

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD

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Before Administrative Judges:
James P. Gleason, Chairman
Dr. Oscar H. Paris
Frederick J. Shon

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In the Matter of)	
)	
CONSOLIDATED EDISON COMPANY)	Docket No. 50-247-SP
OF NEW YORK)	50-286-SP
)	
(Indian Point, Unit No. 2))	
)	
POWER AUTHORITY OF THE STATE)	
OF NEW YORK)	
)	November 15, 1982
(Indian Point, Unit No. 3))	

MEMORANDUM AND ORDER
(Formulating Final Contentions
and Setting Schedule)

During the prehearing conference on November 3-4, 1982, the Board reviewed the parties' comments and responses received pursuant to the Board's Order of October 1, 1982. Herein, we set forth our final decision on the contentions (except for emergency planning issues), a schedule, and procedural matters related thereto.

CONTENTIONS UNDER COMMISSION QUESTION 1

Written responses to the reformulation of Contention 1.1 as presented in the Board's October 1, 1982, Order were received from Con Edison, the Power Authority, and the NRC Staff (Con Edison's

Memorandum Respecting the Licensing Board's October 1, 1982, Order Reformulating Contentions, dated October 19, 1982 (Con Edison's Response); Power Authority's Response to Board's October 1, 1982 Order Reformulating Contentions, dated October 19, 1982 (Power Authority's Response); and NRC Staff Response to Board Order of October 1, 1982, dated October 15, 1982 (Staff Response)). Both Licensees objected to the term "unacceptably high risks" in Contention 1.1 and the terms "reasonably probable accidents" and "unacceptable risks" that appear in the statement of bases for the contention. They argue that the Commission is asking the Board to determine the quantitative risks associated with the operation of the Indian Point plants and is not asking the Board to make a judgment as to the acceptability of those risks. Moreover, they point out that these terms were not used by the Board in its original formulation of contentions under Commission Question 1 in the April 23, 1982, Order. Staff took no position with respect to this argument. The Intervenors who responded during the prehearing conference on November 3, 1982, supported the Board's October 1 reformulation.

We believe the Licensee's point with respect to the words "unacceptably", "unacceptable", and "reasonably probable" are well taken. Therefore, we have decided to delete these terms from Contention 1.1 and its statement of bases.

Licensees also objected to the inclusion of basis (1)(b), on the grounds that UCS/NYPIRG did not mention this basis in its January 29, 1982, "UCS/NYPIRG Response to Objections to UCS/NYPIRG Contentions

Filed by NRC Staff, Power Authority of the State of New York and Con Edison". While it is true UCS/NYPIRG did not mention this basis in the referenced pleading, the Intervenor did not state it was abandoning the basis; therefore, we are not convinced that the basis has been withdrawn. Con Edison also argues that it is not legally required to comply with Reg. Guide 1.97, as the basis seems to suggest. That is certainly true, but Licensees are required to show they have taken steps to provide equivalent or better measures than called for in regulatory guides if they do not, in fact, comply with the specific requirements set forth in the guides. In our view, the requirements of Reg. Guide 1.97, Rev. 2, are sufficiently important, especially in light of factors that contributed to the severity of the accident at Three Mile Island, to warrant consideration in this proceeding of Licensees' compliance with Reg. Guide 1.97.

Both Licensees argue that the bases accepted in the October 1 order are not sufficiently specific because they do not state the ways in which the Licensees fail to comply with 10 C.F.R. § 50.47(b)(4) and Reg. Guide 1.97, Rev. 2. The NRC Staff apparently found no fault with the degree of specificity provided in the bases for Contention 1.1, nor did the Intervenors who addressed the matter

during the prehearing conference. We are convinced the bases proffered for Contention 1.1 are stated with reasonable specificity.^{1/} Therefore, we reject Licensees' plea that the contentions be omitted for lack of specific bases.

1/ The bases for the reformulated contention are:

- 1) The risk of injurious health effects to people in the plume exposure EPZ from excessive exposure to radiation, as a result of accidents, will be exacerbated by an impeded evacuation because:
 - a) Licensees have failed to demonstrate that proper emergency action levels (EALs) as required by 10 C.F.R. § 50.47(b)(4) have been established which will allow prompt recognition of the range of possible accidents at Indian Point Units 2 and 3 and prompt and correct diagnoses of such accidents for the recommendation of appropriate protective actions (UCS/NYPIRG IB5); and
 - b) Licensees have failed to provide instrumentation in accordance with Reg. Guide 1.97, Rev. 2, thus compromising their ability to adequately monitor the course of accidents at Indian Point Units 2 and 3 (UCS/NYPIRG IB5);
- 2) A risk of health and property damage as a result of accidents extends beyond the plume exposure EPZ to the New York City metropolitan area because:
 - a) under certain meteorological conditions, life-threatening doses would occur in the New York City metropolitan area for a WASH-1400, PWR-2 type accident (UCS/NYPIRG IIID), and there are no established radiological emergency plans for this area which would adequately protect the public health and safety in such circumstances (UCS/NYPIRG IIID, FOE/Audubon I, basis 7); and
 - b) contamination of the Hudson River would affect beaches as far away as Coney Island and Rockaway Beach (See NUREG-0850, Vol. I, Preliminary Report, Appendix D) (UCS/NYPIRG IVA).

The final formulation for Contention 1.1 is set forth in the Appendix to this Order.

Because the limited scope of Contention 1.1 will not provide sufficient information to enable the Board to answer Commission Question 1, four Board Questions were set forth in our October 1 order. The Power Authority stated that it believes the Board Questions to be "appropriate for the evidentiary hearing." Con Edison did not address them. The NRC Staff, on the other hand, objected to the breadth of Board Question 1.1, which asked the parties to present evidence on the Indian Point Probabilistic Safety Study (IPPSS) and "any reviews or studies of the IPPSS prepared by or for the Licensees, the NRC Staff, or the Intervenors, or any other document which addresses the accuracy of the IPPSS." In Staff's view, the Board should specify which documents it wants the parties to address. Staff argued that if there were other documents known to the Board or the parties which it would be required to address, it should be made aware of those documents at an early date so that they could be reviewed and addressed in prefiled testimony.

We are sympathetic with Staff's plea and are willing to further identify relevant documents to the extent that we are able to do so at this time. Board Question 1 shall be modified accordingly. But we are unwilling to make the Order final with only those documents known to the Board at this time. As we pointed out at the Prehearing Conference on November 3, 1982, the Board lacks the mechanism to find documents on its own. Therefore, we shall leave the open-ended

part of Board Question 1.1 unchanged. In light of Staff's well-founded plea, however, we are ordering each party that is now aware of any document on the IPPSS to immediately identify that document for the other parties; further, should any party become aware of such a document in the future, that party shall promptly notify the other parties and identify the document.

The final formulation of Board Question 1.1 and the remaining Board Questions under Commission Question 1, which are unchanged, are set forth in the Appendix.

CONTENTIONS UNDER COMMISSION QUESTION 2

We have reexamined the contentions proposed under Commission Question 2 in our Board Order of October 1. These were:

- 2.1(a) A filtered vented containment system for each unit must be installed.
- 2.1(b) License conditions must be imposed to prohibit power operations with less than a fully operable complement of safety-grade and/or safety-related equipment.
- 2.1(c) A "core catcher" must be installed at each unit to provide additional protective action time in the event of a "melt-through" accident in which the reactor pressure vessel is breached by molten fuel.
- 2.1(d) A separated containment structure must be provided into which excess pressure from accidents and transients can be relieved without necessitating releases to the environment, thereby reducing the risk of containment failure by overpressurization.
- 2.2(a) The cooling systems at the plants should be changed so that they no longer use brackish Hudson River water. This change is needed to combat safety-related corrosion problems.

- 2.2(b) The residual risk posed by the Indian Point plants and discussed under Board Question 1.4 above is great enough to justify remedial measures to prevent pressure vessel damage by pressurized thermal shock. The specific measures needed include one or more of the following:
- (i) pressure vessel replacement;
 - (ii) in situ annealing of the pressure vessel;
 - (iii) revision of technical specifications to reduce the probability of pressurized thermal shock;
 - (iv) use of preheated water for safety injection.

Staff raised no objections to these contentions (Staff response at 4). Licensees objected to the admission of all parts of both contentions, (PASNY Response at 11-25; Con Ed Response at 20-43). Intervenors UCS/NYPIRG offered additional bases at the prehearing conference for proposed Contentions 2.1(a), 2.1(c), and 2.1(d) ^{2/}. WBCA objected to our having eliminated Contention 2.2(d) (West Branch Conservation Association's Reply to Memorandum and Order of October 1, 1982 (WBCA Reply)). We granted

2/ For 2.1(a) and 2.1(d) they offer: NUREG/CR-1409, Summary of Zion/Indian Point Study; NUREG/CR-1410, Report of the Zion/Indian Point Study, Vol. I; NUREG/CR-1411, Report of the Zion/Indian Point Study, Vol. II.

For 2.1(c) they offer: NUREG/CR-2155, A Review of the Applicability of Core Retention Concepts to Light-Water Reactor Containments.

As a general review of reactor containment, they offer: Beyea, J. and Von Hippel, F., Containment of a Reactor Meltdown, Bulletin of the Atomic Scientists, Aug/Sept 1982, at 52.

Licensees opportunity to reply to the additional bases raised and they did so (Licensees' Response to uCS Oral Motion to Amend Contentions, dated November 9, 1982 (Licensees' Response to Motion)) We treat the several parts of these contentions below.

Contentions 2.1(a) and 2.1(d)

As we noted in our October 1 Order, (Order at 19) these two subparts are closely allied. The Licensees would have us apply a more stringent standard in using the Commission's "two-prong" test than that which we adopted in our October 1 Order. The NRC Staff, on the other hand, believes that we have adequately addressed the two-pronged test and stated that it did not find the Licensees' arguments persuasive.

In our view, use of a standard as stringent that advocated by the Licensees would be tantamount to requiring that the Intervenors prove their pleadings in advance of the hearing. We do not believe that the Commission intended that prior to admitting a contention advocating a safety measure, we should find that a significant risk surely exists without such safety measure. We believe such a finding should reflect the outcome of this litigation rather than its starting point, and accordingly, we conclude that the threshold showing we have required is sufficient.

As to the additional bases alleged by Intervenors, we have reviewed them, paying particular attention to the results (which are specific to Indian Point) presented at pp 1.70-1.72 of NUREG/CR-4110. It is true that these results give only conditional

probabilities (i.e., probabilities showing what is expected given an accident to begin with), as Licensees point out (Licensees' Response to Motion at 7). But we nevertheless regard the material as a strong buttress to our original finding of potential improvement. Indeed, NUREG/CR-4110 at page 1.70 suggests that potential early fatalities would drop to zero with any of the four filtered venting options examined. We also remain convinced that the separate containment structure of 2.1(d) is sufficiently similar in function and engineering considerations to a filtered venting system to justify its consideration as well.

Licensees object to our consideration of these additional materials on grounds of timeliness. We note, however, that our Order of October 1, taking account of the special nature of this proceeding, specifically set the prehearing conference as the appropriate time for argument on responses to the Order (Order at 42). Since Licensees responses had challenged the bases for these contentions, we regard the Intervenors argument as timely. We feel the opportunity we have afforded the Licensees to address the merits of these additional bases has been quite adequate.

Nothing in Licensees' Response to Motion convinces us to change our rulings.

Contention 2.1(b)

Upon consideration of Licensees' arguments against admission of this subpart, we have become convinced that this subpart does indeed lack specificity and basis. We note that the subpart mentions only

"a fully operable complement" of safety grade equipment. Clearly, a more sophisticated examination of what is needed for safe operation would require a detailed review of every piece of such equipment and an assessment of the risks entailed should that equipment be inoperable for some period of time. But such an assessment is ostensibly just what was needed to produce the "Limiting Conditions for Operation" included in the plants' Technical Specifications (Con Edison Response at 26-27; PASNY Response at 14-15). Thus, the existence of these Technical Specifications suggests that a careful examination by experts has already established which of the safety features comprising a "full complement" must always operate and which need not. We find this notion persuasive, even though we are not convinced by Licensees' arguments for a higher threshold of risk as a condition for admission. Accordingly, Contention 2.1(b) shall be eliminated from the proceeding.

Contention 2.1(c)

We have reconsidered this subpart and have become convinced that we should drop it. We were impressed by the arguments of Licensees to the effect that no clear nexus exists between the "core-catcher" concept and the delay of release to permit population response. (Con Ed Response at 33; PASNY Response at 19-20). Our rejection of the subpart is thus, in part, grounded on the notion that the basis set forth for it in our October 1 Order is logically flawed:

In the event of a "melt-through" accident the dense population in the EPZ may cause a delay in evacuation and, thus, a resulting increase in public exposure to radiation.

[Thus] . . . we make a threshold finding that a "core-catcher" would delay a containment breach and thus could significantly reduce such risk.

(Order at 19.) The core-catcher does not intervene in accident scenarios requiring rapid evacuation.

We have also considered NUREG/CR-2155. Curiously, although this document was cited by UCS/NYPIRG as support for the addition of core-catchers to Indian Point, its Executive Summary says, in part:

The potential risk-reduction benefit of a retainer at five specific reactors - Surry, Peach Bottom, Sequoyah, Oconee, and Grand Gulf - is examined by assuming that the device does stop melt-through and does significantly reduce gas generation. Based upon documented risk analyses for these plants, it is concluded that an effective core retainer would not significantly reduce risk at any of the five sites.

(NUREG/CR-2155 at 6, emphasis added.) This conclusion is based on findings which suggest that a core-catcher simply does not affect the scenarios important to short-term public exposure to radiation, since the large contributors to such risk are scenarios involving above-grade rupture of containment. (Id. at 6, 7). The report convinces us that, as nearly as we can find at present, the addition of a core-catcher would likely be, at most, a de minimis improvement in safety compared to that afforded by a system intended to aid the above-grade containment function such as the systems called for by 2.1(a) and 2.1(d).

Contention 2.2(a)

Licensees would have us reject this subpart primarily for lack of specificity (Con Ed Response at 34-35; PASNY Response at 21-22).

In particular, neither Licensee professes to see the change suggested as being a specific change. We disagree; in context the change suggested is clearly a change to a less corrosive cooling medium than brackish water, viz., fresh or treated water.

Licensees also fault us for accepting as a basis for this contention an event (flooding of containment) which we rejected as a basis for a contention which called for an overall review of all quality assurance procedures and all aspects of construction and operation. (Con Ed Response at 35-36; PASNY Response at 22). We see nothing illogical in what we have done. The event may well be a reason for examining the corrosive properties of the coolant even though its wider implications for Q/A and construction review should be left for Staff attention. We see no reason, therefore, to reject 2.2(a).

Contention 2.2(b)

As with the other contention subparts under Commission Question 2, Licensees would have us apply a much more stringent standard for acceptance than that which we have chosen. Further, because the Sandia Letter Report cited by the Board as part of the basis for this subpart did not make a positive finding of significant residual risk from pressurized thermal shock, Licensees would consider this subpart inadmissible (Con Ed Response at 39; PASNY Response at 24). Our view simply differs: we believe that any unevaluated risk of catastrophic failure of the primary coolant system deserves some examination to determine whether there exists a

hazard and whether the hazard can be reduced by the proposed measures.

Licensees' other prime objection to this subpart's admission is that we, as a Board, recognized that the Staff is attacking the problem generically. As we pointed out in our order, the generic attack has not yet, and likely will not soon, produce any probabilistic evaluation of the pressurized thermal shock hazard at Indian Point nor any evaluation of the advantage in safety which might accrue should the specific measures of 2.2(b) be implemented. It is information bearing on these points which we view as material to aid in answering Commission Question 2. Contention 2.2(b) will, therefore, be retained.

Rejected Contention 2.2(d)

At the prehearing conference and in its reply to our October Order, WBCA objected to our having dropped Contention 2.2(d) (WBCA Reply at 1). The thrust of WBCA's argument (WBCA Reply at 2) is that the history of Indian Point in general and the fan-cooler leakage event in particular, show a tendency to discover troubles only after they occur. It is, therefore, necessary, in WBCA's view, to institute a general reexamination of all quality assurance measures, all pieces of equipment, and all operating practices. We remain convinced that no single instance (or group of instances) of equipment malfunction could justify a Board's requiring the sort of exhaustive review which WBCA's position demands. Nor do we see in this broad allegation the specificity of risk or of cure which

Commission Question 2 would require. We have already offered WBCA ample opportunity to disclose under Contention 5.1 specific instances of improper construction and operation which might yield high risks (Order at 3). WBCA has declined that opportunity (WBCA Reply at 3), citing time constraints. We believe subpart 2.2(d) should not be reinstated as a matter in litigation here.

Board Question 2.2.1

PASNY finds Board Question 2.2.1 "objectionable" because of inadequate basis and failure to meet the threshold tests. (PASNY Reply at 26) Specifically, PASNY believes that the proposed requirements, not having been adopted generically, have no claim on our attention in this specific case. We disagree. The reasoning at pages 22 and 23 of our October 1 Order, in our view, remains valid: If failure of a steam generator tube is an "Abnormal Occurrence", entailing all that term of art implies, if Indian Point is experiencing a novel threat to tube integrity, and if a body of experts in the field has suggested countermeasures, then the applicability of those countermeasures is a proper subject for our inquiry. Hence, Board Question 2.2.1 will remain in this proceeding.

CONTENTIONS UNDER COMMISSION QUESTIONS 3 AND 4

In its October 1 Order, the Board deferred reformulation of contentions dealing with the Commission's questions on emergency planning until the 120-day clock expires on December 3, 1982. It was our judgment that reevaluating contentions that could be impacted by

corrected deficiencies in emergency planning was a wasteful expenditure of the Board's time and that of the parties.

In written responses, and during the prehearing conference, intervening parties and governmental representatives urged the immediate reformulation of the contentions alleging that few, if any, would be affected by FEMA's findings on deficiencies. They argued also that hearings could commence now with interested governmental representatives since their testimony was geared to the Commission's questions on emergency planning and not to specific contentions related to those issues. A particularly strong plea was submitted for the Board to hear testimony from Westchester County since the recent State elections would cause departure of most, if not all, of its witnesses from County service.

As a result of recent information notifying the Board and parties that FEMA proposes to perform its final evaluation of emergency planning at Indian Point after an exercise now scheduled for March 8, 1983, the Licensees and Staff recommend a delay in all testimony on the issues in this area until that evaluation is received. Using a conservative assumption that reformulation of contentions on questions 3 and 4 and the filing of supplemental testimony by the parties would encompass a six week period beyond FEMA's scheduled assessment date (30 days after the exercise), it appears likely that in following this path, hearings could not be completed before mid-summer of next year. And even with a minimum period for proposed findings and preparing the Board's

recommendations to the Commission, this schedule would extend this proceeding until the end of 1983. Since this course provides little assurance to the public that the Commission's safety issues concerning the Indian Point facilities are being resolved in a speedy and equitable manner, and taking into account the recommendation of the schedule committee appointed at the prehearing conference, we have adopted herein a schedule more in line with the exigencies we face.

FEMA has notified the Commission it will be prepared at the end of the 120-day period to provide its conclusions on the adequacy of the plan as a result of the corrective actions taken. During the prehearing conference, the Board was assured the Staff would be requesting FEMA's assessment, which has an estimated date of availability of December 17, 1982. Since FEMA has been heavily involved in the effort to correct the planning deficiencies at Indian Point, it should have no difficulty in providing its assessment by that time. Shortly thereafter, we will require those party intervenors who have contributed to contentions under these questions, as reflected in our Order of April 23, 1982, to transmit, in writing, assurances of continued support of their subsumed contentions and the basis thereof, or alternatively, their intentions to abandon them. The Board will then commence reformulation of the emergency planning contentions.

Because the Board believes the record of this proceeding could be inadequate absent the testimony of Westchester County officials

whose past stewardship of County affairs may have provided unique experiences, the Board will request the filing of supplemental testimony and provide an earlier but limited period for hearing and cross examination of those witnesses. Requests for an additional opportunity to testify from the new administration in the County will receive favorable consideration from the Board when the hearing on emergency planning questions commences at a later date. We see, however, no reason to provide an earlier opportunity to receive testimony from governmental representatives other than the departing Westchester County witnesses. Virtually all evidence on these questions and contentions thereunder, will, in our opinion, be impacted by FEMA's findings at the end of the 120-day period. Accordingly, they should be considered in a similar time frame, after they have had an opportunity to submit supplemental testimony in response to the FEMA findings.

Periodic exercises and drills are a continuing requirement in NRC/FEMA regulations and guidelines as a means of verifying the ability of response organizations to implement emergency plans. If the exercise programmed for March 8, 1983, reveals significant deficiencies in offsite emergency planning, we expect that FEMA and the Staff will promptly report such developments to the Board and the parties. If needed, a brief hearing session to receive testimony and cross examination on these developments will be scheduled at that time. The Commission, of course, can always consider FEMA's final evaluation along with any other information it obtains on Indian

Point in addition to the Board's recommendations on the merits in this proceeding. The foregoing decisions on emergency planning matters are reflected in the detailed schedule that follows.

CONTENTIONS UNDER COMMISSION QUESTION 5

In our Order of October 1, 1982, we decided that Contention 5.1 lacked the specificity required by the Commission's July 27, 1982, Order and that it would be rejected unless WBCA provided by October 15, 1982, a list of specific design features or specific plant conditions which make the Indian Point plants riskier than any other nuclear plants.^{3/}

WBCA stated in its written response, (WBCA Reply) dated October 13, 1982, that it could not provide the specificity required for Contention 5.1 due to time constraints. WBCA did not request an extension of time in which to respond but did request a clarification of intervenor status and participation under Commission Question 5, as well as under Board Question 2.2.1.

WBCA did not provide the required specificity by October 15, 1982, nor during the prehearing conference. WBCA did mention "brackish water" at the prehearing conference, but that issue will be dealt with under Contention 2. Contention 5.1 therefore is deleted. WBCA, however, is not precluded from presenting testimony which directly addresses Commission Question 5.

^{3/} Recognizing that more time might be needed to respond to certain parts of our order, we stated that we would entertain motions for an extension of time to submit a response.

We also decided to drop Board Question 5.1 on the grounds that parties might better address the issues it raised in their proposed findings, by analyzing the evidence adduced on the other Commission questions, instead of presenting evidence on this question alone. No party raised objections to the Board's decision to drop Board Question 5.1.

Therefore, for the foregoing reasons, we have determined that there shall be no contentions or Board Questions under Commission Question 5, but that the NRC Staff and the Licensees shall present testimony which directly addresses this Commission question. The other parties are invited to do likewise in accordance with the procedures set forth at page 22 of this Order governing Intervenor participation with respect to Board Questions and Commission Question 5.

We concur with Consolidated Edison's assessment, presented at the prehearing conference, that the Sandia Report, NUREG/CR-2239, "Technical Guidance for Siting Criteria Development," (Sandia Consequences Study) bears on Commission Question 5. Hence, we expect that the report will be addressed under this question.

CONTENTIONS UNDER COMMISSION QUESTION 6

In our Order of October 1, 1982, we decided to retain Contentions 6.1 and 6.3 without modification and to delete Contention 6.2. We rejected Contention 6.2 on two grounds:

- 1) that we were precluded by the Commission from considering the psychological impacts of Indian Point; and,

- 2) that the allegation that the physical environment around Indian Point would be improved by a shutdown of the power plants due to a resulting reduction in the release of radiation to the environment did not seem important to answering the Commission's question.

No party raised objections to our decisions regarding Contentions 6.1 and 6.3. Therefore, Contentions 6.1 and 6.3 are retained as stated in our October 1, 1982, Order, because the contentions and the bases meet the standard of specificity called for by the Commission's Order of July 27, 1982, and the contentions are material to answering Commission Question 6.

PARENTS raised objections to our decision to delete Contention 6.2 in its written response to the October 1, 1982, Order, entitled "PARENTS Concerned About Indian Point, Pre-Hearing Motion," and at the prehearing conference on November 3, 1982. PARENTS expressed their concern that "[i]f this contention is eliminated, PARENTS will be denied an opportunity to compare radiation releases at Indian Point with releases at other nuclear power plants, especially as a function of days in operation and population density It may well be that radiation releases at Indian Point pose a greater health risk because of the greater numbers of children living near these plants." At the prehearing conference, PARENTS argued that the routine release of radiation at Indian Point is a serious environmental cost because of the greater susceptibility of children and fetuses to radiation, and that the high population density surrounding the plants results in a very large number of children being exposed to routine releases. This site-specific

radiological effect must be factored into the cost-benefit balance of shutting the plants down.

We find PARENTS' arguments for reinstating Contention 6.2 persuasive. Therefore, we are reformulating 6.2 to more accurately reflect PARENTS' concerns as articulated in its arguments. As a basis for the contention, we are taking notice of the report by the National Academy of Sciences' Committee on the Biological Effects of Ionizing Radiations, The Effects on Populations of Exposures to Low Levels of Ionizing Radiation: 1980 (BEIR III Report), which discusses age-specific susceptibility to radiation-induced cancer. We also note that the Commission has sanctioned the litigation of residual radiation health effects in individual proceedings even for plants which comply with 10 C.F.R. Part 50, Appendix I. (Public Service Co. of Oklahoma, Black Fox Nuclear Station, 12 NRC 265, 1980)

With respect to that part of the argument that relates to comparing the risks of exposing children at Indian Point with the risks at other nuclear power plants, however, we instruct PARENTS that such testimony, if submitted, should be submitted under Commission Question 5 rather than Contention 6.2. Testimony under Contention 6.2 should address the cost-benefit balance of shutting down Indian Points Units 2 and 3.

The Contentions, therefore, which may be litigated under Commission Question 6 are Contentions 6.1, reformulated 6.2, and 6.3. They are set forth in the Appendix to this Order.

PROCEDURAL MATTERS

Heretofore the Board granted time extensions for additional requests for consolidation by the parties. The Board will consider any requests not previously submitted that are mailed in a one week period after receipt of this Order.

All parties have been invited and the Licensees and Staff directed to submit testimony on questions raised by the Board. Cross examination of witnesses on these questions will be limited to those who provide direct evidence. The Board will consider, only on request and prior submission to it, questions a non-participating party desires to ask; such questions will be allowed only if completeness of the record justifies waiver of the foregoing restriction.

As the schedule reflects, cross-examination plans are required to be submitted. The plans shall be adequate to advise the Board of the party's objectives, the affirmative evidence it expects to extract, and what testimony the party anticipates discrediting.

SCHEDULE

1982

November	19	Responses due to discovery requests on Questions 1, 2 and 5
	26	Final day for noticing depositions on Question 2
	27	Due date for motions to consolidate
December	9	Final day for depositions on Question 2
	10	Final day for noticing depositions on Question 1

- 17 FEMA Report due on adequacy of offsite emergency plans
- 23 Due date for UCS testimony on Question 2
- 28 Responses due from party intervenors supporting or abandoning contentions on Questions 3 and 4
- 29 Due date for Westchester County supplemental testimony on Questions 3 and 4
- 30 Due date for WBCA testimony on Question 2

1983

- January 3 Hearing on prefiled testimony of Westchester County. One week allotted with time divided equally between the County, Licensees and Staff
- 7 Board Order reformulating contentions under Questions 3 and 4.
- 7 Due date for Licensees and Staff to file testimony on Question 2.
- 14 Final day for depositions on Question 1
- 18 Hearing on Question 2. Two weeks allotted: Tuesdays through Friday
- 24 Due date for party responses on reformulated contentions under 3 and 4
- 24 Due date for testimony from Licensees and Staff on Question 1
- 31 Due date for Intervencrs testimony on Question 1
- February 8 Hearings on Question 1. Two weeks allotted: Tuesdays through Friday
- 8 Board Order finalizing contentions on Questions 3 and 4
- 14 Due date for FEMA and all parties to file supplemental testimony on Questions 3 and 4
- March 1 Hearings on Questions 3 and 4. Three weeks allotted: Tuesdays through Friday

- 1 Final day for noticing depositions on Question 5
- 15 Final day for depositions on Question 5
- 22 Last day for noticing depositions on Question 6
- 22 Final day for testimony from Licensees, Staff and parties on Question 5
- April 5 Hearings on Question 5. One week allotted: Tuesday through Friday
- 5 Last day for depositions on Question 6
- 12 Final day for testimony from Licensees, Staff and parties on Question 6
- 19 Hearing begins on Question 6. One week allotted: Tuesday through Friday
- May 27 Due day for proposed findings of fact and conclusions of law
- July 29 Date for Board recommendations to the Commission

Note: Cross-examination plans are to be filed with the Board at least three days prior to the hearing to which they apply.

All parties should recognize that the Commission, in this special proceeding, may impose constraints which could alter the above schedule.

ORDER

Upon consideration of the foregoing and the entire record in the matter, it is this 15th day of November

ORDERED

1. That the contentions as set forth in the Appendix herein shall be litigated in this proceeding.

2. The words unacceptably, unacceptable and reasonably probable are deleted from Contention 1.

3. That in providing testimony on Board Question 1.1, the Sandia Laboratory Letter Report on the IPPSS dated August 25, 1982, shall be addressed by the parties, and the parties shall identify and notify all parties and the Board of any additional document reviewing the IPPSS of which they have knowledge.

4. That Contentions 2.1(b) and 2.1(c) are eliminated from the litigation.

5. That Contentions under Commission Questions 3 and 4 will be reformulated after FEMA reports on the adequacy of offsite emergency plan at Indian Point.

6. That Intervenors who have contributed to Contentions under Questions 3 and 4 shall indicate to the Board after FEMA's report, their continued support of the contention and bases or their intention to abandon the contention.

7. That Westchester County officials shall file supplementary testimony on Questions 3 and 4 after the FEMA report, and a hearing on such testimony will commence on January 3, 1983.

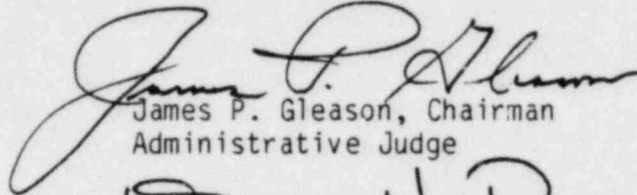
8. That the Board reserves until a later date its decision on whether a hearing need be conducted after FEMA reports on the March 8, 1983 emergency planning exercise.

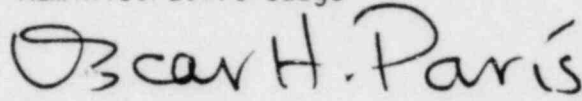
9. That Contention 5.1 and Board Question 5 are eliminated from the proceeding.

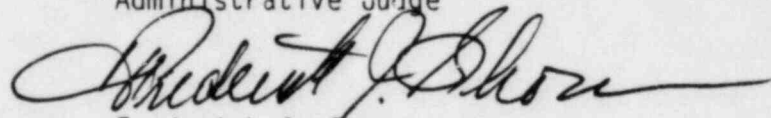
10. Licensees and the Staff shall, and party intervenors may, present testimony directly addressing Commission Question 5.

Cross-examination on such testimony will be restricted to the parties who present direct testimony on the Question, except as otherwise provided in this Order.

THE ATOMIC SAFETY AND
LICENSING BOARD


James P. Gleason, Chairman
Administrative Judge


Dr. Oscar H. Paris
Administrative Judge


Frederick J. Shon
Administrative Judge

Bethesda, Maryland

APPENDIX

Commission Question 1

What risk may be posed by serious accidents at Indian Point 2 and 3, including accidents not considered in the plants' design basis, pending and after any improvements described in (2) and (4) below? Although not requiring the preparation of an Environmental Impact Statement, the Commission intends that the review with respect to this question be conducted consistent with the guidance provided the Staff in the Statement of Interim Policy on "Nuclear Power Plant Accident Considerations under the National Environmental Policy Act of 1969;" 44 F.R. 40101 (June 13, 1980).^{5/}

^{5/} In particular, that policy statement indicates that:

Attention shall be given both to the probability of occurrences of releases and to the environmental consequences of such releases;

The reviews "shall include a reasoned consideration of the environmental risks (impacts) attributable to accidents at the particular facility or facilities. . .";

"Approximately equal attention should be given to the probability of occurrence of releases and to the probability of occurrence of the environmental consequences . . ."; and

Such studies "will take into account significant site and plant-specific features . . ."

Thus, a description of a release scenario must include a discussion of the probability of such a release for the specific Indian Point plants.

Contention 1.1

The probabilities and consequences of accidents at Indian Point Units 2 and 3 combine to produce high risks of health and property damage not only within the plume exposure EPZ but also beyond the plume exposure EPZ as far as the New York City metropolitan area.

Board Question 1.1

What are the consequences of serious accidents at Indian Point and what is the probability of occurrence of such accidents? In answering this question the parties shall address at least the following documents: (a) the Indian Point Probabilistic Safety Study (IPPSS) prepared by the Licensees; (b) the Sandia Laboratory "Letter Report on Review and Evaluation of the Indian Point Probabilistic Safety Study" (Letter Report), dated August 25, 1982; and (c) any other reviews or studies of the IPPSS prepared by or for the Licensees, the NRC Staff, or the Intervenors, or any other document which addresses the accuracy of the IPPSS.

Board Question 1.2

What bearing, if any, do the results reported in NUREG/CR-2497, "Precursors to Potential Severe Core Damage Accidents: 1969-79, A Status Report" (1982), have upon the reliability of the IPPSS? For example, are there specific accident scenarios at Indian Point whose probability may have been inaccurately estimated in light of the real-life data reported and analyzed in NUREG/CR-2497?

Board Question 1.3

What are the probabilities associated with the consequences presented in the testimony of Dr. Beyea and Mr. Palenik?

Board Question 1.4

What risk to public health and safety is presented by the Indian Point plants through a chain of events including pressurized thermal shock to the reactor pressure vessels?

Commission Question 2

What improvements in the level of safety will result from measures required or referenced in the Director's Order to the licensee, dated February 11, 1980? (A contention by a party that one or more specific safety measures, in addition to those identified or referenced by the Director, should be required as a condition of operation would be within the scope of this inquiry if, according to the Licensing Board, admission of the contentions seems likely to be important to resolving whether: (a) there exists a significant risk to public health and safety, notwithstanding the Director's measures, and (b) the additional proposed measures would result in a significant reduction in that risk).

Contention 2.1(a)

A filtered vented containment system for each unit must be installed.

Contention 2.1(d)

A separate containment structure must be provided into which excess pressure from accidents and transients can be relieved without necessitating releases to the environment, thereby reducing the risk of containment failure by overpressurization.

Contention 2.2(a)

The cooling system at the plants should be changed so that it no longer uses brackish Hudson River water. This change is needed to combat safety-related corrosion problems.

Contention 2.2(b)

The residual risk posed by the Indian Point plants and discussed under Board Question 1.4 above is great enough to justify remedial measures to prevent pressure vessel damage by pressurized thermal shock. The specific measures needed include one or more of the following:

- (i) pressure vessel replacement;
- (ii) in situ annealing of the pressure vessel;
- (iii) revision of technical specifications to reduce the probability of pressurized thermal shock;
- (iv) use of preheated water for safety injection.

Board Question 2.2.1

Should any of the requirements proposed at the July 29, 1982, meeting of the NRC Staff and members of the SGOG be required for Indian Point Units 2 and/or 3, considering the risk of a steam generator tube rupture in this high population area?

Commission Question 3

What is the current status and degree of conformance with NRC/FEMA guidelines of state and local emergency planning within a 10-mile radius of the site and, of the extent that it is relevant to risks posed by the two plants, beyond a 10-mile radius? In this context, an effort should be made to establish what the minimum number of hours warning for an effective evacuation of a 10-mile quadrant at Indian Point would be. The FEMA position should be taken as a rebuttable presumption for this estimate.

Commission Question 4

What improvements in the level of emergency planning can be expected in the near future, and on what time schedule, and are there other specific offsite emergency procedures that are feasible and should be taken to protect the public?

Contentions under Commission Questions 3 and 4 will be reformulated later (see Schedule in Order).

Commission Question 5

Based on the foregoing, how do the risks posed by Indian Point Units 2 and 3 compare with the range of risks posed by other nuclear power plants licensed to operate by the Commission? (The Board should limit its inquiry to generic examination of the range of risks and not go into any site-specific examination other than for Indian Point itself, except to the extent raised by the Task Force.)

The NRC Staff and Licensees shall, and other parties may, present testimony which directly addresses Commission Question 5.

Commission Question 6

What would be the energy, environmental, economic or other consequences of a shutdown of Indian Point Unit 2 and/or Unit 3?

Contention 6.1

An economic consequence of the shutdown of Indian Point Units 2 and 3 would be an economic benefit accruing to Rockland County through the sale of replacement power.

Contention 6.2

A benefit would accrue from the shutdown of Indian Point Units 2 and 3 because the environment of children in the vicinity would be improved by a decrease in the release of radioactive material.

Contention 6.3

Considering the savings in operating expense which would result from shutting down Indian Point Units 2 and 3, and allowing for the ways in which cogeneration and conservation can mitigate the costs of replacement power, the net costs of shutdown are small; in fact, they are smaller than previous studies by UCS, GAO, or Rand suggest, and are entirely acceptable.