



Northern States Power Company

Prairie Island Nuclear Generating Plant

1717 Wakonade Dr. East  
Weich, Minnesota 55089

October 05, 1998

10 CFR Part 50  
Section 50.73

U S Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

**PRAIRIE ISLAND NUCLEAR GENERATING PLANT**

Docket Nos. 50-282 License Nos. DPR-42  
*306*

**LER 2-98-04**

**Shield Building Integrity**

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The Licensee Event Report for this occurrence is attached. In the report, we have made no new NRC commitments.

Please contact us if you require additional information related to this event.

Joel P. Sorensen  
Plant Manager  
Prairie Island Nuclear Generating Plant

c: Regional Administrator - Region III, NRC  
NRR Project Manager, NRC  
Senior Resident Inspector, NRC  
Kris Sanda, State of Minnesota

Attachment

9810140273 981005  
PDR ADOCK 05000306  
S PDR

*IE 22*

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.

FACILITY NAME (1) Prairie Island Nuclear Generating Plant Unit 2		DOCKET NUMBER (2) 05000 306	PAGE (3) 1 OF 4
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TITLE (4)  
Shield Building Integrity

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
09	10	98	98	-- 04	-- 00	10	05	98	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9) 1	POWER LEVEL (10) 100	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
		20.2201(b)	20.2203(a)(2)(v)	<input checked="" type="checkbox"/>	50.73(a)(2)(i)	50.73(a)(2)(viii)				
		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)					
		20.2203(a)(2)(iv)		50.36(c)(2)	50.73(a)(2)(vii)					

LICENSEE CONTACT FOR THIS LER (12)

NAME John Stanton	TELEPHONE NUMBER (Include Area Code) 651-388-1121
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

With Prairie Island Unit 1 and 2 operating at 100% power, the plant engineering staff identified on September 10, 1998 that recent maintenance on the Shield Building access doors may have breached Shield Building integrity for a period of time greater than the 24 hours allowed by Technical Specifications Section 3.6.G. A review of the retained records for the performance of the Quarterly Mechanical Door Blanket Corrective Maintenance Work Order, WO 9612606, identified two instances where work was not signed as complete on the same calendar day that it was begun.

The requirements for the air lock type doors between the Auxiliary Building and the Shield Building were reworded as part of Technical Specification Revision 91 and the implementation of this revision did not address all procedures affected by this change. The affected procedures have now either been revised or have been quarantined until they can be revised.

**LICENSEE EVENT REPORT (LER)**  
TEXT CONTINUATION

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Prairie Island Nuclear Generating Plant Unit 2	05000 306	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 4
		98	-- 04 --	00	

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

EVENT DESCRIPTION

With Prairie Island Units 1 and 2 operating at 100% power, the plant engineering staff identified on September 10, 1998 during a subcommittee review of an Improved Technical Specification (ITS) draft that Shield Building integrity was not being administratively controlled during maintenance on the access doors. The reviewers realized that because of this lack of direct administrative control it was possible that recent maintenance on the Shield Building access doors may have breached Shield Building integrity for a period of time greater than the 24 hours allowed by Technical Specifications Section 3.6.G. A review of the retained records for the performance of the Quarterly Mechanical Door Blanket Corrective Maintenance Work Order, WO 9612606, identified two instances where work was not signed as complete on the same calendar day that it was begun.

On March 9, 1997, work to replace the door seal on the Unit 2 Aux Bldg to Shield Bldg Maintenance (Shield Bldg side) door was begun. This work was signed off by the worker on March 11, 1997.

On March 10, 1997, work to replace the door seal on the Unit 2 Aux Bldg to Shield Bldg Maintenance (Aux Bldg side) door was begun. This work was signed off by the worker on March 11, 1997.

Because the work order contained a note instructing that one door in each pair should be kept closed at all times instead of directing attention to the LCO in TS 3.6.G, a log entry does not exist to identify the time when Shield Building Integrity was breached and then re-established. Shield Building Integrity may have been breached for a period of time greater than the 24 hours allowed by Technical Specifications Section 3.6.G.

CAUSE OF THE EVENT

In Revision 91 to the Technical Specifications the definition of Containment System Integrity from the original Technical Specifications was replaced with individual definitions for Auxiliary Building Special Ventilation Zone Integrity, Containment Integrity, and Shield Building Integrity. The requirements for the air lock type access doors between the Auxiliary Building and the Shield Building were reworded as part of this definition breakup. The original Technical Specification definition 1.0.C.7 required that "At least one door in each shield building air lock is closed." In Revision 91 the Technical Specification definition of Shield Building Integrity now required that "Each door in each access opening is closed except when the access opening is being used for normal transit entry and exit, then at least one door shall be closed." Implementation of Technical Specification Revision 91 did not revise all procedures affected by this change.

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

ANALYSIS OF THE EVENT

The current Technical Specification TS.3.6.G<sup>1</sup> provide for a 24 hour limit on the time that Shield Building Integrity may be breached and the current Technical Specification definition of Shield Building Integrity<sup>2</sup> would include any single access door that is open for anything other than normal transit entry and exit as a breach of the required boundary integrity. Neither the Technical Specifications nor bases<sup>3</sup> make any current specific allowance for the maintenance on the access doors which must be carried out on a periodic basis. Door maintenance was not a problem with the original Technical Specifications<sup>4</sup> which only required that one door in each access passage remain closed to maintain integrity. The more stringent definition of Shield Building Integrity imposed by Technical Specification Revision 91 had been proposed to bring this portion of the Prairie Island Technical Specifications into agreement with the version of standard technical specifications current at that time. There is no record that any consideration was given to the impact on maintenance activities. The change was not made to provide any increase in safety margin or address any safety significant issue.

During the period that one door in each Auxiliary Building to Shield Building air lock type passage may have been open for maintenance work, the other passage door was closed and the Shield Building Ventilation system was operable. These two conditions provided a substantial barrier to the release of radioactivity in the event of a design basis accident. Therefore, having a door open for maintenance for a period of time that may have exceeded the 24 hour LCO limit did not have any impact on the health and safety of the public and has little safety significance, although it is reportable under 10 CFR 50.73(a)(2)(i)(B) as operation prohibited by the plant's Technical Specifications.

CORRECTIVE ACTION

Three affected procedures have been quarantined until they can be revised:

PM 3122-3	Shield Bldg Category 1 Vent Zone and Fire Door Mechanical Inspection
TP 1773	Functional Check of Shield Building Doors
TP 2773	Functional Check of Shield Building Doors

<sup>1</sup> TS.3.6.G for Shield Building Integrity requires that "A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 200°F unless SHIELD BUILDING INTEGRITY is maintained. If these conditions can not be satisfied, within 24 hours initiate the action necessary to place the unit in HOT SHUTDOWN..."

<sup>2</sup> Shield Building Integrity shall exist when: (1) Each door in each access opening is closed except when the access opening is being used for normal transit entry and exit, then at least one door shall be closed, and (2) The shield building equipment hatch is closed. (3) The Shield Building Ventilation System is OPERABLE.

<sup>3</sup> The basis for section 3.6 states that "The action statement that allows Shield Building Integrity to be lost for 24 hours will allow for minor modifications to be made to the Shield Building during power operations."

<sup>4</sup> The original Technical Specifications definition of Containment System Integrity required that "At least one door in each shield building air lock is closed

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

The current Quarterly Mechanical Door Blanket Corrective Maintenance Work Order, 9804511, has been corrected with Temporary Change Notice TCN 19980104. Work on any of the Shield Building air lock type doors will log entry to LCO TS.3.6.G.

A license amendment request is under consideration that would modify the definition of Shield Building Integrity in the current Technical Specifications to require only one door in each access passage to be closed during power operation.

Revision 91 was issued in 1989. The Technical Specification implementation process has become much more rigorous since then with 5 subsequent revisions to the procedure 5AWI 3.3.1 "Technical Specification Change Review Committee." It is expected that any other omissions in the implementation of Technical Specification Revision 91 and any other revision will be discovered during the ongoing review of the draft versions of ITS. For these reasons no further corrective actions are deemed necessary.

PREVIOUS SIMILAR EVENTS

None.