Con Edison
Consolidated Edison Company of New York, Inc.
4 Irving Place, New York, N Y 10003

March 26, 1974

Re: Indian Point Unit No. 2
Facility Operating License
DPR-26
AEC Docket No. 50-247
A.O.-4-2-10 and
A.O.-4-2-11

Mr. John F. O'Leary, Director
Directorate of Licensing
Office of Regulations
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. O'Leary:

The following report is provided pursuant to the requirements of Section 6.12.2(a) of the Technical Specifications to Facility Operating License DPR-26.

In the course of performing Periodic Surveillance Test PT-R13, "Safety Injection System Test", the discrepancies identified below occurred following actuation of the safeguards logic.

1. The sodium hydroxide tank discharge valves (876A and 876B) did not open.

2. Diesel Generator No. 22 came up to speed then tripped on loss of field.

3. Service water pump No. 21 did not start.

Test performance is accomplished in two steps, first the "A" Logic is actuated, is reset and then the "B" Logic is actuated. All of the above discrepancies resulted following the first "A" logic actuation. Since deficiencies occurred, an investigation for cause was conducted which did not identify any major problem. All controls were reset and the "A" logic was actuated again. This time only the valve discrepancy reoccurred. The "B" logic was then actuated and again only the valve failed to operate.

The sodium hydroxide tank discharge valves (876A and 876B) are redundant valves which are operated by the separate logic systems. Following the failure of the valves to operate from the logic, the valves were operated successfully from the control room using individual valve control switches. The electrical circuits were then checked for the cause of failure. This inspection revealed that the valve relays were incorrectly crosswired across the two D.C. buses. In other words, the "A" valve relay was wired from the "+" of one D.C. bus to the "-" of the other bus. The crosswiring occurred in the safeguards supervisory panel in the central control room. This test was performed once before prior to core loading at which time the valves operated correctly. Maintenance had previously not been performed on these two valves or their electrical circuits. Since the two valves were known to have operated correctly in the past, an investigation was initiated to determine why they had. The conclusion reached was that grounds existed on the subject circuits at the time, and they were located in such a manner as to cause the relays to operate properly despite the cross-wiring which existed. At the time this particular test was performed, no such grounds were present.

The remaining two discrepancies of Diesel Generator No. 22 coming up to speed and then tripping and service water pump No. 21 failing to start in themselves did not constitute an abnormal occurrence. Since outside power was available, the diesels were not tied into the buses after coming up to speed. Safeguards equipment was consequently fed by the outside power supply and in the case of the service water system, resulted in two essential header pumps operating (21 and 23). If outside power had been lost concurrently, service water pump No. 23 would not have operated due to Diesel Generator No. 22 tripping. In this case, one of the three service water pumps on the essential header would have been in service following actuation of the safeguards logic.

As stated above, the failure of the diesel and the service water pump to operate correctly did not repeat itself in the subsequent logic actuations. The electrical circuits of both were checked and found to be installed and operating correctly.

Corrective action taken consisted of wiring the relays for valves 876A and 876B correctly. The valves were then tested and operated correctly. To assure similar conditions did not exist elsewhere, all relays and contacts associated with the high high containment pressure safeguards circuits were checked. These checks revealed no additional crosswiring errors. The checks were limited to the containment pressure circuits since these circuits have not experienced actuation since core loading. The remaining circuits have operated correctly in the past following several spurious safeguards initiations.

At the time of the occurrence, the reactor was in the cold shutdown condition. The failure of the sodium hydroxide tank discharge valves to open would have resulted in the sodium hydroxide not being injected into the containment spray water when the containment spray pumps initially started. The failure of the valves would have had no affect on the starting of the containment spray pumps. They would have started and supplied cooling water to the containment atmosphere from the refueling water storage tank. In addition, although the valves did not operate as a result of the safeguards initiation signal, they were still operable as stated above and could be opened by the operator using individual valve control switches. Our emergency procedures require that the operator verify that automatic actions have occurred following an incident. The small time delay until manual operation was performed would not have affected the unit's safety or performance following a postulated accident. The fan cooler units would also have maintained pressure below the containment building design limit and the activated charcoal filter system would have removed the iodine from the containment atmosphere.

In the case of the additionally postulated loss of outside power concurrent with the failure of the diesel and the service water pump, the concurrent loss of outside power is not considered to be a very likely circumstance. However, had it occurred, there again would only have been a short time delay before the service water pump and the diesel were placed in service since both of these components had started successfully several times immediately following the initial failure. With the starting of the service water pump, the full

service water flow would have been available. All minimum safeguards equipment would thus have been running even without the redundant third diesel, which still would have been started. For these reasons, we feel no significant hazard to the health and safety of the public is indicated by these occurrences.

Very truly yours,

Walter Stein

Walter Stein
Manager - Nuclear Power
Generation Department

Copy to: Mr. James P. O'Reilly

Con Edison Company of N.Y., Inc.
Ave. Fields, Inc. Ft. Ft. 10003
V. Antler Street

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J.E. Mooney | Signed

XXX | | 30-247

We, recording an abnormal occurrence at the
Indian Point #2.....concerning sodium
hydroxide tank discharge valves failure to open
and Valves Generator No. 2 case up to ground
have stopped on Loss of Field, a Reactive Power
Meas. Fl. will not start.....

Indian Pt. #2.

4-2-74 JH

Sincerely, N.Y.

V. Antler Sent to Jim
4-2-74