August 7, 2006

L-PI-06-066
10 CFR 50.73

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

Prairie Island Nuclear Generating Plant Unit 1
Docket 50-282
License No. DPR-42

LER 1-06-02, Unit 1 Mode Change with the Turbine-Driven Auxiliary Feedwater Pump Inoperable

Licensee Event Report (LER) 1-06-02 is enclosed. The LER describes Unit 1 Mode changes with the turbine-driven auxiliary feedwater pump inoperable. This event is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications.

Summary of Commitments

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

Thomas J. Palmisano
Site Vice President, Prairie Island Nuclear Generating Plant
Nuclear Management Company, LLC

Enclosure

cc: Administrator, Region III, USNRC
Project Manager, Prairie Island, USNRC
Resident Inspector, Prairie Island, USNRC
Glenn Wilson, State of Minnesota

ENCLOSURE

LICENSEE EVENT REPORT 1-06-02

3 Pages Follow

NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION
(6-2004)

APPROVED BY OMB NO. 3150-0104 EXPIRES 6-30-2007

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.

LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Prairie Island Nuclear Generating Plant Unit 1	05000 282	1 of 3

TITLE (4)
Unit 1 Mode Change with the Turbine-Driven Auxiliary Feedwater Pump Inoperable

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
6	6	06	06	-- 02 --	0	8	7	06	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	1
POWER LEVEL (10)	29

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)

	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)		50.73(a)(2)(v)(B)		OTHER
	20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)		Specify in Abstract below or in NRC Form 366A
	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)		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	TELEPHONE NUMBER (Include Area Code)
Jeff Kivi	651.388.1121

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
A	BA	P	T147	Y					

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE).	X NO				

ABSTRACT

Prairie Island Nuclear Generating Plant (PINGP) Unit 1 conducted Mode changes during plant heatup following refueling outage 1R24 with 11 Turbine-Driven Auxiliary Feedwater (TDAFW) Pump inoperable.

On June 1, 2006 at 0430 CDT PINGP Unit 1 transitioned to Mode 3. PINGP Unit 1 subsequently transitioned to Mode 2 on June 5, 2006 at 1414 CDT and Mode 1 on June 6, 2006 at 0913 CDT. At approximately 1811 CDT on June 6, 2006, the 11 TDAFW Pump was shut down during performance of a flow test due to turbine outboard (governor end) bearing temperature exceeding the limit in a surveillance procedure.

Upon disassembly, it was found that the inboard bearing was damaged and the outboard bearing was worn. The 11 TDAFW Pump was reassembled with new inboard and outboard bearings, tested, and declared operable on June 8, 2006 at approximately 1940 CDT.

The ongoing engineering evaluation determined the 11 TDAFW Pump had been inoperable from the time the inboard bearing was installed without necessary machining (prior to Unit 1 performing Mode changes into Mode 3, Mode 2, and Mode 1). Technical Specification 3.7.5, AFW System, is applicable to 11 TDAFW Pump when the plant is in Mode 1, 2, or 3. Because the plant entered Mode 3 with 11 TDAFW Pump inoperable, this event is being reported in accordance with 10 CFR 50.73.(a)(2)(i)(B) as a condition prohibited by Technical Specifications.

EVENT DESCRIPTION

Prairie Island Nuclear Generating Plant (PINGP) Unit 1 conducted Mode changes during plant heatup following refueling outage 1R24 with 11 Turbine-Driven[1] Auxiliary Feedwater[2] (AFW) Pump[3] inoperable.

On June 1, 2006 at 0430 CDT PINGP Unit 1 transitioned to Mode 3. PINGP Unit 1 subsequently transitioned to Mode 2 on June 5, 2006 at 1414 CDT and Mode 1 on June 6, 2006 at 0913 CDT. At approximately 1811 CDT on June 6, 2006, the 11 Turbine-Driven AFW Pump was shut down during performance of a flow test due to turbine outboard bearing[4] temperature exceeding the limit in a surveillance procedure.

Initial investigation via oil samples taken from both bearing sumps found bearing material in the oil reservoir for the inboard bearing indicating bearing damage. Some bearing material was found in the outboard bearing sump sample also indicating bearing wear or damage. Upon disassembly, the inboard bearing was found to be damaged. The outboard bearing had minor indications of wear. The 11 Turbine-Driven AFW Pump was reassembled with new inboard and outboard bearings, tested, and declared operable on June 8, 2006 at approximately 1940 CDT. Additional clearance checks during installation found minimum clearances were not adequate on the inboard bearing requiring manual machining of the bearing to obtain adequate clearance.

Based on the ongoing engineering evaluation, the 11 Turbine-Driven AFW Pump has currently been declared inoperable from the time the inboard bearing was installed without the manual machining (prior to Unit 1 entering Mode 3). Upon completion, the engineering evaluation will validate this determination.

EVENT ANALYSIS

Technical Specification Limiting Condition for Operation (LCO) 3.7.5, AFW System, is applicable to the 11 Turbine-Driven AFW pump when the plant is in Mode 3, Mode 2, or Mode 1. Because the plant entered Mode 3, Mode 2, and Mode 1 with 11 Turbine-Driven AFW Pump inoperable and Technical Specification 3.0.4.b is not applicable to LCO 3.7.5, the plant conducted mode changes prohibited by Technical Specifications and is reportable per 10 CFR 50.73.(a)(2)(i)(B).

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[1] EIIS Component Identifier: TRB
[2] EIIS System Code: BA
[3] EIIS Component Identifier: P
[4] EIIS Component Identifier: 38

Impact on Safety System Functional Failure Performance Indicator

The redundant motor-driven 12 AFW pump was operable during the time the 11 AFW pump was inoperable. Therefore, this event does not represent a loss of safety function. Consequently, this event is not reportable per 10CFR 50.73(a)(2)(v).

SAFETY SIGNIFICANCE

This event did not result in a loss of the AFW function, since the 12 AFW pump remained operable. This event did not affect the health and safety of the public. Therefore, the safety significance of this event is considered minimal.

CAUSE

The equipment root cause for the damaged inboard bearing was determined to be failure to manually machine the bearing to compensate for an apparent internal misalignment of the turbine bearings. Additional clearance checks performed during bearing replacement efforts revealed minimum clearances were not adequate. The effect of the insufficient clearances was overheating of the bearing which led to the bearing being damaged.

CORRECTIVE ACTION

The 11 AFW pump was reassembled with new inboard and outboard bearings, tested, and declared operable.

The bearing installation activity will be strengthened by revising the Preventative Maintenance (PM) procedure to include instructional detail and acceptance criteria. This action will be completed prior to the next scheduled pump/turbine PM or included in the work instructions until the PM update is completed. There are also actions to correct contributing causes involving equipment deficiencies or enhancements. This includes calibrating or replacing temperature elements and upgrading turbine insulation by the end of 2006, and investigation of internal turbine misalignment at the next opportunity.

PREVIOUS SIMILAR EVENTS

Review of Licensee Event Reports for Unit 1 and Unit 2 since 2003 found no previous similar events.