

CONSOLIDATED EDISON COMPANY of NEW YORK, INC.
4 IRVING PLACE, NEW YORK, N.Y., 10003

POWER AUTHORITY of the STATE of NEW YORK
10 COLUMBUS CIRCLE, NEW YORK, N.Y. 10019

May 23, 1980

Re: Indian Point Unit No. 2
Docket No. 50-247

Indian Point Unit No.3
Docket No. 50-286

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

SUBJECT: INDIAN POINT PLANT-SPECIFIC RISK EVALUATION

Dear Mr. Denton:

The purpose of this letter is three-fold: first, to provide the NRC with the preliminary results of studies that estimate the residual risk connected with operation of Indian Point Units 2 and 3; second, to advise you that the characterization of this risk by the NRC staff is inconsistent with the conclusions of our studies; and third, to urge that any further NRC staff conclusions with respect to operation of Indian Point Units 2 & 3 be based on plant-specific residual risk studies.

In a March 5, 1980 presentation to the ACRS, and in previous presentations to the Commissioners, the Zion and Indian Point plants have been characterized by the NRC staff as comprising more than 30 percent of the national risk from nuclear reactors. This characterization appears to be the motivating force in the Zion/Indian Point Near Site Studies, and also the consideration of adjudicatory hearings respecting Indian Point. The Consolidated Edison Company of New York, Inc. and the Power Authority of the State of New York have jointly concluded that this characterization is erroneous, and the risk posed by the Indian Point units greatly exaggerated by the NRC staff.

Your letter of April 9, 1980 included as Enclosure 5 a NRC memorandum from Mr. Mat Taylor of the Probabilistic Analysis Staff to Mr. Frank Rowsome, Deputy Director Probabilistic Analysis Staff. This NRC memorandum and its attachments detail the analysis and assumptions used by the staff to support your characterization of Indian Point. On page 4 of the attachment to the NRC memorandum is the following statement,

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"Once again it should be pointed out that these curves assume a Surry type PWR design at Indian Point and Zion. To perform the analysis properly, the specific systems interactions for the Indian Point and Zion designs should be factored into the problem. However, for an initial cut, it is not anticipated that the design differences would substantially change the results."

The Consolidated Edison Co. of New York, Inc. and the Power Authority of the State of New York have performed the analysis recommended by the NRC memorandum, with provision for the specific systems interactions of the Indian Point design. We have concluded that the anticipations of the NRC staff are not applicable to our plants, and that an appropriate plant-specific analysis such as we have performed results in a totally different characterization.

Attachment 1 to this letter is a Westinghouse/Offshore Power System (OPS) Report on the Evaluation of Residual Risk for the Indian Point Power Plant. Attachment 2 is a report by Dr. Ian Wall of the Electric Power Research Institute, discussing his inclusion of the plant-specific probabilities from the OPS Report in an analysis similar to the one performed by the NRC staff. The objective of these studies, reported in Attachments 1 and 2, was to establish within a short period of time a reasonable estimate of the residual risk for the Indian Point Nuclear Station Units 2 and 3. In order to present a frame of reference for comparative purposes, these studies are based on the general methodology and data of the Reactor Safety Study, WASH 1400.

These results, presented as risk curves, were initially provided to the NRC staff in an oral presentation on February 20, 1980 and again by docketed letter on February 25, 1980.


The risk curves resulting from the attached studies show that the risk from short term effects at the Indian Point site falls significantly below the WASH 1400 risk curve for a PWR at a composite site (which is the average of 68 actual sites). This is to be expected because of the special design features installed as a result of the original licensing review on these plants, and indeed you recognized this factor in a written decision to the Commission dated February 11, 1980, where you observed that these special design features "would limit the potential radiological consequences of a major accident." We find that the 30 percent risk figure as set forth in Mr. Taylor's memorandum above, is inconsistent with your conclusion. In contrast to an analysis of the actual situation, when a Surry-type PWR is hypothetically placed at the Indian Point site, the resulting calculated risk is greater than the composite curve by up to a factor of 10. This latter comparison was the basis for the NRC staff presentation to the Commissioners suggesting that the core melt risk at the Indian Point site may be unacceptably high and should be reduced.

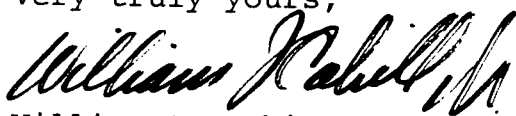
The principal conclusion to be drawn from the attached studies is that the level of risk associated with the Indian Point plants is significantly less than the level of risk which has found implicit acceptance in past NRC licensing actions, the level of risk reported in WASH 1400 for a typical PWR located at an average or "composite" site. This conclusion results from accident probability estimates based largely on the application of WASH 1400 methods and data to the specific design of the Indian Point plants. It should be noted that the use of WASH 1400 for such comparative purposes was both endorsed and encouraged by the WASH 1400 Lewis Review Panel.

A second conclusion of importance is that consideration of both the site specific characteristics (demography, meteorology, etc.) and the plant-specific design are essential before responsible conclusions may be drawn concerning the risk from core melt accidents for a particular reactor at a particular site. It has been apparent at meetings with your staff and their consultants that consideration of plant specific probability and quantitative risk assessment have been excluded from their scope of review. Considering the extent of the Commission's interest in reactor risk data, as well as the effort and the millions of dollars which are being expended on these studies by both the utilities and the NRC, any reliance upon risk assessment studies for predictive or regulatory purposes should be based on a more complete and comprehensive analysis, including in particular a WASH 1400 plant-specific quantitative study. In view of the erroneous conclusion of the staff's "initial cut" evaluation as demonstrated by our own plant-specific evaluation, we believe that a plant-specific evaluation should be performed by the NRC before any determinations are made.

In view of the deliberations by the Commissioners in regard to interim operation of Indian Point and their apparent conclusions as to a need for an adjudicatory hearing, we submit the attached reports for our dockets. We believe the attached reports contain significant information which should be brought to the Commissioner's attention to assist the deliberations currently underway. Copies of this letter and its Attachments have been sent directly to the Commissioners for their information.

Should the Commissioners or you or Staff have any questions, please contact us.


Paul J. Early
Vice President and
Assist. Chief Engineer
(Projects)
Power Authority of the
State of New York

Very truly yours,

William J. Cahill, Jr.
Vice President
Consolidated Edison Co.
of New York, Inc.

Attachment

cc: Peter Crane, Esq., NRC General Counsel's Office
U.S. Nuclear Regulatory Commission
John F. Ahearne, Chairman
Peter A. Bradford, Commissioner
Victor Gilinsky, Commissioner
Joseph M. Hendrie, Commissioner
Richard T. Kennedy, Commissioner
Samuel J. Chilk, Secretary to the Commission
Ellen Weiss, Esq.