

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSIONERS:
Nunzio J. Palladino, Chairman
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal
Lando W. Zech, Jr.

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In the Matter of)	
)	Docket Nos.
CONSOLIDATED EDISON COMPANY OF)	50-247-SP
NEW YORK, INC.)	50-286-SP
(Indian Point, Unit No. 2))	
)	
POWER AUTHORITY OF THE STATE)	
OF NEW YORK)	August 13, 1984
(Indian Point, Unit No. 3))	
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CON EDISON'S COMMENTS ON THE
LICENSING BOARD CHAIRMAN'S DISSENT
IN THE RECOMMENDATIONS OF THE
INDIAN POINT SPECIAL PROCEEDING

Consolidated Edison Company of New York, Inc. ("Con Edison"), licensee of Indian Point Unit No. 2, submits these comments pursuant to the Commission's Order of July 30, 1984. That Order permitted the parties to the Indian Point Special Proceeding to submit comments on the dissenting views of Chairman James P. Gleason as set forth at pages 433-35 of the Atomic Safety and Licensing Board's October 24, 1983 Recommendations to the Commission. Con Edison wishes to emphasize that Chairman Gleason's dissent, which is the only subject addressed in these comments, does not indicate broad areas of disagreement among the Board members, the NRC Staff or the licensees. All of these parties

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appear to concur in the Board's unanimous conclusion that the continued operation of the Indian Point units poses no undue risk to the public and that the early fatality and delayed cancer risks posed by Indian Point are a very small fraction of the non-nuclear background risks to which the population around Indian Point is exposed. Licensees and Staff further concur with the Board's conclusion that such major modifications to the plant as filtered vented containments and separate containments are not warranted.

The majority of the Board urged adoption of a severe accident standard for some sites more stringent than that established by the NRC's existing body of regulations, to which Chairman Gleason properly objected.

In its orders of January 8 and September 18, 1981 the Commission asked the Licensing Board to employ probabilistic risk assessment (PRA) techniques to evaluate the risk of serious accidents at Indian Point. We do not believe that the Commission intended to imply any inadequacies in the safety levels achieved by the licensees' compliance with all of the licensing requirements imposed by NRC on operating reactors generally. Instead, the Commission in essence said "take the Indian Point plants in their present state and location, and tell us -- using the only quantitative discipline we are aware of, PRA -- what the risks of the plants are under the existing, in-place 'background' level of licensing regulation." The Commission's orders went on to say that the Board could also develop a record on further safety measures not required by existing NRC regulations if it appeared that they might be effective in reducing risk.

Chairman Gleason differed with the other Board members as to the logical step processes the majority followed in concluding that at least one such measure was appropriate and should be recommended to the Commission for imposition on this one site. As its rationale for proposing that the Indian Point licensees be required to implement a safety assurance program, the Board majority suggested that certain unspecified "high consequence" accidents could occur at the Indian Point, Zion, Limerick and Salem sites (Recommendations at 105), and without regard to the extremely low probability or likelihood that these accidents could occur, it was therefore preferable for the NRC to require a further safety measure at Indian Point that is not required anywhere else. The majority in effect said "forget how unlikely it is that a serious accident could occur, and just focus on how bad the consequences could be." As Chairman Gleason noted, this was just what the Board had been asked not to do by the Commission's initial orders, as well as its supplemental orders of July 27, 1982 and September 17, 1982. The Commission's consistent guidance throughout the proceeding had emphasized that consequences should only be considered in conjunction with their associated probabilities.

Chairman Gleason also appears to have faulted the majority's logic in at least two other respects, and in both instances Con Edison is in agreement with the Chairman. First, by definition risk consists of the product of multiplying two components: the probability of the event occurring, and the consequences should the event occur. If one's goal is to assess risk, then an understanding of both elements is essential, and if either one is missing then risk simply cannot be assessed. For purposes of safety planning, it matters very much whether events of potential significance occur once in a decade or

once in 100,000 years. Chairman Gleason properly faulted the majority's proposal to make momentous decisions about exceeding current NRC regulations on a site-by-site basis while purposely ignoring the likelihood that the accidents of concern might occur.

Secondly, the Board majority made its recommendation for further efforts to reduce risk in the face of a record which the Board itself unanimously found to demonstrate an exceedingly low level of risk for the plants as is. The NRC Staff testified that a rigorous examination of safety levels showed that the contribution to risk of early accidental death posed by serious reactor accidents at Indian Point is roughly 2.5 parts per million of the background risk averaged over a 50-mile radius of the plant, or 0.000025 percent of the overall risk of accidental death in the vicinity of the site. Recommendations at 64. Staff also determined that the contribution of severe accidents at Indian Point to the incidence of delayed cancer fatalities within 50 miles of the units was roughly 11 parts per million, or 0.00001 percent of the overall background cancer fatality risk. Recommendations at 66. The Board unanimously concluded that "the average annual early fatality risk and delayed cancer fatality risk, as calculated by PRA, are very small fractions of the competing background non-nuclear risks." Recommendations at 108.

With the hearing record clearly establishing that the risk of Indian Point was this low compared to other risks, Chairman Gleason could not understand how multi-million dollar excursions beyond existing NRC safety requirements could possibly be justified. As he put it, "the recommendation seems to suggest an absolute and not the adequate protection called for by the Atomic Energy Act. It also tends to ignore an extensive body of regulation

that has been enacted for the safe operation of nuclear power facilities which produce such low probabilities of accidents." Recommendations at 433.

Con Edison wholeheartedly agrees. Whether high consequence accidents can occur or not (see below), the fact remains that the most sophisticated quantitative ranking of the public health risks confronting persons in the vicinity of Indian Point demonstrates that the plants do not contribute significantly. Great uncertainty in the PRA results can be conceded and this bottom line does not change. This being the case, substantial additional expenditures to drive the risk even lower simply cannot be justified.

The record before the Board does not support the presumption of the majority that high consequence accidents might occur.

The Board majority's initial premise in reaching its ultimate conclusion to recommend imposition of an additional safety measure at Indian Point and three other sites was that "dangerous, low probability accidents . . . could, as Staff testimony has shown, result in fatalities that number in the hundreds or thousands." Recommendations at 107.

Con Edison does not believe that the hearing record supports the majority's premise. Expert testimony offered by licensees at the hearings established that the amount of radioactive material which would be released in the event of a severe accident would be significantly less than had been supposed in earlier risk estimates such as the 1974 Reactor Safety Study (RSS). These witnesses offered testimony regarding data from Three Mile Island and a number of other actual accidents as well as prior research and experimental data which confirmed that physical and chemical processes would

reduce the amount of radionuclides that could be released. The witnesses presented their own estimates of realistic source terms for the dominant accident sequences at Indian Point. Licensees' experts concluded, inter alia, that there would be no early fatalities from any accident scenarios at Indian Point, and that latent fatalities would be such that the consequences of even a "worst case" accident would be similar to other, large-scale industrial accidents.

The Staff's witness testified that the NRC had no data or information which were inconsistent with licensees' testimony on the release of radioactive materials. He also testified that the RSS methodology for source term calculation as used in Staff testimony leads to overestimates of risk.

On this uncontroverted record, which as a legal matter the Board was not entitled to ignore, Con Edison submits that there is simply no basis for concluding that "dangerous" accidents with fatalities "in the hundreds or thousands" might occur at Indian Point. Since the Board majority's decision to urge a further safety measure proceeds from such an unsupported assumption, as proposed by Chairman Gleason it should be discarded by the Commission.

Chairman Gleason appropriately opposed a proposal to bias the NRC's safety emphasis towards accidents presumed to be of high consequence.

After making unsupported assumptions as to radionuclide behavior, which led to the conclusion that high consequence accidents might occur, the majority then made a leap of logic to conclude that nuclear plants located in more densely populated areas in the northeastern United States should be made safer than others. Even assuming that the safety assurance program recommended

by the Board majority may be successful in reducing Indian Point risk even lower (which is without support in the record), the net result would be that persons living in the vicinity of Indian Point would enjoy a "safer" plant than persons living near a plant in another area, where such a program was not required.

It was this dilemma which was of particular interest to former Commissioners Hendrie, Ahearne and Gilinsky in the Commission's discussions throughout 1980 and 1981 on the proper focus for these hearings. Commissioner Hendrie in particular questioned the wisdom and the legality of a regulatory approach that would require reductions in the aggregate, societal risk around operating plants located in more densely populated areas, when the inevitable consequence of such a policy would be to make the risks to individuals living in the vicinity of various plants more unequal, because some safety measures would be required at a few sites but not others.

Whether the Commission's efforts to maintain nuclear plant safety from site to site should be directed towards equating individual risks, on the one hand, or aggregate societal risks, on the other, is perhaps a major policy question. It certainly appeared so to more than one Commissioner several years ago when this proceeding was being established, although it seems to have become more of a theoretical question as recent research on radionuclide behavior and source terms has gained broader acceptance and virtually eliminated site-to-site variations in potential accident consequences. Nonetheless, the Board majority -- without any discussion of the issue at all -- presumed that the most appropriate safety direction for the Commission to take would be to attempt to lower aggregate societal risk at some sites. The

majority's failure to acknowledge that such a policy would inevitably widen any differences between risks to individuals at various sites at the very least substantially weakens the proposal. Chairman Gleason appropriately opposed it, stating that "the Board appears to be recommending a new standard exclusively for Indian Point (and three other plants). . . . " Recommendations at 433-34.

The Chairman's dissent correctly observed that risk reducing measures have already been implemented at Indian Point, which was implicitly disregarded by the majority.

In his dissenting views, Chairman Gleason objected to the majority's reliance on a statement in the 1980 Task Force Report* attempting to compare plant and site risks separately at various plants. Chairman Gleason emphasized that "the Task Force Report was issued prior to the probabilistic risk assessments made to date on 14 or 15 nuclear power facilities, including Indian Point. . . . It is more than likely that the probability of a further reduction in risk discussed by the Task Force has already been accomplished." Recommendations at 434.

The record before the Licensing Board clearly establishes that the accident risk posed by Indian Point has already been substantially reduced by voluntary licensee actions taken since the 1980 Task Force Report. Upon the completion of the Indian Point Probabilistic Safety Study (IPPSS) in 1982, licensees informed the Commission and the Board that on their own initiative they were making certain plant modifications at both units in order to take

* Report of the Zion/Indian Point Task Force, NUREG-0715 (August 1980).

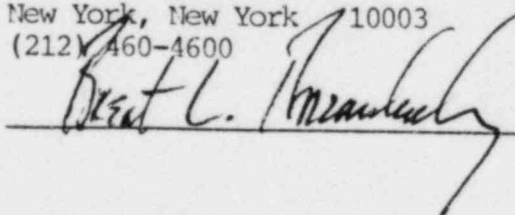
advantage of risk reduction measures identified in the course of the study.* These measures include structural modifications to reduce seismic vulnerability at both units, changes in electrical connections to certain safety equipment to reduce fire vulnerability at both units, and adoption of an anticipatory shutdown procedure to reduce hurricane vulnerability at Unit 2.

Uncontested testimony in the hearings established that taken together, these measures substantially reduced the likelihood of a severe accident at Indian Point below the already low level which had existed previously. In fact, the Board itself unanimously concluded elsewhere in its Recommendations that "at Indian Point significant safety improvements have been made as a result of IPPSS and the Sandia review." Recommendations at 40 n. 19. Chairman Gleason was therefore correct in rejecting the majority's reliance upon statements made in 1980, prior to the completion of IPPSS and the making of the plant modifications which improved safety. It is indeed established fact that at Indian Point, significant risk reduction "has already been accomplished," as stated by the Chairman.

Respectfully submitted,

Dated: New York, New York
August 13, 1984

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* See Recommendations at 46-47, and the March 5, 1982 letter from John D. O'Toole and J. Phillip Bayne to Harold R. Denton transmitting the IPPSS to the Commission.

CERTIFICATE OF SERVICE

I hereby certify that on the 13th day of August, 1984, I caused a copy of Con Edison's Comments on the Licensing Board Chairman's Dissent in the Recommendations Of The Indian Point Special Proceeding Licensing Board to be served by first class mail, postage prepaid, on:

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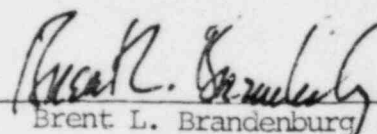
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