18 to re-open the record. And that the fact that that stuff
19 came in, we could take it in nunc pro tunc as of the day
20 that you close the hearing record here, so that no party
21 would be in a position to argue that with respect to the docu-
22 ment, its offer by the other parties automatically re-opens
23 the hearing.
24 CHAIRMAN JENSCH: As I understand one of the
25 letters in the public record on quality assurance, the

al Reporters, Inc.

26mil

contention is made that in none of the submittals by the Applicant has the quality assurance program been shown to be adequate to prevent the occurrence of the later described abnormal occurrence, but rather the reports have been limited to what corrective steps have been made for that specific event which was designated an abnormal occurrence.

So if you are going to examine into that phase of that contention, as to why the quality assurance program didn't present the occurrence of the incident, it may be something that is -- I don't know what documentary matters you could describe unless they prepare a document that would describe a procedure by which they thought it would. But, as I say, I think this is a concern that very definitely affects all of the parties here because I think if an Appeal Board decides, as I think the recent cases have indicated, that great attention should be given to quality assurance, we may well be faced with remand for failure to assert it specifically on this record.

What time would you find it convenient to return from recess?

MR. TROSTEN: I would suggest we reconvene at 2:00.

MR. ROISMAN: 1:30?

Mr. Chairman, my concern is that I may have emergency oral argument in the Court of Appeals this afternoon.

27mil

And to the extent --

CHAIRMAN JENSCH: Will you apply for an extension if you find your schedule of contemplated activity changes from what we are now considering for 2:00 o'clock?

MR. ROISMAN: No, my interest would be served by both delaying the conclusion of this hearing and expediting the proceeding in the Court of Appeals.

CHAIRMAN JENSCH: If you interest us enough in the Court of Appeals, maybe we will recess this hearing and we will all go to that argument and come back here later.

(Laughter.)

MR. ROISMAN: Assuming there is any hearing today. All I am sure is, the later we start, the greater the probability I may not be able to stay. I am not contemplating any rebuttal; as I understand it, the rebuttal you are suggesting is rebuttal by the Applicant.

CHAIRMAN JENSCH: Also he is going to give some expression on the technical specifications, as I understand it.

MR. TROSTEN: That's right. I would like to accommodate Mr. Roisman, but I feel if we are going to consider some of these matters that have been brought up, we ought to take a little longer than 55 minutes.

CHAIRMAN JENSCH: I think to get a chief of papers here, the Staff has brought in here this morning, must be matching 250 guideline -- I think it is a little difficult

28mil

to express a review before 2:00 o'clock.

MR. ROISMAN: Maybe I just have over-confidence in Mr. Trosten's ability to assimilate data.

CHAIRMAN JENSCH: If you find you have a conflict in schedule, send an emissary and we will see what we can do.

At this time, we will recess until 2:00 o'clock.

(Whereupon, at 12:40 p.m., the oral arguments were recessed, to reconvene at 2:00 p.m., this dame day.

e7

AFTERNOON SESSION

(2 p.m.)

CHAIRMAN JENSCH: Please come to order.

In the recess, the Board has been endeavoring to give some sort of cursory review to these proposed environmental technical specifications. I don't know whether the parties have had an opportunity to fully review them or whether they would like an opportunity to submit some comments respecting this matter within five days, or some such, 10 days.

MR. TROSTEN: Mr. Chairman, let me address that, if I might. We have not had an adequate opportunity yet to review this rather lengthy document that we have received. There are a couple of points, though, that we can see by the limited review that we have been able to perform.

The most salient of these is that by proposing these technical specifications with regard to the Environmental Surveillance Program and the Biological Studies Program, we believe the Staff has absolutely agreed with the fundamental position that the Applicant has taken here, that these studies are workable, that they are likely to achieve their objectives, and that they are needed in order to make the basic decision here, whether or not you are going to have an alternative to the present once-through cooling system.

What the Staff has done here is to take the program that the Applicant has proposed and to actually expand upon it

...ce Federal Reporters, Inc.

in some respects. And they have outlined very carefully the objectives that are going to be achieved by the program, and when they are going to be achieved.

It is perfectly clear, it seems to me, Mr. Chairman, that the Staff has now agreed at last that the program can work, that the program is worthwhile, that it is useful and that it should be implemented.

We think what this really demonstrates is that the arguments that have been voiced by the Staff's witness, that the program has the very serious defects that make it unlikely that it will succeed, are completely not accepted by the Staff at the present time. They are -- they are inoperative at the present time.

(Laughter.)

MR. TROSTEN: In any event, Mr. Chairman, we feel this is the salient thing that comes out of the technical specifications.

Now, as far as the details of this are concerned, we are prepared to review these and give our written comments very promptly to the Board and certainly not more than five days, we think this can be done.

And we would like to see it done very promptly because we do feel that this is a matter that is likely to hold up the Board's consideration, final consideration of this matter. We are seriously concerned about that in light of

Ace-Federal Reporters, Inc.

1 the schedule that I mentioned this morning.

2 We feel that basically, the Applicant's position

3 here is that the technical specifications that we have

4 submitted to the Staff, with copies to the Board and the parties

5 on the 30th of April, are those that would be acceptable to the

6 Applicant in connection with the issuance of this license, if

7 the Board feels these technical specifications are called for.

8 We feel that basically the -- there is a considerable -- in

9 here that really isn't necessary, that the Staff has put in

10 these technical specifications.

11 But the most important thing is that by putting

12 forth these technical specs, the Staff has, I think, acknow-

13 ledged the fact that this information is needed before the basic

14 decision is made.

15 CHAIRMAN JENSCH: Would the Staff care to consider

16 that matter?

17 MR. KARMAN: Yes. The answer is no. The Applicant

18 proposed a series of -- a program for testing and for research.

19 And the Regulatory Staff in its proposed technical specifications

20 which we recommend the Board adopt, and as part of the operating

21 license, we indicate and we have said this constantly, Mr.

22 Chairman, I believe Mr. Roisman and Mr. Macbeth and the

23 Attorney General's representative this morning, Mr. Corcoran

24 mentioned it, we feel that studies and programs only help.

25 There is no question about it. But it is our considered

Ace-Federal Reporters, Inc.

1 judgment that as -- that the state of the record as it stands
2 now, is that we feel that this program will not be able to
3 definitely give us the answer within the time frame that the
4 Applicant mentioned before, as to whether or not the irreparable
5 damage which we claim will happen is indeed happening or will
6 happen. And by that time, too much time will have been lost
7 and the opportunity for the erection of this, or construction
8 of the closed cycle cooling system will have been gone down
9 the road two, three, or four years.
10 We feel that on the basis of the evidence which we
11 have adduced, irrespective of Mr. Trosten's indication that we
12 have waived, we have waived nothing. And in indicating our
13 requirements in the technical specs with respect to a program,
14 the evidence speaks for itself. Our evidence is
15 clear; I think the Board will find that to be so; that this
16 program will not conclusively show the damage to the biota
17 in the Hudson, and that these closed cycle cooling systems
18 should be erected within the time frame that we have requested.
19 MR. MACBETH: Mr. Chairman, they are voluminous
20 documents. I have only had an hour or so to look at them.
21 But I would also like some time to make some comments.
22 What I failed to find on a quick review is exactly
23 what is going to be done when some of the possible events take
24 place. For instance, we have a statement that if the daily
25 kill exceeds RDAK, which turns out to mean the running daily

Ace-Federal Reporters, Inc.

1 average kill by a factor of three or more, it should be regarded
2 as a significant reportable kill. That is going down to shorten
3 to an SRK. Immediate corrective action should be taken to
4 reduce the number of kill.
5 This, of course, applies to fish and not to people,
6 despite Mr. Roisman's hopes as he first looked it over.
7 (Laughter.)
8 MR. MACBETH: But there is no -- hopes only in the
9 sense that he would win the suit, not any more gruesome thought
10 than that.
11 But I don't find in the next paragraph exactly what
12 the corrective action is going to be. I would like to be able
13 to comment on things of that sort.
14 There are a number of statements of general
15 objectives to be aimed at and so on, without, it would seem to
16 me on the first glance, tying down exactly what is going to be
17 done when something happens. And it is that that obviously
18 troubles the Fishermen's Association in this situation.
19 And one reason why we think it is very important,
20 if there is to be some flexibility in the technical specifica-
21 tions in the end that the Fishermen's Association have some
22 voice and know what is going on under the technical
23 specifications as the plant is operated.
24 It may not be possible to tie down every detail, but
25 I think it is important that the Fishermen's Association be

informed of what in fact is done in those places where some flexibility is left, and that we have an opportunity to be heard by the Staff and under what it is the Applicant thinks can and should be done in a situation of that sort.

CHAIRMAN JENSCH: Will you make in your comments some response to the Hudson River Fishermen's Association, what would be the corrective action that you would envision would be available for situations when they develop as outlined in the technical specifications?

MR. TROSTEN: Yes, Mr. Chairman.

I just have two additional things to say about Mr. Karman's remarks. First of all, it is completely unclear to me, and I believe it will be unclear to the Board too, why, if the Staff continues to maintain that the program is not going to accomplish what the Applicant says it will, why the Staff feels that this program is worthwhile, and that it should be continued. There is just no adequate explanation at all that is contained in anything that the Staff has submitted that can lead any reasonable person to conclude that this program is reasonable and is worthwhile and should be included in the technical specifications, and yet somehow wouldn't accomplish the results that it is supposed to accomplish.

The other thing, the general comment I would like to make about the technical specifications, and we will be more specific about this in our comment, is that we feel that

number one, it goes beyond what is -- has been proposed by the Applicant, and is necessary in the sense that it calls for the verification of certain of these models, which is not the basic objective of the program as far as the Biological Studies Program is concerned. The basic objective of the program is to determine the impact of the facility on the river; and secondly, that the technical specifications are far too detailed in many respects and call for too much coordination and communication,which is inconsistent with the proper functioning of a surveillance and research program.

But we will be more specific about this in our comments.

CHAIRMAN JENCSH: Well, we will ask the Staff if they will respond specifically in documentary manner.--

MR. KARMAN: Yes, Mr. Chairman; we will.

CHAIRMAN JENSCH: -- to the comments that come in from the Applicant.

MR. KARMAN: Yes, we will.

CHAIRMAN JENSCH: I don't know whether the Applicant has intended to portray that he has made a parallel column comparison between what is proposed by the Applicant and the several sections of these proposed technical specifications. I don't know that I have examined these technical specifications from that point of view.

Would you be able to, in your comments, give us some

sort of a summary parallel comparison?

MR. TROSTEN: Yes, we can do that.

CHAIRMAN JENSCH: Because if there are differences, and if there is a different objective, the purpose, as I understood in reading some of these things, first, the purpose of the monitoring activity was outlined as a sort of a preface to the provisions for the monitoring and I take it an evaluation of what is going on, which doesn't purport to affect the judgment rendered upon this record for the recommendation for cooling towers.

So, there may be that difference, that while they are proposing a monitoring program, it is a part of a general surveillance that the Regulatory Staff undertakes for both nuclear safety and environmental concerns.

MR. TROSTEN: That is a fundamental difference, Mr. Chairman. The objective that was stated in our Environmental Studies Program was for a determination of whether or not an alternative to the once-through cooling system is needed.

Now, the Staff has left out that objective, but they have retained the program. Now, it is just really a matter of logic, I think, Mr. Chairman, as to whether or not the Staff can agree, and I think it is quite obvious that they do agree.

And when we present this in a parallel sense, you will see that they have adopted the basic, particularly in their Statement of Bases, the philosophy that is expressed in the

Federal Reporters, Inc.

1 Applicant's program and the Applicant's testimony. But they
2 have left out that crucial factor which is that all of this is
3 for the purpose of determining whether you really need the
4 system. They just retained it for some other purpose.
5 And I think that they have not articulated and I
6 don't think they can articulate an alternative purpose for
7 requiring these things, which makes me say what I did before,
8 that they have really accepted our position.
9 (The Board conferring.)
10 CHAIRMAN JENSCH: Does anybody else desire to speak
11 on these technical specifications?
12 Citizens Committee?
13 MR. ROISMAN: Except on the RDAK being applied to
14 humans as well as fish.
15 CHAIRMAN JENSCH: If there is nothing further, did
16 you have something further you wanted to present by way of
17 rebuttal to the comments?
18 MR. TROSTEN: Oh, yes. There were several --
19 CHAIRMAN JENSCH: Before you proceed, I wonder if we
20 could ask all parties, the Board would request all parties to
21 submit a special presentation on findings on quality assurance,
22 particularly directed to the contention that maybe made that, in
23 what way will the present arrangement, quality assurance,
24 likely prevent with all reasonable assurance, the occurrence
25 of many of the items which have been reported as abnormal

occurrences, based upon, of course, the record.

Now, we did give some consideration to this quality assurance consideration. And, of course, it may be that your findings can go back and review that testimony and documentary evidence. But we believe that there should be some specific findings here on quality assurance.

MR. ROISMAN: Excuse me. Could I just ask a question?

You mentioned the abnormal occurrences. Unless I am mistaken, I don't think any of those have been introduced into the record at this point, is that correct?

CHAIRMAN JENSCH: That is correct. We are dealing with it as in a sense an abstract matter. How would the presently presented Quality Assurance Program likely prevent with reasonable assurance the occurrence of items that might be described as abnormal occurrences?

No one has made an offer of anything on reporting. We make no request for any submission. But we think there should be an analysis of what there is in the record with specific proposed findings from all parties.

MR. TROSTEN: All right.

Mr. Chairman, we will submit additional findings with regard to the quality assurance subject as you requested. We have already submitted findings dealing with the Quality Assurance Program which we can review in this.

I have thought further about the Chairman's question about the record during the luncheon break. And I have concluded that there is no need for a further submission, a further evidentiary submission.

We feel confident that the record is adequate in this respect. We can submit an additional -- more specific finding with regard to quality assurance.

MR. KARMAN: Is there a timing on that, sir?

CHAIRMAN JENSCH: Well, the Applicant seems to be holding pretty well to a five-day limit on itself. Would that be adequate for the other parties, have an additional five days after you receive the Applicant's submissions?

MR. KARMAN: Yes.

CHAIRMAN JENSCH: Perhaps the expressions in reference to quality assurance indicated whether the parties desire to risk the present record. That, of course, isn't the primary consideration of the Licensing Board.

Whether the parties have submitted it or not, the matter is available for review and determination by the Licensing Board. So, regardless of the position of the parties, the Licensing Board will undertake a thorough examination of the quality assurance situation in light of the several Appeal Board decisions dealing with quality assurance, so that we will have some specifics available for the initial decision.

MR. TROSTEN: Mr. Chairman, I would like to harken

Ace-Federal Reporters, Inc.

back to the -- this matter of the schedule again. If we are going to set a five-day period, can we not set a five-day period for everyone to make the submission with a one-day period for the Applicant to reply, so that at least we have -- I am trying to keep this thing on the track, Mr. Chairman; that at an earlier stage the Chairman observed that if we reached the point where it looked as if we were moving along well in our schedule, that we could approach the Board for further expedited schedule or additional licensing, or what-have-you.

I am becoming concerned that we are getting to that stage now, and I am getting quite concerned about the fact that July the 2nd is here and we are pushing this off now to July the 12th and that this may delay the Board in considering the matter and issuing its decision.

CHAIRMAN JENSCH: I don't believe it will. The Board will not feel delayed by these submittals, I assure you. They have a very extensive review going on now that may take a considerable period of time.

And so, these events will meld into the schedule quite well, I believe. This is not a matter that is going to fit anybody's particular schedule. There is too much review here. There is too much that warrants very careful scrutiny. Two hundred fifty pages of your proposed findings will get very careful review. If they seem long, it may mean that there will be a long time reviewing them. But it is just the nature of the

situation, that we do not feel that we can schedule this thing to any time schedule.

We will proceed expeditiously and as promptly as we feel the serious contentions in this proceeding warrant.

MR. TROSTEN: Mr. Chairman, I would like to address several of the comments that were made by counsel for the other parties and then return to the specific questions that the Board asked of me.

There was one point that Mr. Macbeth raised which I think deserves particular attention. He said this in his closing brief and again this morning. It is that the Applicant agrees that if there is a 40 percent reduction, long-term reduction in the Hudson River striped bass population, or a corresponding 32 percent reduction in the Midatlantic fishery, that the Applicant agrees that a closed cycle cooling system should be built. And that is a misstatement of our position.

If Mr. Macbeth and the Board will refer back to what we said in our response to the Board's request for a statement of criteria, we said that if this particular level of damage was observed in our program, and we are confident that it will not be observed in this program, on the basis of everything that we have seen thus far, we will propose an alternative system which will be a closed cycle cooling system with a single natural draft tower, unless it can be shown that another system is preferable on the basis of a benefit

1 cost analysis or that the adverse environmental effects of a
2 closed cycle system outweight the advantages of it.
3 CHAIRM JENSCH: Will you give us illustrations of
4 those other alternatives that you have in mind in that regard?
5 MR. TROSTEN: Well, other alternatives that we have
6 in mind that we have mentioned to the Board are, for example,
7 the previous dike system, the stocking of striped bass, the
8 other matters that are mentioned in our findings and
9 conclusions in Section N, and we mentioned specifically the
10 engineering studies that we were undertaking on altering
11 time and temperature, pressure, and the various studies of the
12 chemistry of the once-through cooling system. We also have
13 the alternatives we have mentioned of the lagoon, the common
14 lagoon, the common intake structure. And these are the
15 alternatives that are under consideration at the present time.
16 The most attention that has been given in this
17 hearing to alternatives has been to the striped bass, the
18 stocking of striped bass. An additional alternative system,
19 not exactly an alternative system, it is an alternative
20 operating method that has received considerable attention in
21 this hearing, has been the reduced flow system, which we
22 have in effect now during six months of the year.
23 These are the alternatives that are under
24 consideration and there could well be other alternatives
25 that were under consideration.

1 Our basic point here, Mr. Chairman, is that there are
2 a host of alternatives that could be considered if we had the
3 necessary information on impact and could factor that into the
4 study of alternatives that we have already considered.
5 So that -- this is a very fundamental difference between our
6 position as portrayed by Mr. Macbeth and what we have actually
7 stated.
8 With regard to the nature of the study that we are
9 conducting, Mr. Macbeth has pointed out certain things having
10 to do with the matter of compensation. I am afraid that his
11 discussion of compensation, his discussion of the uncertainties
12 that exist in the matter of river hydraulics, reveal that we
13 are still not together and Mr. Macbeth does not fully understand
14 what we are doing here.
15 We are not out to perform in this research program
16 a study which is going to define some specific compensatory
17 mechanism and prove that some specific compensatory mechanism
18 as opposed to some other mechanism is operative. We are not out
19 to define some fine theory about the hydraulics of the river.
20 We are out to determine the impact of the plant on
21 the population of the river. We have defined a variety of
22 compensatory mechanisms which could be operative. We are not
23 here to try to prove out some present theory that may exist,
24 but to determine emperically what the impact of the plant is.
25 And the fact that the Staff or HRFA may have certain theories

...e-Federal Reporters, Inc.

1 or certain theories may have been expressed at the hearing at
2 the present time as to what might be the compensatory mechanism
3 that would be operative, or what the hydraulics might be, isn't
4 conclusive with regard to the nature of our research program.
5 Mr. Macbeth also made the statement, and he has made
6 it repeatedly in his briefs, that the Applicant has introduced
7 no evidence as to the existence of compensation in the Hudson
8 River striped bass population. And designedly or otherwise,
9 this kind of a statement completely ignores the fact that
10 the expert testimony of the Applicant, the testimony by the
11 best qualified experts who have testified in this proceeding,
12 are to the effect that there are going to be compensatory
13 mechanisms that are going to be operative in the Hudson River
14 striped bass population.
15 To just say that the Applicant has introduced no
16 evidence to this effect, utterly ignores the fact that the
17 expert opinion, I think, overwhelmingly supports the idea that
18 there will be compensatory mechanisms operative in the first
19 year striped bass population.
20 Now, it is rather interesting to me that the
21 Intervenors, HRFA, and the Attorney General of the State of
22 New York, seem to have adopted a new theory that I haven't
23 really seen before in their papers.
24 Earlier in the hearing, all of the talk was about the
25 40 percent reduction in the striped bass population that was

Ace-Federal Reporters, Inc.

1 going to take place or the 30 to 50 percent reduction that was
2 going to take place. And it was very clear that this was going
3 to take place; there was just no doubt about it. And it was
4 on the basis of these very, very severe postulated impacts that
5 the position of the Intervenors was taken.

6 Well, now there is a new element that seems to have
7 crept into the picture, and that is, well, maybe we are not
8 going to have that kind of an impact, but we are going to have
9 a serious impact. And the Applicant isn't going to be able to
10 see what it is. The Applicant can only see perhaps a 25 percent
11 change with certainty. But maybe there will be a 10 percent
12 change and this is serious, too.

13 Well, to the extent that this indicates a recogni-
14 tion that the previous confidence that was expressed in the data
15 is misplaced, I am very glad to see it. But to the extent that
16 it amounts to a statement that, well, this is going to be a
17 very serious impact which may take place over a long period of
18 time, and it is going to be -- it will just take longer for the
19 Applicant to do all that damage, I think that is a completely
20 unsupported position. And it does not focus the attention of
21 everyone on the critical issue, which is whether there will be
22 irreversible harm done during this short additional period of
23 time that we are talking about, the period from January 1, 1978
24 to September 1, 1981.

25 It is the Applicant's view that during this period of

566
nd 8

1 time, whatever damage is done is not going to be irreversible,
2 that the Applicant will be able, using its own methods, there
3 are methods available to the Applicant that would enable it to
4 compensate for harm that might have been done during this
5 additional period of time.
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

#9
1566

CHAIRMAN JENSCH: May I interrupt?

MR. TROSTEN: Yes.

CHAIRMAN JENSCH: You use the three-year period from 1968 to '81. Is it important in any respect to go back or start now with '73 and say from '73 to '81, if this is an accumulative effect, you are picking out the latter three years, whereas while you all are considering the previous years, the totality of your presentation rests upon the amount of damage that is done and it isn't solely a question of whether you should wait until '78, because maybe some action should be started now?

If you can relieve yourself of that burden by say ;76 or '78, that would be available to you to make such endeavor. But when you say we are only concerned about a three-year period I wonder if that is an accurate reflection of the position of the parties.

MR. TROSTEN: The reason why I talk about the additional three and a half year period, Mr. Chairman, rather than talking about the period from July 1973 to September 1981 is that because I think there really is no controversy, that there is not going to be an irreversible harm during the period from July 1973 until approximately January 1978.

I mean we cn argue back and forth about whether or not there really is going to be a significant or substantial damage, but I really don't think that there is anybody who has

Ac ederal Reporters, Inc.

1 come to the Board and has really seriously said that there
2 is evidence, hard evidencein this proceeding that there is
3 going to be irreversible damage during the period from January
4 1, 1978.

5 Certainly the Staff which chose the date in the
6 first place never said that there would be irreversible damage
7 during the period between now and January 1, 1978. And I don't
8 think that the Hudson River Fishermen -- I am confident that
9 they have not come out and said that.

10 Now, that means, therefore, that what we are really
11 talking about in terms of harm to the fisehries is the period
12 from January 1978 to -- until the -- until September 1981
13 which is the end point of the Applicant's period. That is the
14 reason why I think that that short additional period of time
15 is what the Board should be focusing its attention on.

16 Now, with regard to dealing with the Hudson River
17 Fishermen's Association, and this is a matter that has come
18 up once or twice this morning about the right of the
19 Intervenors to be heard, the Applicant does not object to
20 continuing to work with the Hudson River Fishermen's
21 Association and the Environmental Defense Fund.

22 We wish, as a matter of fact, hat they would be
23 willing to work more closely with us for example on the
24 research program than they have to date.

ace eral Reporters, Inc.

25 I do think there is a difference, however, between

1 and it is certainly a -- certainly an important procedural
2 difference, to recognize that there is a difference between
3 continuing to work with the Intervenors, having the Intervenors
4 have the continuing right to make representations to the Staff
5 and sort of treating the hearing as if it were a continuing
6 hearing process.
7 I am sure Mr. Macbeth recognizes that difference.
8 Finally, with regard to Mr. Macbeth's points, he
9 mentioned that he felt that the date December 1, 1976, was
10 really the time that the closed cycle cooling system should be
11 installed.
12 Now, whereas I can recognize the tactical advantage
13 or the forensic need to take a date which is more conservative
14 than the Staff's, than the Staff has chosen, and which is the
15 counterweight, if you will, to the date that the Applicant has
16 chosen, I submit that there really is no evidence in this
17 proceeding to justify the date December 1, 1976. It is
18 nothing more than just a more conservative date than what the
19 Staff has chosen.
20 By contrast, the Applicant's date of September
21 1981 is not just an arbitrarily chosen less conservative date
22 than the Staff's. It is intimately related and there is
23 evidence in the record to the fact -- there is evidence in the
24 record that justifies that the date September 1, 1981 is an
25 entirely reasonable date in light of the necessary time to

A[illegible]ederal Reporters, Inc.

1 conduct the Hudson River ecology study and keying that study
2 in with the time necessary to design, build, construct and
3 obtain the necessary permits for the closed cycle cooling
4 system.
5 So I think there is a fundamental difference that
6 has to be born in mind between those two positions of the
7 parties.
8 CHAIRMAN JENSCH: Well, except insofar as you
9 have selected an arbitrary date for the extent of your
10 research program, you picked a number that supplements what
11 happened from the time of Indian Point Number 1, and added
12 this on, and it fits a period of time that, well, run the
13 research program for X number of years.
14 MR. TROSTEN: Mr. Chairman, I don't think the
15 date, January 1, 1977 date, can reasonably be characterized
16 as arbitrary. This was a date chosen in light of the life
17 cycle of the Hudson River fishes, the necessary time in order
18 to eprfect the techniques, in order to build on the past data,
19 inorder to have a reasonable period of operating experience
20 for Indian Point 1 and 2 in light of the previous experience.
21 Naturally there was an element of judgment associated
22 with picking 1977 versus 1978 or, but this was a scientifically
23 justified judgment that was made here which I really do not
24 think could be characterized as arbitrary.
25 With regard to Mr. Roisman's remarks, I really feel

ace Federal Reporters, Inc.

1 that the only thing that I need say about what he has said
2 is that the position that the -- somehow the Applicant is
3 not going to follow whatever regulations come out of the
4 Commission's ECCS rule-making proceeding is simply absurd,
5 really.

6 The Commission has been very clear that the Board's
7 follow these particular -- the interim acceptance criteria in
8 these proceedings.

9 When the regulations are amended they will obviously
10 apply to Indian Point 2 and the Applicant will have to comply
11 with those regulations as they come out.

12 He made another statement concerning the matter of
13 quantitative probability and the need to assess these
14 probabilities in quantitative terms. The only thing I can
15 say about that is that we have addressed this matter fully in
16 our findings and conclusions last year.

17 It is simply not true that all of these things
18 should be or can be stated in quantitative terms. Obviously
19 there needs to be, and the Commission has recognized this, an
20 element of engineering judgment.

21 Finally Mr. Roisman in his comments on behalf of the
22 Environmental Defense Fund voiced an opinion concerning the
23 meaning of NEPA and the Calvert Cliffs Case which I think is
24 significant because I am sure it underlies the position of the
25 Intervenors here.

...ce ...eral Reporters, Inc.

1 Unfortunately it seems to have crept into the think-
2 ing of the Staff whereas it should not have. This thinking is
3 that what NEPA means is that the environment is to be protected
4 above all costs, and that it isn't really a balancing statute,
5 it is an environmental protection statute to the exclusion of
6 other things and that is not true.
7 I don't think that the cases bear that out.
8 Certainly the Calvert Cliffs case does not bear that out.
9 What NEPA means is that you are supposed to balance
10 environmental -- the Congress determined that environmental
11 considerations had not been given sufficient consideration, not
12 that they should overweigh everything else.
13 What NEPA is is a balancing statute.
14 There is a fundamental difference between NEPA and
15 the AEC's proper implementation of NEPA and the way it carries
16 out its responsibilities under the Atomic Energy Act.
17 Safety is a supervening responsibility of the
18 Atomic Energy Commission under the Atomic Energy Act. This is
19 not to say that that means you can never license a nuclear
20 power plant if there is any risk. That is not the case. But
21 safety is a supervening consideration.
22 The environment is not a supervening consideration
23 as far as National Environmetnal Policy Act is concerned. The
24 environment is to take its place besides other appropriate
25 values.

Acc eral Reporters, Inc.

1 This means there is a very important difference
2 between how the AEC carries out its responsibilities, whereas
3 it makes all these exceedingly hyperconservative assumptions
4 insofar as the safety responsibilities are concerned, it is
5 irrational and bad public policy for the Commission to make
6 hyperconservative unrealistic assumptions as far as environ-
7 mental damage is concerned in the same kind of way, same approach
8 it adopts in its nuclear safety responsibilities.
9 To the extent the Commission does that, it is not
10 following the dictates of NEPA and will lead to a wrong
11 decision as it has in the case of the Staff so far.
12 Mr. Roisman also made the observation that it is
13 inevitable that the cost will go up if we delay the
14 construction of cooling towers. That is not true, either.
15 We addressed this point specifically in our
16 findings and conclusions and the point that we made, and I
17 will simply reiterate it, is that because of the discount that
18 is given to the cost of money and which is required by the
19 Commission's guidelines, when you take into account the
20 discounted value of money and the inflationary trend it doesn't
21 simply result in a saving of money if you delay -- if you start
22 construction of the cooling towers now.
23 This is a misconception and it is a misconception
24 which we think has pervaded the entire case of the Intervenors.
25 Mr. Roisman made one final point and that was that

Inc. Federal Reporters, Inc.

1 he apparently is under the impression that someone has said
2 that every year Indian Point 1 and 2 is going to be killing
3 off 40 percent of the striped bass population.
4 Well, even under the worst predictions of the Staff
5 and the Intervenors, this was not the case. The worst that
6 was ever predicted here was a killing of 40 percent of the
7 first-year population which, of course, is entirely different
8 than 40 percent of the entire striped bass population,
9 particularly since it is the adults and not the first year
10 fish that are being caught.
11 In conclusion, Mr. Chairman, I would just like to
12 say that there have been comparisons drawn between requiring
13 cooling towers for Indian Point 2 and the fact that cooling
14 towers are being designed and built in other plants.
15 There is a fundamental difference between those
16 cases. Those cases that have been cited, Vermont Yankee Case,
17 the Palisades Case, were not cases where the evidentiary
18 record demonstrated as it does here that there would be a
19 requirement for the backfitting of a cooling system on an
20 operating nuclear power plant with all of the problems that
21 would be involved there.
22 Those cases did not involve the extensive and
23 difficult site and construction problems that are presented
24 at Indian Point.
25 We are not dealing just with an abstract here, an

Ac[illegible]deral Reporters, Inc.

1 abstract comparison between several different facilities. We
2 are dealing with a real concete case and a requirement of
3 $20 million a year that would be added on to the ratepayers'
4 bills by requiring this.
5 Thank you, Mr. Chairman.
6 CHAIRMAN JENSCH: Do the other parties care to
7 discuss the matter further?
8 MR. MACBETH: I would like to clarify one or two
9 points.
10 First, Mr. Trosten's statement that the discussion
11 of damage less than 40 percent indicating that the Fishermen's
12 Association is retreating in any way from its previous
13 contentions, that is not so.
14 We think that the record clearly supports the
15 contention that the operation of Indian Point 1 and 2 with a
16 once-through cooling system will kill approximately 40 percent
17 of the first-year population of striped bass in the Hudson
18 River.
19 The point that I then went on to make, and I would
20 like to emphasize this, was to say we think that that is what
21 the Board should decide on.
22 If the Board thinks it must go further and review
23 the research program, then there are important flaws in the
24 research program, and one of them is the gross nature of
25 the changes in the population the research program will be able

Acc eral Reporters, Inc.

1 to see.

2 The second point is the choice of December 1, 1976

3 as a date certain for the installation and operation of the

4 cooling, closed cycle cooling system. That is not arbitrarily

5 chosen. It is chosen on the basis of the record which

6 indicates that a cooling system of that sort could be

7 constructed within three years.

8 It has been the position of the Fishermen's

9 Association throughout the proceeding that the worst periods

10 of the plant's impact, the once-through cooling system's

11 impact on the fishery are in the summer months and in the

12 coldest times of the winter so that to give the Applicant the

13 maximum amount of time beyond the three years in which the

14 system could be installed, the first of December, the beginning

15 of the coldest period of the year, was chosen.

16 I think that that schedule is clearly supported by

17 the record.

18 The question of harm to December 1, '76, or January

19 1, '78 or September 1, '81, and, of course, September 1, '81,

20 in fact, has four more entrainment periods in it rather than

21 three. There is clearly accumulative impact on the fishery

22 of the effect of entrainment and impingement across that

23 period.

24 Without wanting to get into a long semantic

ace eral Reporters, Inc.

25 debate about the meaning of irreversible, the loss of those

1 fish, it seems to us, is irreversible.

2 Now, that has to be weighed against the need for
3 power and how quickly the plant can be installed. It clearly --
4 what the fishermen would like to see in this situation is that
5 the cooling towers closed cycle system would be in operation
6 tomorrow, and this isn't possible and the Fishermen's
7 Association recognizes that, and it has tried to strike the
8 balance as closely as it can to push the thing forward, to get
9 it moving and to get those -- the closed cycle system in as
10 rapidly as possible.

11 We certainly don't accept the notion that another
12 four summers of damage or in the case of our proposal five
13 summers of damage by the plant really doesn't amount to any-
14 thing. It ought to be done now.

15 If the law had been different when the construction
16 permit was applied for, if the company had thought more
17 seriously perhaps about the data it had in hand sometime ago,
18 I think we would be in a position where those cooling towers
19 would be installed at a much earlier date than even December 1,
20 '76.

21 So that I would leave it with the Hearing Board
22 that it seems essential to the Fishermen's Association that
23 with the risks that are presented by this plant, the damage
24 that has been predicted on the basis of a very thorough and
25 complete evidentiary record, that every effort must be made to

Accederal Reporters, Inc.

1 move forward the construction of cooling towers on the most
2 rapid schedule, and that that not only the decision to have
3 closed cycle cooling system, but to have it on a tight schedule
4 with as much emphasis on making sure that the Applicant in every
5 way fulfills that obligation is absolutely essential as part
6 of the license granted in this case.

7 CHAIRMAN JENSCH: Would you care to speak to that?

8 MR. ROISMAN: Yes. With the EDF hat on.

9 I believe Mr. Trosten has attempted to, in respond-
10 ing to what I had said NEPA means, to rebut an argument that
11 he may have wished I had made rather than the one which I did
12 make.

13 The point which I was attempting to make was that
14 in determining how much harm the environment is going to suffer
15 as a result of the possibility of the operation of the plant
16 without cooling towers, that the conservative assumptions should
17 be used in doing that, and what Mr. Trosten has said is, well,
18 we should not use conservative assumptions there, because the
19 environment is not intended to be favored over other factors
20 under NEPA.

21 One, I don't think he can find much support for
22 that in the legislative history of that. He certainly can't
23 find much support for it in the title. It is not called the
24 National Cost-Benefit Analysys Policy Act. It is called the
25 National Environmental Policy Act.

Ac[illegible]deral Reporters, Inc.

1 I don't think there is any way to confuse that
2 Act with merely equating environment with everything else.
3 It clearly is a priority item.
4 Irrespective of whether it is a priority item, let's
5 look at the other factors that he would like to say environment
6 should be equated with.
7 One would be the need for power. Now, has the
8 Applicant used realistic figures for the need for power, or
9 have they projected most conservative ones? The answer is
10 they have projected most conservative ones. In fact, a few
11 months before this each year we have heard the Applicant tell
12 us how bad the situation was going to be in New York in the
13 summer of 1970, in the summer of 1971, in the summer of 1972,
14 in the summer of 1973, if Indian Point were not running. And,
15 low and behold, it was not running.
16 To those of you who have been there recently,
17 New York City still stands. And the pessimistic assumptions
18 about how serious the need for power would be without Indian
19 Point Number 2 are fed right into the final environmental
20 statement right from the Applicant's assumptions regarding
21 projections of need for power and the like.
22 So on that factor the Applicant used the conservative
23 assumption.
24 What about the ability of the plant to meet that
25 need? Here again the Applicant has assumed a fairly optomistic

1 view as to how much power Indian Point Number 2 will be able
2 to turn out once it has completed its licensing process.
3 We need not remind the Applicant what the president
4 of its corporation said when advised the American Nuclear
5 Society that Con Ed was disappointed in how much power
6 nuclear plants are producing, and that where he had
7 anticipated 80 percent they were getting 60 percent.
8 But, here again, the Applicant in assessing the
9 advantages of running the plant made very optimistic
10 assumptions, not realistic ones, but optimistic ones as to how
11 much power they would provide.
12 Then, third, when they began to discuss when should
13 the Applicant be required to put these towers up, they made
14 a number of statements regarding how difficult it would be
15 to get the approvals from all the state and federal agencies.
16 Once again, did they use the realistic values? No.
17 They suggested, you know how serious it can be, and there can
18 be delays, and it can take time.
19 They took the most conservative approach in
20 suggesting how long it would be to take licenses.
21
22
23
24
25

#10

arl

Now we are only saying that when you weigh the environmental impact of the plant, you should also choose the conservative assumption. If the data can support, and it clearly can, an assumption that each year there will be a 40 percent loss in that first year population of the striped bass, if the data will support that, then that is the assumption that you should work with in conducting the cost-benefit analysis. And that would be true even if, as we think probably is appropriate, the other factors had been evaluated at realistic figures rather than at conservative figures. And our point is that that conservative assumption when factored into the total cost-benefit analysis will lead to only one conclusion. There must be a closed cycle system and it must be installed as soon as possible. And December 1, 1976 is possible.

CHAIRMAN JENSCH: Is there anything further?

MR. TROSTEN: I have a response to the Board's question, Mr. Chairman, about permits that would be needed.

CHAIRMAN JENSCH: Yes, please.

MR. TROSTEN: I might add in this connection that Mr. Roisman has just said and Mr. Macbeth had said earlier that the Applicant was forecasting a delay, or delays in the issuance of permits in connection with the closed cycle cooling system. The period of time that we have forecast in our schedule for receipt of regulatory approvals does not

1 represent a delay. It represents what we consider to be, on
2 the basis of ample evidence, the normal period of time
3 necessary to secure these regulatory approvals. I think
4 it is quite important that we view this not in terms of a
5 delay, but in terms of the time necessary for regulatory
6 agencies to consider these matters and grant their approval.
7 Now in addition to the approvals that I mentioned
8 to you this morning, Mr. Chairman, in response to your
9 request, I would also like to mention that it will also be
10 necessary to obtain Department of Environmental Conservation
11 certifications fro constructing and operating an air-
12 contaminant source. This was one I had not mentioned before.
13 There will also be -- it will also be necessary,
14 we believe, to obtain a Corps of Engineers' permit to dump
15 excavated material into the river. There is a necessity
16 for Hudson River Valley Commission review.
17 I am putting aside any necessary modifications
18 that may come about of the AEC's operating license or
19 technical specifications. This, I think, deals with the
20 question that the Board asked.
21 With regard to the question of meteorology, Mr.
22 Chairman --
23 CHAIRMAN JENSCH: How long did you think it would
24 take to get these Corps of Engineers, Hudson River Valley,
25 Department of Natural Conservation of New York

1 Village of Buchanan? Can you run applications to each of
2 those at the same time, or do you have to wait until one is
3 done before you file another?
4 MR. TROSTEN: Well, Mr. Chairman, I am going to
5 answer you without giving all the necessary thought to that
6 question because I don't know that we have been able to
7 resolve that yet. Some of these applications, I would
8 believe, could be presented at the same time. Some of them,
9 by their nature, I would think would have to be submitted
10 at different times and would require subsequent approvals.
11 CHAIRMAN JENSCH: For instance, to the Village
12 of Buchanan, would you file applications in several forms?
13 For instance, natural draft, mechanical draft, lagoon,
14 conduit down the river? Isn't that a possibility, too?
15 Wouldn't you file a lot, at the same time let them either
16 throw a dart or pick one and come up with something to move
17 it along. I mean, do you file an application for a natural
18 draft and then let that sit, and then maybe happen to go
19 by some day and ask them if they have received it, or
20 considered it, and file another one later, or can you file
21 something to move it along?
22 It just seems to me as I saw some of the evidence
23 in here that this was unduly conservative, or let's use a
24 different word -- too long, too long a schedule to get some
25 permits if you really went after it, worked hard to get it, and

you needed it, you felt you needed it, it could be had very shortly. I don't know what the regulations are, but I would imagine that in a zoning situation you would get it heard in 30 or 60 days, that sort of thing. Isn't that possible?

Have you looked at the law in that regard?

MR. TROSTEN: We have looked at the law, Mr. Chairman. I cannot say that I am sufficiently familiar with the Buchanan zoning provisions that I can really respond very definitively here to your statement.

I do know this, though, Mr. Chairman, and that is that in presenting applications to the state and local bodies, we have to have something definitive that we can present to them. We have to have the necessary design, engineering, environmental work. We have to take into account their comments. We can't simply submit to them a variety of plans and have them sort of take their pick.

I don't think any regulatory agency will function that way.

CHAIRMAN JENSCH: Have you had any experience with the Village of Buchanan in any zoning to know how long it would take? Do we have several activities? Can you illustrate the three or four times you have had it, how long did it take?

(Counsel conferring.)

MR. SACK: Well, we haven't had occasion to get a

1 variance of this particular zoning requirement which went
2 into effect in '69. And we haven't built anything in excess
3 of the height limitation since that date. So we don't have
4 any specific experience.
5 Now, in general, these things can move fairly
6 quickly if there is no controversy. But given the fact of
7 controversy, the time limit becomes almost impossible to
8 predict. We would be hopeful that we could persuade the
9 village to change their position. But that will require time.
10 CHAIRMAN JENSCH: How long did it take you to
11 get a permit to build a nuclear plant in the first place
12 from the Village of Buchanan, do you know?
13 MR. SACK: I am sorry, at this point in time we --
14 it didn't take more than the period of months, certainly.
15 But in that case, the village was very anxious to have the
16 facility constructed. There wasn't a controversy involved.
17 CHAIRMAN JENSCH: If they wanted to construct it,
18 they wanted it to operate. If you couldn't operate without
19 the cooling towers, wouldn't they be just as anxious to get
20 the cooling towers in order to get it operating?
21 MR. SACK: We hope that argument will work.
22 (Laughter.)
23 But the experience in getting regulatory approvals
24 is entirely a question of whether or not there is controversy.
25 If there is no controversy, we find that the

1 approvals can come through on these matters relatively
2 simply. But once controversy appears, and we have in our
3 records, as we all know, the famous Cornwall case where
4 regulatory approval has stretched on for an extremely long
5 time.
6 CHAIRMAN JENSCH: I am talking of the Village of
7 Buchanan, something local where the people are there that
8 are working there. And somehow it has an effect upon the
9 speed with which they give consideration to these matters.
10 So instead of talking about the Federal Power Commission, I
11 was just thinking about the Village of Buchanan.
12 Thank you very much for that presentation.
13 I infer that it is just as hopeful to expect a
14 short period of time as it is pessimistic to worry about a
15 long period of time. So we can kind of balance those out on a
16 cost-benefit basis, too, and maybe will end up with a neutral
17 regard to the whole consideration.
18 Proceed.
19 MR. TROSTEN: Mr. Chairman, you have asked the
20 question about the data available from past meteorological
21 studies. And we have gone back and checked this. And the
22 response that we can give you is as follows: that based
23 upon the 1957 and 1959 data, which -- we did have data, I
24 should say, from '57 through '59, which did involve two
25 towers, one of which was a 100 foot tower, the other of which

ar7

1 was a 300 foot tower. This data, as was indicated by Mr.
2 Newman earlier this year, is no longer available. The raw
3 data were discarded. And this was, I believe, associated with
4 the original consultant who is now deceased.
5 The data did not include humidity and temperature
6 measurements which are needed for the large towers, and
7 the wind regime above 500 -- the 500 foot level was not studied
8 at that time to determine the plume characteristics of a
9 natural draft tower.
10 Following the Indian Point 3 hearings, at which
11 evidence was presented by Dr. Halitsky, there were two towers
12 installed and these were both 100 foot towers.
13 CHAIRMAN JENSCH: At what elevations above the
14 river? They were a hundred feet, but they were set up about
15 at least a hundred feet above the level of the river, were
16 they not?
17 MR. TROSTEN: Excuse me just a moment.
18 (Counsel conferring.)
19 MR. TROSTEN: I am advised that one was at eleva-
20 tion 40, and the other about elevation 100.
21 CHAIRMAN JENSCH: So you had a 200-foot tower for
22 the second tower?
23 MR. TROSTEN: Yes, sir. That's right. But
24 these --
25 CHAIRMAN JENSCH: That got up above the trees,

ar8

as I recall it, the second tower for Indian Point 3. Is it your thought that above the trees you are going to find a vast difference in humidity and temperature?

MR. TROSTEN: Mr. Chairman, I can only -- or I should say we can only rely upon the opinions which we have and the expert advice which we have. And we have testified in this proceeding that we need this additional meteorological data to determine the character of this 500 foot, approximately 500 foot tower. And that we simply are not in a position to rely upon the earlier data.

I am not a meteorologist, so I can't respond directly of my own knowledge to your question.

CHAIRMAN JENSCH: Very well.

MR. TROSTEN: Mr. Chairman, I think that that covers the matters that are outstanding at the present time.

No, I am wrong. There are one or two other things that we have remaining. Mr. Briggs did a calculation indicating that $20 million per year levelized would work out to three mils per kilowatt hour. I am advised that a more accurate calculation would be 3.7 mils per kilowatt hour.

CHAIRMAN JENSCH: You are adding the seven-tenths.

MR. TROSTEN: Seven-tenths of a mil, that's right. 3.7.

CHAIRMAN JENSCH: Does that change any conclusion?

al Reporters, Inc.

ar9

I mean the figure may be different, but I think the question is, is it statistically significant? I think that is the phrase I am hearing a lot in these proceedings.

(Laughter.)

Is this just a run on words, or numbers?

MR. TROSTEN: Well, seven-tenths of a mil in relation to three mils is significant, I would certainly say. Whether 3.7 mils per kilowatt hours is a significant financial burden for the ratepayers to pay, I would say, yes, it is.

CHAIRMAN JENSCH: What is the average consumer take in New York City, do you know, offhand? Per month?

MR. TROSTEN: I am afraid I don't have that information, Mr. Chairman.

CHAIRMAN JENSCH: Can the gentleman, Mr. Woodbury, give us -- of course, this isn't evidence. This is kind of a supposed instance. Suppose they used 10 kilowatts a month, 30 cents a month, is that going to throw them, do you think?

MR. BRIGGS: The person who did your calculations must have been less optimistic about the performance of the plant than I was.

(Laughter.)

MR. TROSTEN: Well, let me say this, Mr. Chairman and Mr. Briggs:

General Reporters, Inc.

1 Gentlemen, I think this, that if you -- when
2 you are looking at costs of this sort, these costs are
3 significant. To say, I am sure one could perform a calcula-
4 tion and compare this with the average annual income or some
5 other figure, the average electric bill. I am not sure
6 exactly what the answer would be. But that doesn't, it seems
7 to me, lessen the significance of the financial penalty
8 associated with this.
9 CHAIRMAN JENSCH: Isn't this part of the cost-
10 benefit analysis, you talk about the demand for power is
11 so great? Don't we consider the cost, too, so if the
12 additional cost is minor in reference to this great need
13 of power, and if there isn't any great objection to adding three
14 mils to the electric bill, maybe that is the factor for a
15 balancing, a finely-tuned balance.
16 MR. TROSTEN: Let me say this: Whenever you
17 find yourself involved in rate proceedings and costs of this
18 sort are being considered, you find that when people are
19 presented with a stark choice of paying these higher costs,
20 paying several mils, these are matters of huge economic,
21 political and social significance, particularly when you are
22 dealing with people who are least able to pay bills of this
23 sort. So I think that this is -- it is rather a difficult
24 thing to say that, well, this is not going to add an
25 astronomical sum onto an individual's electric bill, I

Federal Reporters, Inc.

1 don't know that that is a very fair way, really, Mr.
2 Chairman, to --
3 CHAIRMAN JENSCH: Isn't that the Environmental
4 Protection Agency talks about in the balancing? Isn't
5 that the balancing of costs, a part of the balancing of
6 costs?
7 MR. TROSTEN: Certainly taking into account costs
8 is part of the balancing, I agree, Mr. Chairman. All I
9 am saying is this: To say, for example, well, you are only
10 going to add two cents a gallon onto the cost of gasoline --
11 well, I don't know, maybe that isn't so significant for
12 people to pay. This might not break a lot of people. That
13 doesn't mean that it is not a significant change.
14 CHAIRMAN JENSCH: I can't -- let's take that
15 gasoline one up later. Let's stay with the electricity for
16 a while. Mr. Sack seems to have some figures there.
17 Do you have something, average take of a customer?
18 DR. GEYER: How many kilowatt hours per month?
19 MR. TROSTEN: The average residential kilowatt
20 hour used according to this is 3367, for 1972.
21 DR. GEYER: Per year?
22 MR. TROSTEN: Per year.
23 MR. MACBETH: Can I clarify one thing about the
24 3.7 mils? Was that per megawatt hour coming out of Indian
25 Point 2, or would that have been an increase across the

entire Con Edison system, because obviously if we then talk about the amount of electricity the average customer takes, he is certainly not taking more than what -- roughly a tenth of that of Indian Point 2, so that the impact on the individual bill is -- would be something in the region of one-tenth of what it would be if the three or 3.7 applies only to power out of the plant.

CHAIRMAN JENSCH: Yes, I think that is a valid point. This is the computation, three mils, is really just out of the plant. Of course, it works into the whole system and will be balanced by a lot of other factors, too.

Did you have something further?

MR. TROSTEN: I just had two procedural matters, Mr. Chairman.

One of them is the -- I would like to ask the Board to rule that Dr. Stevens' May 24 submission may be received in evidence. This is the additional data that we prepared and submitted to the Board and the parties, at the Board's request.

Just as a matter of record, I would like to ask the Board to rule on that.

CHAIRMAN JENSCH: Any objection?

MR. KARMAN: No objection.

MR. MACBETH: No objection.

MR. ROISMAN: No objection.

1 CHAIRMAN JENSCH: Aren't there some Appeal Board
2 decisions within the last couple months that deal with about,
3 say, the Class 9 accident, for instance, wherein they have
4 declared that it is the Commission policy not to get the value
5 aspects for, say, the Class 9, that engineering judgments
6 are adequate for those determinations?
7 And if I recall some decisions of that effect,
8 would not they be controlling here? Now you are asking us
9 to find, or for the failure of a showing in the record of
10 specifics for value determinations, to reject the engineering
11 judgments.
12 I think the Appeal Board, in some of these
13 opinions, we used to always refer to the Commission decisions
14 by a certain date and certain company, but I know the Appeal
15 Board is using a different phraseology, and I want to use --
16 but I don't remember the SLIP OP for that --
17 MR. ROISMAN: Are you think of Maguire, Mr.
18 Chairman, ALAB 128?
19 CHAIRMAN JENSCH: I have forgotten.
20 MR. ROISMAN: Stud bolts on the pressure vessel
21 head.
22 CHAIRMAN JENSCH: No, there was some other recent
23 decision, I think, that dealt particularly with the Class 9
24 situation wherein they indicated that engineering judgments
25 were adequate for these matters to which you refer.

Federal Reporters, Inc.

MR. CORCORAN: No objection.

CHAIRMAN JENSCH: Very well, Applicant's request is granted, the submittal dated --

MR. TROSTEN: May 24.

CHAIRMAN JENSCH: From Witness Dr. Robert Stevens may be incorporated as evidence into the record and the documentary material having been previously submitted, will you furnish copies to the reporter so it can be incorporated into the transcript?

MR. TROSTEN: Yes.

CHAIRMAN JENSCH: Very well. It will be available for review. The statement then by Dr. Stevens will be considered evidence on behalf of the Applicant.

MR. TROSTEN: Thank you very much.

(The Response by Dr. Robert E. Stevens follows.)

May 24, 1973

RESPONSE BY DR. ROBERT E. STEVENS TO REQUEST BY ATOMIC SAFETY AND LICENSING BOARD AND AEC STAFF FOR ADDITIONAL DATA ON STRIPED BASS CULTURE

The following report is presented in response to the Chairman's request (Tr. 11,119) and the request of the AEC Staff (Tr. 11,156). This report is based largely on the results of hatching and rearing efforts in 1972 at facilities in the southern United States. Most of the data contained herein were compiled by the Striped Bass Committee of the Southern Division of the American Fisheries Society. The data presented in Tables 1 and 2 are representative of the activities at striped bass hatchery facilities which we consider to be reasonably well qualified. There are, of course, other facilities whose experience was not as satisfactory during the period in question.

Hatching success has been highly variable. However, at the Moncks Corner Hatchery, which has been operating for many years, 50-60% of the eggs have been hatched recently (Jack Bayless, personal communication). Excellent hatching success has also been obtained at hatcheries in Tennessee, Oklahoma and Florida (Table 1).

As part of Con Edison's biological studies related to its Cornwall Project, striped bass are being cultured on an experimental basis. Using Hudson River striped bass stock, consultants (Texas Instruments with the assistance of hatchery personnel from South Carolina and Oklahoma) for Con Edison recently hatched 10 million fry from 29 million eggs, for a 36% hatching success.

The results obtained at the rearing facilities in many states has been highly variable. Rearing fry to fingerling stage in hatchery ponds has been and is now the area of greatest variability and least survival in striped bass culture. Often, initial efforts at rearing bass result in low survival due to the inexperience of the operators or to unexpected problems. As the new culture operations begin to solve the problems associated with their hatcheries the survival can be expected to increase. For example, in Oklahoma the average survival for 1967 to 1969 was only 7.6% while in 1972 the average survival was 25.1%.

The range of survival values (see Table 2) is indicative of the potential for excellent survival from fry to fingerling stage. Many of the limiting factors in pond culture have been identified and are now being studied so that conditions in the rearing facilities can be controlled. The problems which have been identified include over-maturation of ponds, high

water temperature, low oxygen levels, disease, parasites, predators and human errors. Many hatcheries now used for culturing striped bass were previously used for other species. Some of these hatcheries are being revamped and improved specifically to handle striped bass.

Intensive culture of striped bass holds promise as a culture method because it permits greater control over several factors which may limit the production in ponds. In experiments at Auburn University striped bass have been successfully reared in circular raceways.

Attachments:
Tables 1 and 2

Table 1 - Percent of Eggs Hatching

Hatchery	Eggs	Fry	% Hatch
Moncks Corner (1966)	285,500,000	130,000,000	45
(1972)	-	-	50-60*
Tennessee (1972)	6,000,000	3,200,000	53
Oklahoma (1972)	(7 Females)	4,625,000	66**
Florida (1972)	7,120,000	1,292,000	18
Cornwall (1973)	-	-	36

*Jack Bayless, personal communication

**Based on an average of 1,000,000 eggs per female

Table 2. Summary of Striped Bass Pond Culture As Percent Survival from Fry to Fingerling Stage (Phase 1),* 1972

Source	Year	Fry	Fingerling	Average %	Range of %
South Carolina[1]	1972	1,180,000	168,000	14.2	-
Federal	1971	9,500,000	1,178,500	12.4[2]	-
	1972	13,180,000	1,473,209	11.2	1-30[3]
Marine Protein	1972	2,549,500	717,560	28.1	12.7-53.4[4]
Oklahoma[5]	1967-69	-	-	7.6	5.4-9.4
	1972	1,632,537	409,760	25.1	22.8-25.6

1 Name of rearing facility not given.

2 Bureau of Sport Fisheries and Wildlife, personal communication.

3 The 30% survival was accomplished at the Carbon Hill hatchery in Alabama which was the only hatchery providing supplementary dry feed. Data is combined from the following Federal hatcheries:

Carbon Hill, Alabama
Cheraw, South Carolina
Cohutta, Georgia
Edenton, North Carolina
Frankfort, Kentucky
McKinney Lake, North Carolina
Marion, Alabama
Meridian, Mississippi
Natchitoches, Louisiana
Orangeburg, South Carolina
Welaka, Florida

4 The 12.7% survival was for advanced fingerlings from ponds harvested in December when normally harvesting of fingerlings is undertaken in July or August. Data from Palatka rearing facility.

5 Data not available for 1970 and 1971. Fish raised at Durant, Medicine Park and Holdenville Hatcheries. The data for 1967-69 are from Goodyear on Artificial Propagation, April 23.

*Phase 1 as described in Goodyear on Artificial Propagation, April 23.

CHAIRMAN JENSCH: Is there any further?

If not, we thank you for your participation and presentations. I am sure it will be very helpful to our consideration. If there is nothing further, this oral argument is now concluded.

(Whereupon, at 3:05 p.m., the oral argument was adjourned.)

REGULATORY DOCKET FILE COPY

REGULATORY DOCKET FILE COPY

105 11 100

3