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May 3, 1974

Mr. James P. O'Reilly, Director
Directorate of Regulatory Operations
Region I
U. S. Atomic Energy Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Subject: Abnormal Occurrence 74-7: Failure of Underfrequency Relay during surveillance test
R. E. Ginna Nuclear Power Plant, Unit No. 1
Docket No. 50-244

Dear Mr. O'Reilly:

In accordance with Technical Specifications, Article 6.6.2a, the attached report of Abnormal Occurrence 74-7 is hereby submitted.

Very truly yours,

Keith W. Amish

Keith W. Amish

Attachment

xc: Mr. John F. O'Leary

COPY SENT REGION 1

4041

1. Report Number: 50-244/74-7

2a. Report Date: May 3, 1974

2b. Occurrence Date: April 26, 1974

3. Facility: R. E. Ginna Nuclear Power Plant, Unit No. 1

4. Identification of Occurrence:

This abnormal occurrence is defined by Technical Specifications Article 1.9 d: Failure of one or more components of an engineered safety feature or plant protection system that causes or threatens to cause the feature or system to be incapable of performing its intended function.

5. Conditions Prior to Occurrence:

The Plant was operating at a steady-state power level of approximately 610 MW thermal shortly after a power increase from 304 MW thermal.

6. Description of Occurrence:

At 1123 hours on April 26, 1974, during performance of the monthly surveillance test "Undervoltage and Underfrequency Protection 11A and 11B 4160 Volt Buses", an underfrequency relay (811/11A) was found to be inoperable. This device is a primary element in the logic scheme for tripping the Reactor Coolant pumps (1/2 + 1/2 logic from each 4 Kv Bus) and also for the Reactor trip logic if permissive P7 is present.

The procedure had been performed satisfactorily to the point where it was necessary to close the main contact for the 811/11A relay. The auxiliary and logic relays associated with the signal from the 811/11A relay did not operate. The redundant underfrequency relay for this bus (812/11A) was immediately tested and found to be operable (1/2 logic). The test was terminated at this point and the Rochester Gas and Electric Relay Department was contacted to inspect the suspect relay.

A Plant Operations Review Committee meeting was convened at 1330 hours to approve an Emergency Maintenance Procedure (EM-117) to allow removing the suspect relay and replacing it with a spare.

Underfrequency relay 811/11A was removed at 1345 hours and it was found that an electrolytic capacitor in the timing circuit had opened. A tested spare was used to replace relay 811/11A so that it could be returned to the Relay Department for further testing. The replacement relay was checked for operability. Periodic Test PT-9 was completed without further problems at 1420 hours.

7. Designation of Apparent Cause of Occurrence:

The apparent cause of the 811/11A relay failure was an electrolytic capacitor which had opened. This capacitor is located on a printed circuit board within the relay case and is part of a timing circuit which

must operate to complete the relay's trip circuit.

8. Analysis of Occurrence:

There were no safety implications as a result of this occurrence since the redundant underfrequency relay (812/11A) for this bus was found to be operable. Both relays on the 11B Bus (811/11B and 812/11B) were also operable.

9. Corrective Action:

a. The faulty relay (811/11A) was returned to service on April 29, 1974 after the printed circuit board, which had included the open capacitor, had been replaced and the relay bench tested. This printed circuit board has been modified by the manufacturer (Westinghouse) since these underfrequency relays were initially placed in service to prevent overloading of this circuit.

b. Additional modified printed circuit boards have been ordered to replace those which are still in service (812/11A, 812/11B and the spare). Relay 811/11B had been modified after a similar occurrence on January 31, 1972 and has operated in service since that time without failure.

10. Failure Data:

a. As noted in 9.b there has been one other failure with this type of relay which occurred on January 31, 1972. This was reported as Abnormal Occurrence 72-2.

b. Equipment identification: Westinghouse, Type KF Underfrequency Relay, Style 671B287A10.