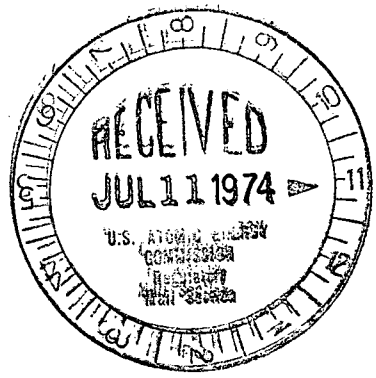
Regulatory File Cy.




Con Edison

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

July 3, 1974

Re: Indian Point Unit No. 2
AEC Docket No. 50-247
A.O. 4-2-21

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

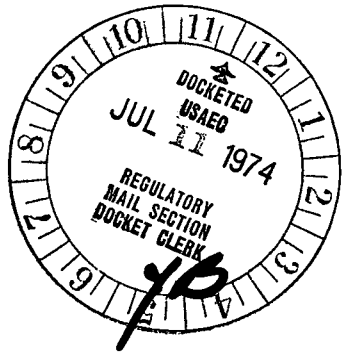
Dear Mr. O'Leary:

In accordance with the requirements of the Technical Specifications to Facility Operating License DPR-26, the attached report of an Abnormal Occurrence is submitted.

Walter Stein

Walter Stein, Manager
Nuclear Power Generation

Copy to: Mr. James P. O'Reilly
Regulatory Operations




6285

1. Report Number: 50-247/4-2-21

2a. Report Date: July 3, 1974

2b. Occurrence Date: June 24, 1974

3. Facility: Indian Point Unit No. 2

4. Identification of Occurrence:

This occurrence is the type defined by Technical Specification 1.8.d and relates to a malfunction of valves 1821, 1831, 1822A and 1822B on the outlet of the boron injection tank.

5. Conditions Prior to Occurrence:

Prior to the occurrence, Unit No. 2 was operating at approximately 96% of rated power.

6. Description of Occurrence:

On June 24, 1974, at approximately 5:30 P.M., Unit No. 2 was automatically shutdown by a high steam line delta-p safety injection signal. With the exception of the boron injection tank outlet valves, all safeguard system components functioned as designated. Upon actuation of the safety injection signal, the two normally closed parallel outlet valves (1822A and 1822B) started to open and then went closed. In addition, the two normally open series valves (1821 and 1831) went closed when the parallel valves closed.

7. Description of Apparent Cause of Occurrence:

The cause of this occurrence has been determined to be due to a wiring error.

There are two series and two parallel valves on the outlet of the boron injection tank (parallel valves located between the series valves). Normal lineup is with the series valves open and the parallel valves closed. If safety injection is initiated, the parallel valves are automatically opened. In this instance, the parallel valves started to open and then closed along with the two series valves. Closure of all four valves should only occur following the discharge of the tank when low level is indicated by at least two out of three of the level channels. At the time of this occurrence, one of the level channel transmitters was being supplied by its back-up electrical supply from a lighting bus. Subsequent to the occurrence, investigation revealed that a low level bistable in one of the other level channels was also being supplied by a lighting bus. Upon safety injection actuation, the lighting buses are stripped from the 480V buses.

Since two out of the three level channels, under existing conditions, were at least partially dependent on a lighting bus for power, the temporary loss of the lighting bus from the stripping action resulted in an indication of low level and consequent closure of the four valves.

8. Analysis of Occurrence:

Upon actuation of a safety injection signal, the normally closed outlet valves of the boron injection tank are required to open. As a result of existing conditions, the valves started to open but then closed. When the lighting bus was reestablished, as a part of normal procedure immediately following safety injection, all of the boron injection tank outlet valves opened automatically. With the valves opening, the objective of the boron injection tank would have been met.

In addition, at this time in core life, the high concentration of boric acid solution in the boron injection tank is not needed for safe shutdown of the reactor following a design basis accident. The Boron Injection Tank is specifically designed to provide excess shutdown margin in the event of a break in a steam line. Should such a postulated accident take place, the negative reactivity of the 20,000 ppm boron solution will prevent criticality as the result of reactor coolant cooldown. At the time of the incident, however, reactor coolant system boron concentration was approximately 920 ppm. This concentration was sufficient by itself to preclude the reactor from becoming critical following a steam break accident.

Since conditions which would actually necessitate safety injection did not exist and the outlet valves opened following the performance of normal procedures, and since the contents of the tank were not required for safe shutdown of the reactor even under accident conditions at the time of the SI signal, our review of this occurrence indicates that the safety implications are of minor significance.

9. Corrective Action:

Following identification of the inconsistent bistable wiring arrangement (power supplied from a lighting bus) the wiring was revised. The power supply for the bistable was rewired so that it came from the same instrument bus supplying the level channel transmitter. This revision removed the inconsistency and prevents a recurrence on the loss of the lighting bus. Following the wiring change, the circuit tested satisfactory.

The immediate corrective action and the subsequent testing performed provides assurance that the system will function as designed. However, special tests will be conducted during the next scheduled outage to verify that power supplies to the protection and control system analog racks are as designed.

10. Notification:

An initial report of this occurrence was provided the Region 1 Regulatory Operations Office on June 25, 1974, followed by letter dated June 25, 1974.