

PAGE IN ERROR

procedure in use entailed opening the feed breaker from bus 29 to MCC 28/29-5. This action not only deenergized MCC 28/29-5, but also closed contact HMA 1951 b, which caused the feed breaker from bus 28 to MCC 28/29-5 to close, thereby reenergizing MCC 28/29-5. If power to bus 29 was lost, MCC 28/29-5 would become deenergized even though the feed breaker from bus 29 to MCC 28/29-5 was still closed. The feed breaker from bus 28 to MCC 28/29-5 would not shut, and MCC 28/29-5 would remain deenergized. Thus the operability test performed to verify the auto transfer feature for MCC 28/29-5 was inadequate.

The test which the licensee performed on June 22, 1988, was more rigorous, since it entailed deenergizing bus 29. This deenergized MCC 28/29-5 without causing the feed breaker from bus 29 to MCC 28/29-5 to open. Thus the feed breaker from bus 28 to MCC 28/29-5 did not shut, so MCC 28/29-5 remained deenergized.

If a LOCA occurred with MCC 28/29-5 deenergized, the LPCI injection valves for both recirculation loops would not have opened, preventing LPCI from injecting, and the recirculation pump suction and discharge valves in both recirculation loops would have been prevented from shutting. Manual backup would have been available, for the unit operator would see slower than expected recovery of reactor vessel level. He would notice no status lights on the RHR inboard and outboard injection valves to both recirculation loops. This would be positive indication that MCC 28/29-5 was deenergized. The operator could then from the control room open the feed breaker from bus 29 to MCC 28/29-5 and close the feed breaker from bus 28 to MCC 28/29-5. This would reenergize MCC 28/29-5. The valves would reposition automatically and LPCI would inject provided that MCC 28/29-5 was reenergized within 5 minutes. If power was restored after 5 minutes, the LPCI injection valves would have to be opened manually, which could be done from the control room.

Throughout this scenario, one core spray pump would have been available, which the FSAR states would be sufficient to prevent fuel damage and would reflood the core within one hour of core spray operation.

The wiring error occurred because the original installer did not connect one end of the white wire to the proper terminal, but left it taped to the green wire, which was a spare. Quality control failed to detect this installation error, and subsequent testing was inadequate to detect the error.

The inability of MCC 28/29-5 to auto transfer from bus 29 to bus 28 upon a loss of bus 29 is contrary to FSAR Section 8.2.3.1 (which requires this auto transfer to be operable) and 10 CFR 50 Appendix A criterion 17 (which requires that on-site electrical power supplies shall have sufficient redundancy to perform their safety functions assuming a single failure), and is an apparent violation of NRC requirements (265/88015-01(DRP)). However, a notice of violation is not being issued at this time because this issue is being reviewed for potential enforcement action. An enforcement conference to discuss this issue is planned for August 26, 1988.

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i. 1/2 Diesel Generator Auto Start

At 3:15 p.m. CDT on June 21, 1988, diesel generator 1/2 did not auto start as required during a test of the Unit 2 ECCS. It did auto start when the cover to the autostart relay was removed. At 5:04 p.m. while inspecting the auto start relay the 1/2 diesel generator autostarted when a braided wire touched a contact. The auto start relay was replaced and the ECCS test performed successfully.

The apparent cause of the problem was an improperly routed braided wire. A total of 224 additional relays were examined and four were found to be defective. Two were corrected and the remaining two (on the Unit 1 HPCI gland steam exhaust fan motor annunciator relay and Unit 1 HPCI gland seal condenser hotwell drain annunciator relay) will be corrected during the next Unit 1 outage. The licensee believes that the two relays which are planned to be repaired will function properly even if the braided wire has a discrepancy similar to that which existed in the auto start relay of the 1/2 diesel generator. The improper routing of the braided wire is being followed as an unresolved item pending further review by the inspectors (254/88015-05; 265/88015-06).

One apparent violation and four unresolved items were identified in the review of this area.

11. NRC Information Notices and Bulletins (92701, 92717)

a. NRC Information Notice Number 88-39: LaSalle Unit 2 Loss of Recirculation Pumps With Power Oscillation Event.

In response to the power oscillation event that occurred at LaSalle, operating procedures have been changed at Quad Cities. These changes were made to avoid prolonged operation in regions of instability. This issue is being examined by the BWR owner's group.

b. NRC Bulletin 88-07: Power Oscillations in Boiling Water Reactors.

This bulletin required licensees to ensure that their procedures and training programs have been modified to reflect the experience gained from the LaSalle dual recirculation pump trip. Lesson plans, attendance rosters and operating procedures were inspected to ensure that the licensee had complied with the requirements of this bulletin. All actions required by this bulletin to have been completed within 15 days of the bulletin's receipt have in fact been completed.

No violations or deviations were identified.

12. Generic Letters (92701)

(Open) GL 84-23: Reactor Vessel Water Level Instrumentation in BWRs.

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