

John D. O'Toole
Vice President

Consolidated Edison Company of New York, Inc.
4 Irving Place, New York, NY 10003
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January 25, 1982

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

Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

ATTN: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing



Dear Mr. Varga:

This letter is in response to your letter of November 20, 1981 regarding the status of the staff's long term review of containment venting and purging at Indian Point Unit No. 2. Your letter identified five review components for which additional information and/or Technical Specification changes/additions were requested. Our response to each is contained in Attachment A to this letter.

You also requested our assistance in completing outstanding purge and vent items such that the staff could complete its review of item II.E.4.2 of NUREG-0737, TMI Action Plan. The information contained in Attachment A to this letter satisfies that request. To further aid your review, the following summarizes the status of each of the Staff Positions of item II.E.4.2 with respect to Indian Point Unit No. 2.

o Staff Positions (1) through (4)

Con Edison documented its compliance with Staff Positions (1) through (4) in its December 31, 1979 and February 15, 1980 submittals which provided the details and methods of implementation for Category "A" TMI-2 Lessons Learned Task Force Recommendations. The NRC Staff's evaluation of the actions taken to satisfy the TMI Lessons Learned Category "A" items for Indian Point Unit No. 2 is contained in NRC's February 21, 1980 letter (Schwencer) to Con Edison (Cahill). That evaluation confirms compliance with these Staff Positions.

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o Staff Position (5)

NRC's SER concerning Staff Position (5) "Minimum Containment Pressure Setpoint For Initiation of Containment Isolation" contained in Enclosure 5 to your November 20, 1981 letter confirms compliance with this Staff Position.

o Staff Position (6)

Staff Position (6) requires that valves which do not satisfy the operability criteria or October 1979 Interim Position be sealed closed above 200F coolant temperature. The Staff via letter dated August 29, 1980 has provided confirmation that Indian Point Unit No. 2 is in compliance with the Staff Interim Position, and, as such, no additional Technical Specifications or changes thereto are required with respect to this Staff Position at this time. In addition, by letter dated July 22, 1981, Con Edison provided information that will enable NRC to assess the operability of the containment purge and pressure relief isolation valves at Indian Point Unit No. 2.

o Staff Position (7)

The SER contained in Enclosure 4 to your November 20, 1981 letter concerning "Override of Containment Purge Isolation and Other Engineered Safety Features Actuation Signals" and our July 22, 1981 letter contain information sufficient to enable the Staff to conclude that this Staff Position has been complied with.

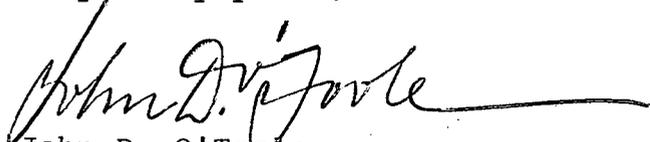
Enclosure 6 to your November 20, 1981 letter contained recently developed sample Technical Specifications necessary to complete the purge and vent part of NUREG-0737 Item II.E.4.2. Although these sample Technical Specifications are not final, you requested we review our existing Technical Specifications against the sample and provide a Technical Specification change request for any areas in which our existing Technical Specifications needed expansion. We have reviewed the sample Technical Specifications and conclude that the existing Indian Point Unit No. 2 Technical Specifications adequately address the LCO's and surveillance requirements contained in the sample. Accordingly, no additional Technical Specifications or changes thereto are proposed at this time.

Finally, your Containment Systems Safety Evaluation Report (Enclosure 3 to your November 20, 1981 letter) referenced our July 9, 1979 letter which contained a commitment to limit purging

operations via the 36-inch lines to 90 hours per year during power operation. That commitment was superseded in a letter dated March 11, 1980 which responded to the Director's Decision and Confirmatory Order for Indian Point Unit No. 2, item B.4, requiring compliance with NRC's "Interim Position For Containment Purge and Vent Valve Operation Pending Resolution of Isolation Valve Operability", as contained in NRC's October 23, 1979 letter to Con Edison. Conformance with that "Interim Position" required that "emphasis be placed on operating the containment in a passive mode and on limiting all purging and venting times to as low as achievable" if valve operability could be demonstrated on an interim basis. Having satisfied the criteria for demonstrating butterfly valve operability on an interim basis via the installation of valve disc travel stops and being under Conformatory Order, Con Edison committed (in our March 11, 1980 letter) to the "Interim Position" in lieu of the commitment contained in our July 9, 1979 letter. As previously noted, confirmation that Indian Point Unit No. 2 is in compliance with the "Interim Position" was provided by the Staff via letter dated August 29, 1980.

Should you or your staff have any additional questions please contact us.

Very truly yours,



John D. O'Toole
Vice President

attach.

Attachment A

Response to Five Review Components
Concerning Containment Venting
and Purging Contained in NRC's November 21, 1981
Letter

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
Docket No. 50-247
January, 1982

1. Conformance to Standard Review Plan Section 6.2.4
Revision 1 and Branch Technical Position CSB 6-4
Revision 1

In your Containment Systems Safety Evaluation Report (SER) for this item, contained in Enclosure 3 to your November 20, 1981 letter, you state the following:

- a. "We have reviewed the Indian Point Station, Unit 2, purge and pressure relief systems against the guidelines of BTP CSB 6-4, Revision 1, "Containment Purging During Normal Plant Operations." Although the licensee has provided information to justify unlimited use of the 10-inch pressure relief line during power operations, our view is that system use should be limited. The plant is inherently safer with closed purge/vent isolation valves than with open lines which require valve action to provide containment integrity. We, therefore, request the licensee commit to limiting the use of the 10-inch pressure relief line commensurate with identified plant safety needs. We desire a statement of the identified safety needs and the estimated time the relief line will be open."

Response: We propose to limit the use of the 10-inch pressure relief line commensurate with identified plant safety needs. Specifically we propose to administratively limit use of the 10-inch pressure relief line during power operations to a duration sufficient to permit the maintenance of containment pressure below the high containment pressure safety injection signal setpoint.

This is estimated to require the use of this line for a period of at least two to three hours per day at design flow rate (i.e., 1500 cfm) based on past operating experience.

- b. "The licensee has not provided sufficient information concerning the provisions made to insure that isolation valve closure will not be prevented by debris which could potentially become entrained in the escaping air and steam. We recommend that debris screens be provided for the 36-inch purge supply and exhaust lines as well as the 10-inch pressure relief line. The debris screens should be Seismic Category I design, and should be installed at least one-pipe-diameter away from the inner side of each inboard isolation valve. The piping between the debris screen and the isolation valve should also meet Seismic Category design criteria."

Response: The design of the debris screens for the 36-inch purge exhaust and 10-inch pressure relief lines inside containment will consist of $\frac{1}{2}$ " stainless steel wire mesh 16 gage (0.063" dia) wire attached to the ends of short lengths of ducting which extend approximately 10-inches from the inner side of the inboard valve for the 10-inch pressure relief line and 16 inches from the innerside of the inboard valve for the 36-inch purge exhaust line. The screen material weight is less than 0.512 psf. The material and installation are adequate for the very low seismic stresses that would be encountered. The piping (ducting) between the debris screens and the isolation valves meets Seismic Category I design criteria. With regard to the 36-inch purge supply line inside containment, all openings are designed with registers/diffusers that effectively preclude the entrance of debris under LOCA conditions. The design of this line satisfies Seismic Category I design criteria.

In addition, as discussed in our July 22, 1981 letter these lines are located behind the missile barrier, an area in which no significant debris is expected to be generated during an accident.

- c. "We recommend that the licensee propose an addition to their Technical Specifications limiting the use of the 36-inch valves of the Containment Purge system to 90 hours per year during operating modes 1 through 4."

Response: This recommendation is consistent with item 2.c)i.i. of the "statement of salient features of the position as interpreted by the staff" contained in Enclosure 2 to your November 20, 1981 letter and is intended for those plants for which the estimated amount of radioactivity released during the time required to close the valve(s) following a LOCA causes the total dose to exceed 10 CFR Part 100 Guidelines.

In our July 22, 1981 letter concerning this issue, we provided information demonstrating that during the time required to close these valve(s) following a LOCA, the estimated amount of radioactivity released does not exceed the 10 CFR Part 100 Guidelines. Specifically, the calculated post-LOCA two hour whole body and thyroid doses at the site boundary (assuming 5% worst case meteorology) are less than 30% and 65% respectively, of the 10 CFR Part 100 Guideline values. Consequently, we believe that a commitment consistent with item 2.c)i of Enclosure 2 to your November 20, 1981 letter is appropriate. Specifically we propose to administratively limit use of the 36-inch valves of the Containment Purge System when above cold shutdown

to as low as achievable. To justify purging, it must be necessary to support plant operation or to improve working conditions related to the performance of plant operations, surveillance testing or maintenance activities. This is consistent with the "Interim Position For Containment Purge and Vent Valve Operation Pending Resolution of Isolation Valve Operability", contained in NRC's October 23, 1979 letter to Con Edison, which is currently in effect at Indian Point Unit No. 2. In addition an administrative goal of 90 hours/year shall be established on the amount of purging during power operations. These measures satisfy the guidance contained in items 2.a) and 2.c)i. of Enclosure 2 to your November 20, 1981 letter.

- d. "In addition, as a result of numerous reports on the unsatisfactory performance of resilient seats in butterfly type isolation valves due to seal deterioration, periodic leakage integrity tests of the 10-inch and 36-inch butterfly isolation valves in the purge system are necessary. Therefore, the licensee should also propose a Technical Specification for testing the valves in accordance with the following testing frequency:

"The leakage integrity tests of the isolation valves in containment purge/vent lines shall be conducted at least once every three months."

The purpose of the leakage integrity tests of the isolation valves in the containment purge lines is to identify excessive degradation of the resilient seats for these valves. Therefore, they need not be conducted with the precision required for the Type C isolation valve test in 10 CFR Part 50, Appendix J. These tests would be performed in addition to the quantitative Type C tests required by Appendix J, and would not relieve the licensee of the responsibility to conform to the requirements of Appendix J."

Response: In our letter of July 22, 1981 concerning this issue, we discussed the Weld Channel and Penetration Pressurization System (WCPPS) (Pgs E 1-15 and E 2-19) and its function as an on-line continuous monitoring system for detection of purge/pressure relief isolation valve leakage. We noted that this system is required to maintain air pressure in excess of containment design pressure between the closed valve interspaces and that existing Technical Specifications limit WCPPS air consumption such that system flow in excess of specified operating parameters which could be indicative of degrading seal capability results in a limiting condition for operation (LCO) requiring plant shutdown.

This system together with its associated Technical Specification LCO's and surveillance requirements already in place, provides a higher level of assurance

that valve leakage will be detected than would result from adoption of leakage integrity tests conducted at three month intervals. In fact, the WCPPS is an on-line monitoring system that serves, as one of it's functions to continuously monitor leakage integrity of the purge and pressure relief isolation valves.

This system permits prompt identification of leakage degradation across a penetration. Subsequent diagnostic procedures permit determination of the particular valve in that particular penetration responsible for the degradation.

We have reviewed the guidance concerning Purge/Vent Valve Leakage Tests contained in Enclosure 1 to your November 20, 1981 letter and conclude that the WCPPS, its associated Technical Specification LCO's and surveillance requirements already in place, satisfy the guidance contained therein. Accordingly, no further commitments are deemed necessary or appropriate with respect to this item.

2. Valve Operability

NRC has required no further data at this time.

3. Safety Actuation Signal Override

By letter dated March 23, 1981, we provided additional information concerning the safety grade status of the radiation monitoring equipment provided to isolate containment ventilation. This information does not appear to have been addressed in the SER contained in Enclosure 4 to your November 20, 1981 letter or in the supporting Technical Evaluation. Nevertheless, we will address this issue at such time that Regulatory Guide 1.141 is revised and issued as a requirement for operating reactors.

4. Containment Leakage Due to Seal Deterioration

See response to item 1d above for our response to this issue.

5. Containment Pressure Setpoint for Containment Isolation

The findings of your SER contained in Enclosure 5 to your November 20, 1981 letter, confirm compliance with the Staff Position for this item.