



Wayne D. Romberg
Assistant Vice President
and Manager, Technical

Fermi 2
6400 North Dixie Hwy
Newport, Michigan 48166
(313) 586-1844



10 CFR 2.201

April 2, 1997
NRC-97-0042

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

- References: 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43
- 2) NRC Inspection Report 50-341/96016
dated March 3, 1997
- 3) NRC Inspection Report No. 50-341/96013
and Notice of Violation dated February 6, 1997

Subject: Reply to Notices of Violation 96016-02, 96016-05, and 96016-08

Enclosed is Detroit Edison's response to the Notices of Violation (NOVs) contained in Reference 2. Notice of Violation 96016-08, included in this inspection report, addresses an inadequate procedure which contributed to the reactor scram due to reactor water level instrumentation reference leg perturbations. The NOV does not require a response, however, Detroit Edison offers the following additional information.

The short duration of the level spike which initiated the reactor scram made analysis of the event complex and time consuming. It was paramount that sufficient time be spent to thoroughly understand the sequence of events. It was realized early in the investigation that certain relays and logic strings may not actuate if the sensed signal was of a very short duration. The table top analysis of the logic string response times and the analysis of the observed and design data required a meticulous effort.

08

9704080241 970402
PDR ADOCK 05000341
Q PDR



This effort required time to develop and verify the information on a component by component basis to determine whether the safety systems had performed properly. This task was given the highest priority by the response team and was worked around the clock until it was concluded that all systems had performed as designed. Detroit Edison agrees that a considerable time was involved, however, the plant was kept shutdown while the engineering analysis was conducted. While we agree that the NRC must be made aware of any safety issues related to the proper functioning of equipment important to safety and the overall plant response to the transient, this must not cause any undue pressure to reach a premature conclusion as to the system response. We believe that prudent and conservative actions were taken to ensure that a detailed analysis was performed prior to plant restart.

We agree that the initial notification to NRC via the ENS was not clear and that a follow-up notification was required to adequately describe the event. We have taken steps to provide additional training on preparation of event notifications to members of the control room staff during Licensed Operator Requalification training.

The following commitment is made in this letter:

Lessons learned from the annunciator response procedure event will be presented and documented within the Operations Training Program. Training will be conducted on the "control not speed" operating philosophy, communications, and annunciator response. Annunciator response training will include management expectations, ensuring Alarm Response procedures are properly implemented, and verification by Operators that actions taken correct the alarming condition.

Should you have any questions regarding this response, please contact Ronald C. Wittschen, Compliance Engineer at (313) 586-1267.

Sincerely,



cc: A. B. Beach
G. A. Harris
M. J. Jordan
A. J. Kugler
M. V. Yudas, Jr.
Region III
Wayne County Emergency Management Division

Response to Notice of Violation 50-341/96016-02

Statement of Notice of Violation

10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," required in part, that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and be accomplished in accordance with these instructions, procedures, or drawings.

Alarm Response Procedure 2D13, "Fuel Pool Cooling Trouble," required that operators, upon determination that the cause of the trouble alarm was Surge Tank High Water Level, verify the Fuel Pool Skimmer Surge Tank Condensate Supply Isolation Valve (G41-F015) was closed.

Contrary to the above, on October 31, 1996, operators failed to follow Alarm Response Procedure 2D13, "Fuel Pool Cooling Trouble." Specifically, operators failed to check shut G41-F015 for 75 minutes after identifying the high water level condition in the Skimmer Surge Tanks.

Reason for the Violation

On October 29, 1996 at 1802 hours, the "Fuel Pool Cooling Trouble" alarm (2D13) was received in the control room. The Annunciator Response Procedure (ARP) actions for this alarm include verifying that valve G4100-F015, the condensate fill isolation valve, is closed. The valve position, however, was not immediately checked. As a result the spent fuel pool water level slowly increased until some water entered into the ventilation duct openings around the spent fuel pool and subsequently spilled from the ducts onto the two levels below. The isolation valve remained partially open until approximately 1920 hours, when it was closed.

In accordance with ARP 2D13, the cause of the alarm was determined to be a skimmer surge tank high water level. The level in the skimmer surge tanks was verified at 1808 hours to be 10.0 feet and slowly increasing. The condensate fill isolation valve had been closed earlier in the shift by operations personnel, and they had direct knowledge that permission had not been granted to reopen it during the intervening period. It was therefore considered to be closed. At 1905 hours water was observed to be exiting from the skimmer surge tank and entering the fuel pool. At that time the spent fuel pool level was approximately one and one-half inches below the ventilation duct openings located around the spent fuel pool. Control Rod Drive (CRD) flow was verified to be minimal and Reactor Water Cleanup (RWCU) letdown to radwaste was increased. Although spent fuel pool water level remained below the ventilation openings, the lapping action of the waves generated by the skimmer surge tank overflow into the spent fuel pool caused water to enter some ventilation ducts located near the surge tank. This resulted in spills onto the third and fourth floors located below as water dripped from the ventilation system. The manual fill condensate valve was found to be about two turns open at approximately 1920 hours and was subsequently closed.

An investigation concluded that the condensate fill valve had been opened by an unauthorized individual, and without control room knowledge. Therefore, the verification of G4100-F015 valve position was not initially ordered as it was believed to be closed. This assumption resulted in the delayed closing of G4100-F015. The failure to promptly follow-up on the annunciator actions is contrary to management expectations. The unauthorized operation of G4100-F015 is discussed in the response to Violation 96013-02 (Reference 3).

The Corrective Steps That Have Been Taken and the Results Achieved

The event was immediately corrected when G4100-F015 was closed. This stopped additional entry of water into the Fuel Pool Ventilation Exhaust System ducts.

The Fermi 2 Operational Excellence Plan (OEP) was formulated and subsequently approved on November 1, 1996. This plan directly addresses Operations Department performance deficiencies identified in this event. Section I, "Operations Management Expectations and Feedback" requires a control not speed operating philosophy. It also requires written expectations and policies for annunciator response, procedure use and adherence, communications, crew and pre-evolution briefings as well as standards for operating logs.

Implementation of the OEP includes continuous assessment of plan elements and evaluations designed to determine plan effectiveness. Implementation of the plan has resulted in a dynamic process, designed to detect and correct performance trends contrary to management expectations.

The Corrective Steps That Will Be Taken to Avoid Further Violations

Lessons learned from this event will be presented and documented within the Operations Training Program. Training will be conducted on the "control not speed" operating philosophy, communications, and annunciator response. The focus of the training will be to emphasize plant stability and reduction of operator activities prior to the initiation of additional evolutions. Communications techniques included in the training will demonstrate the need to determine the reason a given caller has contacted control room personnel and the need to ensure the reason for the call is understood. Annunciator response training will include management expectations, ensuring Alarm Response procedures are properly implemented, and verification by Operators that actions taken correct the alarming condition.

Date When Full Compliance Will be Achieved

Full compliance was achieved when the manual fill valve was closed at approximately 1920 hours on October 29, 1996.

Response to Notice of Violation 50-341/96016-05

Statement of Notice of Violation

10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," required in part, that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and be accomplished in accordance with these instructions, procedures, or drawings.

Maintenance procedure 35.425.002, "Drywell/Suppression Pool Vacuum Breaker Valve Repairs," Section 4.12, prescribed work steps to install containment vacuum breaker magnet assemblies.

Contrary to the above, on October 14, 1996, maintenance procedure 35.425.002 was inadequate to ensure that the pallet magnet assembly for Containment Vacuum Breaker T23-F400J was properly installed and secured.

Reason for the Violation

On December 24, 1996 during performance of a required surveillance on Drywell to Suppression Chamber vacuum breakers, vacuum breaker T2300F400J failed to indicate closed after initial opening. Several attempts to achieve a closed indication on the valve were unsuccessful. A controlled shutdown was initiated in accordance with the Technical Specifications. Subsequent investigation determined that the magnet assembly which closes the pallet to the fully closed position was mispositioned and the pallet did not fully close. Therefore, the proximity switch contacts did not close to energize the closed indication. The cause of this event was that the maintenance procedure did not contain sufficient detail to address the particular design characteristics of the vacuum breaker magnet.

The Corrective Steps That Have Been Taken and the Results Achieved

The magnet assembly was replaced, the vacuum breaker retested, and the closed indication verified. The remaining Drywell to Suppression Chamber vacuum breakers were inspected and no similar concerns were identified. Licensee Event Report (LER) 96-023 was issued January 23, 1997 describing this event.

The Corrective Steps That Will Be Taken to Avoid Further Violations:

The section on magnet installation in the vacuum breaker maintenance procedure will be revised prior to the next refueling outage or maintenance on a vacuum breaker to include assembly details that will prevent recurrence of this event. This was discussed in LER 96-023.

Date When Full Compliance Will be Achieved

Full compliance was achieved when the vacuum breaker was properly repaired and successfully passed the surveillance test.