



March 31, 2011

L-PI-11-027  
10 CFR 50.73

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

Prairie Island Nuclear Generating Plant Units 1 and 2  
Dockets 50-282 and 50-306  
License Nos. DPR-42 and DPR-60

LER 50-282/2010-003-01, Postulated Flooding of Battery Rooms Due To Inadequate Battery Room Door Threshold Seals

Reference: "LER 50-282/2010-003-00, Postulated Flooding of Battery Rooms Due To Inadequate Battery Room Door Threshold Seals", dated August 9, 2010 (ADAMS Accession ML102220147)

Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, herewith encloses Licensee Event Report (LER) 50-282/2010-003-01.

On June 9, 2010, the Battery Room Door 225 threshold seal was removed from the Battery Room door for repair at 12:10 CDT and the repair was completed at approximately 12:30 CDT. While the door seal was removed, the Structures, Systems and Components (SSCs) located in the Battery Rooms were vulnerable to a postulated Turbine Building flood.

Summary of Commitments

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

Mark A. Schimmel  
Site Vice President, Prairie Island Nuclear Generating Plant  
Northern States Power Company - Minnesota

Enclosure

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

**ENCLOSURE**

**LICENSEE EVENT REPORT 50-282/2010-003-01**

**4 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: 80 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](mailto:infocollects@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0086), 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.

## 1. FACILITY NAME

Prairie Island Nuclear Generating Plant Unit 1

## 2. DOCKET NUMBER

05000282

## 3. PAGE

1 of 4

## 4. TITLE

Postulated Flooding of Battery Rooms Due To Inadequate Battery Room Door Threshold Seals

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
06	9	2010	2010	- 003 -	01	03	31	2011	Prairie Island Unit 2	05000306
									FACILITY NAME	DOCKET NUMBER

  

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)			
Mode 1	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
10. POWER LEVEL	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	
				Specify in Abstract below or in NRC Form 366A

## 12. LICENSEE CONTACT FOR THIS LER

## NAME

Sam J DiPasquale, P.E.

## TELEPHONE NUMBER (Include Area Code)

651.388.1121 x7350

## 13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTORER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTORER	REPORTABLE TO EPIX

## 14. SUPPLEMENTAL REPORT EXPECTED

☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE).☐ NO

## 15. EXPECTED SUBMISSION DATE

MONTH

DAY

YEAR

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

On June 9, 2010, the Battery Room Door 225 threshold seal was removed from the Battery Room door for repair at 12:10 CDT and the repair was completed at approximately 12:30 CDT. While the door seal was removed, the Structures, Systems and Components (SSCs) located in the Battery Rooms were vulnerable to a postulated Turbine Building flood.

Technical Specifications (TS) Limiting Condition For Operation (LCO) 3.0.3 was entered from 1135 to 1250 for both units and an eight-hour report for Loss of Safety Function (LOSF) (Event Number: 45997) was made to the NRC at 19:02 CDT on June 9, 2010 under 10 CFR 50.72(b)(3)(v)(A) requirements. This condition is also reportable as a safety system functional failure under 10 CFR 50.73(a)(2)(v)(A) for both Unit 1 and Unit 2.

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**EVENT DESCRIPTION**

The four battery rooms (11, 12, 21 and 22) are located in the Turbine Building (TB) on the 695 foot elevation. The battery room equipment includes both trains of Unit 1 and Unit 2 Batteries<sup>1</sup>, Battery Chargers, Safeguards Inverters,<sup>2</sup> including those that supply Reactor Protection Panels, Event Monitoring and Safeguards Bus Load Sequencers<sup>3</sup>, and AC and DC distribution panels.

Door 225 is the access from the TB into 11 Battery Room and Door 224 is the access from the TB into 21 Battery Room. Doors 224 and 225 are Internal Flooding Control boundaries. Two access routes per battery room are provided for personnel safety. The access between adjoining battery rooms is through openings in the reinforced concrete block walls. Each of these openings is furnished with a counterweighted gravity sliding Class "A" fire door that is not a flooding control boundary.

On June 9, 2010, at 11:35 CDT (with both Units operating at 100% power), during a plant walkdown, it was observed that the bottom gap seal for Door 224 (Unit 2) and Door 225 (Unit 1) was not in contact with their respective door thresholds. The gap was approximately 0.25 inches. Engineering was contacted and evaluated the as-found conditions of the doors. The Shift Manager determined that the doors were operable. This determination was made based on engineering judgment, as-found gaps, and previous Operability Recommendations (OPRs) that had been completed for these doors.

The Fix It Now (FIN) maintenance team responded and adjusted the Door 224 seal by 11:50 CDT. The Door 225 threshold seal was removed from the door for repair in the shop at approximately 12:10 CDT. This resulted in a condition with an intact Unit 2 threshold seal and the Unit 1 threshold seal removed for the battery rooms. The Door 225 repair was completed by the FIN team at approximately 12:30 CDT.

Subsequent to the completion of the repair, Engineering completed a review of the immediate operability justification, including the draft criteria from the High Energy Line Break (HELB) flooding evaluation. The HELB flooding evaluation included requirements that the "steam exclusion seal across the bottom gap must drop down and be in full contact with the threshold at all points across the threshold when the door is in the closed position." The criteria further states that if the doors do not meet the required configuration, "all equipment within the room between the two doors must be considered inoperable." This information was provided to the Shift Manager at approximately 18:15 CDT on June 9, 2010.

<sup>1</sup> EIS System Code: EI

<sup>2</sup> EIS System Code: EE

<sup>3</sup> EIS System Code: JE

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Since the Battery Room doors had already been repaired this was not a current operability issue but resulted in a reportable Loss Of Safety Function (LOSF). TS LCO 3.0.3 was entered from 11:35 to 12:50 CDT for both units and an eight-hour report for LOSF (Event Number: 45997) was made to the NRC at 19:02 CDT on June 9, 2010, under 10 CFR 50.72(b)(3)(v)(A) requirements.

**EVENT ANALYSIS**

On June 9, 2010, the Fix It Now (FIN) maintenance team removed the Door 225 (Unit 1) threshold seal at approximately 12:10 CDT. The FIN team did not completely review the door operability information before removing the threshold seal. The Door 225 repair was completed by the FIN team at 12:30 CDT.

At approximately 18:15 CDT, an analysis was completed evaluating the flood height that would be attained in the Unit 1 and Unit 2 battery rooms during a postulated HELB induced flooding event with the limiting conditions of the Unit 2 threshold seal intact and the Unit 1 seal removed. The analysis predicted a water depth above the limit to maintain operability of safety related components in the battery rooms. This critical flood height would be attained in approximately 30 minutes following a HELB which caused damage to cooling water piping.

A flooding event did not occur, but if a worst-case postulated TB flooding event had occurred while the Door 225 threshold seal was removed, the SSCs located in the battery rooms may not have fulfilled their required safety function. This condition is reportable as a safety system functional failure under 10 CFR 50.73(a)(2)(v)(A) for both Unit 1 and Unit 2.

**SAFETY SIGNIFICANCE**

This issue had no nuclear, radiological, industrial, or environmental impact. Internal flooding of the Turbine Building and battery rooms did not occur, so the SSCs in the battery rooms did not fail. Therefore, this event did not affect the health and safety of the public.

**CAUSE**

The causal evaluation determined that the door operability information resides in a number of different places that are not readily accessible to the Operations department and station personnel.

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**CORRECTIVE ACTION**

- The condition was corrected on the date of the event when repair of Door 224 and Door 225 bottom gap door seals was complete.
- The site will develop a single design controlled source of door operability information.
- As an interim action, information was provided to Operations, Maintenance, Engineering, and Procurement Engineering on current door information type and location.

**PREVIOUS SIMILAR EVENTS**

LER 2-08-01 for PINGP, Unit 2, regarding an "Unanalyzed Condition Due to Both Trains of Component Cooling Susceptible to a Postulated High Energy Line Break" was submitted on January 19, 2009. This LER described a condition where both trains of the component cooling<sup>4</sup> water system were susceptible to a single failure caused by a postulated HELB in the turbine building.

LER 1-09-06 for PINGP, Units 1 and 2, regarding an "Unanalyzed Condition Due to Potential Safety System Susceptibility to Turbine Building Flooding Due to a Postulated High Energy Line Break, Supplement 1" was submitted April 8, 2010. This LER described a condition where the operability of the Unit 1 Emergency Diesel Generators<sup>5</sup> may not be assured during a HELB event.

<sup>4</sup> EIS System Code CC

<sup>5</sup> EIS System Code: EK