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

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U.S. ATOMIC ENERGY

September 3, 1974

Re: Indian Point Unit No. 2
AEC Docket No. 50-247
A.O. 4-2-27

Mr. Edson G. Case, Acting Director
Directorate of Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Case:

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

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1. REPORT NUMBER: 50-247/4-2-27

2a. REPORT DATE: September 3, 1974

2b. OCCURRENCE DATE: August 22, 1974

3. FACILITY: Indian Point Unit No. 2

4. IDENTIFICATION OF OCCURRENCE:

This occurrence was the type defined by Technical Specification 1.8.d and relates to a malfunction of Nos. 22 and 23 diesel generators.

5. CONDITIONS PRIOR TO OCCURRENCE:

Prior to the occurrence, Unit NO. 2 was operating at approximately 95% of rated power.

6. DESCRIPTION OF OCCURRENCE:

On August 22, 1974, during the conduct of periodic surveillance test PT-M21, "Diesel Generation Functional Test", it was found that the generator output breakers for No. 22 diesel generator would not close.

Investigation into the cause of the occurrence led to the determination that the voltage buildup relay failed to operate.

Immediate action following the occurrence consisted of verifying the operability of No. 21 and No. 23 diesel generators which included starting them and assuring that their voltage buildup relays functioned. Both diesels operated successfully.

During investigation into the failure of the relay, the periodic surveillance test was continued on diesel generator No. 23. The diesel was started and synchronized to its associated 480V bus. While paralleled to the bus, it was found that the diesel would not pick up additional load. The diesel was subsequently removed from service.

Since two out of three diesels were then inoperable, a shutdown of the unit was initiated. To return a second diesel to operable status, the voltage buildup relay for No. 23 diesel was removed and installed in No. 22 diesel generator. No. 22 diesel generator was then tested successfully. With two diesels then operable, the unit shutdown was terminated and normal power operation resumed.

7. DESCRIPTION OF APPARENT CAUSE OF FAILURE:

The cause of the failure of the voltage buildup relay on No. 22 diesel generator was a burned out current-conducting spring. All of the circuitry associated with the relay was checked and no cause for the spring failure could be identified.

Investigation into the cause of the failure of diesel generator No. 23 to pick up additional load revealed that the governor oil pressure was not responding to speed changer signals. It was found that the speed and droop settings on the governor block were incorrectly set. These existing settings prevented the governor oil pressure from responding to the speed signals. Further investigation revealed that adjustments were made to the settings earlier the same day to settle out apparent hunting of the governor noted during a previous attempt to conduct the monthly load test. It was subsequently learned, however, that the hunting was due to the cycling on and off of the pressurizer heaters and not due to a problem with the governor.

8. ANALYSIS OF OCCURRENCE:

The diesel generators are installed to supply power during safeguards actuation concurrent with a blackout. Under such conditions two out of three diesels are necessary to meet the minimum design requirements for protection. At the time of the occurrence, outside power was available and safeguards actuation had not been required or initiated.

The period of time in which the two diesels were inoperable was approximately one half hour. As soon as the second diesel became inoperable a shutdown of the unit was initiated in accordance with the Technical Specifications.

Since the period of inoperability of the two diesels was only one half hour and in light of the other existing plant conditions noted above, the safety implications of this occurrence are considered slight.

9. CORRECTIVE ACTIONS:

The spring in the failed voltage buildup relay was replaced and the relay tested successfully. In addition, the springs on the other two diesel generators were checked and found to be in good condition.

The speed and droop settings on the governor block for No. 23 diesel generator were reset to their original values. To prevent recurrence, our procedures have been revised to identify the possibility of pressurizer heater cycling causing an adverse affect on the diesel.

10. FAILURE DATA:

This was the first failure of a voltage buildup relay.

Voltage Buildup Relay

Westinghouse Style 1875524A
Type CV-7 Voltage relay

This was also the first failure of a diesel generator to pick up load.

Diesel Generator

White Industrial Power Inc.
Alco Engines Division
16 Cylinder, Vee Configuration, 4 cycle,
turbo-charged engine, rated at 2450 HP
and 900 RPM.

Previous failures of a diesel generator were reported in Abnormal Occurence Reports Nos. 4-2-11, 4-2-13 and 4-2-23 dated March 26, April 7, and August 16, 1974, respectively.

11. NOTIFICATION:

An initial report of this occurrence was provided the Region 1 Regulatory Operations Office by telephone on August 22, 1974 followed by facsimile letter on August 23, 1974.

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