



1717 Wakonade Drive
Welch, MN 55089

December 13, 2021

L-PI-21-044
10 CFR 50.73

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

Prairie Island Nuclear Generating Plant, Units 1 and 2
Docket Nos. 50-282 and 50-306
Renewed Facility Operating License Nos. DPR-42 and DPR-60

Prairie Island Nuclear Generating Plant (PINGP) Unit 1 Licensee Event Report 2021-002-00

Northern States Power Company, a Minnesota corporation, doing business as Xcel Energy (hereafter "NSPM"), hereby submits Licensee Event Report (LER) 50-282/2021-002-00 per 10 CFR 50.73(a)(2)(iv)(A).

If you have any questions about this submittal, please contact Carrie Seipp, Senior Regulatory Engineer, at 612-330-5576.

Summary of Commitments

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

A handwritten signature in black ink, appearing to read 'Christopher P. Domingos', written over a large, stylized circular flourish.

Christopher P. Domingos
Site Vice President, Prairie Island Nuclear Generating Plant
Northern States Power Company – Minnesota

Enclosure (1)

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

ENCLOSURE 1

**PRAIRIE ISLAND NUCLEAR GENERATING PLANT
LICENSEE EVENT REPORT 50-282/2021-002-00**

3 pages follow



LICENSEE EVENT REPORT (LER)

(See Page 3 for required number of digits/characters for each block)
(See NUREG-1022, R.3 for instruction and guidance for completing this form <https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

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 FOIA, Library, and Information Collections Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk ail: oir_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. Facility Name Prairie Island Nuclear Generating Plant, Unit 1	2. Docket Number 05000282	3. Page 1 OF 3
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4. Title
Loss of Electrical Bus Results in 121 Motor Driven Cooling Water Pump Auto Start

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
10	17	2021	2021	- 002 -	00	12	13	2021	Prairie Island, Unit 2	05000306
									Facility Name	Docket Number
										05000

9. Operating Mode 1	10. Power Level 100
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11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: (Check all that apply)

10 CFR Part 20	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.36(c)(2)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	10 CFR Part 73
<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.69(g)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(4)
<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.71(a)(5)
<input type="checkbox"/> 20.2203(a)(2)(i)	10 CFR Part 21	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(1)(i)
<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 21.2(c)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 73.77(a)(2)(i)
<input type="checkbox"/> 20.2203(a)(2)(iii)	10 CFR Part 50	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 73.77(a)(2)(ii)
<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<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)(v)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)	

Other (Specify here, in Abstract, or in NRC 366A).

12. Licensee Contact for this LER

Licensee Contact Carrie Seipp, Senior Regulatory Engineer	Phone Number (Include Area Code) (612) 330-5576
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13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable To IRIS	Cause	System	Component	Manufacturer	Reportable To IRIS

14. Supplemental Report Expected			15. Expected Submission Date		
<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes (If yes, complete 15. Expected Submission Date)		Month	Day	Year

16. Abstract (Limit to 1560 spaces, i.e., approximately 15 single-spaced typewritten lines)

On October 17, 2021, the Prairie Island Nuclear Generating Plant (PINGP) 2RY Transformer was de-energized when operations personnel opened the 2RSY Reserve Auxiliary Transformer 34.5KV B Disconnect Switch instead of closing the 2RSX Reserve Auxiliary Transformer 34.5KV B Disconnect Switch during restoration of the 2RX Transformer in the substation. The de-energization of 2RY caused a loss of power to the Unit 2 4.16 KV Bus 23. This led to an auto-start of 121 Motor Driven Cooling Water Pump on a sensed low header pressure.

This event is reportable under 10CFR 50.73(a)(2)(iv)(A) due to a valid Emergency Service Water system actuation.

Outage Shutdown Safety Assessment and Probability Risk Assessment remained green during the event and recovery actions.

The cause of the de-energization of 2RY was individual errors during hard match and concurrent verification.

The corrective action implemented required all substation switching to be identified as high risk with field supervisor oversight required.



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

(See NUREG-1022, R.3 for instruction and guidance for completing this form
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1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Prairie Island Nuclear Generating Plant, Unit 1	05000282	2021	- 002	- 00

NARRATIVE

EVENT DESCRIPTION
On October 17, 2021, the Prairie Island Nuclear Generating Plant (PINGP), Unit 1 was in Mode 1 (Power Operation) at 100 percent power and Unit 2 was in Mode 6 (Refueling) at 0 percent power. The 2RY Reserve Auxiliary Transformer was supplying Safety Related 4.16 KV Bus 25 and the Non-Safety Related 4.16 KV Buses 23 and 24. At 1601 CDT, the 2RY Reserve Auxiliary Transformer was de-energized when operations personnel opened the 2RSY Reserve Auxiliary Transformer 34.5KV B Disconnect Switch instead of closing the 2RSX Reserve Auxiliary Transformer 34.5KV B Disconnect Switch during restoration of the 2RX Reserve Auxiliary Transformer in the substation. The de-energization of 2RY caused a loss of power to the Unit 2 Buses 23, 24, and 25. Automatic reenergization of Bus 25 via CT12 Transformer, the other offsite power source, occurred.

Bus 23 supplies power to Non-Safety Related 21 Cooling Water (CL) pump, which was supporting all the CL system loads. Following the trip of 21 CL Pump, 121 Motor Driven Cooling Water Pump (MDCLP) auto started on a sensed low header pressure. The 121 MDCLP is designed to start automatically if CL header pressure drops to 80 pounds per square inch gauge (psig).

EVENT ANALYSIS

121 MDCLP
The 121 MDCLP is a part of the PINGP CL System (EIS CODE: BI). The CL system is a ring header which is shared by Units 1 and 2 that provides a heat sink for the removal of process and operational heat from safety-related components during a design basis accident or transient. During normal and shutdown operation, the CL system also provides this function for various safety-related and non-safety related components. The CL system consists of a common CL pump discharge header for five CL pumps: two non-safety related pumps, two safety related Diesel Driven Cooling Water Pumps (DDCLP), and 121 MDCLP that can be aligned as replacement for either DDCLP by realigning its power supply and administratively disabling the CL pump discharge header valves to direct flow to the appropriate train.

The total Cooling Water (CL) system operating flow rates were in the range that operation of only one CL pump for both Units was desired. The ring header valves were open and 121 MDCLP was not aligned as a replacement for either DDCLP. The trip of 21 CL Pump resulted in a reduction in header pressure to the 121 MDCLP auto start setpoint.

This event is reportable per 10CFR 50.73(a)(2)(iv)(A) due to a valid Emergency Service Water system actuation.

Human Performance
PINGP Non-Licensed Operators (NLOs) were performing their first-time evolution of the tasks of restoring the 2RX Reserve Auxiliary Transformer in the switchyard during the Unit 2 Refueling Outage. After successful closure of the 2RSX Reserve Auxiliary Transformer 34.5KV A Disconnect Switch, the NLOs opened the 2RSY Reserve Auxiliary Transformer 34.5KV B Disconnect Switch instead of closing the 2RSX Reserve Auxiliary Transformer 34.5KV B Disconnect Switch.

ASSESSMENT OF SAFETY CONSEQUENCES
Outage Shutdown Safety Assessment (SSA) and Probability Risk Assessment (PRA) remained green during the event and subsequent recovery actions.

The auto start of 121 MDCLP did not challenge nuclear safety as the Cooling Water system responded as designed. This event does not represent a safety system functional failure for Unit 1 or Unit 2.

CAUSE OF THE EVENT
The cause of the de-energization of 2RY was individual errors during hard match and concurrent verification.



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CORRECTIVE ACTIONS
The corrective action implemented required all substation switching to be identified as high risk with field supervisor oversight required.

PREVIOUS SIMILAR EVENTS
No previous similar events have occurred at PINGP in the prior 3 years.