Peter Zarakas
Vice President

Consolidated Edison Company of New York, Inc.
4 Irving Place, New York, N.Y. 10003
Telephone (212) 460-5133

May 25, 1979

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

Director of Nuclear Reactor Regulation
ATTN: Mr. A. Schwencer, Chief
Operating Reactors Branch No. 1
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Schwencer:

At a meeting with the Regulatory Staff on May 22, 1979, additional clarifying information was requested concerning our response to IE Bulletin No. 79-07. This information is provided as an Attachment to this letter.

Should you or your staff have any further questions, we would be pleased to discuss them at your convenience.

Very truly yours,

Peter Zarakas
Vice President

attach.

cc: Mr. Boyce H. Grier, Director
Office of Inspection and Enforcement
Region I
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Division of Reactor Operations Inspection
Washington, D. C. 20555

Mr. T. Rebelowski, Resident Inspector
U. S. Nuclear Regulatory Commission
P. O. Box 38
Buchanan, N. Y. 10511

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ATTACHMENT

Supplemental Response to
IE Bulletin No. 79-07

(Responses to Request for Information from
the Regulatory Staff on May 22, 1979)

Consolidated Edison Co. of N. Y., Inc.
Indian Point Unit No. 2
Docket No. 50-247
May, 1979

I. Confirmatory Reanalysis of Line No. 70

As requested by the Staff at the May 22, 1979 meeting, a confirmatory reanalysis has been performed for the pressurizer relief line no. 70 using the UE&C-ADLPIPE-2 dynamic seismic computer code. This code utilizes the worst-case two-dimensional (2-D) evaluation technique and uses the square root of the sum of the squares (SRSS) option for combining both intramodal and intermodal responses. A pipe stress summary for the reanalyzed line 70 is presented in Table 1. This summary includes the stress values for the original dynamic analysis and the new analysis. In addition, as requested by the Staff, the new maximum seismic stress calculated from the 2-D SRSS model for this line has been multiplied by 1.3 and the "adjusted" maximum seismic and total stresses have also been presented in Table 1.

A review of the data contained in Table 1 confirms that the difference between the newly calculated total pipe stresses and the originally calculated total pipe stresses is not significant for line no. 70. Even after applying the 1.3 "adjustment" factor to the calculated seismic stress, the total pipe stress remains substantially below the allowable stress limit.

Furthermore, the loads on the pipe supports and equipment nozzles have been re-evaluated on the basis of the confirmatory reanalysis and found to be acceptable.

II. Confirmatory Reanalysis for Lines 1,2,3,4,63,80, and 96

For the main steam atmospheric relief associated with lines nos. 1,2,3 and 4, confirmatory reanalyses for the piping and associated piping supports and equipment nozzles will be performed prior to completion of the unit's upcoming refueling/maintenance outage.

As documented in Consolidated Edison's May 22, 1979 supplemental response to to IE Bulletin No. 79-07 and in the Power Authority's April 24, 1979 response to the same bulletin, lines nos. 63, 80 and 96 have already been reanalyzed with the UE&C-ADLPIPE-2 code and found to be acceptable, even with the 1.3 "adjustment" factor applied to the seismic component.

These lines were three of the ten lines for which seismic reanalyses were summarized in the Power Authority response. As part of the re-evaluation of these ten (10) lines, the loads on the piping supports and equipment nozzles were also re-evaluated and found to be acceptable. The following is an excerpt from the Power Authority response addressing the supports and nozzle loads:

> There are 76 supports associated with these ten lines. None of the loads on these supports increased above the original design loads. There are also 15 equipment nozzles associated with ten lines. Compared to the original loads applied to these nozzles by the piping, the maximum force resultant increase was found from the reanalysis to be 3.2% and the maximum moment resultant increase was 4.3%.

III. Verification of As-built Configuration

A "walk-through" of all lines addressed (i.e., lines nos. 1,2,3,4,63,70, 80 and 96) to re-verify the as-built configurations will be conducted prior to the completion of the upcoming refueling/maintenance outage. Also, since lines nos. 1,2,3 and 4 are located outside containment in accessible areas, the "walk-through" for these four (4) lines will commence prior to the start of the outage.

IV. Reconfirmation of Conservatism of Static Design Approach

During the preliminary stage of the Indian Point Unit No. 2 piping systems design, a "third party" review was conducted by Westinghouse to establish the adequacy and conservatism of the original design criteria for seismic class I piping systems - see FSAR Supplement 8, Question 1.9. Certain representative "worst case" hypothetical lines were analyzed dynamically using the computer code "WESTDYN" which utilized algebraic summation for intramodal response at that time. In order to make a direct comparison of the results of algebraic vs. absolute intramodal summation techniques, reanalyses have recently been performed by Westinghouse for both methods and for the X+Y and Z+Y seismic shocks, where Y is vertical. The increase in the controlling seismic stress has been from negligible (i.e., no change) to a maximum of 24%.

Based on the above, Westinghouse has stated that it is apparent that the conclusions of the original work are still valid.

Table 1

Indian Point Unit No. 2

Pressurizer Relief Line No. 70

Pipe Stress (psi) Results Summary
for Upset Condition (OBE)

	Analysis	Seismic Stress	Total Stress[1]	Allowable Stress
1.	Original (UE&C-ADLPIPE-1)	4,290	14,369	19,200
2.	New (UE&C-ADLPIPE-2)	4,456	14,535	19,200
3.	New "Adjusted" (1.3 Seismic Adjustment Factor)	5,793	15,872	19,200

Note:

(1) The total combined loading stresses shown are conservatively determined by adding the maximum stress values calculated for each of the loading conditions.