

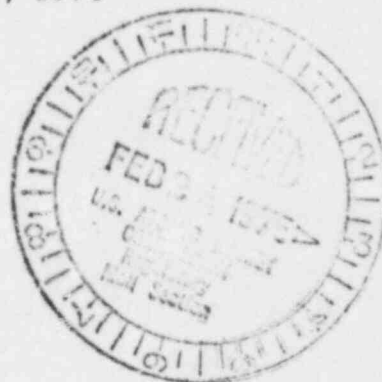


ROCHESTER GAS AND ELECTRIC CORPORATION • 89 EAST AVENUE, ROCHESTER, N.Y. 14649

LEON D. WHITE, JR.
VICE PRESIDENT

TELEPHONE
AREA CODE 716 546-2700

February 14, 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 Occurrences 75-2 and 75-3, 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 Occurrences 75-2 and 75-3 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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1. Report Number: 50-244/75-2 and 75-3
- 2a. Report Date: February 14, 1975
- 2b. Occurrence Date: February 5 and 6, 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:

At the time of both occurrences the unit was operating at a steady state level of 100% power.

6. Description of Occurrences:

- 6a. AO 75-2: While conducting Periodic Test PT-2.1, and following the satisfactory test of the 1A and 1B Safety Injection Pumps, the 1C Safety Injection Pump which can be operated from either Bus 14 or Bus 16, failed to start manually on Bus 16 the first time it was tried. The 1C pump was started from Bus 14 and the pump test was completed. The pump was tried from Bus 16 twice after the malfunction and operated successfully.
- 6b. AO 75-3: The next day while conducting a retest of the 1C Safety Injection Pump on Bus 16, in accordance with recommendations by the PORC to investigate further into the cause of AO 75-2, the pump failed to start manually the first time it was tried. It did start successfully on the second attempt.

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 will force the trip bar downward 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 breaker was removed from the cubicle for examination. A spring on one of the twenty-four secondary contacts was observed to be slightly depressed. This spring is in the first group of four on the bottom left side of the breaker as viewed from the rear of the breaker. It was determined that the weakened spring was in the contact circuit for the lockout relay. Another group of four contacts was removed from the spare feeder breaker (pos. 17B, Bus 16) and installed on the safety injection pump breaker, to correct the problem of a weak spring and possibly a bad contact in circuit for the lockout relay.

In addition a careful examination of wiring between the main control board start switch and Bus 16 was performed. During this inspection, the continuity of all the wires was confirmed. At the breaker one loose wire was found on the male secondary contacts in the cubicle on terminal #22. This wire is a jumper between the tripper bar switch and the alarm switch on the breaker, and also in the close circuit of the breaker, (terminal #22 to #12 on the male secondary contacts in the cubicle). It is considered possible that a loose connection in this part of the circuit would not always pass enough current to the "X" coil to operate and thus would preclude the energizing of the closing coil. The loose wire was secured on the contact in the cubicle. All other wires were found to be secured.

The breaker was then placed in the test position in the cubicle and operated 5 times in accordance with EM-75, 1C Safety Injection Pump Circuit Breaker Maintenance and Inspection. It was then placed in the fully racked in position and operated 3 times in accordance with EM-75.

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 or potential consequences from the standpoint of public health and safety.

9. Corrective Action:

Following the failure observed on February 5, 1975, the electricians proceeded to utilize Emergency Maintenance Procedure EM-75, 1C Safety Injection Pump Circuit Breaker Maintenance and Inspection to examine the breaker at Bus 16 for any loose connections, and, in accordance with the procedure, the breaker was placed in the TEST position and operated

successfully five times. The breaker was then placed in the fully racked in position and operated three times in accordance with EM-75. The PORC met and recommended the following:

1. Notify the circuit breaker vendor of the problem, obtain his recommendations, and pursue the possibility of acquiring a replacement breaker.
2. Start test the pump for the next two days every morning.
3. Perform the above test during the day when electricians are present to observe until the problem is solved.

The next day, February 6, the electricians were present to observe the first operation of the breaker when it failed to close. Following this, as recommended by the PORC, the breaker was dismantled and thoroughly examined, and corrective measures were taken, as described in item 7. above.

The Plant Operating Review Committee also recommended the following:

- a. The 1C Safety Injection Pump will be started daily for the next 3 days, and again on the following Tuesday. Experiencing no failures the testing frequency will then revert to the normal monthly schedule, except that until further notice Periodic Test PT-2.1 will be performed on the day trick when plant maintenance personnel are available.
- b. A replacement breaker is in the process of procurement.

10. Failure Data:

- a. Reports of failure of the 1C Safety Injection Pump to start from Bus 16 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); and August 15, 1974 (Abnormal Occurrence 74-14).

- b. Equipment identification:

Manufacturer: Westinghouse

Type: DB-50 Air Circuit Breaker, 500 amp. rating.