Regulatory File Cy.

William J. Cahill, Jr.
Vice President

Consolidated Edison Company of New York, Inc.
4 Irving Place, New York, N Y 10003
Telephone (212) 460-3819

December 18, 1972

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

Mr. Richard C. DeYoung
Assistant Director for Pressurized
Water Reactors
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. DeYoung

In response to the Directorate of Licensing letter of September 26, 1972, Consolidated Edison has conducted a review of Indian Point Unit No. 2 to determine whether failure of any non-Category I (seismic) equipment could result in a condition that might potentially adversely affect the performance of safety-related equipment required for safe shutdown of the facility or to limit the consequences of an accident.

Indian Point Unit No. 2 was designed with three seismic classifications, Class I, Class II, and Class III defined in Appendix A of the FSAR for Indian Point Unit No. 2. The investigation, therefore, was concerned with the potential adverse effects on safety-related equipment caused by a failure of any non-seismically designed (i.e., Class III) equipment.

The review consisted of determining the Class III lines in the Diesel Generator Building, Vapor Containment, Fuel Storage Building, Intake Structure, Control Building, Turbine Hall, Primary Auxiliary Building (PAB) and the Auxiliary Boiler Feed Pump Room. This was accomplished by identifying the Class III systems and portions of systems and tracing them through drawings for location and arrangement in the plant. Where necessary, a physical inspection of these lines was made.

It was determined from the review that failure of Class III equipment will not potentially adversely affect the performance of safety-related equipment in the following buildings: Diesel Generator Building, Vapor Containment, Fuel Storage Building, Intake Structure, and the Control Building.

The fire protection system at Indian Point Unit No. 2, although classified as a Class I system, was investigated for the affect of inadvertent actuation in the Diesel Generator Building. Floor drains in this building are sized to accept actuation of the fire

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protection system. In addition, actuation of the fire protection system is preceded and annunciated by many alarms, including an audible alarm "Deluge System Activated" and a steady white light "Diesel Building Fire Protection System Operation" both of which are monitored in the Central Control Room (CCR), so that appropriate action could be taken.

Essentially all equipment in containment is Class I. Flooding in containment would be indicated within a few minutes by various methods, including humidity detectors and sump level sensors. A description of the leak detection systems is provided on Page 3.1-17 of the Technical Specifications, Appendix A to Proposed Facility Operating License DPR-26.

A portion of the spent fuel cooling loop in the Fuel Storage Building is classified as Class III. The most serious flooding would result from complete loss of water in the storage pool. To protect against this possibility, the spent fuel storage pool cooling connections enter near the water level at the top of the pool so that it is physically impossible to drain the pool with this system.

The Service Water Pump area is not enclosed in a building and the piping is underground. Flooding water from Class III equipment would flow down to the river without damage to the service water equipment.

The Control Building is protected from flooding from the electrical tunnel by a curb and a drain. Inadvertent actuation of the fire protection system contained in the Control Building will not potentially adversely affect the performance of safety-related equipment in the Control Building. Annunciation of the CCR alarm "Cable Tray Fire" in any of several zones where fire protection is located would immediately notify the operator of such actuation.

No safety-related equipment is located in the Turbine Hall. However, flooding from the Turbine Hall of either Unit No. 1 or Unit No. 2 could affect the performance of the 480 volt switchgear in the Control Building at Elevation 15'. Performance of this equipment would not be adversely affected until water reached the elevation of 15'6". Approximately 180,000 cubic feet of water would be required to flood to this elevation. The corrective measures undertaken at Unit No. 1 and set forth in our letter dated October 31, 1972, will assure that the 480 volt switchgear for Unit No. 2 will not be adversely affected from flooding. The level alarm switches planned for the condenser pit area of the Unit No. 1 Turbine Hall will sense high water from either unit and give an indication in the CCR. These switches will be installed during the Unit No. 1 outage scheduled to begin this month. These switches will allow the operators of either unit

sufficient time to prevent flooding to the 15'-6" elevation. Flooding from the circulating water system of either unit would take approximately ten minutes to reach the 15'6" elevation. With the level alarm switches planned for the Unit No. 1 condenser pit, flooding originating from Unit No. 2 would be indicated to the operator in approximately three minutes. Considering the above, potential flooding from the circulating water system will not adversely affect the performance of safety-related equipment.

The Primary Auxiliary Building is so designed that flooding from any elevation will result in the water settling at the lowest level (Elevation 15'), as each room has 4" floor drains and various floor penetrations, large and small, which permit drainage to this elevation. In addition, the stairways provide substantial flow area.

Performance of the two (2) Residual Heat Removal Pumps located at the 15' elevation of the PAB would be affected by flooding only if the water reached an elevation of 19'. Approximately 31,500 gallons of water would be required to cause flooding to this elevation. The combined volume of non-Class I tanks in the PAB is about 2,800 gallons, which would cause negligible flooding if the tanks failed. There are several Class III lines in the PAB that have sufficient capacity to cause flooding of the Residual Heat Removal Pumps. However, the Class III line in the PAB with the largest nominal flow rate would take approximately 2½ hours to flood to the Elevation 19'. To preclude flooding to Elevation 19', modifications will be made to the door to the transformer yard so that sufficient flow area is available for drainage of the water under the worst postulated conditions of failure of Class III lines in the PAB.

Evaluation of the Auxiliary Boiler Feed Pump Area, located between containment and the shield wall, reveals that safety-related equipment would not be affected by failure of the Class III portion of the main steam system. Failure of the main feedwater lines, located above and outside of the Auxiliary Boiler Feed Pump Room, would result in water accumulating at the 18'6" elevation. To assure that there is sufficient flow area to preclude flooding to Elevation 19'8" in the Auxiliary Boiler Feed Pump Room, modifications will be made to the doors to assure adequate drainage under the worst postulated conditions of main feedwater line failure.

The modifications of the door in the PAB and the doors in the Auxiliary Boiler Feed Pump area will be made prior to the Unit No. 2 initial criticality.

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Also included in the review was the potential effect of chemical releases on safety-related equipment. It was determined that chemical releases caused by failure of Class III equipment would have no potential adverse effect on safety-related equipment.

Our Nuclear Facilities Safety Committee has reviewed the proposed plant modifications and concluded that they do not involve an unreviewed safety question and that changes to the Technical Specifications are not required.

Very truly yours

William J. Cahill, Jr.
Vice President

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