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 SMITH, W.G.      Indiana Michigan Power Co. (formerly Indiana & Michigan Ele.  
 RECIP. NAME      RECIPIENT AFFILIATION  
 DAVIS, A.B.      Document Control Branch (Document Control Desk)

SUBJECT: Special rept re absence of backup power for greater than 30 days for WMDAFP & LSI.

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Indiana Michigan  
Power Company  
Cook Nuclear Plant  
P.O. Box 458  
Bridgman MI 49106  
616 466 5901



October 28, 1988

Donald C. Cook Nuclear Plant Unit No. 2  
Docket No. 50-316  
License No. DPR-74

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

ATTN: A. B. Davis:

Dear Mr. Davis:

This special report is being submitted in accordance with the our commitment to administratively implement the proposed Technical Specifications required for support of the alternate safety shutdown or emergency remote shutdown of the opposite fire affected Unit. Reference letters AEP:NRC:0692AJ dated May 30, 1986, and AEP:NRC:0692AR dated June 23, 1986.

The Unit 2 West Motor Driven Auxiliary Feedwater Pump (WMDAFP) and the Unit 1 Local Shutdown Instrumentation (LSI) were without backup power for greater than thirty (30) days. Backup power is required to take credit for this equipment per our 10CFR50 Appendix R analysis. An outage of more than thirty (30) days requires a Special Report be submitted per our initially proposed Technical Specifications.

Simultaneously with the WMDAFP being without backup power, the East Motor Driven Auxiliary Feedwater Pump (EMDAFP) was unavailable due to performance of scheduled outage work. As a result, there were no available auxiliary feedwater pumps, with backup power, for alternate safe shutdown in support of the opposite Unit.

A brief time line follows which depicts the originally proposed equipment outage schedules, reasons for exceeding these schedules and the expected equipment restoration schedule.

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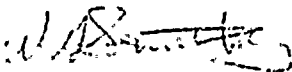
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- August 1, 1988: The A Train Emergency Diesel Generator is removed from service for a scheduled 51 day outage. Since this diesel provides backup power to the EMDAFP, the WMDAFP is verified available in support of Unit 1.
- Scheduled plant outage work on the EMDAFP is also commenced on this date. This outage work includes two Plant Modifications.
- September 2, 1988: Modification #1 on the EMDAFP is scheduled for completion, however due to physical design problems this modification is extended to October 17, 1988.
- September 9, 1988: Modification #2 on the EMDAFP is completed.
- September 19, 1988: The WMDAFP is removed from service for lubrication. This started the 30 day period of unavailability for the Auxiliary Feedwater Pumps.
- September 21, 1988: The Train A Emergency Diesel Generator is returned to service. Due to the problems with Modification #1 on the EMDAFP it remains unavailable. The Train B Emergency Diesel Generator is removed from service leaving both the WMDAFP and LSI instrumentation without backup power supplies. This started the 30 day period of unavailability for the LSI instrumentation.
- October 8, 1988: The Unit 2 Condensate Storage Tank (CST) is isolated for hydrostatic testing. Due to problems found during this testing it is unavailable until 10/24/88.
- October 17, 1988: Modification #1 to the EMDAFP is complete, but it was decided not to test the pump to officially declare it operable due to the fact that sodium dye had been injected into Unit 2 CST. Due to the various cross connects in the Auxiliary Feedwater System there was a significant risk that Unit 1's operating Steam Generators would become contaminated with the dye. The EMDAFP could have been run in an emergency to supply Unit 1 with water from the Unit 1 CST, but its availability could not be "proved" until it could be tested on the Unit 2 CST.
- October 24, 1988: The Unit 2 CST restored to availability.
- October 26, 1988: The Unit 2 EMDAFP is available in support of Unit 1 for alternate safe shutdown purposes, with backup power supply.

November 11, 1988: The Train B Emergency Diesel is scheduled to be returned to service on this date. This will restore backup power to the WMDAFP and LSI instrumentation.

During the period of time in which both Auxiliary Feedwater pumps were unavailable, compensatory action in the form of the fire watches were utilized in the affected plant areas. These same compensatory measures will continue for the LSI instrumentation until its backup power supply is restored to operable status.

Respectfully,

  
W. G. Smith, Jr.

cc: D. H. Williams, Jr.  
A. B. Davis (Region III)  
M. P. Alexich  
R. F. Kroeger  
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Response to Notice of Violation noted in inspection report 50-316/99-017. Corrective actions taken: Surveillance Procedure 02-OHP 4030.STP.054E, rev 7 was placed on administrative hold until safety evaluations for changes 2 & 3 can be completed.

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November 19, 1999

C1199-22

Docket No.: 50-316

US Nuclear Regulatory Commission  
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Donald C. Cook Nuclear Power Plant, Unit 2  
RESPONSE TO NOTICE OF VIOLATION 50-316/99017-01

On September 22, 1999, the U. S. Nuclear Regulatory Commission issued Inspection Report 50-315(316)/99017. This inspection report contained, in-part, Notice Of Violation (NOV) 50-316/99017-01. This NOV cited an example of Indiana Michigan Power Company's (I&M) failure to meet the requirements of 10 CFR 50.59. I&M acknowledges and accepts this violation.

During I&M's investigation into the cause of the cited violation, a second example of a failure to meet the requirements of 10 CFR 50.59 was identified. Therefore, during the week of October 17, 1999, I&M met with the NRC Senior Resident Inspector assigned to Cook Nuclear Plant. This meeting focused on the status of I&M's NOV investigation activities, the projected completion date for the investigation, and the need for a 30 day extension on the NOV response due date. I&M requested and was granted a 30 day extension on its NOV response due date. The due date was moved from October 22, 1999, to November 21, 1999.

This letter transmits I&M's response to the NOV. Attachment 1 of this letter contains a discussion of I&M's evaluation of, and corrective actions associated with, the NOV. Attachment 2 of this letter contains a list of commitments associated with the NOV.

IEO1

993350034



Should you have any question, please contact Robert C. Godley, Director of Regulatory Affairs, at (616) 466-2698.

Sincerely,



A. C. Bakken <sup>III</sup>  
Site Vice President

/dms

Attachments

c: J. E. Dyer  
MDEQ - DW & RPD  
NRC Resident Inspector  
R. Whale

## ATTACHMENT 1 TO C1199-22

### **Restatement Of The Violation:**

10 CFR 50.59 requires, in part, that the licensee shall maintain records of changes in procedures made pursuant to this section, to the extent that these changes constitute changes in the facility as described in the safety analysis report. These records must include a written safety evaluation which provides the basis for the determination that the change does not involve an unreviewed safety question.

The UFSAR, in Section 9.3, "Residual Heat Removal," stated that, "The cooldown rate of the reactor coolant is controlled by regulating the flow through the tube side of the residual heat exchangers. A bypass line, which serves both residual heat exchangers, is used to regulate the temperature of the return flow to the reactor coolant system as well as maintain a constant flow through the RHR system."

Contrary to the above, on May 21, 1999, the licensee performed a surveillance test on the Unit 2 East Residual Heat Removal (RHR) Train using the Component Cooling Water System to regulate the temperature of the return flow to the reactor coolant system. The licensee performed the surveillance test using Change 2 to Surveillance Procedure 02-OHP 4030.STP.054E, "East Residual Heat Removal Train Operability Test - Shutdown," Revision 7, without having performed a full safety evaluation. The licensee failed to restore compliance after Non-Cited Violation 50-316/99004-04 was identified in March 1999 for the same issue (Violation 50-316/99017-01 (DRP)).

This is a Severity Level IV violation (Supplement 1).

### **Admission/Denial Of The Violation:**

Indiana Michigan Power (I&M) admits to the Notice of Violation (NOV).

During the investigation of this violation it was determined that an additional violation of 10 CFR 50.59 occurred involving Change 3 to surveillance procedure 02-OHP 4030. STP.054E.

### **Reasons For The Violation:**

#### Background Information:

During plant shutdown conditions, Cook Nuclear Plant (CNP) Operations personnel use the RHR system to provide core cooling. This activity is accomplished, in part, by controlling reactor coolant flow through the RHR heat exchanger. The control of reactor coolant flow through the heat exchanger is accomplished by throttling the RHR heat exchanger outlet and bypass valves. The performance of this activity is discussed in Section 9.3, "Residual Heat Removal," of the Updated Final Safety Analysis Report (UFSAR).

During extended outages (i.e., when decay-heat loads are very low), the RHR heat exchanger outlet valve is throttled to a point where turbulence is induced on the downstream side of the RHR heat exchanger outlet valve. This turbulence results in the system flow instrumentation responding erratically. To address this concern, Operations developed an informal strategy of throttling RHR heat exchanger outlet flow in combination with the throttling of Component Cooling Water (CCW) to the RHR heat exchanger. This action reduces the amount of turbulence, while at the same time ensuring adequate core cooling. Although the throttling of CCW flow to the RHR heat exchangers has been a long standing practice, it is not discussed as a shutdown cooling method in the UFSAR.

Change 2 to Surveillance Procedure 02-OHP 4030.STP.054E, Revision 7, added procedural guidance (embedded in a note) that relied on this practice. This procedural change assumed that, under very low decay heat conditions, Component Cooling Water to the RHR heat exchanger could be throttled in place of Reactor Coolant System (RCS) flow rate through the RHR heat exchanger. The procedure developer and screeners/evaluators failed to recognize that the practice assumed by the change needed to be evaluated against UFSAR Section 9.3.

Shortly after issuance of Change No. 2, the process for maintaining reactor coolant temperature was questioned. To address the question, Operations issued Change 3 to Surveillance Procedure 02-OHP 4030.STP.054E, Revision 7, which formalized the practice assumed by Change 2. Subsequently, I&M received Non-Cited Violation (NCV) 99004-04. The individual who was assigned the responsibility for evaluating NCV 99004-04 incorrectly believed the NCV was adequately addressed by the issuance of Change 3. This error led the evaluator to believe that all of the immediate corrective actions were completed and the concern had been resolved. Therefore, CNP failed to resolve the concern in a timely and effective manner. NOV 99017-01 was received in September 1999. During the course of the subsequent investigation, it was discovered that Change 3 to 02-OHP 4030.STP.054E, Revision 7, also did not have a safety evaluation as required by 10 CFR 50.59.

The 10 CFR 50.59 evaluation of Change 2 to Surveillance Procedure 02-OHP 4030.STP.054E, Revision 7, has been completed. This evaluation determined that this change in operating practice did not constitute an unreviewed safety question.

Reason For Violation:

The cause of this violation was an organizational mindset that controlling the RCS temperature via manipulation of CCW flow rate to the RHR heat exchanger was not a change to the plant or procedures as described in the UFSAR, because this activity had been a long-standing practice. This mindset resulted in I&M's failure to meet the screening requirements set forth in 10 CFR 50.59 for two consecutive changes to Surveillance Procedure 02-OHP 4030.STP.054E, Revision 7.



The mindset discussed in the causal statement above also played a contributing role in CNP's failure to implement prompt corrective actions. Specifically, the responsible individuals failed to identify and understand that Change 2 to Revision 7 of Surveillance Procedure 02-OHP 4030.STP.054E resulted in a change to a station procedure as described in the USFAR.

In response to NCV 99004-04, CNP initiated Condition Report 99-14175. This condition report contained a statement that led the evaluator to assume Change 3, Revision 7, of Surveillance Procedure 02-OHP 4030.STP.054E had been evaluated and adequately addressed and corrected the NRC's concern. This also contributed to the delay in resolving the identified non-compliance.

**Corrective Steps That Have Been Taken And Results Achieved:**

To ensure the NRC identified concern, as well as the extent of the concern were adequately understood and corrected, Operations reevaluated Condition Report 99-14175. This condition report documents the results of our root cause evaluation, cause and extent evaluation, and our corrective action plan.

Surveillance Procedure 02-OHP 4030.STP.054E, Revision 7, was placed on administrative hold until safety evaluations for Changes 2 and 3 could be completed.

Change 2 to Revision 7 of Surveillance Procedure 02-OHP 4030.STP.054E, has been evaluated and found to be acceptable. This action was completed on October 19, 1999.

Case Specific Checklist 0350 Restart Action Plan 4, "Safety Evaluations," discusses the corrective actions taken/planned to enhance CNP programs for implementing requirements established in 10 CFR 50.59. The actions discussed in this Restart Action Plan have significantly improved the CNP 10 CFR 50.59 process.

The Operations Procedure Group supervisor discussed the screening errors with the procedure writers group. This action was taken to ensure all individuals understand management's expectations for properly performing 10 CFR 50.59 screening activities.

**Corrective Steps That Will Be Taken To Avoid Further Violations:**

All 50.59 qualified screeners and evaluators will review a summary of Violation 99017-01 and I&M's response. This action will be completed by December 10, 1999:

I&M will include this violation response in the lessons learned section of the 10 CFR 50.59 training program. This action will be completed by March 1, 2000.

**Date Full Compliance Will Be Achieved:**

Surveillance Procedure 02-OHP-4030.STP.054E was placed on administrative hold until it is properly evaluated in accordance with the requirements set forth in 10 CFR 50.59. CNP is in full compliance with the requirements of 10 CFR 50.59.

ATTACHMENT 2 TO C1199-22

**Commitments Associated With Letter C1199-22**

All 50.59 qualified screeners and evaluators will review a summary of Violation 99017-01 and I&M's response. This action will be completed by December 10, 1999.

I&M will include this violation response in the lessons learned section of the 10 CFR 50.59 training program. This action will be completed by March 1, 2000.