

Indiana Michigan
Power Company
Cook Nuclear Plant
One Cook Place
Bridgman, MI 49106
616-465-5901



October 19, 2000

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Operating Licenses DPR-58 and DPR-74
Docket Nos. 50-315 and 50-316

Document Control Manager:

In accordance with the criteria established by 10 CFR 50.73 entitled Licensee Event Report System, the following report is being submitted:

LER 315/1998-057-01, "Auxiliary Feedwater Valves Not Tested In Accordance With Inservice Testing Program."

No Commitments are identified in this submittal.

Should you have any questions regarding this correspondence, please contact Mr. Wayne J. Kropp, Director Regulatory Affairs, at 616/697-5056.

Sincerely,

A handwritten signature in black ink, appearing to read "A. Bakken III", written over a circular scribble.

A. Christopher Bakken, III
Site Vice President

/emr
Attachment

c: J. E. Dyer, Region III
D. Hahn
B. A. McIntyre
T. P. Noonan
R. P. Powers
R. Whale
NRC Resident Inspector
Records Center, INPO

IE22

NRC Form 366 (6-1998)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001
LICENSEE EVENT REPORT (LER)		ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503
(See reverse for required number of digits/characters for each block)		

FACILITY NAME (1) <p style="text-align:center;">Cook Nuclear Plant Unit 1</p>	DOCKET NUMBER (2) <p style="text-align:center;">05000-315</p>	PAGE (3) <p style="text-align:center;">1 of 3</p>
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TITLE (4)
Auxiliary Feedwater Valves Not Tested In Accordance With Inservice Testing Program

EVENT DATE (5)			LER NUMBER (6)				REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER	
12	28	1998	1998	-- 057 --	01	10	19	2000	DC Cook - Unit 2	05000-316	
			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
OPERATING MODE (9) 5		20.2201 (b)		20.2203(a)(2)(v)		<input checked="" type="checkbox"/>		50.73(a)(2)(i)		50.73(a)(2)(viii)	
POWER LEVEL (10) 000		20.2203(a)(1)		20.2203(a)(3)(i)				50.73(a)(2)(ii)		50.73(a)(2)(x)	
		20.2203(a)(2)(i)		20.2203(a)(3)(ii)				50.73(a)(2)(iii)		73.71	
		20.2203(a)(2)(ii)		20.2203(a)(4)				50.73(a)(2)(iv)		OTHER	
		20.2203(a)(2)(iii)		50.36(c)(1)				50.73(a)(2)(v)		Specify in Abstract below or n NRC Form 366A	
		20.2203(a)(2)(iv)		50.36(c)(2)				50.73(a)(2)(vii)			

LICENSEE CONTACT FOR THIS LER (12)

NAME Earl M. Ridgell, Compliance Licensing Supervisor (Acting)	TELEPHONE NUMBER (Include Area Code) (616) 465-5901, x1784
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)					EXPECTED SUBMISSION DATE (15)		
<input type="checkbox"/> YES (If Yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/> X	<input type="checkbox"/> NO					

Abstract (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

During an Inservice Testing (IST) Program assessment performed in December 1998, plant personnel identified several valves in the Auxiliary Feedwater (AFW) System that should have been tested in accordance with American Society of Mechanical Engineers (ASME) Section XI but were not tested as required. The specific valves include the Auxiliary Feedwater Pump Suction Check Valves and the Auxiliary Feedwater Pump Emergency Leakoff Valves.

As a result of the missed IST Program testing, the requirements for Technical Specification (TS) 4.0.5 were not satisfied. On December 28, 1998, this condition was determined to be reportable. Therefore, interim report LER 315/98-057-00 was submitted on January 27, 1999 in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by plant Technical Specifications. This LER supplement report is being submitted based on completion of the root cause investigation and replaces LER 315/98-057-00 in its entirety.

The causes of these conditions have been determined to be a lack of knowledge of the American Society of Mechanical Engineers (ASME) Codes, licensing and design basis of the plant, and ineffective scoping and implementation of the IST program.

The safety significance is minimal in that 1) the AFW system accident analyses are performed assuming the Emergency Leakoff Valves fail open on loss of air, diverting flow to the Condensate Storage Tank, and 2) testing of the AFW Pump suction check valves has been performed in the past with no indication that the valves would fail to function as designed.

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

Conditions Prior to Event

Unit 1 - was in Mode 5
0% Power Level

Unit 2 - was in Mode 5
0% Power Level

Description of Event

On December 28, 1998, as a result of discoveries made during the IST Program Assessment, it was determined that the Auxiliary Feedwater (AFW) Pump Emergency Leakoff (ELO) valves and the AFW Pump Suction Check valves were not being tested in accordance with TS 4.0.5 and the ASME Code because of the mischaracterization of these valves as passive versus active in the IST Program. The AFW ELO valves were not being stroke time tested or fail safe tested as required by the ASME Code. The AFW Pump Suction valves were not being exercised and tested in the closed position as required by the ASME Code.

As a result of the missed IST Program testing, the requirements for Technical Specification (TS) 4.0.5 were not satisfied. On December 28, 1998, this condition was determined to be reportable. Therefore, interim report LER 315/98-057-00 was submitted on January 27, 1999 in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by plant Technical Specifications. This LER supplement report is being submitted based on completion of the investigation and replaces LER 315/98-057-00 in its entirety.

Cause of Event

The causes of the conditions were determined to be a lack of knowledge of the ASME Code and the licensing and design basis of the plants, and ineffective scoping and implementation of the IST Program. The IST Program development at each of the three (3) ten-year intervals was not consistent with industry standards because of fragmented interface between offsite and onsite organizations in developing program scope and content. Program administrative procedures were vague and relied on the knowledge of IST Program Coordinators for effective implementation.

Analysis of Event

Technical Specification Surveillance Requirement (TSSR) 4.0.5 addresses the requirements for inservice inspection and testing of ASME Code Class 1, 2, and 3 components. Per TSSR 4.0.5, inservice testing of ASME Code Class 1, 2 and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10CFR50, Section 50.55a. Section 50.55a(f) requires the implementation of IST programs in accordance with the applicable edition of the ASME Code for those pumps and valves whose function is required for safety. Missed IST/ASME tests are reportable when the test interval plus any allowable extension plus the LCO action time has been exceeded. The failure to effectively identify IST Program requirements or translate the IST Program requirements into implementing procedures resulted in several ASME testing requirements required by TSSR 4.0.5 not being met.

The Auxiliary Feedwater System (AFWS) is a safety-related system that is designed to provide sufficient feedwater to the steam generators (SGs) when the main feedwater pumps are not available, particularly under the following scenarios: Loss of main feedwater, station blackout, cooldown, rupture of main feedwater line and rupture of main steamline. The

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emergency leakoff lines perform a safety function to protect the AFW pumps from damage during low flow conditions. Flow controllers located downstream of the ELO connection on the discharge of the pumps monitor flows to the SGs or the AFW pump test line. The controllers automatically open the associated ELO valve whenever the flow is less than 110 gpm through the motor driven AFW pump or less than 120 gpm through the turbine driven AFW pump. The associated valve closes once the minimum flow is exceeded.

The ELO valves were identified as having a passive safety function in the IST program, and, therefore, were not stroke time tested or fail safe tested as required by the ASME Code. However, failure of the ELO valve to close once sufficient pump discharge flow is developed will have no adverse impact on AFWS minimum flow requirements. The AFWS accident analyses are performed assuming the ELO valve fails open on loss of air, diverting flow to the Condensate Storage Tank. Sufficient flow is still maintained assuming the ELO valves fail open.

The AFW Pump Suction Check Valves have an active safety function to close to prevent diversion of flow when the AFW pumps are aligned to take suction from the Essential Service Water System. The IST program did not identify the closing function or ASME Code testing requirements for these check valves. However, testing has been performed pursuant to Significant Operating Event Report (SOER) 86-03, "Check Valve Failure or Degradation," with no indication that the valves would fail to function as designed.

The safety significance is minimal in that 1) the AFW system accident analyses are performed assuming the Emergency Leakoff Valves fail open on loss of air, diverting flow to the Condensate Storage Tank, and 2) testing of the AFW Pump suction check valves has been performed in the past with no indication that the valves would fail to function as designed.

Corrective Actions

Corrective actions for this condition have been docketed in LER 315/1999-032-00, submitted January 18, 2000. Those corrective actions encompass the IST components reported in this LER.

Previous Similar Events

Subsequent examples of the failure to adequately address components under the IST program were identified and addressed in LER 315/1999-032-00, submitted January 18, 2000. No previous examples were identified during the review of 1998 events.