



Commonwealth Edison Company

72 WEST ADAMS STREET ★ CHICAGO, ILLINOIS

Address Reply to:

POST OFFICE BOX 767 ★ CHICAGO, ILLINOIS 60690

Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450
October 3, 1972



Mr. A. Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

SUBJECT: LICENSE DPR-19, DRESDEN NUCLEAR POWER STATION, UNIT #2, SECTION 6.6.C.1 OF THE TECHNICAL SPECIFICATIONS.

Dear Mr. Giambusso:

This is to report a condition relating to the operation of the station, in which, during preparations for a transformer outage, emergency power bus 33-1 was de-energized and the 2/3 diesel auto-started, tripped, and failed to restart. This rendered the diesel generator inoperable in conflict with section 3.9.B of the Technical Specifications.

INCIDENT AND INVESTIGATION

On September 3, 1972, with Unit 3 in cold shutdown and Unit 2 at 350 MWe, 2/3 diesel generator auto-started when emergency power bus 33-1 was de-energized for a transformer outage. An attempted reset of the auto-start signal to restore normal engine protective devices (which are bypassed during the auto-start condition) was made by moving the 2/3 diesel generator control switch from the "auto" position to the "stop" position and back to the "auto" position. The diesel tripped approximately six minutes later, even though the auto-start condition still existed.

A testing program was begun on the 2/3 diesel to establish the cause of the trip. When the condition was finally duplicated, a diesel "fail-to-start" alarm came up when the control switch was turned to "stop" and back to "auto". The diesel tripped six minutes and twelve seconds after this alarm. This time period coincides with the timed engine shutdown sequence for normal diesel shutdown. In addition, the diesel would not restart as long as the "fail-to-start" alarm was up.

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Inquiry

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Preliminary investigation indicates that the slow response of a time delay relay within the electrical system energized the start failure relay when the control switch was momentarily placed in the "stop" position. The start failure relay initiated the shutdown sequence, which took precedence over the continuing auto-start signal, and tripped the diesel.

If this condition exists, it will be annunciated by a "fail-to-start" alarm in the control room. The presence of this signal will also render the diesel inoperable until reset at the engine control panel. If the alarm is not present, the diesel remains operable.

Additional investigation revealed that this alarm had come up periodically following diesel-generator surveillance testing. The operators had reset it during post-shutdown inspections; and the condition had never resulted in the failure of a diesel to start.

Further investigation is in progress to confirm the cause of the 2/3 diesel generator trip. This includes monitoring of relays during the start sequence, and tests on the Unit 2 and Unit 3 diesel generators to establish their susceptibility to this problem.

CORRECTIVE ACTION

When the cause of the malfunction has been determined, the defective components will be replaced and examined to determine the cause of failure. The circuit will be redesigned if required.

In the interim, the diesel-generator operating and surveillance procedures have been changed to require an operator to be stationed at the engine control panel prior to a diesel shutdown. If the "fail-to-start" alarm comes up, he will immediately reset it; and the diesel will remain operable. This procedure will be followed on the Unit 2 and 3 diesels as well as the 2/3 diesel until the problem is corrected.

When the investigation has been completed and final corrective action established, a letter will be sent summarizing our findings.

Sincerely,

Fred J. Morris

for W. P. Worden

Superintendent

Dresden Nuclear Power Station

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