



December 15, 2006

10 CFR 50.73(a)(2)(i)(B)
10 CFR 50.73(a)(2)(v)(B)
10 CFR 50.73(a)(2)(vii)(B)

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Palisades Nuclear Plant
Docket 50-255
License No. DPR-20

Licensee Event Report 06-007, Auxiliary Feedwater Control Switches Not Positioned For Automatic System Actuation

Licensee Event Report (LER) 06-007 is enclosed. The LER describes the discovery that control switches for both trains of the auxiliary feedwater system were not aligned as required for automatic system actuation. This occurrence is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B), 10 CFR 50.73(a)(2)(v)(B) and 10 CFR 50.73(a)(2)(vii)(B).

Summary of Commitments

This letter contains no new commitments and no revisions to existing commitments.

Paul A. Harden
Site Vice President, Palisades Nuclear Plant
Nuclear Management Company, LLC

Enclosure (1)

CC Administrator, Region III, USNRC
Project Manager, Palisades, USNRC
Resident Inspector, Palisades, USNRC

ENCLOSURE 1

**LER 06-007, Auxiliary Feedwater Control Switches
Not Positioned For Automatic System Actuation**

3 Pages Follow

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0066), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1) Palisades Nuclear Plant	DOCKET NUMBER (2) 05000-255	PAGE (3) 1 of 3
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TITLE (4)
Auxiliary Feedwater Control Switches Not Positioned For Automatic System Actuation

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
11	03	2006	2006	007	00	12	15	2006	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		2	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR : (Check all that apply) (11)							
POWER LEVEL (10)		000	20.2201(b)			20.2203(a)(3)(ii)			50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
			20.2201(d)			20.2203(a)(4)			50.73(a)(2)(iii)	50.73(a)(2)(x)
			20.2203(a)(1)			50.36(c)(1)(i)(A)			50.73(a)(2)(iv)(A)	73.71(a)(4)
			20.2203(a)(2)(i)			50.36(c)(1)(ii)(A)			50.73(a)(2)(v)(A)	73.71(a)(5)
			20.2203(a)(2)(ii)			50.36(c)(2)		X	50.73(a)(2)(v)(B)	OTHER Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(iii)			50.46(a)(3)(ii)			50.73(a)(2)(v)(C)	
			20.2203(a)(2)(iv)			50.73(a)(2)(i)(A)			50.73(a)(2)(v)(D)	
			20.2203(a)(2)(v)	X		50.73(a)(2)(i)(B)	X		50.73(a)(2)(vii)	
			20.2203(a)(2)(vi)			50.73(a)(2)(i)(C)			50.73(a)(2)(viii)(A)	
			20.2203(a)(3)(i)			50.73(a)(2)(ii)(A)			50.73(a)(2)(viii)(B)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Daniel G. Malone	TELEPHONE NUMBER (Include Area Code) (269) 764-2463
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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)

YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

ABSTRACT

On November 3, 2006, with the plant in Mode 2, it was discovered that control switches associated with both trains of the auxiliary feedwater (AFW) system were not aligned as required for automatic system actuation. In the as-found control switch configuration, an auxiliary feedwater actuation signal (AFAS) would not have automatically actuated AFW system components. Investigation determined that the control switches had been positioned in the noted alignment two days prior, with the plant in Mode 3.

At the time of discovery, and throughout the period during which the switches were not aligned for automatic actuation, one train of AFW was in operation providing the heat removal function. However, in the event of a postulated AFAS and loss of off-site power event, the motor-driven AFW pump in the operating train would not have been automatically re-powered by the associated emergency diesel generator as it re-energized loads.

This occurrence is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications. In addition, the occurrence is reportable in accordance with 10 CFR 50.73(a)(2)(v)(B) and 10 CFR 50.73(a)(2)(vii)(B) as a condition that could have prevented the fulfillment of the safety function of a system that is needed to remove residual heat.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Palisades Nuclear Plant	05000-255	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 of 3
		2006	-- 007	-- 00	

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

EVENT DESCRIPTION

On November 3, 2006, with the plant in Mode 2, it was discovered that control switches [HS;BA] associated with both trains of the auxiliary feedwater (AFW) [BA] system were not aligned as required for automatic system actuation. In the as-found control switch configuration, an auxiliary feedwater actuation signal (AFAS) would not have automatically actuated AFW system components. Investigation determined that the control switches had been positioned in the noted alignment two days prior, with the plant in Mode 3.

At the time of discovery, and throughout the period during which the switches were not aligned for automatic actuation, one train of AFW was in operation providing the heat removal function. However, in the event of a postulated AFAS and loss of off-site power event, the motor-driven AFW pump [P;BA] in the operating train would not have been automatically re-powered by the associated emergency diesel generator [DG;EK] as it re-energized loads.

By design, the AFW system automatically supplies feedwater to the steam generators [SG;AB] to remove decay heat from the primary coolant system [AB]. The AFW system actuates automatically on low steam generator level by an AFAS. The AFAS initiates signals for starting the AFW pumps and repositioning system valves to initiate AFW flow to the steam generators.

Technical Specification (TS) Limiting Condition For Operation (LCO) 3.7.5 requires two AFW trains to be operable in Modes 1, 2 and 3. The implications of the subject condition on the AFW system are that both AFW trains are rendered inoperable, and considering a loss of off-site power, there would have been less than 100% of the required AFW flow available automatically to the steam generators.

Failure to recognize the TS implications of the switch alignment resulted in not meeting the required action and completion time associated with TS LCO 3.7.5.B.2, to be in Mode 4 within 30 hours, and TS LCO 3.7.5.C.1, to immediately initiate action to restore one AFW train to operable status. In addition, the transition from Mode 3 to Mode 2 did not meet TS LCO 3.0.4, since the associated actions when TS LCO 3.7.5 is not met do not permit continued operation for an unlimited period of time.

This occurrence is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications. In addition, the occurrence is reportable in accordance with 10 CFR 50.73(a)(2)(v)(B) and 10 CFR 50.73(a)(2)(vii)(B) as a condition that could have prevented the fulfillment of the safety function of a system that is needed to remove residual heat.

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

CAUSE OF THE EVENT

A root cause evaluation was conducted for the occurrence. The evaluation identified the following root causes: 1) the control switches were improperly positioned due to operators applying the wrong mental model in the operation, identification, and operability of the AFW controls, 2) an inadequate standard exists for the conduct of control panel walkdowns, as evidenced by the number of personnel who had an opportunity to identify the incorrect switch positions, but failed to do so, 3) procedures for normal plant shutdown are inadequate due to the need to use multiple procedures simultaneously and there being no procedure to direct the transition from main feedwater (MFW) [SJ] to AFW.

CORRECTIVE ACTIONS

Following discovery, the switches were placed in the proper position for automatic actuation of AFW. A check of other safety related controls on the control room panels was conducted to verify proper alignment.

A case study of the event will be developed and implemented to stress the lessons learned from the occurrence and to reinforce operations standards associated with prevention and detection of operating events.

A revised control panel walkdown standard will be developed and implemented to incorporate industry best practices.

Procedures will be revised to clarify AFW operability requirements during plant shutdowns, add guidance for system alignment checks prior to Mode changes, and to provide additional guidance on transitioning from MFW to AFW.

SAFETY SIGNIFICANCE

This occurrence was determined to be of very low safety significance. Conditional core damage probability (CCDP) was conservatively estimated to be less than 1E-06.

Although AFW was not aligned for automatic actuation upon receipt of an AFAS, operators would have been directed by procedures to recover steam generator level, and could have readily started an AFW pump manually from the control room via its pump hand switch.

PREVIOUS SIMILAR EVENTS

None