



October 5, 2015

L-PI-15-089
10 CFR 50.73

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

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

LER 50-282/2015-006-00, Quarterly Containment Spray Pump Surveillance Test
Methodology

Northern States Power Company, a Minnesota corporation, doing business as
Xcel Energy (hereafter "NSPM"), encloses Licensee Event Report (LER)
50-282/2015-006-00, Quarterly Containment Spray Pump Surveillance Test
Methodology.

Summary of Commitments

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

A handwritten signature in black ink that reads 'Kevin Davison'.

Kevin Davison
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 50-282/2015-006-00

4 Pages Follow

LICENSEE EVENT REPORT (LER)

(See Page 2 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, (3150-0104), 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 05000 - 282	3. PAGE 1 OF 4
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4. TITLE
Quarterly Containment Spray Pump Surveillance Test Method

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
8	4	2015	2015	006	00	10	5	2015	Prairie Island Nuclear Generating Plant Unit 2	05000-306
									FACILITY NAME	DOCKET NUMBER
										05000

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 checked="" 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

LICENSEE CONTACT Frank Sienczak	TELEPHONE NUMBER (Include Area Code) 651-267-1740
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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="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE). <input checked="" type="checkbox"/> NO								

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

On August 4, 2015, it was identified that the quarterly Containment Spray pump surveillance procedures (SP) 1090A[B] and 2090A[B] included steps to use a vent valve under administrative controls to drain the Containment Spray (CS) header before and after the SP was conducted. Previous revisions of the SPs (up to 2014) used a drain valve for the same purpose.

This created an open flow path from the Containment into the Containment Spray rooms in the Auxiliary Building. This configuration was not allowed by Tech Spec 3.6.3 A.1, and is reportable under 10 CFR 50.73(a)(2)(i)(B), operations or condition prohibited by Tech Spec. Additionally, the Containment pressure boundary function was adversely affected by opening the vent/drain valves, and the Containment vessels were inoperable as long as the vent/drain valves were open (in excess of one hour on some occasions). Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to control the release of radioactive material is reportable under 50.73(a)(2)(v)(C).

The apparent cause is that the License Amendment implementation in 2002 for integrating Technical Specifications into Improved Technical Specifications did not identify when and how Tech Spec LCO 3.6.3 ACTIONS modifying note 1 applied to draining of the containment spray header from the Aux Building.

Corrective actions include procedure changes which have been submitted for the affected procedures and revising Tech Spec 3.6.3 Basis, Containment Isolation Valves.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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NARRATIVE

On August 4, 2015, a question concerning the quarterly Containment Spray¹ (CS) pump surveillance, procedures (SP) 1090 A[B] and 2090 A[B] was submitted into the corrective action program. Steps within the SPs were to use a vent² or drain valve to drain the Containment Spray header before and after the SPs were conducted. This created an open flow path from the Containment into the Containment Spray rooms in the Auxiliary Building. The purpose of the draining activity was to check for leakage past the manual isolation valve on the Containment Spray Pump discharge header that is closed while the pump is running in recirculation mode during the test. In order to satisfy Tech Spec 3.6.3 (Containment Isolation Valves) required action A.1, a dedicated Operator in continuous communication with the control room was stationed in the Containment Spray pump room to close the vent/drain valve if a need for Containment Isolation were to occur.

The Containment procedure, 1[2]C19.1 contains a limitation (4.8) which states "Administrative controls placed on any vent or drain valve within the credited containment isolation boundary SHALL include actions to CLOSE the valve and restore the CAP rapidly when a need for containment isolation is indicated. This action restores the double barrier seal." This led to the implication that Tech Spec 3.6.3 Note 1 could be applied to the draining activity.

Having the vent/drain valve opened to drain the CS header is not allowed by Tech Spec 3.6.3 A.1, in MODEs 1-4. The Containment pressure boundary function was adversely affected by opening the vent/drain valve, and the Containment vessel was inoperable as long as the vent or drain valve was open. This is reportable under 10 CFR 50.73(a)(2)(i)(B), operations or condition prohibited by Tech Spec.

During the conversion to Improved Tech Spec (ITS) (circa 2002) the change management did not recognize that the addition of Tech Spec 3.6.3 Note 1 would disallow the previously accepted practice of opening Containment Isolation penetration vent and drain valves under administrative control.

The opening of the vent and drain valves created a flow path from the Containment into the CS pump room in the Auxiliary Building. This condition could have prevented fulfillment of a safety function that is needed to control the release of radioactive material. This event has occurred on both Unit 1 and Unit 2 within 3 years of the date of discovery, but not at the time of discovery so that an ENS notification is not required and an LER is required, reportable under 10 CFR 50.73(a)(2)(v)(C).

The apparent cause evaluation included an Extent of Condition. Results were that no other similar issues that involved manipulation of Containment Penetration valves was identified.

¹ EISS System Code – BE

² IEEE Component Code – VTV

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EVENT ANALYSIS

The Primary Containment System consists of a steel structure and its associated engineered safety features systems. The Primary Containment System is a low leakage steel shell. The system, including all its penetrations, is designed to confine the radioactive materials that could be released by accidental loss of integrity of the Reactor Coolant System pressure boundary. Systems directly associated with the Primary Containment System include the Safety Injection, Containment Vessel Internal Spray, Containment Vessel Air Handling and Containment Isolation systems.

When the Containment Spray System is configured to drain the header, a 3/8-inch opening in the containment pressure boundary exists. The leakage from the Containment into the Auxiliary Building that would occur from an opening of this size during an accident would exceed the maximum allowable leakage rate of 0.15 percent by weight per 24 hours at the calculation peak containment internal pressure related to the design basis accident.

SAFETY SIGNIFICANCE

The potential Nuclear/Radiological consequence is that an opening in the Containment Barrier existed which could have exposed the Auxiliary Building to Containment environmental conditions. During the performances of these SPs there was no adverse plant condition that could have released the Containment environment into the Auxiliary Building. There were no radiological, environmental, or industrial impacts associated with this event, and PINGP did not adversely affect the health and safety of the public. Administrative controls were in place, a dedicated Operator was in continuous communication with the control room was stationed in the Containment Spray pump room to close the vent/drain valve if a need for Containment Isolation were to occur.

CAUSE

The apparent cause is that the License Amendment implementation in 2002 for integrating Technical Specifications into Improved Technical Specifications did not identify when and how Tech Spec LCO 3.6.3 ACTIONS modifying note 1 applied to draining of the containment spray header from the Aux Building.

CORRECTIVE ACTION

Immediate Actions: The following SPs have been revised to remove steps for draining the CS header.

- SP 1090A rev 25, 11 Containment Spray Pump Quarterly Test, Complete 09/08/2015
- SP 1090B rev 24, 12 Containment Spray Pump Quarterly Test, Complete 08/14/2015
- SP 2090A rev 21, 21 Containment Spray Pump Quarterly Test, Complete 09/08/2015

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Corrective Actions:

- Revise Containment Operating procedures (1C19.1 / 2C19.1) to:
 - 1.) Clearly describe when and how to apply LCO 3.6.3 ACTIONS note 1,
 - 2.) Ensure proper terminology using "dedicated" operator throughout procedure,
 - 3.) Ensure administrative controls include the 60 second requirement to establish containment isolation,
 - 4.) Remove limitation 4.5 and replace with direction that LCO condition entry is required prior to application of LCO 3.6.3 note 1,
 - 5.) Remove limitation 4.8 and replace with direction that LCO 3.6.3 note 1 does not apply if opening vent or drain valves.

- Revise TS 3.6.3 Basis to clearly describe when and how to apply LCO 3.6.3 ACTIONS note 1.

- Conduct a training needs assessment for licensed operators to consider training for:
 - The proper application of LCO 3.6.3 ACTIONS note 1 specifically:
 - Cannot apply it to opening vent and drain valves (flowpath valves only)
 - Must enter the applicable LCO condition first (cannot use it if not in an LCO condition)
 - Should not be used if the flowpath is not re-established by the activity (i.e. upstream valve/boundary is being maintained closed)
 - Update ILT materials to enhance the discussion of how to apply TS notes (in general) using LCO 3.6.3 note 1 as the prime example.

PREVIOUS SIMILAR EVENTS

A LER historical search was conducted. No similar LER events at PINGP with the same apparent cause were identified in the last three years.