



ROCHESTER GAS AND ELECTRIC CORPORATION • 89 EAST AVENUE, ROCHESTER, N.Y. 14649

LEON D. WHITE, JR.
VICE PRESIDENT

TELEPHONE
AREA CODE 716 546-2700

February 26, 1975

Mr. James P. O'Reilly, Director
U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region I
631 Park Avenue
King of Prussia, Pennsylvania 19406

Subject: Abnormal Occurrence 75-5, Failure of 1C Safety Injection
Pump to start manually from Bus 16
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 75-5 is hereby submitted. Two additional copies of this letter and the attachment are enclosed.

Very truly yours,

L. D. White, Jr.
L. D. White, Jr.

Attachment

cc: Mr. Donald F. Knuth (40)

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50-244
Inquiry

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COPY SENT REGION I

1. Report Number: 50-244/75-5
- 2a. Report Date: February 26, 1975
- 2b. Occurrence Date: February 18, 1975
3. Facility: R. E. Ginna Nuclear Power Plant, Unit No. 1
4. Identification of Occurrence:

This abnormal occurrence is defined by Technical Specifications Article 1.9d: 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 unit was operating at a steady state level of 100 percent power.

6. Description of Occurrence:

The Bus 16 power supply circuit breaker to the 1C Safety Injection Pump, alternate to a similar breaker at Bus 14, failed to close during a manual test start under increased surveillance.

Without turning the control switch to the reset position, another start was made successfully.

7. Designation of Apparent Cause of Occurrence:

The 1C Safety Injection Pump can be operated from either Bus 14 or Bus 16. During a safeguard operating sequence, Bus 14 is the preferential bus and Bus 16 is considered the alternate bus. A lockout scheme exists between the two supply breakers to insure that only one breaker can be closed at a time. When the system is functioning properly, the lockout relay will energize when a breaker closure is called for, providing that all inter-locks are satisfied.

The sequence for proper operation is as follows:

- a. The lockout relay's plunger allows the trip bar to drop down and properly latch the breaker's mechanical closing mechanism.
- b. The movement of the trip bar closes a trip bar switch which then permits the breaker control relay to operate ("X" coil).
- c. Operation of the control relay reflects a closed "X" contact in the circuit for the breaker closing coil.
- d. The closing coil is then energized and the coil's armature will travel upward resulting in actuation of the breaker closing mechanism.

The operation of the circuit breaker had been monitored by an electrician during the test. He observed the lockout solenoid plunger unit attempt to operate, but in a sluggish manner, not completing its stroke which would allow the trip bar to drop to a breaker latch position and close the trip bar switch which in turn allows the "X" relay to operate. This indicates the plunger to be binding mechanically, or a poor electrical connection or contact to be at fault.

The circuit breaker was inspected in the operating position after the first failure and the following successful start. It was noted that the breaker had vibrated from successive operations and moved back from the fully engaged position and the breaker frame mechanical latch point was alongside of the stop due to the breaker frame not aligning properly with the cubicle.

A Simpson volt-ohmmeter was used to verify the continuity of the lockout circuit and the breaker was vibrated to see if an intermittent indication could be observed on the ohmmeter. No interruption of continuity was observed. Subsequent testing and inspection of the 1C Safety Injection Pump Bus 16 breaker and start circuitry did not disclose any other possible explanation for the start failure.

After the failure to close and the subsequent start of the 1C Safety Injection Pump from Bus 16, the Bus 16 circuit breaker was racked tightly into operating position. A wedge was used in the mechanical latch assembly to hold it in position and fastened securely. The proper operation of the breaker was then verified twice before returning the breaker to service.

8. Analysis of Occurrence:

There were no safety implications because the pump did start from Bus 14, and also both the 1A and 1B Safety Injection Pumps started satisfactorily. There were no consequences from the standpoint of public health and safety.

9. Corrective Action:

The Plant Operating Review Committee reviewed the occurrence and has recommended the following:

- a. The 1C Safety Injection Pump will be started weekly until the 1975 refueling shutdown which is scheduled for March 15, 1975. At that time, Bus 16 can be de-energized and a more detailed inspection be performed on the breaker cubicle. If the inspection results are then satisfactory, the testing frequency will revert to the normal monthly schedule. More frequent starting tests of the 1C Safety Injection Pump could compromise the reliability of the pump motor and is not believed warranted at this time.

- b. A spare breaker has been ordered.
- c. Westinghouse Electric Corporation has been contacted for assistance and is investigating the problem.

10. Failure Data:

- a. Reports of failure of the Bus 16 circuit breaker to 1C Safety Injection Pump to close have been submitted previously on the following dates: June 21, 1973 (Abnormal Occurrences 73-3 and 73-4); April 16, 1974 (Abnormal Occurrence 74-4); August 15, 1974 (Abnormal Occurrence 74-14); and February 14, 1975 (Abnormal Occurrences 75-2 and 75-3).
- b. Equipment identification:
 - Manufacturer: Westinghouse
 - Type: DB-50 Air Circuit Breaker, 500 amp. rating.