

NUCLEAR REGULATORY COMMISSION

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COMMISSION MEETING

In the Matter of:

DISCUSSION ON INDIAN POINT

PUBLIC MEETING

DATE: July 17, 1980

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
DISCUSSION OF INDIAN POINT
PUBLIC MEETING

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Nuclear Regulatory Commission
Room 1130
1717 H Street, N. W.
Washington, D. C.

Thursday, July 17, 1980

The Commission met, pursuant to notice, at 2:15
p.m.

BEFORE:

- JOHN F. AHEARNE, Chairman of the Commission
- VICTOR GILINSKY, Commissioner
- JOSEPH M. HENDRIE, Commissioner
- PETER A. BRADFORD, Commissioner

STAFF PRESENT:

- LEONARD BICKWIT, General counsel
- M. MALSCH
- E. HANRAHAN

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1 CHAIRMAN AHEARNE: The next order of business is
2 the meeting to continue discussion on Indian Point.

3 General Counsel has proposed an agenda for us to
4 talk through the meeting. I gather that we have a request
5 to postpone putting out the Order until we are set both on
6 the Licensing Board and the Order.

7 General Counsel, does that cause any problem with
8 respect to our legal situation that we are in?

9 MR. BICKWIT: No, it does not cause any problems.
10 The Commission may not choose to do it, but it does not
11 cause any legal problems.

12 CHAIRMAN AHEARNE: It is acceptable to me.

13 COMMISSIONER HENDRIE: I guess, since my vote is
14 that they remain in operation, and the delay does not change
15 their being in operation, there isn't from my standpoint a
16 real effect out there that comes about by going with the
17 order, or not going with the order at this time.

18 It did seem to me that, while I recognized the
19 desirability of as rapid an elucidation as possible of the
20 framework of the proceedings that are yet to come, useful
21 for the Commission to go ahead and take the interim step of
22 the notice of comments, and the draft order that OGC and OPE
23 prepared.

24 I guess my preference would have been to go ahead
25 with the order, even though I recognize that the desirable

1 thing, clearly, is to have as much of the road ahead mapped
2 as the Commission has set for itself to map at this time,
3 but I would have preferred to go with the statement of the
4 Commission's decision on interim operation, as we might
5 adjust it and modify it at this time.

6 CHAIRMAN AHEARNE: As I said, I will go along with
7 Peter on that.

8 I think that it will also serve, hopefully, to get
9 all of us concentrated on getting the whole thing out.

10 COMMISSIONER BRADFORD: Yes.

11 CHAIRMAN AHEARNE: The one thing that I certainly
12 agree with Peter is that it would help to have everything in
13 one place.

14 Commissioner Hendrie did raise an issue in his
15 comments that I would like to ask about. Does anyone know
16 whether the report of the Task Force is being put out as a
17 NUREG document?

18 MR. HANRAHAN: Not to my knowledge.

19 CHAIRMAN AHEARNE: Peter, do you have any problem
20 if that is done?

21 COMMISSIONER BRADFORD: No, not at all.

22 CHAIRMAN AHEARNE: Could you get that out?

23 MR. HANRAHAN: Yes, sir.

24 CHAIRMAN AHEARNE: I noticed the last time General
25 Counsel effectively shifted that. But it would be very

1 useful to have that as a NUREG.

2 COMMISSIONER HENDRIE: When you do it, take a look
3 at what I have recommended as a titling change in one of the
4 sections of the tables V and VIII.

5 Nowhere in the report, unless you know what we
6 mean when we say risk, does one understand clearly that as
7 reported there it is a product of probability and a
8 consequence for a specific sequence, and then the sum of all
9 such products over the sequences to get the expected annual
10 consequence on a probability weighted basis.

11 Either my words, or the equivalent by the experts,
12 would serve that purpose.

13 CHAIRMAN AHEARNE: Would you see that that is
14 clarified.

15 COMMISSIONER BRADFORD: Joe, you are just
16 suggesting changing the table titles as you have shown.

17 COMMISSIONER HENDRIE: Yes, or equivalent words.

18 CHAIRMAN AHEARNE: You are raising an issue of, is
19 the title clear.

20 COMMISSIONER HENDRIE: That is right.

21 COMMISSIONER BRADFORD: That is all right. The
22 only thing that would have given me pause is if what was
23 being suggested was that the Task Force should go back and
24 rework any substantial piece.

25 COMMISSIONER HENDRIE: No. The Task Force has

1 done its work, and has made its report. I don't propose to
2 tinker with the results. I have no problems with the
3 language.

4 CHAIRMAN AHEARNE: All right.

5 COMMISSIONER HENDRIE: Although it does not become
6 an immediate issue since the two of you have decided to
7 postpone the publication of an order immediately. I will
8 have to go and see if I can line Vic up.

9 CHAIRMAN AHEARNE: Even if you can --

10 COMMISSIONER HENDRIE: He seems to be out of
11 order, and I can only get half way there anyway.

12 CHAIRMAN AHEARNE: That is right.

13 COMMISSIONER HENDRIE: I would also raise the
14 question, to publish an order like this, and there is an
15 underlying document which is referred to, and which is
16 obviously of considerable interest to anyone who reads the
17 order. If you incorporate the Task Force Report, in the
18 order, what are you up against?

19 Do you have to publish the whole thing in the
20 Federal Register, which on occasion could be rather more
21 than the editors of the Federal Register would like to see,
22 I expect.

23 MR. BICKWIT: Nonetheless, it could be done.

24 COMMISSIONER HENDRIE: What I was looking for was
25 a brief accounting of the results of the Task Force Report

1 in the order, necessarily brief. I would not propose to
2 attempt to rewrite in full measure the Task Force discussion
3 for the order's purposes. Nevertheless, I think that it
4 would be helpful for people to see for themselves that
5 discussion and the full range of results in there.

6 I wonder what the best way, then, is to attach
7 pretty closely to the order the Task Force Report. This
8 would come up down the line, and when there was a larger
9 order, of which this present draft or something equivalent
10 would be a section, I presume, make a NUREG report,
11 reference it, and that way you don't have to publish it in
12 the Federal Register, but send copies to people or make them
13 available, put it in the PDR, and so on, while you put the
14 copies with it.

15 MR. BICKWIT: Then you have to decide the extent
16 to which you wish to embrace every statement in that
17 document, whereas, obviously, you do embrace every statement
18 in your order.

19 COMMISSIONER HENDRIE: Yes, except that I don't
20 think that it is particularly a problem. The report is
21 already referenced, although not as a formal report, or by
22 number, and anybody who wanted it would have to call you up
23 and say, "What is this Task Force Report that the Commission
24 referred to in its order?" Then you would have to tell
25 them, and they would get a copy.

1 I think that it might be handier if it had a
2 report number, and was thereby more referencible through
3 standard referral services, and so on. But I don't think
4 that it means that the Commission thereby adopts as its own
5 every word in the Task Force Report.

6 MR. BICKWIT: It would just be another question
7 for the Commission.

8 CHAIRMAN AHEARNE: I suggest that we move to the
9 second item.

10 MR. BICKWIT: The second item on our proposed
11 agenda was the question of reconsideration as proposed by
12 the licensees of the four-pronged approach that the
13 Commissioner has taken. Before moving on to the other items
14 on the agenda, logically it seems that this is the next item
15 to consider.

16 The licensees are essentially arguing that there
17 is a denial of due process here. Since in their view there
18 is compliance with the regulations, they don't know what
19 precise standard they are being told to adhere to. I may
20 not do justice to the precise language of their comments,
21 but what comes through is that they believe they are being
22 singled out unjustly.

23 Our recommendation is that the Commission is on a
24 perfectly defensible course here, and that the previous
25 decisions of the Commission are sound ones. I see no denial

1 of due process since there is a rational basis for going
2 forward in this way.

3 What the Commission essentially decided, as I
4 understand it, was that it made more sense to go forward
5 with an adjudication related to this specific plant now,
6 rather than waiting for an informal proceeding to determine
7 across requirements for all plants. The length of time that
8 would be taken before you had a decision on Indian Point
9 would be considerably reduced by the Commission's course of
10 action if you were to, first, have your informal proceeding
11 to develop across the board requirements, and following with
12 an adjudication.

13 You are talking about a decision quite far out
14 into the future, whereas you can reach a decision sooner,
15 admitted on less solid ground, if you move forward with the
16 adjudication now and go forward with the informal proceeding
17 at the same time.

18 COMMISSIONER HENDRIE: By the informal proceeding,
19 you mean the generic proceeding.

20 MR. BICKWIT: That is right.

21 COMMISSIONER HENDRIE: To keep my simple mind at
22 ease with the nomenclature used in describing the
23 four-pronged approach, could you refer to the generic
24 proceeding, when you mean the general one?

25 MR. BICKWIT: Right.

1 CHAIRMAN AHEARNE: We are culminating the informal
2 proceeding.

3 MR. BICKWIT: That is true.

4 COMMISSIONER HENDRIE: We are engaged in it today.

5 CHAIRMAN AHEARNE: In the summary of comments that
6 you provided, you pointed out that one of the issue they
7 raised is to require the Indian Point licensee to litigate
8 the acceptability of their units, when the standard that
9 they must meet has yet to be articulated. This would be a
10 violation of due process and equal protection.

11 Do you believe that we must articulate the
12 standard in order to have the Board go forward?

13 MR. BICKWIT: I don't think so. I think what you
14 are talking about here is an investigation. You happen to
15 be conducting that investigation in an unusual format, the
16 format of an adjudicatory proceeding.

17 CHAIRMAN AHEARNE: On that, I can quote you.

18 MR. BICKWIT: Yes, you can quote me on that.

19 CHAIRMAN AHEARNE: The entire proceeding is an
20 unusual format for an investigation.

21 MR. BICKWIT: It certainly is, even by Nuclear
22 Regulatory Commission standards.

23 When you come to a conclusion on what to do, if
24 what you propose to do is to take action which would amend
25 the license, or revoke the license, or change the rights of

1 the licensee in any way, you will then have to provide
2 hearing rights.

3 We have been through this before. There is the
4 possibility of another adjudication. At that time, when you
5 make a decision, you will certainly have to articulate the
6 basis for that decision. But at this point, what you are
7 doing is essentially performing an investigation. It is my
8 view that the licensees needn't participate in that
9 investigation.

10 My assumption is that they would want to. But
11 they have the right not to, and their own rights will not be
12 damaged if they choose not to.

13 CHAIRMAN AHEARNE: You are saying that they could,
14 then, say, "Since you have not set up the standard we are to
15 prove that we meet, we don't have to participate."

16 MR. BICKWIT: They certainly could say that.

17 COMMISSIONER BRADFORD: Supposing that one of the
18 points in contention were that one of the two plants did not
19 meet the particular regulation, supposing that some parties
20 said that they did, and others said that they didn't, you
21 are saying that the applicant could, if it chose, not
22 participate in that question?

23 MR. BICKWIT: The applicant certainly could not to
24 participate.

25 COMMISSIONER BRADFORD: The licensee, rather. If

1 they did not participate.

2 MR. BICKWIT: They would not be prejudiced if they
3 didn't.

4 COMMISSIONER BRADFORD: If we found that the
5 regulation was, in fact not met, and issued an order for
6 either a modification, or a shutdown, or what-have-you, they
7 could, then, request a second adjudication?

8 MR. BICKWIT: That is correct.

9 COMMISSIONER BRADFORD: They could well be
10 shutdown during that second adjudication.

11 MR. BICKWIT: They might, yes, and that is why it
12 is in their interest to take part in this proceeding.

13 COMMISSIONER BRADFORD: I see. So what you are
14 really saying is that they could conceivably be shut down if
15 they did not participate, and they might then have the right
16 to a second adjudicatory hearing.

17 MR. BICKWIT: There is no doubt that they would
18 have that right.

19 COMMISSIONER BRADFORD: But during that second
20 hearing, they might well be shutdown.

21 MR. BICKWIT: That is right.

22 CHAIRMAN AHEARNE: They would not be in default
23 for not having participated in the litigation.

24 COMMISSIONER BRADFORD: But as a practical matter,
25 the result that they would have achieved would be about the

1 same as if they were in default.

2 CHAIRMAN AHEARNE: If they were shutdown.

3 MR. BICKWIT: If there were an interim shutdown.

4 COMMISSIONER BRADFORD: Or if they were ordered to
5 make a modificaton -- No, because they would not be making
6 the modification.

7 CHAIRMAN AHEARNE: They might be subject to
8 discovery under the discovery rules. Conceivably they could
9 be producing documents, maybe having witnesses appearing
10 under subpoena.

11 MR. BICKWIT: Also, even if this were a straight
12 statutory adjudication, the way the law is structured, the
13 Commission needn't decide a standard in advance of that
14 adjudiation. There is a statutory standard, and it is
15 envisioned under the statute that even if there is
16 compliance with the regulations and the standards previously
17 set out by the Commission, the Commission may want to take
18 action against a given licensee when it is conceived that
19 the statutory standard is not being met.

20 CHAIRMAN AHEARNE: What is the distinction that
21 you are drawing between the standard and the criteria?

22 MR. BICKWIT: I am not drawing any distinction.

23 CHAIRMAN AHEARNE: So what you are saying is, in
24 this set of two question we asked in this informal
25 proceeding, in your view we are not asking what do you think

1 we should, but you are saying that we need not. It is not
2 necessary for us to answer the second question.

3 MR. BICKWIT: That is right. Legally, you need
4 for not for two reasons. One, what you are doing here is an
5 investigation. It is not a formal adjudication as required
6 by statute.

7 Secondly, even if it were a formal adjudication
8 required by statute, there is no requirement for you to set
9 up a standard in advance of that adjudication in order to
10 ultimately decide what your adjudicatory action ought to
11 be.

12 COMMISSIONER GILINSKY: In one of the orders that
13 we put out, we committed ourselves to doing just that.

14 MR. BICKWIT: I think you did. You did commit
15 yourselves to that, but it was acknowledged that what you
16 were putting out was by way of interim judgment, and you
17 were putting that out for comment. As I remember some of
18 the discussion at this table, it was understood that you
19 might not be able to develop the criteria.

20 I am saying that if you cannot develop a
21 criterion, you can proceed in a perfectly legally defensible
22 manner. That is not to say that you should not develop them.

23 CHAIRMAN AHEARNE: We did not commit to doing it.
24 We committed to try to do it. We solicited the views of
25 interested members of the public on this question. We

1 recognized that in both of these questions, guidance is
2 desirable.

3 We agreed that it would be good if we could, but
4 it does not commit us to doing it, if it is impossible.

5 MR. BICKWIT: Certainly one of the issues you want
6 to take up is the next item on the agenda, what criteria can
7 you develop. I think the Commission is well advised to try,
8 but again I do not believe that it is legally required to do
9 so.

10 CHAIRMAN AHEARNE: I think what you are saying is
11 that the reconsideration that they are proposing is based
12 upon their belief that it violates due process and equal
13 protection for us to go ahead in this proceeding as we have
14 laid it out. You do not believe it does.

15 MR. BICKWIT: No, I don't.

16 COMMISSIONER GILINSKY: What is the proceeding
17 about, then?

18 MR. BICKWIT: The proceeding is about what to do
19 on review of the denial of 2206 relief, and whether any
20 additional enforcement action is called for.

21 CHAIRMAN AHEARNE: In the order that we gave out,
22 we had six questions. We said that, subject to modification
23 as a result of this as well as others, the Board will
24 address six of these questions.

25 If I could at least get over this first hurdle.

1 Does anyone disagree with Len's conclusion that we need not
2 accept the reconsideration request?

3 COMMISSIONER BRADFORD: I do not disagree with
4 Len.

5 COMMISSIONER GILINSKY: This is the request of the
6 licensee?

7 CHAIRMAN AHEARNE: Yes.

8 COMMISSIONER GILINSKY: Can I think about that?

9 CHAIRMAN AHEARNE: You are not sure?

10 COMMISSIONER GILINSKY: I am not prepared to say.

11 COMMISSIONER HENDRIE: I think that I will think
12 some, too.

13 We discussed this subject a while ago. The thrust
14 clearly was to move ahead with the investigation into the
15 Indian Point matter in the context of an adjudicatory
16 proceeding, so that there would be that object which Peter
17 has often sought here and not often got. That is, a record
18 developed in a more formal proceeding.

19 We are also going to charge ahead with a generic
20 proceeding on the general question of high population
21 density sites, and measures, conditions, and so on, that we
22 might now think appropriate for them.

23 As time goes along, it seems to me that there is a
24 point to scratching one's head again, and thinking how far
25 ahead with the specific adjudication one wants to get of the

1 across the board of high population density sites.

2 I expect in the most orderly of all worlds, if
3 there were not impressing time reasons in particular cases,
4 and so on, you would prefer to try to treat the general
5 subject, and then come within the context of conclusions
6 drawn there to specific cases. I think that that would be
7 desirable here, but in the framework of the way we have come
8 here to this matter, it may turn out not to be possible. I
9 would like to hold.

10 CHAIRMAN AHEARNE: I join Peter. I think that we
11 have now a formal commitment to go ahead. I see no way we
12 cannot do that.

13 COMMISSIONER GILINSKY: Let me explain myself a
14 little bit here.

15 I come at it a little bit like Joe I think that
16 we ought to go forward with the proceeding. There are a
17 number of reasons for this. Indian Point does stand out in
18 terms of population surrounding the site, and so on. But
19 the proceeding needs to be about something. We have to be
20 pretty clear as to what it is that is being examined in that
21 proceeding.

22 CHAIRMAN AHEARNE: We have a fairly detailed list
23 of questions, which many of you worked very hard to develop
24 which we have said specifically that the Board will
25 examine. As Len has just finished explaining, this is an

1 investigation.

2 COMMISSIONER GILINSKY: It seems to me that it has
3 got to be more than an investigation. I think that we have
4 got to be clear on the criteria that will be applied to
5 decide whether or not this plant should operate, and under
6 what conditions if it does. Otherwise, I expect that we
7 will have a meandering investigation that will reach a
8 predetermined conclusion, but will sort of wander all over
9 the place until everybody is worn out, and not a great deal
10 will have been achieved.

11 That is why I thought from the outset that we
12 ought to get straight what it is. Not only what general
13 questions will be investigated, but what is the test that is
14 going to be applied there. Then one can ask, are the
15 measures proposed by NRR sufficient to meet that test.

16 CHAIRMAN AHEARNE: In fact, you may not be
17 disagreeing with Joe.

18 COMMISSIONER GILINSKY: Except that I think he
19 wants to wait and lump these things altogether.

20 CHAIRMAN AHEARNE: But that may be the only way to
21 get that set of criteria established.

22 COMMISSIONER GILINSKY: I am more optimistic that
23 we will come up with a criteria, at least an interim
24 criteria, or a separate criteria, and a separate criteria
25 that would apply to this case. I think that it is different

1 from other cases.

2 CHAIRMAN AHEARNE: If I read you correctly, what
3 you are saying is that you do not disagree with going ahead
4 with the hearing, but want to see, in order to go ahead with
5 the hearing, a set of criteria established by which the
6 final Commission judgment would be made.

7 COMMISSIONER GILINSKY: Yes.

8 CHAIRMAN AHEARNE: In the absence of that, you
9 would not go ahead with the hearing.

10 COMMISSIONER GILINSKY: If you put it that way. I
11 would like to see one coming before the other. I think that
12 this is the way to proceed. I think that we are committed
13 to going forward with a hearing, and I would like to see us
14 do that, and fulfill that commitment. But, I am afraid that
15 if we let the criteria go, or say that it will be developed
16 along the way, this hearing will just go on, and the
17 criteria --

18 CHAIRMAN AHEARNE: Would that also, then, mean
19 that you don't believe that these questions are significant
20 in the absence of the criteria?

21 COMMISSIONER GILINSKY: I think that they are
22 significant and important. But the criteria would give
23 focus to the hearing. It means that people know what they
24 are after.

25 I must add that I have not looked at the six

1 questions.

2 MR. BICKWIT: Mr. Chairman, I might suggest that
3 clearly at this point there is not a majority for
4 reconsidering the approach you are taking. You might move
5 down the list on the agenda.

6 CHAIRMAN AHEARNE: Let's just move to the
7 criteria, and that is the next item.

8 MR. BICKWIT: If at the conclusion of our attempt
9 to develop this proceeding, if at that time there is not a
10 majority for reporting the order, we will know about it.

11 CHAIRMAN AHEARNE: Let me ask, before you move to
12 the criteria, another question which in a way relates to
13 this reconsideration.

14 I notice the suggestion in your set of comments
15 that an IS would be required.

16 MR. BICKWIT: Yes, we do not believe that any I.S.
17 is required at this stage. There is nothing in the case law
18 CQ regulations, or the NRC regulations that suggest that an
19 impact statement is required for an enforcement action.

20 CHAIRMAN AHEARNE: All right.

21 I guess, the other items as far as procedural are
22 what you end up at the end. For example, the question
23 raised by the New York State Energy Office regarding who has
24 the burden of proof.

25 MR. BICKWIT: That is right.

1 CHAIRMAN AHEARNE: All right, what thoughts do you
2 have on the criteria?

3 COMMISSIONER GILINSKY: It seems to me that we
4 originally got into this by way of examining NRR's new
5 requirements for the plant. The basic question, it seems to
6 me, are they good enough, and good enough compared to what.

7 CHAIRMAN AHEARNE: One the ways, as you recall,
8 what NRR had proposed was an examination from the standpoint
9 of what the relative level of safety was thought to be, and
10 there were some changes that might be used to bring it up to
11 what they thought it had been.

12 The Task Force's approach was a comparison of the
13 consequences of that plant with respect to other, which in a
14 sense is a normative approach. As you had pointed out when
15 we put out this order, the question was one that you wanted,
16 you felt that it was unnecessary to raise, can you establish
17 some sort of criteria that would enable you to judge whether
18 or not these plants should be allowed to operate.

19 That carried with it the concept that it would be
20 other than the standard by which plants had been judged in
21 the past.

22 COMMISSIONER GILINSKY: We might have had some
23 different criteria compliance with large populations around.

24 CHAIRMAN AHEARNE: Specifically Indian Point.

25 COMMISSIONER GILINSKY: Yes.

1 CHAIRMAN AHEARNE: Because it was Commissioner
2 Hendrie's proposal that that was a generic question, the
3 population density. Your counter was that, perhaps true,
4 but Indian Point should be addressed directly. So we have a
5 request in the informal proceeding, do people have comments
6 on that particular question, by what criteria should the
7 acceptability of the risk posed by those facilities be
8 determined. We agreed that it would be desirable to give
9 the Board guidance on that.

10 My review of the comments did not lead to any
11 great insight on establishing those criteria.

12 COMMISSIONER GILINSKY: Has OPE done anything on
13 that subject?

14 CHAIRMAN AHEARNE: Len, did you?

15 MR. BICKWIT: Yes, we have some suggestions.

16 COMMISSIONER GILINSKY: Do you?

17 MR. BICKWIT: Yes.

18 COMMISSIONER GILINSKY: I would be interested in
19 hearing them. I am afraid that otherwise we will have a
20 long proceeding. I suppose we will learn a bunch of
21 interesting things.

22 CHAIRMAN AHEARNE: If I could bother you for a
23 minute, let me for those in the audience who may have
24 forgotten them read the questions that were that we asked,
25 because there are some things that hopefully would.

1 What is the current status and acceptability of
2 State and local emergency planning within a 10-mile radius
3 of the site, and to the extent that it is relevant to risk
4 posed to plants beyond the 10-mile radius. It is a question
5 of what is the status of State and local emergency plans.

6 The second is, what improvements in the level of
7 emergency plan can be expected in the future, and on what
8 time schedule. This is a very specific question.

9 What improvements in the level of safety will
10 result from measures required or referenced in the
11 Director's Order to the licensees. The Task Force made an
12 initial review of that for purposes of addressing the
13 interim operation question, but the Board was asked as a
14 direct question.

15 Then it mentioned that a contention by a party
16 that one or more specific safety measures, in addition to
17 those identified or referenced by the Director, should be
18 required as a condition of operating the facility or
19 facilities, would be within the scope of the inquiry.

20 What risk probability and consequences may be
21 posed by serious accidents at Indian Point II and III,
22 including accidents not considered in the plants' design
23 basis, pending and after any improvements described in the
24 previous two questions.

25 Based on the foregoing, how do the risks posed by

1 Indian Point units II and III compare with the range of
2 risks posed by other nuclear power plants licensed to
3 operate by the Commission.

4 We want to comment parenthetically that the Board
5 should limit its inquiry to generic examination of the range
6 of risks, and not go into any site specific examination,
7 other than for Indian Point.

8 Then, finally, what would be the energy,
9 environmental, economic or other consequences of a shutdown
10 of Indian Point unit II and/or unit III.

11 I am not trying to say that that solves the
12 criteria question. You are absolutely right, it does not
13 address the criteria question. It still leaves open to the
14 Commission the judgment after all those questions are
15 determined. But it does have the character, as Len
16 described, of an investigation. There are a number of
17 detailed factual issues addressed.

18 COMMISSIONER GILINSKY: They are important
19 questions, and they are the ones that we want to address.
20 There is no question about that.

21 CHAIRMAN AHEARNE: Len, you said that you had some
22 suggestions.

23 MR. RICKWIT: Yes. In reviewing the comments, we
24 did not see references to quantitative standards, and we are
25 pessimistic about the Commission being able to develop

1 quantitative standards in the immediate future, which I
2 assume is the time period that is relevant with respect to
3 what the Commission contemplates regarding this proceeding.

4 We, therefore, were forced to fall back on an
5 attempt to formulate some kind of quantitative criteria, and
6 we saw various references to these in the comments. The
7 kinds of things we saw were, do benefits exceed cost of the
8 action; do costs exceed the cost of replacement solutions;
9 that kind of thing.

10 In looking at these, and in attempting to think
11 through the problem as best we could analytically, we came
12 up with this as perhaps a jumping off point. So this will
13 give you some idea about the level of specificity we think
14 the Commission can attain in the immediate future, and it
15 may not be satisfactory to the Commission. Nonetheless, we
16 put it forward.

17 The criteria we would suggest are:

18 Is this situation significantly riskier than the
19 typical plant that is now operating. If you determine that
20 it is significantly riskier, is the level of risk
21 unacceptable.

22 What we mean by that, I think, every health and
23 safety regulator has some concept of certain conditions
24 which he or she would regard as so unsafe that that would
25 make the decision for the regulator without regard to

1 compensating costs, compensating factors that would be
2 incurred if the action based on health and safety were
3 taken.

4 I think probably most regulators have in mind that
5 there are certain risks where the assessment of those risks
6 is not so severe as to preclude consideration of the costs
7 associated with taking the regulatory action. It has always
8 been extremely difficult, from the standpoint of regulatory
9 philosophy, to characterize where that line should be drawn.
10 But I think that it has to be understood that there would be
11 some risks that you would regard as so serious that
12 non-safety factors ought not to be considered when you
13 address those risks, and some where they should.

14 It is a judgment that ultimately would have to be
15 made by the Commission, but it is all included in the notion
16 of acceptable risks. So, to repeat, it would be two-pronged
17 test. One, is the situation significantly riskier than the
18 typical plant; and, if so, is the level of risk unacceptable.

19 CHAIRMAN AHEARNE: Two questions.

20 First, it sounds like the second is an individual
21 judgment decision. I think that all contentious decisions
22 tend to be that way, anyway. But that sound like explicitly
23 saying it is an individual judgment decision.
24 If that would be the case, how does that provide much
25 guidance to the Board, unless you are saying that you like

1 first the Board to make that judgment decision, and then the
2 Commission would.

3 MR. BICKWIT: That is one of the questions that
4 you have to take up in the procedural section of this
5 meeting. Do you want a recommendation on that question from
6 the Board. I guess my inclination is that it would be
7 useful, recognizing that it is your decision ultimately to
8 make.

9 Nonetheless, you are right, there is very little
10 guidance provided to the Board on that question, and you may
11 want to keep that entirely to yourselves.

12 CHAIRMAN AHEARNE: I guess the difficulty I would
13 have with relying on the Board's judgment in that sense,
14 this type of a judgment decision is an aggression, and the
15 more specific one can make the criteria that we are trying
16 to get to, I think the more specific you can make them, the
17 more comfortable I am in asking the Board to make a
18 recommendation.

19 The second question I had was with respect to your
20 initial statement. It seemed to me you would thereby
21 automatically have made a conclusion on one of the issues
22 that has been raised, I think, by many of the commentators
23 certainly from the beginning of the Indian Point question and
24 that is, the separation of probability and consequence.

25 If you address risk at the end of that factoring,

1 you have already taken the position, haven't you, that very
2 large consequences by themselves ought to rise --

3 MR. BICKWIT: No. You are asking the question, is
4 it significantly riskier than the typical plant. You can
5 reach a yes to that.

6 CHAIRMAN AHEARNE: Are you defining risk?

7 MR. BICKWIT: No.

8 You can reach a yes answer to that by a number of
9 routes. One is to say that --

10 CHAIRMAN AHEARNE: I was assuming that you were
11 defining risk as the probability times the consequences.

12 MR. BICKWIT: I am using it that way.

13 CHAIRMAN AHEARNE: Many of the people who comment
14 would argue that the question of relative risk is
15 irrelevant. Their argument is that when the potential
16 consequence is so large, even though when you evaluate
17 through some sort of analytic framework the risk because the
18 probability is very low -- their argument would be that is
19 irrelevant if the consequence is high enough.

20 MR. BICKWIT: That certainly is a subset of that.
21 The Commission could get more specific by attempting to
22 provide guidance.

23 In answer to your question, I had not focused on
24 that. The Commission can focus on it and decide that it
25 wants to assign a higher level to the consequences and

1 probability, or that it doesn't.

2 COMMISSIONER HENDRIE: Isn't the route proposition
3 that we seek here, and the sort of criterion that we either
4 should use directly or derive whatever criteria we set from,
5 somewhat along the following lines:

6 The proposition ought to be that the risk of
7 injury or death to a resident in the neighborhood of Indian
8 should not be beyond the range of such risks to individuals
9 that live near other plants.

10 (Laughter.)

11 CHAIRMAN AHEARNE: That is the way to go.

12 COMMISSIONER HENDRIE: The arguments that are made
13 about Indian Point, the population density is such that
14 individuals that live in that neighborhood don't have the
15 same opportunity to get out.

16 There are other arguments made that because there
17 are large numbers of people that may be involved that you
18 ought to do things that involve large numbers of people. I
19 must say that I am unable to accept a proposition which says
20 that a potential large consequence is unacceptable, however
21 low its probabilities may be, because it is large. If one
22 adopts that general principle for society's operation, I am
23 sorry, most of us are going to have to starve because this
24 society will not work.

25 COMMISSIONER GILINSKY: Wait a minute.

1 We limit exposures to individuals, but we also are
2 concerned with the totals.

3 COMMISSIONER HENDRIE: That is true, but we don't
4 take the attitude that because a plant's total population
5 exposure for a year, workers plus general population, may
6 run four or five hundred manrem year in and year out that
7 the larger consequence makes the thing unacceptable.

8 COMMISSIONER GILINSKY: I think that we do things
9 to reduce both of those numbers.

10 COMMISSIONER HENDRIE: To reduce, yes. But the
11 arguments that are made in some of these comments are that
12 anything that has a possible consequence the death of
13 several thousand people is an unacceptable societal activity
14 no matter how small the chance that that may occur is.

15 All I am saying is, if you adopt that as a general
16 principle for the operation of society, you cannot operate
17 society because we operate, whether we realize it or not,
18 intuitively and in many ways on a sort of risk aversion
19 basis in which we try to drive down more obvious risks some
20 place where we are willing to live with them.

21 So I cannot buy the argument that a potentially
22 large consequence, no matter how unlikely, is a reason to
23 write the whole thing off. I just can't buy that.

24 Setting that aside for myself, then, what I look
25 and say is: The base problem is, is the risk of injury or

1 death to an Indian Point locale resident substantially in
2 excess of the risks for people who live around other sites.

3 COMMISSIONER GILINSKY: Or to the group around
4 Indian Point. It seems to me that this is what this is
5 about. To what extent should we take into account the
6 second number.

7 COMMISSIONER HENDRIE: That is certainly a
8 question.

9 I think for myself, over the years, this is one of
10 these things where at various times I have argued various
11 sides of the question, whether one is intrinsically
12 protecting individuals, or is protecting society. We have
13 elements of our requirement that are directed both ways.
14 There is no question about that.

15 I am inclined to think that for me the Indian
16 Point one is primarily the first.

17 COMMISSIONER GILINSKY: The individuals?

18 COMMISSIONER HENDRIE: Yes. The question, if the
19 individual around Indian Point, by virtue of it being Indian
20 Point, at substantially greater personal risk than for other
21 plants.

22 COMMISSIONER GILINSKY: Then we are basically
23 talking about an evacuation plan.

24 COMMISSIONER HENDRIE: And the range of plant
25 measures that contribute to what the probability of various

1 accident sequences is, and how those would go, and whole
2 array of it.

3 I will agree that you may very well want to add to
4 the question of individual risk, the range of risks that
5 individuals who live around various plants. You might want
6 to add to that question a sort of societal impact criteria,
7 which would be entirely, then, on a population exposure
8 basis. That would require some careful consideration.

9 I am not, for myself, inclined to give very great
10 weight to things like a tenth of a millirem to each of four
11 billion people. I am sorry, a tenth of a millirem is for
12 the purposes of people who have to live in the late decades
13 of the Twentieth Century a zero effect. The fact that you
14 multiply it by four billion people is still for me a zero
15 effect in terms of regulatory policy.

16 So if you want to take a societal criteria, a
17 population exposure criteria in addition to the individual
18 risk one, I would not argue that it is an unreasonable thing
19 to do, or an appropriate one to do, or an inconsistent one
20 to do, in view of the present practice, and the traditional
21 practice.

22 But I would suggest that it needs to be framed
23 with a little care, and that as one integrates out, out in
24 distance and to lower and lower doses, you have to put a
25 cut-off on the integral. It is going to have to be in the

1 range of the annual background, or something like that.
2 Otherwise, you are going to be in the position of going out
3 hundreds, and even thousands of miles, and integrate
4 enormous numbers of people, and enormously small doses, and
5 that just does not get to the point.

6 COMMISSIONER GILINSKY: You can't be doing that
7 because that would be the same, presumably, for all the
8 plants, more or less. In fact, I think that this is what
9 Bob Borner was saying, when you get to large distances they
10 are all about the same.

11 Now you are getting into the details of whether
12 there ought to be a cut-off, and so on.

13 COMMISSIONER HENDRIE: As I say, if you wanted to
14 argue that there ought to be the dual criteria, I sure could
15 not say that was not a sensible proposition. I think for
16 myself I would be inclined on the specific Indian Point
17 matter to sort of come straight on it on the basis of
18 individual risk.

19 CHAIRMAN AHEARNE: What would you use as the
20 criterion? Let's take individual risk, what criterion would
21 you use? Where would your threshold be set for acceptable
22 and unacceptable?

23 COMMISSIONER HENDRIE: I would make it a
24 comparison against the run of sites, and I would make it on
25 the sort of risk assessment basis that we had the Task Force

1 do. They came back to us within a few weeks with some
2 results which admitted had to be done in a hurry, and which
3 have of course built into them the fact that these
4 techniques are not enormously precise. So you have to
5 respect the fact that there are wide area bands.
6 Nevertheless, I think for comparative purposes, in
7 particular, they are rather useful, even taking into account
8 the imprecision of the results.

9 I think the adjudication would allow the
10 presentation of evidence of this kind, in rather more
11 detail, and rather more carefully calculated, from parties
12 outside the staff. There could be argument about that sort
13 of evidence, cross-examination, and so on, and the
14 development of a record on it, testing of the witnesses,
15 whatever.

16 Follow all of those good things that Peter
17 occasionally points out to us can flow from this process.
18 What you would have, then, is sets of answers to some of the
19 six questions framed in the same sorts of risk assessment
20 terms as some of the Task Force results, but presumably as a
21 result of -- I am sure you would get submissions from the
22 applicant and his consultants, and the staff and their
23 consultants, other parties and their consultants. You would
24 have a wider and better developed record to look at in that
25 regard.

1 COMMISSIONER GILINSKY: Is something that you want
2 to respond to?

3 CHAIRMAN AHEARNE: No. The question of the
4 criteria was really generated by you.

5 COMMISSIONER GILINSKY: I think that we ought to
6 put our heads together, and think about this question.

7 I think the thing that singles out this site is
8 that there are a lot of people around it. Otherwise, it
9 would be like most other reactors. There is, first of all,
10 the question of to what extent does this large population
11 affect individual risk, by way of constricting possibilities
12 for getting out of there if you have to.

13 It seems to me that the larger question is, to
14 what extent does this Commission want to include a criterion
15 that deals with the overall effect on the population in the
16 event of an accident. We ought to have at least some rough
17 notion of where we stand on this, and to express that before
18 we launch on a hearing of this sort. Otherwise, we are
19 going to make a lot of consultants rich, or more prosperous.

20 COMMISSIONER HENDRIE: It sounds like a laudible
21 full employment objective.

22 (Laughter.)

23 COMMISSIONER GILINSKY: I don't much will ever
24 change.

25 CHAIRMAN AHEARNE: It would depend on how

1 carefully focused those question are, I think Peter would
2 have pointed out in other cases..

3 COMMISSIONER BRADFORD: I will even do it here.

4 CHAIRMAN AHEARNE: I seem to remember the same
5 conversation in several meetings preceding this.

6 MR. BICKWIT: I am afraid it was substantially
7 before the order went out.

8 CHAIRMAN AHEARNE: Yes. I just looked at that.

9 In several meetings preceding the development of
10 the order. It is a fundamental question, to what extent do
11 we consider societal risk as opposed to individual risk, and
12 what are the relative weights that we give to each.

13 I tend to come down much closer to your position,
14 I think, than yours, Joe, because really we would not be
15 looking --

16 COMMISSIONER GILINSKY: Not to this extent.

17 COMMISSIONER HENDRIE: It raises some interesting
18 questions.

19 Consider the following proposition, or sequence.
20 Suppose you say, okay, there is a populated site, and what
21 we are concerned about, either mostly or at least half of
22 what we are concerned about is the societal impact. There
23 are a lot of people around this site, so this plant has to
24 have two containments, or three reactor vessels, or I don't
25 know.

1 If you do that, then the population exposure --
2 beyond the design basis accident sequences are below a
3 criterion that we have set.

4 CHAIRMAN AHEARNE: Yes.

5 COMMISSIONER HENDRIE: Now we go over here to a
6 place that has a relatively low population, and you find,
7 Gee, we only need one containment, or one reactor vessel for
8 the same sort of calibrating calculation of why you are
9 again below the population exposure guideline.

10 Now comes an individual who lives in the low
11 population site. He says, "You have not protected me as
12 much as my brother-in-law Smith up at the other site. I
13 want to assure you that I am as good and deserving a person
14 as he is, and I want the same level of protection for myself
15 and my family."

16 CHAIRMAN AHEARNE: But I think that we then turn
17 to the FY-80 authorization bill which I recall explicitly
18 recognizes the ability to have different criteria in
19 different regions.

20 COMMISSIONER HENDRIE: I don't doubt our authority
21 under the law. I just want to know what I am going to tell
22 this guy. You know, he is not fond of his brother-in-law,
23 you understand, and I am going to have a lot of trouble
24 convincing him that he is not worth as much.

25 CHAIRMAN AHEARNE: Not only authority, but

1 Congressional direction.

2 COMMISSIONER HENDRIE: I am sorry, I don't think
3 so.

4 If you went up and attempted to explain to the
5 committees writing that legislation the result you suggest
6 here is what they had in mind, I don't think they would buy
7 that.

8 CHAIRMAN AHEARNE: I am not sure about that. I
9 thought they would.

10 COMMISSIONER HENDRIE: It is kind of a head
11 scratcher.

12 So then we say, "It turned out that the plant at
13 the high population site was able to put in two containments
14 and three vessels, and they still made electricity at a rate
15 that was reasonable for their area. Why don't we go ahead
16 and do it every place." Then it switches the other way, and
17 you can argue it the other way.

18 CHAIRMAN AHEARNE: I recognize the problem on that.

19 COMMISSIONER HENDRIE: I guess between the two, my
20 inclination would be either to stick with the individual
21 risk, or if you want to include a societal risk, a
22 population exposure sort of criteria, that the population
23 exposure criteria not be the real cutting edge. I think the
24 real cutting edge on safety really ought to be the
25 individual risk.

1 COMMISSIONER GILINSKY: This is just off the top
2 of my head. I am not sure where this comes out. But
3 suppose that it was not people, but it was animals, and you
4 were running a great farm.

5 COMMISSIONER HENDRIE: I am about to lean forward
6 into early phrases of the Declaration of Independence here.
7 I can feel it already.

8 COMMISSIONER GILINSKY: I am going to bring the
9 morality of it out.

10 COMMISSIONER HENDRIE: All right. Let's suppose
11 that it is a turkey farm.

12 COMMISSIONER GILINSKY: Yes, with one reactor at
13 one end, and another reactor at the other end, and a small
14 number of turkeys at near one reactor, but a large number of
15 turkeys at neat the other reactor. It seems to me that you
16 would worry about losing a large number of birds.

17 COMMISSIONER HENDRIE: I think that you would
18 calibrate those two machines on a straight forward basis of
19 the worth of a turkey, and ten turkeys are worth more than
20 one turkey.

21 COMMISSIONER GILINSKY: Woulin't you say that one
22 has the same rights as ten turkeys?

23 COMMISSIONER HENDRIE: No.

24 COMMISSIONER GILINSKI: You are leaning more
25 toward his position.

1 COMMISSIONER HENDRIE: But I am not sure that I am
2 able to make the transition from turkeys to people.

3 MR. BICKWIT: What about a grain versus a beach?

4 COMMISSIONER GILINSKY: If you get it away from
5 the Declaration of Independence, and the rights of
6 individuals and so on, it seems perfectly natural to protect
7 the larger population.

8 CHAIRMAN AHEARNE: I have great difficult stepping
9 away from those.

10 COMMISSIONER HENDRIE: I think there are
11 societies, in fact, that are operating at the present time
12 in which that would be consistent with their tradition.

13 COMMISSIONER GILINSKY: If there aren't any people
14 there at all. If you are just talking about things?

15 COMMISSIONER HENDRIE: If there are only things,
16 there are not health and safety factors.

17 CHAIRMAN AHEARNE: The difficulty we are going to
18 have is translating this general philosophy. I would
19 probably agree with Joe that you want to put out some
20 minimum threshold that the plant must be able to provide
21 this level of protection to each individual. No individual
22 should at greater risk than this. But then you go on to
23 more than that.

24 What I am saying is, here is the level of risk
25 beyond which you would find unacceptable for an individual

1 no matter how sparsely populated the area was. But then I
2 would go beyond that to address this question of the
3 societal risk.

4 COMMISSIONER GILINSKY: It seems to me that it has
5 got to be some combination of the two.

6 CHAIRMAN AHEARNE: Sure.

7 COMMISSIONER GILINSKY: We have to think about
8 what that combination is.

9 CHAIRMAN AHEARNE: I am not sure that we are any
10 farther. I think that we could take some transcripts of
11 several months ago, and we are at the same stage. The
12 difficulty is translating it into something that you could
13 really give to a Board, and give guidance to them.

14 COMMISSIONER GILINSKY: You just put yourself in
15 the position of having received a record, maybe a
16 recommendation but certain a record from the Board some
17 months or years from now that would cause you to act one way
18 or another.

19 If we could set out in some dramatic way that
20 would --

21 CHAIRMAN AHEARNE: I think that that was the
22 intent of these sets of questions, to focus on what are the
23 key issues, and if there is some dramatic way in which
24 Indian Point stands out, then the decision is probably very
25 straight forward. It is in the case where it does not

1 really stand out that starkly.

2 COMMISSIONER GILINSKY: If it does not stand out
3 that starkly, then we will treat it like every other plant.

4 CHAIRMAN AHEARNE: But then you get back to the
5 point that I was trying to raise with Len. We really at
6 some are going to have to address as a Commission, do we or
7 do we not accept the argument that if the population density
8 is high enough, that you put aside the question of risk, but
9 bring in the probability, or take essentially a probability
10 of one, and look at the consequences. Many of the
11 commentators believe that this is what we should do.

12 COMMISSIONER GILINSKY: I mean, if you are looking
13 at risk to the community, you are already including the
14 numbers.

15 CHAIRMAN AHEARNE: I am assuming that whenever you
16 talk about risk, you have some probability involved.

17 COMMISSIONER GILINSKY: Yes.

18 CHAIRMAN AHEARNE: Many of the commentators argue
19 that you can take probability one when you talk about a very
20 large population area, and only look at consequences.

21 COMMISSIONER GILINSKY: I think that it depends a
22 lot on how much confidence you have in these probability
23 numbers. If you don't have any confidence in the numbers,
24 then you can look at it that way. If you have some
25 confidence in the numbers, I would think that you could use

1 them.

2 CHAIRMAN AHEARNE: Peter, do you have any thoughts?

3 COMMISSIONER BRADFORD: At this stage, I think
4 what we are basically going to have to do is ask the Board
5 to develop data on bounding questions, or else it is going
6 to take us a very long time to sit down -- in fact, I don't
7 think that it can be done -- and articulate the findings
8 that we would expect to emerge from all this data that would
9 trigger a Board action.

10 I must say that the only way I can conceive of
11 this going from here is that we would articulate the areas
12 in which we would want the Board to receive evidence, plus
13 the best we could with the standard that we expect them to
14 apply. But in the end it would be us and not the Board that
15 is applying the standard.

16 I think that the questions of adequacy of
17 emergency response now and in the future, obviously, have to
18 be asked, and, in fact, putting the Task Force Report up for
19 grabs in the context of a probability and consequence
20 question of the type of a couple that were in the draft that
21 went out. I think they can be sharpened a little, but there
22 is going to have to be a question in that area as well.

23 I think, also, since the proceeding really flows,
24 at least initially, from a petition and a denial, that to
25 the extent that questions of conformance with our

1 regulations were included in the original petition, one of
2 the issues that should be before the Board is whether both
3 these units do in fact comply with the regulations. That is
4 an issue aside from the probabilities.

5 I think that it is important that whatever we are
6 doing here, we are not substituting risk assessment for the
7 regulations as a standard for licensing and for continued
8 operations.

9 CHAIRMAN AHEARNE: On that one, how would you,
10 then, consider if we received a petition for any plant, does
11 it subscribe to our regulations?

12 COMMISSIONER BRADFORD: In the normal course of
13 events, it would be a petition and a Director's decision,
14 presumably a denial. In all likelihood we would not, then,
15 institute a proceeding of this sort.

16 It is because for reasons having to do with the
17 questions opened up by population density coupled with a
18 sort of rough reassessment of the concept of credible
19 accident that we are going further forward here. But it
20 seems to me that you can't get very far away from --

21 You can't get in a position where you would be
22 prepared to say, regardless of the state of compliance with
23 the regulations, as long as our risk assessment study shows
24 that they seem to come out roughly equal with other plants,
25 it is all right not to be in compliance.

1 CHAIRMAN AHEARNE: The converse, though, is that
2 if one concludes that they are completely in compliance that
3 does not close the hearing. The reason we are in open
4 hearing is --

5 COMMISSIONER BRADFORD: That is right.

6 I would make it one of the questions. But you are
7 quite right, if the answer is that those units are in
8 complete compliance --

9 CHAIRMAN AHEARNE: The real issue is that we are
10 taking a different look at reactors in accidents, and these
11 are in the highest population density areas. That is the
12 reason.

13 COMMISSIONER BRADFORD: As one tries to compile a
14 list -- my list is not very different from the list we put
15 out originally -- I would add the question of regulations.
16 I think that the individual questions can be sharpened. I
17 think that the adequacy of whatever proposed staff measures
18 are actually going to be implemented at the site should be
19 part of the proceeding.

20 CHAIRMAN AHEARNE: Where do you come out on this
21 question of explicit criteria?

22 COMMISSIONER BRADFORD: As I said at the
23 beginning, I cannot at the moment say, beyond compliance
24 with the regulations and the desire to have the best
25 evidence we can get before us on probability, consequences,

1 and risk, which obviously includes whether or not the
2 emergency planning would work --

3 I cannot answer Victor's question of what set of
4 numbers would it take to tell me that the plant should be
5 shut down, or substantially modified, or only operated for
6 part of the year.

7 I am not adverse to spending some time trying to
8 -- I am not adverse to spending another week or 10 days
9 trying to figure out whether we can state that standard, but
10 I sure can't do it now.

11 COMMISSIONER GILINSKY: Presumably, you will have
12 to spend that time down at the other end.

13 COMMISSIONER HENDRIE: About the only advantage in
14 going ahead without the criteria is while the hearing goes
15 forward you are probably creating a somewhat broader record
16 than would be the in the case if you were able to enunciate
17 at least an initial set of criteria that you intended to
18 use.

19 It is going to go on, and God knows how long it is
20 going to take to close the record on the thing. You will
21 have had that additional time to thrash around. I dare say
22 that there will be a lot of other things to occupy our
23 attention. I doubt that we will spend that whole time
24 concentrating on the judgment criteria here. But at least
25 it would be down the line.

1 CHAIRMAN AHEARNE: I think we ought to try, over
2 the next week, to see whether we can sharpen some of the
3 questions that we would like, or add additional ones, to see
4 if we perhaps can incorporate some sense of criteria.

5 But I think that we ought to go ahead with getting
6 the Board started, because I don't think we will focus it
7 sharply enough to drastically reduce the amount of effort
8 that the Board is going to have to go through. I would gess
9 that that in the end whoever is here is going to have to
10 make a subjective judgment based upon that record.

11 COMMISSIONER HENDRIE: I have looked at the
12 questions about five times in recent days. I keep going
13 back and saying, there must be a better set of questions to
14 develop the points, and I have not done much better.

15 The questions, with a little tuning on them, I
16 dare say I will make a try and see how it fits. They are
17 not a bad set of questions to develop the sort of
18 information I foresee as being at the root of the issue.

19 CHAIRMAN AHEARNE: I know that Peter has some
20 modifications that he would like to make.

21 Would you in the next three or four days be able
22 to provide comments on those questions?

23 I would like to see if we can't aim at at least
24 sharing some alternate forms, or additional questions by the
25 middle of next week, and see if by the end of next week we

1 could get to the point where we could resume this issue.

2 MR. BICKWIT: I take it, Mr. Chairman, you are not
3 making a judgment on whether you are going to have criteria
4 formulated prior to the Board process.

5 CHAIRMAN AHEARNE: My own conclusion is, I think
6 about the best we will be able to do is to point that in the
7 examination of the risk, it is both societal risk and
8 individual risk that have to be examined. I doubt that we
9 will be able to do much more.

10 COMMISSIONER HENDRIE: I would not foreclose
11 anything at this point.

12 COMMISSIONER BRADFORD: I would not completely
13 give up on the proposition of at least trying to have some
14 tentative criterion or criteria. I cannot imagine that it
15 can be locked in place before the hearing goes forward, but
16 it is conceivable.

17 COMMISSIONER HENDRIE: There are a whole range of
18 criteria you can set, starting at the limit, and one way to
19 test things is to go to the extremes. You could make a
20 criteria statement which is so general that it is both
21 unobjectionable and useless. My theory would be that we
22 will find these units safe enough. It is unobjectionable,
23 but it is not in the least helpful, and I would not care to
24 enunciate it for fear of being run out of town on a rail.

25 But as you come down and get more explicit, it

1 seems to me that it is not out of the question to find a
2 point where you are able to enunciate something, which is
3 still not going to be so quantitative that it is as much
4 help as one would really like it to be, but nevertheless
5 indicates a sort of a direction and general thrust of the
6 way in which, at least at the present, we are thinking.

7 To the extent that that would be helpful to the
8 Board, and the majority thought it useful, I think that it
9 is possible.

10 CHAIRMAN AHEARNE: If we can come up with
11 something along that line. What I would like to do is to
12 move forward over the next week, and if we can come up with
13 something, excellent.

14 COMMISSIONER HENDRIE: In the midst of this year to
15 get things done, in the midst of the dead summer, and the
16 budget review upon us.

17 You see, Peter, that business before the 30th was
18 not unseemly rush for the reason you thought. It was just
19 his natural inclination of things.

20 COMMISSIONER BRADFORD: Somehow it is more
21 congenial now. Maybe the numbers are different.

22 (Laughter.)

23 CHAIRMAN AHEARNE: I know you want to get to the
24 procedural issue, but I could hold for a minute on that, I
25 would like to get this affirmation session which we put on

1 hold.

2 (Recess.)

3 CHAIRMAN AHEARNE: All right, Len.

4 MR. BICKWIT: On the procedural issues, we listed
5 a couple that emerged from the comments.

6 The first was whether you want to have a Board
7 that is independent of the Commission, and its licensing
8 panels. That was not the original intention of the
9 Commission, and I don't see any particular reason why it
10 should be the present intention. But that was put forward,
11 and we recommend against it.

12 COMMISSIONER HENDRIE: What did people have in
13 mind?

14 MR. BICKWIT: Bringing in expertise not associated
15 with the Commission. I think that the theory was that the
16 Commission had certain limitations this area, and that a
17 hearing --.

18 COMMISSIONER HENDRIE: I fought for this agency's
19 budget for too many years not to do things like that. I am
20 against it.

21 CHAIRMAN AHEARNE: I would go with that.

22 COMMISSIONER GILINSKY: Our own licensing boards.

23 COMMISSIONER BRADFORD: I think that that is all
24 right.

25 --

1 CHAIRMAN AHEARNE: Let me explore that a little
2 bit, particularly with regard to the probabilistic
3 assessment group and research who did for the Commission the
4 paper. They and in fact OPE and in some sense OGC were the
5 producers of this report. In fact, I imagine the NUREG
6 document that goes out will identify OPE and OGC.

7 Now, to what extent will you people be parties in
8 the proceeding?

9 COMMISSIONER HENDRIE: Not at all I would trust.

10 CHAIRMAN AHEARNE: How about research?

11 MR. BICKWIT: You could go either way on that
12 question. You could simply make this document and the
13 research staff subject to discovery or you could have
14 research come in on its own or you could reach a coordinated
15 staff position. You have to recognize you are not in a
16 typical adjudicatory situation.

17 CHAIRMAN AHEARNE: Yes. No, I know. What I am
18 trying to look forward downstream to at some point in
19 helping us to evaluate all this record, we are going to have
20 to turn to some expert staff for assistance.

21 MR. BICKWIT: Yes.

22 CHAIRMAN AHEARNE: I would like to be able to turn
23 to the probabilistic assessment people for assistance.

24 MR. BICKWIT: Yes.

25 CHAIRMAN AHEARNE: Now, is it possible to have

1 them serve as expert witnesses and not be a party and still
2 be available then?

3 MR. BICKWIT: You are concerned about separation
4 of functions?

5 CHAIRMAN AHEARNE: Yes.

6 MR. BICKWIT: In this particular adjudication
7 there is no statutory prohibition on separation of
8 functions. There is no prohibition in our rules with
9 respect to separation of functions.

10 COMMISSIONER GILINSKY: Why is that?

11 MR. BICKWIT: Because our rules relate to
12 adjudications that are initiated by orders to show cause and
13 notice of hearings in the normal context in which those
14 words are used. We are not initiating an enforcement action
15 in this particular proceeding. You are conducting an
16 investigation which may lead to an enforcement action.

17 Moreover, the statutory requirements and I would
18 say the constitutional requirements relate to adjudications
19 which are required by statute to be on the record. There is
20 no requirement for this particular proceeding to be on the
21 record. There are therefore no statutory requirements
22 applicable to this proceeding.

23 COMMISSIONER HENDRIE: When you say "this
24 proceeding," you mean the adjudication?

25 MR. BICKWIT: That is right.

1 COMMISSIONER HENDRIE: The ex parte rules don't
2 apply?

3 MR. BICKWIT: The ex parte rules do not. That is
4 right. You can decide to apply them.

5 COMMISSIONER HENDRIE: No, I don't think I would
6 want to do that.

7 (Laughter.)

8 MR. BICKWIT: I didn't think you would want to do
9 that. You are free to, however.

10 COMMISSIONER GILINSKY: When you talk about staff
11 positions, or I suppose anybody else's position, there is
12 nothing here about adequacy of the level of safety. The
13 question is really related to estimates of the risk,
14 estimates of possibilities of improving safety and so on.
15 At one point on the emergency plans there is something like
16 acceptability.

17 CHAIRMAN AHEARNE: I guess embedded though,
18 latent, is talk about Director Denton's determination to
19 hear the things that have to be done. That I guess would be
20 the NRR's position, yes, that would have to be done.

21 COMMISSIONER GILINSKY: But there is nothing in
22 these questions about a need to do anything.

23 MR. BICKWIT: In a footnote on page 4 of the order
24 it says "A contention by a party that one or more specific
25 safety measures, in addition to those identified or

1 referenced by the Director, should be required as a
2 condition of operating the facility." The facilities would
3 be within the scope of the inquiry.

4 COMMISSIONER GILINSKY: I think that is when we
5 thought that the fundamental question was going to be
6 whether the requirements imposed by the Director met some
7 standard set by the Commission. Then there is a possibility
8 that further safety measures might be required, and that
9 would also be within the scope of the proceeding.

10 But if you strip away the question of whether
11 these new requirements imposed by NRR, indeed, have to be
12 imposed to meet some standard, then I think the whole
13 proceeding has a different character. It is an
14 investigation, and I wonder whether this is the right
15 format. I guess I hope we will come up with some criteria.

16 CHAIRMAN AHEARNE: I guess since I viewed it as an
17 investigation from the beginning I think it is consistent.

18 MR. BICKWIT: I come back to the notion that the
19 proceeding makes sense even in the absence of criteria.

20 COMMISSIONER HENDRIE: Does the nature of the
21 proceeding with regard to these discussions about
22 separations of function change in any way if we were, for
23 instance, able to agree upon and enunciate at least some
24 general criteria that we intended at least at this time to
25 use down the line in judging results?

1 MR. BICKWIT: No.

2 COMMISSIONER HENDRIE: It would continue to be an
3 investigation in which one is developing information on the
4 basis of that record. In effect, on the basis of that
5 record we are going to review the Director's decision to
6 deny the 2206 petition, I think.

7 CHAIRMAN AHEARNE: Yes. I recall for all of us
8 that Len had made this point fairly clear way back when we
9 were talking about the development of this, that this would
10 not be the final adjudication. If we reached a conclusion
11 on shutdown or major change to the facility, then the
12 licensee would have the opportunity for an adjudicatory
13 hearing on that issue.

14 COMMISSIONER GILINKSY: So this is an informal
15 adjudicatory hearing.

16 (Laughter.)

17 COMMISSIONER HENDIRE: No, no. You have to stick
18 to the nomenclature in the four-pronged approach otherwise I
19 roll over and become unconscious.

20 CHAIRMAN AHEARNE: Sort of like a written hearing;
21 another version.

22 (Laughter.)

23 MR. BICKWIT: The point simply is from a legal
24 standpoint it can be as formal or informal as you want it to
25 be.

1 CHAIRMAN AHEARNE: But you are saying it would
2 cause no problem for research to be a witness at this
3 hearing talking about their paper, for example, and still
4 then at the end of the hearing when the record comes to us
5 for us to ask for their assistance in interpreting some of
6 the things.

7 MR. BICKWIT: There would be no problem whatever.

8 CHAIRMAN AHEARNE: Good.

9 MR. BICKWIT: Nor would there be any problem with
10 seeking the advice of other parties to the proceeding.

11 CHAIRMAN AHEARNE: By "other parties" are you
12 saying research would be a party if they were an expert
13 witness?

14 MR. BICKWIT: I didn't conceive of them as being a
15 party.

16 COMMISSIONER HENDRIE: Well, they would be part of
17 the staff who are a party, yes.

18 MR. BICKWIT: But I am saying with respect to any
19 party to the proceeding there would be no inappropriateness
20 in seeking the advice of that party. It is a separate
21 question of whether research should be a party. I don't
22 really see that that gets you anything out of it.

23 CHAIRMAN AHEARNE: I remember we were fairly
24 explicit in the development of the task force to have
25 research as a separate group because they in essence were

1 taking a look at what where NRR would come out. So it
2 really was a separation.

3 COMMISSIONER HENDRIE: But even though there isn't
4 a separation of functions problem here or requirement, I
5 would assume that your office and Ed's office are now,
6 except for assistance to the Commission, are out of it.

7 MR. BICKWIT: That would be the normal way of
8 doing business, and that is a better way of doing it.

9 COMMISSIONER HENDRIE: I would think you are not
10 going to participate in the Indian Point hearing except
11 insofar as you advise us on motions and so on that may come
12 here and eventual digestion of the record.

13 MR. BICKWIT: I think we have the gist.

14 CHAIRMAN AHEARNE: There is one other issue on
15 proceedings that was raised by the New York State Energy
16 Office.

17 COMMISSIONER HENDRIE: Before we go away from this
18 one could I just comment. I don't know whether it is usual,
19 unusual or would be considered breach of legal etiquette or
20 something, but the fact that this proceeding has this
21 different character and that we do not perceive that the
22 ex parte rules, the separation of functions rules, apply
23 here, it seems to me that there would be some useful point
24 in at least footnoting in whatever order we produced that
25 that is our belief and that we propose to operate on that

1 basis just to make it clear to anybody who doesn't agree
2 with that that they could start arguing early so we don't
3 clear down the line a year from now and then have people
4 running around screaming we have violated the ex parte rules
5 and why didn't we say something before.

6 CHAIRMAN AHEARNE: Or at least raising the point
7 that they had not appreciated that that was the approach we
8 were taking.

9 COMMISSIONER HENDRIE: It is kind of out of the
10 ordinary for a situation in which we do have a hearing board
11 and it is following the more formal procedures of the
12 adjudicatory hearing.

13 CHAIRMAN AHEARNE: In fact, the hearing board
14 might be interested to know this.

15 COMMISSIONER BRADFORD: No one wants to arrive at
16 it without some care. For example, I am not sure that those
17 rules shouldn't apply to the hearing board. If they don't
18 presumably have the need we might have to have access to the
19 probabilistics analysis people for other reasons.

20 COMMISSIONER HENDRIE: Yes.

21 CHAIRMAN AHEARNE: That is really my concern is to
22 make sure that we have the access.

23 COMMISSIONER BRADFORD: I don't disagree with your
24 point, Joe, but I don't think the note should simply say
25 that ex parte rules don't apply.

1 COMMISSIONER HENDRIE: That is my crude shorthand
2 for what is probably a number of contorted sentences which
3 will satisfy all the legal scholars.

4 MR. BICKWIT: Tentatively we will take the view of
5 the Commission as being the ex parte and separation of
6 functions rule should not apply with respect to the
7 Commission but would apply with respect to the board.

8 CHAIRMAN AHEARNE: Yes, I think I would agree on
9 that.

10 Now, can we move on?

11 COMMISSIONER HENDRIE: Yes, sir, please.

12 CHAIRMAN AHEARNE: The issue raised by the New
13 York State Energy Office on where is the burden of proof.

14 MR. BICKWIT: Again, no statutory requirements are
15 applicable and the rules are not applicable either. We see
16 no reason why the normal practice of putting the burden of
17 going forward with the evidence on the staff should be
18 changed.

19 With respect to the ultimate burden of persuasion,
20 there really is no clear Commission practice on that
21 question at least with respect to OL licensees. We would
22 suggest that it is most appropriately placed on the licensee
23 in that the licensee knows the most and therefore is best
24 able to sustain that burden.

25 Secondly, as a matter of regulatory philosophy, we

1 think it is appropriate for a health and safety regulatory
2 agency to give the benefit of the doubt to the safety
3 position when the economic position of the licensee and the
4 safety position come in conflict. They don't always, but
5 they often do.

6 COMMISSIONER HENDRIE: I guess that is pretty good
7 when you are applying for a license, either an CP or an OL.
8 Once you have satisfied your requirements and have a valid
9 license and believe that you have lived up to all of the
10 terms and conditions of the license and all of the
11 regulations and rules of the agency which has licensed you,
12 do you really think you ought to live perpetually in the
13 position of having to prove against all allegations? That
14 is, at that point doesn't the burden shift over to people
15 who want to argue that you aren't conforming?

16 MR. BICKWIT: That is a perfectly defensible
17 position. I come out the other way. It is simply is a
18 matter of regulatory philosophy. The Commission is free to
19 go either way.

20 COMMISSIONER HENDRIE: Excuse me. I am running
21 strong here, but I will shut up in a minute, John. Second,
22 is it so clear that what we are running here is a burden of
23 proof sort of position? That is, parties are going to give
24 their evidence. They are going to be examined on it. The
25 record thereby formed will be digested as best it can be by

1 a board and some preliminary recommendations will made to us
2 and we will then get the record in the summary and the
3 preliminary recommendations and we will have to examine it
4 and think carefully about it and see how we come out.

5 I am not quite sure when you are doing an
6 investigation of this kind to develop a record of this kind
7 that the burden of proof question is so significant.

8 MR. BICKWIT: Well, it really depends on the kinds
9 of questions you put. If they are the kinds of questions
10 that might be put to another board is an order to show cause
11 of typical adjudication, such as have the regulations been
12 complied with, then in my view it doesn't make a lot of
13 sense to assign the burden one way in one of these
14 circumstances and one way in another of these
15 circumstances. It would be best if you had an idea if the
16 same board would come out the same way based on the same
17 burden of proof.

18 So I think you ought to recognize that there will
19 be some issues in which there will be a very close
20 resemblance to the normal adjudicatory framework, and it
21 seems to me that you ought to assign the burden in the way
22 that you would assign it if you had a normal adjudicatory
23 framework.

24 CHAIRMAN AHEARNE: Let me ask -- may I?

25 COMMISSIONER HENDRIE: I am wrong out.

1 CHAIRMAN AHEARNE: I haven't reached a conclusion
2 on the first issue that Joe raised, but let's just go down
3 these questions, for example.

4 What is the current status of state and local
5 emergency planning?

6 MR. BICKWIT: I said it depends on the question
7 that you put.

8 CHAIRMAN AHEARNE: Well, I think I am going to go
9 down all of them and I think I am going to reach a different
10 conclusion. What is the current status and acceptability of
11 state and local emergency planning? First, current status,
12 that is an exploration, but I don't think the licensee is
13 the person best able to describe that. I think that was
14 really what the New York State Energy Office was raising.
15 That is really state and local officials. They are best
16 able to describe the status of the state and local planning.

17 COMMISSIONER BRADFORD: But I think for our
18 purposes since we certainly can't compel them to assume the
19 burden of proof ---

20 CHAIRMAN AHERANE: Well, but status isn't proving
21 something. Status is describing.

22 COMMISSIONER BRADFORD: Right, but ultimately what
23 burden of proof means is that if the Commission finds itself
24 in substantial doubt about a proposition essential to the
25 result, the party that had the burden of resolving that

1 doubt is the party against whom the doubt will be assessed.

2 Now, what that does with regard to that particular
3 question, I am not sure, but one thing it doesn't do is let
4 you assess it against the emergency planning officials of
5 the State of New York unless they are themselves a party to
6 the proceeding.

7 CHAIRMAN AHEARNE: If this role of the board is to
8 be useful certainly to me, and if this record is going to be
9 at all useful, it has to be established on the basis of
10 questioning people who know the most about something.

11 COMMISSIONER BRADFORD: That is certainly right.

12 CHAIRMAN AHERNE: The state and local officials,
13 and not the licensees, are the ones who know about state and
14 local emergency planning.

15 COMMISSIONER BRADFORD: That is right, and there
16 is no question but what one wants to be able to have them in
17 the proceeding, but when you say that somebody has the
18 burden of proof with regard to this type of issue that is
19 another question.

20 CHAIRMAN AHEARNE: Well, see, I am sure that the
21 phrase "burien of proof" really gets to what my concern is.
22 What my concern is is who is it that the board should be
23 looking to provide the answers to something. I think on the
24 status of state and local emergency planning it would be the
25 state and local officials. Then there is the question of

1 acceptability.

2 COMMISSIONER BRADFORD: Or FEMA, John?

3 CHAIRMAN AHEARNE: Well, that is what I was just
4 getting to, FEMA, and I think that our question No. 1 is
5 oriented really towards a combination of government
6 officials. Some are FEMA and some are state and local.

7 COMMISSIONER BRADFORD: You see, at some point as
8 we get this whole emergency planning rule in place and have
9 a formal certification process it won't look too different
10 from other issues in our regulatory process. The burden of
11 proving it in effect will be with the NRC staff who will
12 have certified to the adequacy of the emergency plans. So
13 it is a problem that is much more troublesome in this
14 context than it will be in the licensing context.

15 CHAIRMAN AHEARNE: But, you see, as I went down
16 through No. 1 I couldn't see the licensee being the person
17 on whom that applied. I view the question from the New York
18 State Energy Office at least somewhat as to what extent do
19 we intend to place reliance upon state officials, and I felt
20 that we ought to try to be a little more explicit in
21 whatever direction we go to the board.

22 Let me continue. What improvements in the level
23 of emergency planning can be expected in the what schedule?
24 Again, that is really not a licensee issue.

25 What improvements in the level of safety will

1 result from measures required in the Director's order? That
2 really seemed to be NRC staff. They have claimed that this
3 is going to bring up some level of safety. I understood, at
4 least from some of the comments that the licensee had been
5 making in the past, they didn't think those steps were
6 necessary. So it would be odd to me to turn to the people
7 who have already said we don't really think that is much of
8 an improvement and to say, all right now prove it is an
9 improvement. It is the NRC staff who is claiming it is an
10 improvement.

11 What risk may be posed by serious accidents? That
12 I could see the licensee being the one on the hook on that
13 one.

14 How do the risks posed by Indian Point units 2 and
15 3 compare with the range of risks proved by other nuclear
16 power plants? That really seemed to me again much more NRC
17 staff and then questioned by people who disagree with that.
18 As far as the lead on that when you compare it across the
19 spectrum to other plants it seemed to be much more an NRC
20 staff position.

21 COMMISSIONER BRADFORD: Well, I wouldn't have much
22 difficulty on that one assuming that we can articulate a
23 criterion, which may be a big assumption. Assuming that
24 some criterion exists at the beginning of the proceeding
25 with regard to risk relative to other plants, if in fact

1 that is to be an issue in the proceeding at all, well it
2 certainly is all right to have part of that burden rest with
3 the staff. It is not inappropriate to have it rest with the
4 licensee as well. I mean, if we were to start as a
5 criterion the risk from this plant should be no greater than
6 the risk from nuclear plants taken as a whole.

7 CHAIRMAN AHEARNE: Sure, but I would think it
8 would be the NRC staff who would probably be required to say
9 what is the risk from nuclear plants as a whole and then the
10 licensee would be the one who would say their plant is no
11 greater risk than that. In the current framework we are
12 sort of working our way into that kind of a comparison. It
13 is our staff who are the experts on whatever the risks are
14 across this board.

15 COMMISSIONER BRADFORD: There are other people who
16 could make those studies. It is probably true that Con. Ed.
17 itself does not necessarily have anybody in-house who can do
18 it, but it certainly is within their capability to find
19 somebody.

20 CHAIRMAN AHEARNE: I hadn't fully appreciated the
21 significance of it, and burden of proof doesn't mean that
22 much to me. As a term, it is a term of art. But it
23 certainly was clear in going through our questions that it
24 wasn't immediately obvious to whom the board should be
25 turning as the lead on resolving this question.

1 MR. BICKWIT: Well, I think you would answer the
2 question differently depending on which question you are
3 talking about.

4 The threshold question then is do you want to have
5 a different burden of proof with respect to each question
6 and that seems to be to be cumbersome.

7 CHAIRMAN AHEARNE: I am not sure I would phrase
8 burden of proof as cumbersome.

9 COMMISSIONER HENDRIE: Help me with the term of art.

10 MR. BICKWIT: Sure.

11 COMMISSIONER HENDRIE: It hasn't seemed to me that
12 as you use burden of proof in the legal context that that
13 necessarily means who is the expert and presents the
14 evidence. It has a connotation about it that one party or
15 the other is expected to carry forward the argument and the
16 second party can be expected to attack it rather than the
17 second party carrying the argument.

18 MR. BICKWIT: There are two kinds of burdens. One
19 is the burden of going forward with evidence. That means
20 that party must sustain what is called a prima facie case;
21 i.e., if there is no answer, judgment for that party.

22 COMMISSIONER BRADFORD: Or against it.

23 MR. BICKWIT: Right.

24 Then there is also the question of if he sustains
25 that prima facie case the burden will then switch to another

1 party because the judgment will be for that person, for that
2 party if you sustained it and nobody else comes in. If
3 somebody else comes in and argues against that prima facie
4 case, it is a different question who has the ultimate burden
5 of persuasion when the two parties square off against each
6 other once the prima facie case has been established.

7 As Peter mentioned, it is the question of what you
8 are talking about. When we are talking about ultimate
9 burden of persuasion, it is who bears the risk of
10 nonpersuasion, and this will be a very unusual situation.
11 In the situation where the adjudicator is simply undecided,
12 the person who bears the risk of nonpersuasion loses on that
13 point. That is what it means to have the ultimate burden of
14 persuasion.

15 CHAIRMAN AHEARNE: Depending on the point of view,
16 there are two groups who bear the burden of nonpersuasion.
17 The licensees who want the plant up have the risk of having
18 it shut down. The people who want it shut down have the
19 risk of allowing it to be kept up. So I don't know how it
20 comes out then.

21 MR. BICKWIC: If the issue is should the plant be
22 kept up, and that is the issue on which your hypothetical is
23 based, and the adjudicator is in total equipoise, has no
24 idea on the basis of the evidence whether the plant should
25 be kept up or shut down, then he asks who has the burden of

1 persuasion and he decides the case against that person.

2 CHAIRMAN AHEARNE: So that either group would have
3 the risk of nonpersuasion?

4 MR. BICKWIT: No, only one group. If they are
5 arguing against each other only one group can have the risk
6 of nonpersuasion, i.e., the burden of persuasion.

7 (Laughter.)

8 COMMISSIONER BRADFORD: Len, your point about this
9 proceeding is that the Commission can allocate the burdens
10 as it sees fit?

11 MR. BICKWIT: It can, yes. I think the Chairman's
12 point is a good one that on different matters you might want
13 to assign it to different people based on some theory that
14 the burden of persuasion should be on the person who knows
15 the most about the issue. I just that is a very cumbersome
16 way of proceeding.

17 CHAIRMAN AHEARNE: It is an investigatory
18 proceeding.

19 MR. BICKWIT: Yes, it is. I don't know what that
20 means.

21 (Laughter.)

22 I mean I don't know what that means in this
23 context.

24 CHAIRMAN AHEARNE: Can you find out that
25 information?

1 MR. BICKWIT: Yes.

2 CHAIRMAN AHEARNE: I want the board to focus its
3 attention on those who know the most about it and try to get
4 information.

5 MR. BICKWIT: Yes, and I am certain that the Board
6 will do that. It is a question of when that person
7 disagrees with another party in the proceeding what does the
8 board decide.

9 COMMISSIONER BRADFORD: Let me suggest that once
10 we have in fact agreed on a list of questions and/or
11 criteria it will be a lot easier to cut down that list.

12 CHAIRMAN AHEARNE: Yes.

13 MR. BICKWIT: I think that is right.

14 COMMISSIONER BRADFORD: Then just decide as a
15 matter of fairness and efficiency who would want to have
16 both.

17 CHAIRMAN AHEARNE: But it is an issue that perhaps
18 unlike in a usual case we may have to explicitly address it.

19 MR. BICKWIT: I think you should explicitly
20 address it.

21 CHAIRMAN AHEARNE: All right. Len, is there any
22 other?

23 MR. BICKWIT: Yes, there are two other procedural
24 issues.

25 One is do you want the board to recommend on all

1 questions and reach decisions on all questions or simply
2 certify a record up on those questions for the Commission to
3 make the decision?

4 CHAIRMAN AHEARNE: For me I think it will depend
5 on the questions.

6 MR. BICKWIT: On the questions, yes.

7 The final issue is ---

8 CHAIRMAN AHEARNE: Wait, that is just for me.

9 MR. BICKWIT: That is true, it is just for you.

10 COMMISSIONER HENDRIE: For myself I will at least
11 want a summary from the board of what they perceive as the
12 really central points in the record pertaining to each
13 question as an assistance in digesting the record. I am
14 inclined to think that I would find some recommended
15 findings or results helpful, but, you know, I am by no means
16 desperate and willing to fight to the last ditch for that
17 proposition.

18 MR. BICKWIT: Let me just point out one thing.
19 There are really three levels of questions here that you
20 would have to make this decision for: one is what might be
21 called the basic questions, what we have generally been
22 calling the board questions; two, the question of are the
23 criteria met, assuming you have criteria; and, three, what
24 should be done. You may come up with different answers with
25 respect to what kind of input you want from the board on

1 each of those levels.

2 COMMISSIONER BRADFORD: It is a process of inertia
3 that leads me to say by all means let's have
4 recommendations, just because I can't see how they will ever
5 be heard, unless there is some contention to the effect that
6 it takes away time the board might be putting into things
7 they would do better. Off the top of my head my feeling is
8 that after they have been through the proceeding they may
9 have a perspective on the raw data that we would not and I
10 just can't see that anything is lost by having the benefit
11 of their analysis even if we rejected it entirely.

12 CHAIRMAN AHEARNE: From myself I will still wait
13 to see the questions because I think if we get a set of
14 sufficiently loose questions then I think a lot of time can
15 be lost as the board tries to figure out what we might have
16 meant and tries to reach recommendations on them.

17 COMMISSIONER BRADFORD: I agree with that, which
18 is all the more reason to avoid the loose questions.

19 CHAIRMAN AHEARNE: Yes.

20 All right, Len, you are last.

21 MR. BICKWIT: Then the final issue, which I think
22 will have to be deferred, is the relationship of this
23 proceeding to the generic proceeding. In thinking about it,
24 what we have in mind is that the generic proceeding can
25 develop something much more specific and perhaps

NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the
COMMISSION MEETING

in the matter of: DISCUSSION ON INDIAN POINT - PUBLIC MEETING

Date of Proceeding: July 17, 1980

Docket Number: _____

Place of Proceeding: Washington, D. C.

were held as herein appears, and that this is the original transcript thereof for the file of the Commission.

Patricia A. Minson

Official Reporter (Typed)

Patricia A. Minson

Official Reporter (Signature)

NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the
COMMISSION MEETING

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Mary C. Simons

Official Reporter (Typed)

Mary C. Simons

Official Reporter (Signature)

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Attached to H
7/15/80 from
Leonard Bick
9A.

Commissioners:

John F. Ahearne, Chairman
Victor Gilinsky
Joseph M. Hendrie
Peter A. Bradford

CONSOLIDATED EDISON COMPANY
OF NEW YORK (Indian Point,
Unit No. 2)

POWER AUTHORITY OF THE STATE
OF NEW YORK (Indian Point,
Unit No. 3)

Docket Nos. 50-247
50-286

MEMORANDUM AND ORDER

A. BACKGROUND*

On May 30, 1980, the Commission issued an order establishing a four-pronged approach for resolving the issues raised by the Union of Concerned Scientists' petition regarding the Indian Point nuclear facilities, and by the decision of the Director, Office of Nuclear Reactor Regulation (NRR), granting in part and denying in part that petition. The order announced the Commission's intention to hold a discretionary adjudication for the resolution of safety issues concerning the plants; initiated an informal proceeding for the purpose of defining

* The Commission has received a motion from the Union of Concerned Scientists, dated June 23, 1980, requesting the disqualification of Commissioner Hendrie from participation in this matter. In its Diablo Canyon decision (In the Matter of Pacific Gas and Electric, 11 NRC 411 (1980)), the Commission stated that requests for the disqualification of a Commissioner would not be entertained by the Commission as a whole, but would be referred to the Commissioner whose disqualification was requested. By memorandum of April 23, 1980, Commissioner Hendrie has denied the request for his disqualification.

the questions to be answered in that adjudication, as well as the criteria to be applied; announced the Commission's plan to address the generic question of the operation of nuclear reactors in areas of high population density through a generic proceeding, to be decided at a later date; and directed the Commission's General Counsel and Director, Office of Policy Evaluation, to establish a Task Force to address the question of the status of the reactors during the pendency of the planned adjudication. The Task Force has now presented its report to the Commission. On the basis of its findings, we conclude that the risks posed by the operation of the Indian Point facilities during the pendency of the adjudication are not such as to warrant the extraordinary remedy of an interim shutdown in that period.

B. THE TASK FORCE ON INTERIM OPERATION

The Task Force was asked to examine the following specific questions:

1. A description of the Indian Point site demography as compared to other U.S. reactor sites.
2. A comparison of reactor accident risks (spectrum of probabilities and consequences for health impacts and property damage) at the Indian Point site to reactor accident risks at other sites.
3. The effects of potential public emergency response systems (evacuation, sheltering, etc.) on reactor accident risks at Indian Point. The area studied should be large enough to include New York City. This evaluation

should include an assessment of the effects of uncertainties associated with successfully completing such actions.

4. A comparison of the reliability or accident probabilities of the Indian Point 2 and 3 reactors to each other and to other reactor designs which have been analyzed. This should include consideration of the changes ordered by the Director, NRR; technical design comments received in response to the Commission's February 15 solicitation of comments; and the effects of partial reductions in power level.
5. An assessment of the economic, social, and other "non-safety" effects of shutting down or reducing the output of either or both reactors.

The Commission directed that the Task Force develop the information necessary for a Commission decision on interim operation, consider the comments that had been filed with the Commission in the matter of interim operation, and present that information to the Commission.

C. TASK FORCE FINDINGS

On June 12, the Task Force presented its report to the Commission, and on June 26, it briefed the Commission as to its findings in a public meeting. The Task Force found the following with respect to the first four items of its charter:

1. Site Demography

With New York City within less than 50 miles to the south, the Indian Point site has the highest or one of the highest surrounding population

densities of all U.S. nuclear power plant sites, as shown by the various population density criteria examined by the Task Force. The data for total population levels out to 10, 30, and 50 miles show Indian Point figures as highest for the U.S. Total estimated populations to these distances are approximately 218,000, 398,000, and 17 million, respectively, as compared with corresponding median population levels for all U.S. power reactors of 24,000, 334,000, and 1 million.

When considering reactor accident risk, the population in a given direction, (i.e., in one 22-1/2 degree sector), is often more significant than population density averaged over all directions. Here too, Indian Point ranks among the highest: eighth with respect to the highest-population sector at 10 miles, and highest at 30 and 50 miles.

2. Comparison of Accident Risks

Accident risk, in the sense of the product of accident probabilities and consequences, is partly a function of population density and distribution around the plant. In addition, it is a function of design and operational characteristics of the reactor plant, local meteorology, and measures -- such as sheltering or evacuation -- which could be taken to reduce the effect of a reactor accident on the public. The Task Force compared Indian Point risks with those of other reactor sites and designs, distinguishing among effects of population densities and of design and other factors.

a. Site Aspects

To discern the risk effects of site considerations alone, the Task Force calculated risk measures for various sites for a "benchmark"

reactor, whose design remained constant regardless of site. (The Surry pressurized water reactor was used as the benchmark design, but with a power level increased to 3025 thermal megawatts, the rating of Indian Point 3.) Six sites were analyzed for this comparison. Four -- Indian Point, Zion, Limerick, and Fermi -- represent sites of relatively high population. One, Palisades, represents what the Task Force believed is a site with typical or average population distribution. The last, Diablo Canyon, represents a remote site, that is, one with relatively low population density.

The comparison was made in terms of four principal risk measures: early fatalities, early (radiation) illnesses, latent cancer fatalities, and public property damage costs. For each of these measures, the Task Force considered both accident consequences and, using the benchmark reactor, the probability of their being exceeded. Integration of consequences of accidents for all probabilities represents the overall risk.

Risk estimates of this sort necessarily involve wide uncertainties, as the Task Force emphasized. The large uncertainties in absolute values of risk estimates generally introduce wide uncertainty bands in comparisons. Subject to those uncertainties, and subject to the assumed conditions, including unshielded exposure during the entire radioactive cloud passage, the Task Force found that Indian Point risks attributable to site (i.e., surrounding population) factors alone compared with risks of other sites as follows:

(1) Early fatalities:

Indian Point risks are essentially the same as those of the other sites with dense local population. The less densely populated sites showed progressively much lower risk levels. Early fatalities are dominated by the population within 10 miles of the plant, so the large population of New York City is not a factor here. At very low probabilities, up to thousands to tens of thousands can occur, according to the estimates.

(2) Early illness from radiation:

These risks are dominated by the population within 50 miles. Thus, New York City is important here. Indian Point risks were comparable to those of the other high-population sites. The Palisades and Diablo Canyon sites were not very different from each other but were found to be substantially lower than the others. At very low probabilities, up to hundreds of thousands of persons could suffer radiation illness, according to the estimates.

(3) Latent cancers (i.e., delayed cancers, occurring possibly a number of years after radiation exposure, which are statistically expected in excess of those that would otherwise have occurred):

These are dominated by the population within about a 200-mile radius of the plant. Because of this, the individual site risk curves for latent cancers reflect the character of the region. The latent cancer risk for these sites, and probably all other

sites, is approximately the same. The number of latent cancer deaths projected is on the order of hundreds per year or thousands per accident for the lower probability events (on the order of 10^{-9} per year).

- (4) Property damage, excluding damage to the plant itself, was estimated as proportional to population density. Accordingly, Indian Point was at or near the high end of property damage estimates, differing only moderately from the other high-density sites, but sharply higher than Palisades and, especially, Diablo Canyon. Damage can reach up to tens of billions of dollars at very low probability levels for the high-density -- and even intermediate density -- sites.

The worst of the accident consequences -- those that result in fatal doses or severe ground contamination -- would ensue only from certain accident scenarios entailing core meltdown and gross containment failure, coincident with particularly adverse weather conditions. Expected consequences, i.e., consequences statistically expected, taking annual accident probabilities and magnitudes of consequences into account, compare as follows, as summarized in Table 5 of the Task Force report, which follows.

TABLE 5

EXPECTED ANNUAL CONSEQUENCES (RISK) FROM 6 SITES
WITH THE SURRY REBASELINED PWR DESIGN

Site	Probability of Consequence Oc- currence per yr	Early Fatalities	Early Injuries	Latent Cancer/Yr*	Property Damage \$**
Diablo Canyon		1.6×10^{-5}	2.5×10^{-4}	1.8×10^{-4}	1290
Palisades		2.9×10^{-4}	1.2×10^{-3}	2.7×10^{-4}	2670
Fermi		9.2×10^{-4}	6.3×10^{-3}	3.6×10^{-4}	4760
Limerick		3.5×10^{-3}	1.1×10^{-2}	4.7×10^{-4}	6980
Zion		4.7×10^{-3}	1.2×10^{-2}	4.3×10^{-4}	6030
Indian Point		6.1×10^{-3}	1.5×10^{-2}	5.4×10^{-4}	9550

*Total Latent Cancers Would Be 30 Times Higher

**Based on 1974 Dollars

NOTE: THERE ARE LARGE UNCERTAINTIES WITH THE ABSOLUTE VALUES PRESENTED IN THIS TABLE.

- ASSUMPTIONS:
1. SURRY DESIGN.
 2. I.P. UNIT 3 POWER LEVEL (3025 MWT).
 3. WITHIN 10 MILES - ENTIRE CLOUD EXPOSURE + 4 HOURS GROUND EXPOSURE
NO SHIELDING
BEYOND 10 MILES - ENTIRE CLOUD EXPOSURE + 7 DAY GROUND EXPOSURE
SHIELDING BASED ON NORMAL ACTIVITY.
 4. WIND ROSE WEIGHTED 1970 CENSUS POPULATION DISTRIBUTION.
 5. IDENTICAL 91 WEATHER SEQUENCES FOR ALL SITES.

b. Design Effects

The Task Force performed an analysis to estimate the extent to which the impact of the relatively unfavorable site demographic characteristics on the relative risk at Indian Point would be modified by design characteristics of the Indian Point plants. The analytical approach was to consider accident sequences that, based on previous studies, could reasonably be viewed as dominating overall risk. The sequences examined included reactor-transient accidents and loss-of-coolant accidents. The design-effects comparison was done by comparing what the risks of plants of the Indian Point and other designs would be were they all located at the Indian Point site and operated at the same power level.

The Task Force points out that large uncertainties surround the results -- uncertainties believed larger than those surrounding estimates for site-dependent differences alone.

Subject to those uncertainties, the Indian Point reactors were estimated to have a 1 in 100,000 annual probability of suffering severe core damage, as compared with probabilities some 3 to 20 times higher for six other representative U.S. pressurized-water and boiling-water reactors.

The risk of the Indian Point reactors appeared from the Task Force analysis to be even lower compared to the other reactors examined than the ratio of their estimated core damage accident probabilities would suggest. The changes completed and in progress at Indian Point

as a result of the decision of the Director of Nuclear Reactor Regulation concerning the petition of the Union of Concerned Scientists produce a further risk reduction estimated by the Task Force at a factor of three. The risks, in terms of statistically expected annual consequences for the Indian Point and three other plant designs, were they all located at the Indian Point site, would compare as follows, as summarized in Table 8 of the Task Force report, reproduced below.

TABLE 8

EXPECTED ANNUAL CONSEQUENCES (RISK) FROM 5 LWR DESIGNS
AT THE INDIAN POINT SITE

Design	Prob. of Consequence Occurrence per yr	Early Fatalities	Early Injuries	Latent Cancer/Yr*	Property Damage \$**
IP After Fix		2.2×10^{-4}	2.7×10^{-4}	1.6×10^{-5}	199
IP Before Fix		6.3×10^{-4}	9.5×10^{-4}	4.4×10^{-5}	700
Surry Rebaselined		6.1×10^{-3}	1.5×10^{-2}	5.4×10^{-4}	9550
Sequoyah Ice Condenser		2.7×10^{-3}	2.2×10^{-2}	1.2×10^{-3}	14800
Peach Bottom BWR Rebaselined		1.7×10^{-2}	3.1×10^{-2}	1.1×10^{-3}	13500

*Total Latent Cancers Would Be 30 Times Higher

**Based on 1974 Dollars

NOTE: THERE ARE LARGE UNCERTAINTIES WITH THE ABSOLUTE VALUES PRESENTED IN THIS TABLE.

ASSUMPTIONS: 1. INDIAN POINT SITE
METEOROLOGY - 91 WEATHER SEQUENCES
WIND ROSE WEIGHTED 1970 CENSUS POPULATION DISTRIBUTION
UNIT 3 POWER LEVEL (3025 MWT)

2. WITHIN 10 MILES - ENTIRE CLOUD EXPOSURE + 4 HOURS GROUND EXPOSURE
NO SHIELDING
BEYOND 10 MILES - ENTIRE CLOUD EXPOSURE + 7 DAY GROUND EXPOSURE
- SHIELDING BASED ON NORMAL ACTIVITY

c. Overview

After separately examining the risk of the Indian Point site and of the Indian Point design, the Task Force summed up its findings as follows:

[T]he site is about an order of magnitude more risky than a typical site and the design about as much less risky than a typical design. There is much more certainty in our comparison of the relative site risks than there is in the comparison of the design risks. It is reasonable to conclude that the two about cancel, that is, the overall risk of the Indian Point reactor is about the same as a typical reactor on a typical site. We recognize that such a comparison makes no explicit compensation for the Indian Point risk entailing notably higher consequences even if at lower probability than is typical. It is not unusual in risk aversion to demand lower risk as the potential consequences increase -- as the stakes get higher. Accordingly, one might argue that the probability should be more than a magnitude lower if the consequences can be a magnitude higher.

3. Emergency Planning Considerations

The Task Force analyzed the sensitivity of the Indian Point risks to the effects of evacuation and sheltering.

The Task Force reported analyses which assumed that all persons who would be evacuated from the vicinity of the plant in an accident would suffer cloud exposure from the radionuclides released. As a result of this pessimistic assumption, the analyses presented showed little difference in public risk for the alternatives of different radii of evacuation, sheltering, or even no evacuation for one day after the accident. Under the same assumption the Task Force analyses showed somewhat higher risk of early fatalities for the no evacuation alternative, and some reduction of the early illness risk for the sheltering and 50-mile evacuation

alternatives, but the calculated differences are small in relation to the uncertainties of the analysis. The Task Force did some further analyses which were reported to the Commission in the briefing at the June 26, 1980 open Commission meeting, which indicated that prompt notification and evacuation out to 10 miles could substantially reduce the early fatality risk.

4. Special Design and Operational Provisions

a. Difference Between Units 2 and 3

The Task Force found no risk significant differences between the Indian Point 2 and 3 designs. It made this finding in its examination of the two designs in relation to the seven accident sequence scenarios that it judged to dominate overall risk.

b. Effects of Design and Operational Changes

The design and operational fixes completed or imminent at Indian Point in accordance with the decision of the Director of Nuclear Reactor Regulation in connection with the petition of the Union of Concerned Scientists reduce risk by a factor of three, in the Task Force's estimation.

c. Effects of Power Level Reduction

Reduction of power level would reduce risk primarily through two mechanisms:

- (1) proportionate reduction in the longer-lived radioactive fission-product inventory, which would produce a less-than-proportionate decrease in accident consequences; and

- (2) reduction in accident probabilities through lowered fuel temperatures and reduced rate of decay heat after shutdown, both of which would improve the reactor core's tolerance for poor cooling.

Though the Task Force performed no detailed study, it concluded from its consideration of these mechanisms that it appeared reasonable to say that risk would be reduced in proportion to the reduction in power level.

D. CONCLUSION

The Director of Nuclear Reactor Regulation acted on the petition to shut down these reactors on February 11, 1980, finding that the interim risk of their continued operation while the matter was being considered did not warrant their shutdown. Now the Task Force has conducted a separate evaluation of the comparative risk of interim operation.

We have reviewed the report of the Task Force with great care. It should be emphasized that our review has been directed not to the question which is the subject of the adjudicatory proceeding which will be initiated -- that is, the long-term acceptability of the Indian Point Unit 2 and 3 facilities -- but rather to the issue of whether the two plants should or should not be allowed to operate during the pendency of that adjudication. Our conclusion is that the evidence now before us indicates that the risks posed by operation of the two plants is not so great, or so dissimilar to the risks posed by other facilities licensed to operate by the Commission, as to warrant the extraordinary remedy of an interim shutdown or reduction in power level. The gist of the Task Force

report is that although the Indian Point site is considerably less desirable than the average nuclear power plant site, in terms of the density of the surrounding population, special design features not found in the average nuclear power plant reduce the accident risk from Indian Point by a comparable factor. We are conscious as well that operation of the two facilities, during this interim period, is subject to the various safety improvements ordered by the Director, Office of Nuclear Reactor Regulation, in his February confirmatory order. In so finding, we are not prejudging the outcome of the adjudicatory proceeding, but rather are addressing only the narrow question of whether interim relief is appropriate during the period in which the adjudication will be arriving at a decision, based on the evidence submitted to it. In the event that the Licensing Board conducting the adjudication determines that new evidence warrants interim relief, it can at any time recommend that course of action to the Commission. For the present, however, we find no basis in the record to support the extraordinary measure of an interim shutdown in advance of completion of the hearing and Commission decision.

It should be emphasized that our decision is based on grounds of safety, and the actual risks posed by the plant. Though we have sought out information as to the economic and other non-safety issues involved in the decision whether to shut down the two plants, those factors do not play a part in this decision today. We need not decide today the extent to which such factors may be taken into account, in circumstances in which safety considerations militate in favor of one course of action, while economic considerations argue for a contrary result.

The request for an interim shutdown of Indian Point Units 2 and 3 is therefore denied. By a subsequent Order, we shall prescribe the questions to be resolved in the adjudicatory proceeding, and the criteria to be applied.

It is so ORDERED.

For the Commission

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D.C.

this day of July, 1980.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of)
)
)

CONSOLIDATED EDISON COMPANY)
OF NEW YORK, INC. (Indian Point,)
Unit No. 2))

Docket Nos. 50-247
50-286

POWER AUTHORITY OF THE STATE OF)
YORK (Indian Point, Unit No. 3))
)

UNION OF CONCERNED SCIENTISTS'
MOTION TO DISQUALIFY COMMISSIONER HENDRIE

The Union of Concerned Scientists (UCS) moves that the Commission disqualify Commissioner Hendrie from further participation in any deliberations or decisions by the Commission concerning UCS' Petition for Decommissioning of Indian Point Unit 1 and Suspension of Operation of Units 2 & 3. This Motion is based on the likelihood of actual prejudice and the inescapable appearance of prejudice and unfair treatment that stems from Commissioner Hendrie's previous extensive involvement in the consideration of the Indian Point reactors as a member of the Advisory Committee on Reactor Safeguards (ACRS) a Division of Technical Review

UCS first requested Mr. [redacted]
Paragraph 69 of its Petition
by the Director of Nuclear

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Entire document previously
entered into system under:

ANO 8006260188

No. of pages: 5

of February 11, 1980, and by the Commission in its request for comments on his Order, published on February 22, 1980, at 45 FR 11969. UCS raised the point again in its comments dated March 10, 1980.

Having received no response, UCS wrote the General Counsel on April 15, 1980, asking for a ruling on the disqualification issue before the Commission reached any decisions with respect to UCS' Petition. Relying on a brief memorandum from the General Counsel, Mr. Hendrie notified the parties on April 23, 1980, that he would not remove himself from the case.

Commissioner Hendrie's refusal to recuse himself is ill-advised and contrary to settled law. Since the integrity of its proceedings is at stake, the Commission as a whole must now rule on UCS' request that Mr. Hendrie be disqualified.

I. Commissioner Hendrie's Previous Involvement in Consideration of the Indian Point Reactors

Commissioner Hendrie participated in the Commission's decisionmaking process concerning the Indian Point reactors in two separate and highly influential roles. As a member of the ACRS, and later as Deputy Director for Technical Review, he addressed many of the issues raised by UCS' Petition, and recommended that the reactors in question met all necessary requirements and posed no safety hazard at the Indian Point site.

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
 UNITED STATES ATOMIC ENERGY COMMISSION
 WASHINGTON, D.C. 20545

SEP 23 1970

Honorable Glenn T. Seaborg
 Chairman
 U. S. Atomic Energy Commission
 Washington, D. C. 20545

Subject: REPORT ON INDIAN POINT NUCLEAR GENERATING UNIT NO. 2

Dear Dr. Seaborg:

At its 125th meeting, September 17-19, 1970, the Advisory Committee on Reactor Safeguards completed its review of the application by Consolidated Edison Company of New York, Inc., for authorization to operate the Indian Point Nuclear Generating Unit No. 2. This project had previously been considered at the Committee's 95th, 98th, 122nd, and 124th meetings, and at Subcommittee meetings on August 23, 1969, March 13, 1970, April 25, 1970, May 28, 1970, July 28-29, 1970, and September 15, 1970. Subcommittees also met at the site on December 28, 1967 and May 11, 1970. The Committee last reported on this project to you on August 16, 1966. During the review, the Committee had the benefit of discussions with representatives of the Consolidated Edison Company and their contractors and consultants, and with representatives of the AEC Regulatory Staff. The Committee also had the benefit of the documents listed.

The Indian Point site is located in Westchester County, New York, approximately 24 miles north of the New York City limits. The minimum radius of the exclusion area for Unit No. 2 is 520 meters and Peekskill, the nearest population center, is approximately one-half mile from the unit. Also at this site are Indian Point Unit 1, which is licensed for operation at 615 Mwt, and Unit 3, which is licensed for operation at 615 Mwt.

The applicant has re-evaluated the event of the probable maximum core melt, using more recent information, and has provided additional information exists for vital components and

Additional seismic reinforcement of Unit No. 1 superheater building superheater stack will enable U of 300-360 mph corresponding to

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Honorable Glenn T. Seaborg

- 2 -

SEP 23 1970

the reinforcement of the superheater building, which supports the stack, enables the stack to resist wind loads of a magnitude most likely to be experienced from a tornado, the Committee believes that removal of the top 80 ft. of the stack, to enable it to resist the maximum effects from a tornado, may be deferred until a convenient time during the next few years, but prior to the commencement of operation of Indian Point Unit No. 3. The applicant has stated that truncation of the stack will have no significant adverse effect on the environment.

The Indian Point Unit No. 2 is the first of the large, four-loop Westinghouse pressurized water reactors to go into operation, and the proposed power level of 2756 MWt will be the largest of any power reactor licensed to date. The nuclear design of Indian Point Unit No. 2 is similar to that of B. B. Robinson with the exception that the initial fuel rods to be used in Indian Point Unit No. 2 will not be prepressurized. Part-length control rods will be used to shape the axial power distribution and to suppress axial xenon oscillations. The reactor is designed to have a zero or negative moderator coefficient of reactivity, and the applicant plans to perform tests to verify that divergent azimuthal xenon oscillations cannot occur in this reactor. The Committee recommends that the Regulatory Staff follow the measurements and analyses related to these tests.

Unit 2 has a reinforced concrete containment with an internal steel liner which is provided with facilities for continuous pressurization of weld and penetration areas for leak detection, and a seal-water system to back up piping isolation valves. In the unlikely event of an accident, cooling of the containment is provided by both a containment spray system and an air-recirculation system with fan coolers. Sodium hydroxide additive is used in the containment spray system to remove elemental iodine from the post-accident containment atmosphere. An impregnated charcoal filter is provided to remove organic iodine.

Major changes have been made in the design of the emergency core cooling system as originally proposed at the time of the construction permit review. Four accumulators are provided to accomplish rapid reflooding of the core in the unlikely event of a large pipe break, and redundant pumps are included to maintain long-term core cooling. The applicant has analyzed the efficacy of the emergency core cooling system and concludes that the system will keep the core intact and the peak clad temperature well below the point where steam-water reaction might have an adverse effect on clad ductility and, hence, on the continued structural integrity of the fuel elements. The Committee believes that there is reasonable assurance that the Indian Point Unit No. 2 emergency core cooling system will perform adequately at the proposed power level.