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NRC-91-0006

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

Reference: 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43

2) NRC Inspection Report No. 50-341/90017,
dated January 7, 1991

Subject: Response to Notice of Violation 90-017-03

Attached is Detroit Edison's response to the Notice of Violation in Reference 2 for improper implementation of material accountability near the spent fuel pool. The major factor that contributed to this event was a lack of clear administrative controls that should have identified an appropriate method for material accountability.

Detroit Edison has conducted an evaluation and has initiated corrective actions to resolve this matter and to prevent recurrence. The results of the root cause determination are discussed herein. Also included in the response is: (1) discussion of circumstances surrounding this matter; (2) the corrective actions that have been taken and the results achieved; (3) the corrective actions to be taken to avoid further violations; and (4) the date when full compliance will be achieved.

Should you have any questions regarding this response, please contact Barbara Siemasz, Compliance Engineer, at (313) 586-1683.

Sincerely,

cc: A. B. Davis
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DETROIT EDISON RESPONSE TO
NRC NOTICE OF VIOLATION 90-017-03
REGARDING IMPROPER IMPLEMENTATION OF
MATERIAL ACCOUNTABILITY NEAR THE SPENT FUEL POOL

Statement of Violation:

"10CFR50, Appendix B, Criterion XVI, "Corrective Action," states in part that "Measures shall be established to assure that conditions adverse to quality...are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition."

10CFR50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states in part that Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings... and shall be accomplished in accordance with these instructions, procedures, or drawings."

Enclosure A, "Housekeeping Requirements," to administrative procedure NPP-OP1-13, "Conduct of Refueling and Core Alterations," specifies that all material entering the RPV or spent fuel pool area shall be accounted for on a material accountability log.

Contrary to the above, material entering the spent fuel pool area during new fuel receipt inspection activities on November 28, 1990, was not properly accounted for on a material accountability log. Furthermore, contrary to 10CFR50, Appendix B, Criterion XVI, corrective actions for previous events were not sufficient to preclude repetition because similar problems were identified on September 18, 1989 and August 29, 1990."

Discussion:

On November 28, 1990, four new lead fuel assemblies and channels from Asea Brown Boveri Atom (ABBA) were to be inspected. The new fuel bundles were then to be channeled and placed into designated locations within the spent fuel pool, where they would be stored until the second refueling outage. They would then be transferred to the reactor vessel during the refueling outage.

Initially, tool control was discussed between the Fermi 2 and ABBA personnel who were providing vendor support for the inspection and channeling activities. All required tools were identified, lanyards were installed on the tools and the vendor tool certification list was verified. The spent fuel pool area railing was designated as the tool control boundary. All procedures for the inspection and channeling of the fuel bundles were issued to the work crew. A pre-job briefing on the fuel handling evolution was conducted with the work crew by Detroit Edison, then the job was initiated.

At the time that the first fuel bundle was being transferred to the fuel prep machine, the NRC Resident Inspector questioned Fermi 2 personnel on the need to establish a material accountability log for material near the spent fuel pool. The job was stopped by Fermi 2 personnel until all tools needed for the channeling activities were listed in the refuel floor log book.

The root cause of improper implementation of material accountability near the spent fuel pool is the lack of clear administrative controls that should have identified an appropriate method for material accountability. As a clarification to the wording in the violation, an evaluation by Fermi 2 personnel revealed that the activities during this event were not applicable to the specific requirements of procedure NPP-OP1-13, "Conduct of Refueling and Core Alterations." The scope of NPP-OP1-13 involves operations activities on the refuel floor immediately prior to and during core alterations. However, since the potential for objects to fall into the spent fuel pool and subsequently enter the fuel pool cooling and cleanup system existed, procedure NPP-HK1-01, "Plant Housekeeping," applied to the inspection and channeling activities involving these fuel assemblies. This procedure prescribes the methods for ensuring adequate levels of system and area cleanliness during work activities, including preventing the entry of foreign material into plant systems and components. Per NPP-HK1-01 the fuel pool cooling and cleanup system requires cleanliness class "C" and thus a housekeeping zone IV designation. These classifications mean that NPP-HK1-01 did not specifically require a "Clean Area Access and Cleanliness Checklist" be prepared for this job. Step 6.1.2 of NPP-HK1-01 does state that a checklist should be used if additional housekeeping controls are considered appropriate for specific jobs. Thus, existing procedures did not provide clear guidance in this area. By attaching lanyards to the tools used in this job and by using the vendor tool certification list as tool control documentation, this method of material accountability was considered sufficient by the work leader.

Regarding the two previous events mentioned in the Notice of Violation, the following should be noted: (1) the September 18, 1989, instance occurred during refueling operations, wherein NPP-OP1-13 applied; and (2) for both instances (i.e., September 18, 1989 and August 29, 1990), the main issue was the general establishment of adequate tool control including establishment of tool control boundary. For the current instance (i.e., November 28, 1990) material accountability is the concern. In this instance, all required tools were identified, lanyards installed, and proper tool certification paperwork was verified. Thus, appropriate tool "controls" were in effect, with the exception of strict material accountability. This is supported by the conclusions from the reactor engineering critique of the refuel floor activities and the associated nuclear quality assurance surveillance reports. Thus, the general issue of adequate tool control was not in question for the current instance.

Corrective Actions Taken and the Results Achieved:

The corrective action taken was to establish a tool log at the entrance to the area during the fuel handling activity. One person was assigned to ensure material accountability for the ABBA fuel receipt and inspection. The work package was revised to include a checklist and Clean Area Access Log per NPP-HK1-01. As a result, tools were carefully logged and accounted for during the work process. No problems have been identified with handling subsequent shipments of General Electric fuel since these changes were adopted.

Corrective Actions to be Taken to Avoid Further Violation:

An event critique was written to investigate this event and has been distributed as required reading to the appropriate personnel. A Deviation Event Report (DER 91-0021) was initiated to followup on this investigation.

The plant will revise procedures on tool control, material accountability and housekeeping to clarify requirements and consolidate responsibilities. These changes will require that one person be responsible for tool control and material accountability for major evolutions on the refuel floor. Boundaries for tool control will also be established and identified in the procedures.

Procedure NPP-PS1-01, "Planning of Maintenance Activities," will be revised to ensure that all work packages generated for work on the refuel floor have adequate tool control and accountability guidance.

Date When Full Compliance will be Achieved:

Detroit Edison is currently in compliance with 10 CFR 50, Appendix B, Criteria V and XVI.

The required reading of the event critique, revision to the current maintenance planning procedure and revision to procedures on tool control, material accountability and housekeeping, as described above, will be completed by March 29, 1991.