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10CFR50.73



Nuclear
Operations

November 1, 1991
NRC-91-0134

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

Reference: Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43

Subject: Licensee Event Report (LER) No. 91-018

Please find enclosed LER No. 91-018, dated November 1, 1991, for a reportable event that occurred on October 2, 1991. A copy of this LER is also being sent to the Regional Administrator, USNRC Region III.

If you have any questions, please contact James M. Joy, Senior Compliance Engineer, at (313) 586-1617.

Sincerely,

Enclosure: NRC Forms 366, 366A

cc: A. B. Davis
J. R. Eckert
R. W. DeFayette
J. F. Stang
S. Stasek

Wayne County Emergency
Management Division

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PDR ADOCK 05000341
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LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Initial Plant Conditions:

Operational Condition: 1 (Power Operation)
Reactor Power: 100 Percent
Reactor Pressure: 1010 psig
Reactor Temperature: 540 Degrees Fahrenheit

Description of Event:

On September 12, 1991, Detroit Edison received Technical Specification Amendment 75. This Amendment increased CHANNEL FUNCTIONAL TEST surveillance intervals and allowable out of service times for various safety system actuation instrumentation. The forwarding letter for this amendment stated that it was effective upon issuance. As with prior amendments which were effective upon issuance, action was taken to promptly inform operating personnel of the Amendment. Changes to affected procedures were scheduled to ensure completion prior to use at the revised surveillance intervals.

On October 2, 1991, during a licensed operator requalification training review of changes implemented by Amendment 75, a Shift Technical Advisor discovered that a weekly surveillance per Technical Specification Table 4.3.1.1-1, Item 2.b, footnote 'e', had not been performed, as required. This surveillance requirement is to perform a weekly CHANNEL CALIBRATION which consists of the adjustment of the Average Power Range Monitoring (APRM) system (JC) channel flow biased signal to conform to a calibrated flow signal. This requirement had last been successfully completed on September 15, 1991.

The surveillance interval for Technical Specification Table 4.3.1.1-1, Item 2.b (APRM Flow Biased Simulated Thermal Power - High), CHANNEL FUNCTIONAL TEST, was revised in Amendment 75 from weekly to quarterly. Fermi 2 procedures which implement this surveillance requirement for each APRM channel, 44.010.124 through 44.010.129 ("Reactor Protection System - APRM Functional Test"), were revised to similarly change the required surveillance interval. The computerized surveillance scheduling program used at Fermi 2 was also revised to reflect a quarterly interval for these procedures. At the time these changes were made, however, it was not recognized that the subject procedures and scheduling events also implemented the weekly CHANNEL CALIBRATION requirement which had NOT been changed by Amendment 75.

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ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20566, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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TEXT (If more space is required, use additional NRC Form 366A (7-89))

Based upon the failure to perform a Surveillance Requirement within the allowed surveillance interval, all APRM channels were declared inoperable at 1045 hours on October 2, 1991. Technical Specification Surveillance Requirement 4.0.3 was invoked, delaying the ACTION requirements due to inoperable APRM channels for up to 24 hours to permit completion of these surveillances. Action was immediately initiated to perform the CHANNEL FUNCTIONAL TESTS, including the subject CHANNEL CALIBRATIONS, which were all successfully completed by 1545 hours on October 2, 1991.

A review was conducted on October 2, 1991 of other surveillance requirements potentially affected by Amendment 75 and no other deficiencies were found.

Cause of Event:

Detroit Edison believes the primary root cause of this event to be a deficiency in the process used to implement Technical Specification Amendments. This systematic process for implementing Technical Specification Amendments at Fermi 2 includes a process and techniques to determine what changes to documents and programs are required by changes in individual Technical Specification articles.

The primary tool utilized in this process to determine which procedures are affected by a change in Surveillance requirements in the Technical Specifications is a computerized cross reference data base which relates Technical Specification surveillance articles to implementing procedures. This data base is part of the Fermi 2 Surveillance Scheduling and Tracking system (SST). Use of this cross reference did find several Amendment 75 surveillance interval extensions which could not be implemented for the entire associated surveillance procedure, since the procedure fulfilled more than one surveillance requirement and the other(s) had not been extended. However, the cross reference data base did NOT include the few surveillance requirements which are contained in footnotes within tables in the Technical Specifications. Thus, when this cross reference was used to identify procedural changes required by Technical Specification Amendment 75, the weekly calibration requirement contained in footnote 'e' of Table 4.3.1.1-1 was not identified as a restraint to changing the periodicity of the APRM functional test procedures.

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ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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A key "barrier" which should have prevented this event was the personnel involved in implementing the Technical Specification Amendment. Instrumentation and Control (I&C) personnel (utility non-licensed) who performed the procedure revisions and Operations personnel (utility non-licensed) responsible for revising the Surveillance Scheduling and Tracking system (SST) failed to ensure that surveillance interval extensions for the APRM functional test procedures did not negate any other surveillance requirements fulfilled by these procedures. Licensing personnel (utility non-licensed) responsible for coordination of the Amendment implementation failed to ensure that the implementing process included this complete review of procedure purpose statements being modified.

Contributing factors to the failure of personnel to prevent this event were:

- o Fermi 2 surveillance procedures contain purpose statements which identify surveillance requirements being fulfilled by the procedure and the surveillance interval of the requirement(s). However, while the purpose statement in the APRM functional test procedures did state that it fulfilled the requirements of footnote 'e', it did not state the surveillance interval for this requirement or utilize the phrase CHANNEL CALIBRATION in the description. Thus, this part of the procedure purpose was more easily overlooked when making a procedure change solely to change the surveillance interval.
- o The number (86) of I&C surveillance procedures and SST program changes was large for an Amendment which was effective immediately. As a result, I&C personnel modifying procedures focused on changes required to CHANNEL FUNCTIONAL TEST requirements and failed to note the footnote 'e' (weekly CHANNEL CALIBRATIONS) described in the procedure purpose sections.
- o Similarly, due to the immediate implementation requirement and the desire not to perform unnecessary surveillance testing, Operations personnel responsible for SST consciously deviated from standard practice in modifying SST. SST program changes were made in advance of associated surveillance procedure revisions. This unknowingly removed an opportunity for SST personnel to review the actual procedure purpose statement modifications prior to changing the scheduling program.

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ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (PA30), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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- o The responsibilities and process for Technical Specification Amendment implementation were not clearly delineated. As a result, the SST personnel involved were not initially provided the proposed Amendment for implementation review.

Analysis of Event:

The purpose of the weekly APRM flow biased calibration check is to ensure that APRM circuitry properly responds to a flow biased power signal to generate trip signals at an appropriate level, such that protective functions associated with each trip are completed prior to exceeding pre-determined safe operating limits. As stated in the event description, immediately upon recognition of the missed surveillance requirements, the APRM channel functional test procedures (including the missed weekly CHANNEL CALIBRATIONS) were performed for all APRM channels. All channels were found within specification and found to respond as required. Thus, it can be concluded that the APRM channels would have performed as designed during the interval that they were not tested. Therefore, there was no impact on the safe operation of the plant, and the health and safety of the plant workers and general public was not affected.

Corrective Actions:

The missed APRM flow biased CHANNEL CALIBRATION requirements for all channels were successfully performed. A review of Technical Specification Amendment 75 was conducted and determined that no similar errors in implementation had been made.

Procedures have been written to separate the quarterly FUNCTIONAL TEST requirement of Technical Specifications, Table 4.3.1.1-1, item 2.b, and the weekly CHANNEL CALIBRATION requirement of footnote 'e' of that same table.

An accountability meeting was held to discuss the sequence of events. The following actions are being taken to prevent recurrence:

- o The SST implementing procedure to Technical Specification Surveillance article cross reference computer database will be revised to include all surveillance requirements contained in

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ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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footnotes within the Technical Specifications. This will be complete by June 1992. In the interim, users of the cross reference data base will be reminded that surveillances contained in Technical Specification footnotes are not specifically identified.

- o Neutron Monitoring System I&C Surveillance procedure purpose statements will be modified to clearly state all surveillance requirements and periodicity. This will be complete by January 10, 1992.
- o The process for requesting Technical Specification Amendments has been modified to include requesting an appropriate period for implementation of future amendments, where necessary.
- o The process for implementation of Technical Specification Amendments is being modified to clearly state responsibilities and provide guidance on methods for performance of implementation reviews. This will be complete by November 30, 1991.
- o This LER will be issued as required reading, by November 25, 1991, for Licensing, I&C, and Operations personnel responsible for Technical Specification Amendment implementation, and personnel responsible for the SST program. SST program changes associated with Technical Specification Surveillance changes will no longer be made without associated approved procedure changes.

In addition, a Human Performance Enhancement System (HPES) evaluation will be performed to validate the root cause, contributing factors and corrective actions, detailed above, for this event. Based upon this evaluation, a supplement to this LER may be submitted, as appropriate.

Previous Similar Events

There have been no reportable events due to a missed surveillance requirement during implementation of a Technical Specification Amendment.

The following previous Licensee Event Reports (LER) involved surveillance procedure interval or surveillance scheduling program deficiencies which resulted in missed surveillance requirements. It

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ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20556, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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should be noted that all of these previous events occurred prior to or during the Fermi 2 Technical Specification Improvement Program.

- o LER 87-048-09 As a result of previous surveillance program deficiencies, a review of surveillances was performed as part of the Technical Specification Improvement Program. This LER described the reportable findings from that review which resulted from Technical Specification Surveillance requirements which were not proceduralized.
- o LER 87-019 A surveillance test for the Standby Gas Treatment System was performed beyond the required test interval due to a personnel error in inputting the test frequency into the surveillance scheduling program.
- o LER 86-043 A Technical Specification Surveillance test for the Rod Sequence Control System and the Rod Worth Minimizer was missed due to misinterpretation of the Technical Specification requirements which resulted in surveillance requirements not being proceduralized.
- o LER 86-041 A surveillance procedure for the Drywell Sump Flow Monitoring System was incorrectly revised which resulted in missed surveillance requirements.
- o LER 86-022-02 A review of the Technical Specification Surveillance program revealed several inadequate procedures which should have included Technical Specification surveillance requirements.
- o LER 86-010 Required Technical Specification surveillances were not performed for Safety Relief Valve Low-Low Set due to inadequacies in the surveillance tracking program in use at that time.
- o LER 86-008 Required containment sump flow monitoring surveillances were not performed. The Technical Specification requirements were not proceduralized.

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ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-535), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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- o LER 85-037 A Channel Check of four isolation actuation instruments was missed. The applicable surveillance procedure did not correctly translate operating condition requirements for the surveillance.
- o LER 85-018 A diesel fuel sample and analysis was missed when the chemistry sampling schedule was not revised to reflect a pre-license Technical Specification change.

Failed Component Data

There were no failed components involved in this event.