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Docket Number 50-346

License Number NPF-3

Serial Number 1-1015

June 14, 1993

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Subject: Response to Inspection Report 93011

Gentlemen:

Toledo Edison (TE) has received NRC Inspection Report 50-346/93011 (Log Number 1-2847) and discussed the issues raised in this Inspection Report with the NRC in a meeting held on June 3, 1993. The following constitutes TE's response to Violation 93011-01.

Violation:
93011-01

Technical Specification 6.8.1.a requires that written procedures be established, implemented and maintained covering activities referenced in the applicable procedures in Appendix A of Regulatory Guide 1.33, dated November 1972. Regulatory Guide 1.33, Appendix A, section A.4, lists adherence to administrative procedures as one of these activities. Davis-Besse administrative procedure, DB-OP-00000, Revision 2, "Conduct of Operations," section 6.8.5, requires that when a procedure section requires shift supervisor or assistant shift supervisor review and signoff, then the review and signoff must be completed before other actions are initiated that could be impacted by an incomplete or improperly performed section.

Contrary to the above, on April 13, 1993, operations personnel did not properly implement administrative procedure, DB-OP-00000, Revision 2. Specifically, personnel performed attachment 10 in the body of DB-OP-06012, section 4.3, "Recirculation of the BWST using Decay Heat Pump #1 While the RCS is on DH Cooling," prior to obtaining a review and signoff of the prerequisite section of DB-OP-06012, as required. Because attachment 8 in the prerequisite section of the procedure was not completed, about 13,570 gallons of water from

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Toledo Edison

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the reactor coolant system were inadvertently transferred to the borated water storage tank.

This is a Severity Level IV violation (Supplement I).

Response:

Acceptance or Denial of the Alleged Violation

Toledo Edison acknowledges the alleged violation.

Reason for the Violation

The primary cause of this violation was a personnel failure to properly follow plant procedure DB-OP-06012, "Decay Heat and Low Pressure Injection System Operating Procedure," which requires DH 1517 to be closed as a prerequisite to starting alignment of decay heat train 1 for borated water storage tank (BWST) recirculation.

At 1351 on April 13, 1993, the plant was in Mode 5 at 110 degrees F with the reactor coolant system filled and vented. Pressurizer level was approximately 80 inches with a nitrogen bubble and the reactor coolant system (RCS) at 38 psig. Decay heat train 2 was in service with decay heat train 1 in standby.

The draining of the RCS resulted from an improper sequencing of a valve lineup in decay heat train 1 while preparing to recirculate the BWST in accordance with plant procedure DB-OP-06012. The recirculation of the BWST was to be done in preparation for obtaining a BWST sample. Also, this was the required alignment of decay heat train 1 for an upcoming integrated test of the safety features actuation system (SFAS). The equipment operator who performed the decay heat train 1 alignment opened valves DH 66 and DH 68, creating a flowpath from the RCS suction valves to decay heat pump 1 through the decay heat cooler to the BWST. However, because the equipment operator was inappropriately performing Attachment 8 (prerequisites) of DB-OP-06012 in parallel with Attachment 10 (valve lineup) valves DH 66 and DH 68 were opened prior to closing valve DH 1517. Closing of valve DH 1517 would have blocked the flowpath from the reactor coolant system hot leg to the suction side of decay heat pump 1. In this configuration, an open flowpath from the RCS to the BWST was established. Although decay heat pump 1 was not operating, the 38 psig RCS pressure and the water head differential between the RCS and the BWST provided the motive force for the inadvertent transfer of reactor coolant to the BWST.

Control room operators quickly observed the decreasing pressurizer level and took actions to determine and correct the cause. When the equipment operator reported that he

had opened valves DH 66 and DH 68 the flowpath was immediately recognized and actions were taken to isolate decay heat pump 1 suction to the RCS. Approximately 22 minutes elapsed from when the open flowpath was established until valve DH 1517 was closed, terminating the event. During this time 13,570 gallons of reactor coolant was transferred to the BWST. At no point was decay heat removal capability lost. Decay heat pump 2 suction pressure remained greater than 40 psig and flow remained unchanged at approximately 3100 gpm during the entire event. RCS coolant temperature did not increase during the event.

There were additional causal factors associated with this event. Several major plant evolutions such as preparing for integrated testing of the SFAS, high pressure injection recirculation, containment spray recirculation, and BWST fill were either in progress or recently completed at the time of the event. Operations personnel undertook an overall level of activity which reduced the operating shift crew's ability to effectively work together as a team to perform critical plant evolutions. In addition, operator knowledge of shutdown operations could be improved.

Corrective Action Taken and Results Achieved

At approximately 1413 valve DH 1517 was closed, terminating the event.

A Transient Assessment Program (TAP) team was assembled and commenced an investigation prior to shift turnover. The team examined the event in detail, explained contributing causes to the event, and proposed corrective actions to be taken.

The equipment operator who was performing Attachments 8 and 10 was counseled regarding his actions during this event and the operating crew which was on-shift at the time of the event was disciplined.

Operations management discussed this event with each shift supervisor and operating crew. The discussion reinforced the procedural adherence policy in addition to focusing on the use of plant drawings prior to executing system status changes and the need to improve the quality of communications on shift.

Corrective Actions to Prevent Recurrence

Toledo Edison plans to take the following corrective actions to prevent recurrence.

NRC Inspection Report 50-346/93011 and this violation response will be required reading for operations personnel.

Lessons learned from this event will be reviewed in operator requalification training.

Procedure DB-OP-00000 will be revised to more clearly require the completion of prerequisites prior to performing the procedure section.

Procedure DB-OP-06012, will be enhanced to incorporate lessons learned from this event.

A procedure adequacy review of existing outage related operations procedures will be completed. This review is intended to identify shutdown operations system lineups which, due to system interfaces, could result in inadvertent water transfers. The review will include an assessment of the adequacy of the procedure for shutdown operations.

Toledo Edison has requested that INPO provide their "INPO Control Room Teamwork Development Course" to Davis-Besse operations personnel. This is a 28 hour course which provides dedicated training on crew dynamics and communications.

Lessons learned from this event, including the need to control the overall level of control room activity, will be incorporated into pre-outage operator requalification training.

Date When Full Compliance Will Be Achieved

Required reading of NRC Inspection Report 50-346/93011 and this violation response will be completed by July 15, 1993.

Lessons learned from this event including the need to control the overall level of control room activity, will be reviewed in operator requalification training by July 15, 1993.

Revisions to DB-OP-00000 and DB-OP-06012 and the procedure adequacy review will be completed by July 30, 1993.

The INPO development course is scheduled to be given during four weeks in June and July, 1993.

The revised pre-outage operator requalification training will be provided to operating crews prior to 9RF0.

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Conclusion

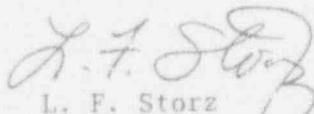
Toledo Edison recognizes the significance of this event and has taken appropriate management actions. A TAP team was assembled and commenced an investigation prior to shift turnover on the day of the event. In addition, extensive corrective actions have been initiated including procedure revisions, a procedure adequacy review, enhanced operator requalification training, and INPO training on control room teamwork.

Toledo Edison is reinforcing procedure adherence at Davis-Besse. Inspection Report 50-346/93011 states that this event is similar to an event which occurred in December 1992. The December 1992 and the April 1993 events both involved procedural problems although the root causes were different. The December 17, 1992 event occurred because an equipment operator incorrectly chose valve positions on a lineup sheet. The lineup was not reviewed and approved by a senior reactor operator prior to starting the #1 Clean Waste Monitor Tank pump. As a result, the pump was operated with the tank outlet control valve (located on the suction side of the pump) closed. The corrective actions taken in response to the December 1992 event were intended to ensure that proper Shift Supervisor or Assistant Shift Supervisor review and approval is obtained, before proceeding with subsequent procedural steps, when required by procedure.

The April 13, 1993 event resulted from a personnel error on the part of the equipment operator who performed Attachment 8 and Attachment 10 of DB-OP-06012 in parallel. Procedural actions taken during the April 13, 1993 event did not reach the point when Shift Supervisor or Assistant Shift Supervisor review and approval was necessary (i.e. at the completion of Attachment 8 or 10). Therefore, the root cause of this event was personnel failure to properly follow plant procedures.

Should you have any questions or require additional information, please contact Mr. Robert W. Schrauder, Manager - Nuclear Licensing, at (419) 249-2366.

Very truly yours,



L. F. Storz
Vice President - Nuclear

MAT/dlc

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