



April 20, 2011

L-PI-11-029
10 CFR 50.73

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

Prairie Island Nuclear Generating Plant Unit 2
Docket: 50-306
License No.: DPR-60

LER 50-306/2011-001-00, Unit 2 Shield Building Inoperable Due to Maintenance Activity

Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, herewith encloses Licensee Event Report (LER) 50-306/2011-001-00.

Improper control of Unit 2 Shield Building doors (Doors 172 and 173) during planned maintenance resulted in an unplanned Limiting Condition for Operation entry and a Loss of Safety Function for the Shield Building system.

Summary of Commitments

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

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

Enclosure

cc: Administrator, Region III, USNRC
Project Manager, Prairie Island Nuclear Generating Plant (PINGP), USNRC
Resident Inspector, PINGP, USNRC
Department of Commerce, State of Minnesota

ENCLOSURE

LICENSEE EVENT REPORT 50-306/2011-001-00

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: 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 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@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.

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4. TITLE
Unit 2 Shield Building Inoperable Due to Maintenance Activity

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
02	19	2011	2011	- 001 -	00	04	20	2011	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE Mode 1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)			
10. POWER LEVEL 100%	<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)
	<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 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 checked="" 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
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

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

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
<input type="radio"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE).	<input checked="" type="radio"/> NO			

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

While Unit 2 was operating at 100% power, improper control of Unit 2 Shield Building access doors (Doors 172 and 173) during planned maintenance resulted in an unplanned Limiting Condition for Operation (LCO) entry and a Loss of Safety Function (LOSF) for the Shield Building system. During the maintenance work, the doors were simultaneously opened several times, for approximately ten seconds each time, resulting in a LOSF. This was reportable per 10 CFR 50.73(a)(2)(v)(C) as a condition that could have prevented the fulfillment of the safety function that was needed to control the release of radioactive material.

The causal evaluation determined that Planning did not identify within the Work Order (WO) the latent impact of the LOSF when two Shield Building access doors were to be simultaneously opened.

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EVENT DESCRIPTION

On February 19, 2011, at approximately 08:00 CST with Unit 2 in Mode 1 and operating at 100% power, electricians used a Work Order (WO) to perform maintenance on Doors 172 and 173. Doors 172 and 173 are part of the Unit 2 Shield Building¹ access opening (maintenance access). As part of the troubleshooting process, both doors were simultaneously opened several times for approximately ten seconds each time between 08:00 and 08:15 CST.

At approximately 10:15 CST, the Shift Supervisor reviewed the troubleshooting process and the Technical Specifications (TS) Basis for section 3.6.10. The Shift Supervisor realized that TS 3.6.10, Limiting Condition for Operation (LCO), Condition A should have been entered during the time that Doors 172 and 173 were simultaneously opened. The Shift Manager was informed and he directed the Shift Supervisor to enter TS 3.6.10, LCO, Condition A, as an unplanned LCO for the duration of the work activity.

EVENT ANALYSIS

At the Prairie Island Nuclear Generating Plant (PINGP), the Unit 2 Shield Building is a concrete structure that surrounds the steel Containment vessel. Between the Containment vessel and the Shield Building inner wall is an annular space that collects a portion of the containment leakage that may occur following a design basis accident (DBA). The Shield Building provides the means for collecting and filtering containment fission product leakage following a DBA.

Following a DBA the Shield Building Ventilation System (SBVS) establishes a negative pressure in the annulus between the Shield Building and the steel containment vessel. The Shield Building is required to be operable to ensure retention of containment leakage and proper operation of the SBVS. This operability is required when Unit 2 is in Modes 1, 2, 3, and 4.

The Shield Building is operable when:

- a. At least one door in each access opening is closed including when the access opening is being used for normal transit entry and exit; and
- b. The Shield Building equipment opening is closed.

Before scheduling the WO to be performed while Unit 2 was in Mode 1, planners did not adequately write the WO instructions for the potential Loss of Safety Function (LOSF) when both access doors were opened simultaneously. During the WO activity described above, Doors 172 and 173 were simultaneously opened for short periods of time. While both doors were opened, operability of the Shield Building was compromised and the safety function of the Shield Building was not assured.

The condition described above represents a Safety System Functional Failure reportable under 10 CFR 50.73(a)(2)(v)(C).

¹ EIS System Code: BD

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SAFETY SIGNIFICANCE

A loss of safety function did occur however the short periods of time that both doors were opened limited the safety risk. A DBA did not occur while both access doors were simultaneously opened for maintenance. Therefore this event had no nuclear, radiological, industrial, or environmental impact and did not affect the health and safety of the public.

CAUSE

The causal evaluation determined that Planning did not identify within the Work Order (WO) the latent impact of the LOSF when two Shield Building ventilation doors were to be opened simultaneously.

CORRECTIVE ACTION

- The Shield Building functionality was restored when the worker's troubleshooting efforts stopped, the work was suspended, and both Unit 2 Shield Building access doors were closed. TS 3.6.10, LCO Condition A, was exited at 08:15 CST on February 19, 2011.
- The preventive maintenance procedure for the door repair work was revised to explicitly state that the two doors associated with an access can only be simultaneously opened in Modes 5 or 6.
- A Plant Impact Statement checklist was created to increase the rigor of planning. The checklist is required to be performed as part of the work order planning process. A line will be added to the checklist to review the loss of safety function concerns.
- The Outage Scope Change Request Scope Control form will be revised to ensure that the outage screening team determines if the proposed work can be done online (Mode 1). The form will be revised to require the Online Manager (or designee) approval that the work can be performed online.

PREVIOUS SIMILAR EVENTS

A LER search was conducted and one similar LER event at PINGP involving doors and inoperability was identified in the last three years.

LER 50-282/2010-003-01, Postulated Flooding of Battery Rooms Due To Inadequate Battery Room Door Threshold Seals, was submitted March 31, 2011. This LER described a condition where the battery rooms were declared inoperable due to potential flooding.