



Northern States Power Company

Prairie Island Nuclear Generating Plant

1717 Wakonade Dr. East
Welch, Minnesota 55089

July 16, 1997

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
50-306 DPR-60

LER 1-97-10

Failure to Evaluate the Condition of a Residual Heat Removal Pump When the
Vibration Level during a Surveillance Test Was Recorded at the Alert Value

The Licensee Event Report for this occurrence is attached. In the report, we made new NRC commitments indicated as the italicized statements in the Correction Action section.

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

Joel P. Sorensen
for

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

IE221

Attachment

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FACILITY NAME (1) **Prairie Island Nuclear Generating Plant Unit 1** DOCKET NUMBER (2) **05000 282** PAGE (3) **1 OF 4**

TITLE (4)
Failure to Evaluate the Condition of a Residual Heat Removal Pump When the Vibration Level during a Surveillance Test Was Recorded at the Alert Value

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
06	16	97	97	10	00	7	16	97	Prairie Island Unit 2	05000 306
									Prairie Island Unit 2	05000

OPERATING MODE (9) **1** 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)	Specify in Abstract below or in NRC Form 366A
20.2203(a)(2)(iv)	50.36(c)(2)		50.73(a)(2)(vii)	

POWER LEVEL (10) **10**

LICENSEE CONTACT FOR THIS LER (12)

NAME **Jack Leveille** TELEPHONE NUMBER (Include Area Code) **612-388-1121**

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (if yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

During June 1997, while Unit 1 was in a cold shutdown condition, a Quality Assurance audit of the ASME Section XI Inservice Testing Program uncovered some inconsistencies regarding acceptance criteria in Revision 7 of Surveillance Procedure SP 1092B "Safety Injection Check Valve Test (Head Off) Part B. RWST To RHR Flow Path Verification." This procedure was performed on January 13, 1996 during a refueling outage and its purpose was to provide new ASME Section XI baseline flow and vibration levels for 11 and 12 Residual Heat Removal (RHR) pumps. The procedure stated that no acceptance criteria applied and that the results would be evaluated by the system engineer. However, even for baselining purposes the vibration acceptance criteria should have been specified in the surveillance procedure (per the ASME requirements). During performance of the test, a vibration level in the alert range for 12 RHR Pump was recorded (the procedure did not specify what the alert range was) and was not subsequently evaluated.

Following discovery of this failure to evaluate, a similar test was performed and other test results were reviewed. It was concluded that the pump was operable and not degraded throughout the time period in question.

Corrective actions to prevent recurrence are aimed at improving system engineers' knowledge of the Inservice Testing program requirements and to improve turnovers of system responsibilities between system engineers.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

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		97	-- 10 --	00	

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

EVENT DESCRIPTION

During June 1997, while Unit 1 was in a cold shutdown condition, a Quality Assurance audit of the ASME Section XI Inservice Testing (IST) Program uncovered some inconsistencies regarding acceptance criteria in Revision 7 of Surveillance Procedure SP 1092B "Safety Injection Check Valve Test (Head Off) Part B: RWST To RHR Flow Path Verification." This procedure was performed on January 13, 1996 during a refueling outage and its purpose was to provide new ASME Section XI baseline flow and vibration levels for 11 and 12 Residual Heat Removal (RHR) pumps¹. The procedure stated that no acceptance criteria applied and that the results would be evaluated by the system engineer. However, even for baselining purposes the following vibration acceptance criteria should have been specified in the surveillance procedure (per the ASME requirements):

ALERT RANGE: .325 in/sec
ACTION RANGE: .7 in/sec

The vibration levels recorded on January 13, 1996 are listed below.

11 RHR PUMP: Channel A - .12 in/sec
Channel B - .11 in/sec

12 RHR PUMP: Channel B - .33 in/sec
Channel B - .32 in/sec

The procedure should have, but did not, list the alert and action ranges. In addition, the system engineer should have, but did not, analyze the test results.

CAUSE OF THE EVENT

The test had been rewritten prior to January 13, 1996 to obtain new baseline data. The engineer preparing the procedure did not realize that acceptance criteria had to be included in the procedure even though new baseline data was being obtained. After the procedure revision and prior to the performance of the test, system responsibilities were changed because the previous engineer left the site. The procedure did not identify that it was obtaining new baseline data and the new system engineer did not realize that was the intent of the test. Since no acceptance criteria had been placed in the procedure, there were no identified out-of-acceptance parameters identified on the completed

¹ (EIS System Identifier: BP; EIS Component Identifier: P)

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procedure and it was not closely reviewed at the time. Therefore the system engineer did not identify and address the higher than expected vibration levels for 12 RHR Pump.

When recording vibration levels for RHR pumps, the operator is required to toggle the appropriate switch to obtain vibration data. It is believed that the switch was positioned to read alert setpoint level instead of actual vibration level and the alert setpoint level was recorded on the procedure instead of the actual vibration levels of the operating pump.

ANALYSIS OF THE EVENT

It is believed that the pump never experienced high vibration levels. Test data taken before and after the January 13, 1996 test showed normal vibration levels. When recording vibration levels for RHR pumps, the operator is required to toggle the appropriate switch to obtain vibration data. It is believed that the switch was positioned to read alert setpoint level instead of actual vibration level and the alert setpoint level was recorded on the procedure instead of the actual vibration levels of the operating pump. It is concluded that 12 RHR pump vibration levels remained normal throughout the period in question and the pump remained operable and was not degraded. Therefore, health and safety of the public were not affected by this event.

The Technical Specifications require that pumps and valves be tested in accordance with the requirements of ASME Section XI. A requirement to analyze the high vibration levels recorded during the surveillance of 12 RHR Pump was not met; therefore, this event is reportable as a violation of Technical Specifications per 10 CFR 50.73(a)(2)(i)(B).

CORRECTIVE ACTION

Following the identification of the problem, completed tests per Surveillance Procedure SP 1089, which tests 11 and 12 RHR pumps each quarter, were reviewed from January 13, 1996 to June 16, 1997 for indications of pump degradation. There was no adverse trend in vibration levels. In addition, another test was performed and vibration levels were recorded for 12 RHR pump during June 1997 at conditions similar to those when SP 1092B was performed in 1996. This data also shows that 12 RHR pump vibration levels were normal. It was concluded that 12 RHR pump vibration levels remained normal throughout the period in question and the pump remained operable and was not degraded.

The administrative work instruction elaborating the system turnover process (when responsibilities are being transferred from one system engineer to another) was reviewed and determined to be adequate.

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However, it was not adequately followed in this instance. *Adherence to the process will be emphasized by engineering management.*

ASME IST requirements training will be provided for mechanical system engineers.

Also, a request has been sent to Operations Training to review with operators the proper method of taking vibration data from the panels.

FAILED COMPONENT IDENTIFICATION

None

PREVIOUS SIMILAR EVENTS

No similar events but we have reported other ASME IST discrepancies due to inadequate procedures as Unit 1 LERs 96-17, 95-12, and 95-10.