Northern States Power Company

Monticello Nuclear Generating Plant
2807 West Hwy 75
Monticello, Minnesota 55362-9637

March 3, 2000

10 CFR Part 50
Section 50.73

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

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

LER 2000-002
Personal Error Results in Failure to Comply with Requirements of Section XI Operability Test For Emergency Filtration Treatment Service Water Pump

The Licensee Event Report for this occurrence is attached. This report contains no new NRC commitments.

Please contact David Musolf at (612) 295-1201 if you require further information.

John Druhl for Byron Day

Byron Day
Plant Manager
Monticello Nuclear Generating Plant

c: Regional Administrator - III NRC
NRR Project Manager, NRC
Sr Resident Inspector, NRC
State of Minnesota, Attn:Acting Public Service Commissioner

Attachment

IE22

NRC FORM 366 (6-1998) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to the industry. Forward comments regarding burden estimate to the Records Management Branch(T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 205555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If 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.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
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TITLE (4) Personal Error Results in Failure to Comply with Requirements of Section XI Operability Test For Emergency Filtration Treatment Service Water Pump

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 05000
02	03	00	00	-- 002 --	00	03	03	00	FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER LEVEL (10)	000		20.2201(b)		20.2203(a)(2)(v)	√	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)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
David Musolf	763-295-1201

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE).	√ NO				

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

During the 2000 refueling outage, the circulating pump basins were drained to allow the pumps to be inspected. With the basins drained, the two basin level instruments became inoperable. These level instruments are normally used for Section XI testing of the Emergency Service Water (ESW) pumps to calculate pump differential pressure. Cooling water to the Control Room Emergency Filtration Treatment (EFT) system air conditioning condensers is supplied by 13 and 14 ESW pumps. To allow performance of an ASME Code Section XI operability test of 14 ESW pump with the circulating pump basins drained, an alternative river water level instrument channel was used. This alternative level instrumentation had been used before under similar conditions in 1996 for Section XI testing. After the test was completed, and 14 ESW pump was declared operable, it was learned that the span of the alternative level channel had been increased in 1997. The increased span no longer satisfied the Section XI requirement that full-scale range of each test instrument cannot exceed three times the reference value. Therefore the testing of 14 ESW pump did not meet Section XI requirements and the pump should not have been declared operable. During this period, movement of fuel in the reactor was initiated and the redundant 13 ESW pump was removed from service for maintenance and testing. While testing later confirmed that 14 ESW pump was operable during this period, this event represents a condition prohibited by the Monticello Technical Specifications.

Description

On 1/18/2000, during the 2000 refueling outage, Monticello Surveillance Procedure 0255-11-III-4 was performed to demonstrate operability of 14 Emergency Service Water (ESW) pump[1,2]. ESW pumps 13 and 14 are redundant pumps, each supplying cooling water to one of two Control Room Emergency Filtration Train (EFT)[3] air conditioning condensers[4]. On loss of offsite power, these pumps also supply cooling water to emergency core cooling system (ECCS) motor and room coolers[5].

River level is used to calculate pump differential pressure for the Section XI tests. Two level instrument channels[8], LI-1852A and LI-1853A, are normally used to measure river water level for ESW pump operability tests. Level sensors for these channels are located in the circulating water pump basins. During the refueling outage, the basins for the circulating water pumps[6,7] were drained to permit inspection of the circulating water pumps.

To permit the test procedure to proceed with the circulating water pump basins drained, an alternative instrument channel consisting of level transmitter LT-5200[9] and computer point CWT-104 was used to measure river water level. This alternative instrumentation had been used for Section XI testing of ESW pumps during the 1996 refueling outage when the circulating water pump basins had also been drained. When the alternative river level instrumentation was used in 1996, calibration history data for LT-5200 were reviewed and an instrument error calculation was performed to ensure that the accuracy and span requirements of Section XI were satisfied for this instrument. The 1996 calculation concluded that LT-5200 was suitable for use in Section XI pump performance testing.

Surveillance Procedure 0255-11-III-4 was completed on 1/18/2000 using LT-5200 to measure river level and 14 ESW pump was considered operable. It was presumed that the 1996 analysis remained valid and LT-5200 was suitable for use in the test. As a follow-up to the surveillance test, Condition Report 20000282 was initiated to assess the unavailability of LI-1852A and LI-1853A and the use of an alternate river level instrument for the Section XI test.

[1] EIIS System Code: BI
[2] EIIS Component Code: P
[3] EIIS System Code: VI
[4] EIIS Component Code: CDU
[5] EIIS Component Code: CLR
[6] EIIS System Code: NN
[7] EIIS Component Code: P
[8] EIIS Component Code: LI
[9] EIIS Component Code: LI

One action resulting from the assessment of Condition Report 2000-0282 was an update of the 1996 instrument error analysis for LT-5200 to document its continuing suitability for use in Section XI testing.

During this analysis it was discovered that LT-5200 had been reranged in 1997 to support plant external flooding emergency procedures. Following reranging in 1997, the requirement of Section XI IWP-4120 that the full-scale range of LT-5200 be less than or equal to three times the reference value was not satisfied. The full scale range was found to be 3.03 times the reference value.

LT-5200 was re-ranged on 2/2/2000 to permit the instrument to be used for Section XI testing purposes.

On 2/3/2000, following reranging of LT-5200, Section XI testing of both 13 and 14 ESW pumps was completed satisfactorily. Also on 2/3/2000, it was concluded that this event was reportable to the NRC. This event represents a violation of Monticello Technical Specification 4.0.C which requires the completion of surveillance tests "... before establishing plant conditions requiring operability of the associated system or component." From 1/18/2000 until 2/3/2000, the period during which operability of 14 ESW pump was in question, refueling operations were in progress and on several occasions, 13 ESW pump was made inoperable for testing and maintenance. EFT division 1 requires the operability of 13 ESW pump and EFT division 2 requires the operability of 14 ESW pump. At least one EFT division is required to be operable when refueling operations are in progress.

Event Analysis

Analysis of Reportability

This event is reportable under 10 CFR 50.73(a)(2)(i)(B). Operability testing of 14 ESW pump on 1/18/2000 did not satisfy all of the requirements of Section XI of the ASME Code. The surveillance test was, therefore, not valid and the requirements of Technical Specification 4.0.C were not satisfied.

Safety Significance

The span of LT-5200 was found to be 3.03 times the reference river water level. Section XI limits the span of instrumentation used in operability tests to 3.0 times the reference value. This represents a departure from the requirements of the Code. It is unlikely, however, that the slightly larger than

allowable instrument span could led to a degraded ESW pump passing the Section XI pump operability test acceptance criteria.

During this period the plant was shutdown for refueling during the winter season. ECCS motor and room coolers were not required to be operable during this period. Only the EFT air conditioning condensers would have been affected by inoperable ESW pumps, resulting in higher Control Room temperatures.

Following discovery of the instrument range error, testing of 14 ESW pump using a properly ranged river level instrument, demonstrated that the Section XI pump operability acceptance criteria were fully satisfied for 14 ESW pump throughout the period in question.

Cause

The cause of this event was cognitive error on the part of engineering personnel. The plant was in an unusual condition for the performance of the Section XI 14 ESW pump surveillance procedure with the circulating pump basins drained and the normal basin level instruments inoperable. The range and accuracy of the alternate river level instrumentation should have been verified before the instrumentation was used in the test.

Corrective Actions

Following discovery of the change in span for LT-5200, the range of the instrument was reduced and it was recalibrated. An analysis then determined that the instrument met all of the criteria of Section XI and was acceptable for use in surveillance tests. Test 0255-11-III-4, and the corresponding Section XI operability test for 13 ESW pump, were performed on 2/3/2000 and both pumps were declared operable.

Other Section XI tests completed during the 2000 refueling outage were reviewed to determine if LT-5200 was used in other surveillance tests to measure river level. No other operability issues related to the use of this instrument were identified.

A temporary change to a test procedure must be processed if an alternative instrument is used in lieu of the instrument specified in the procedure. The suitability of the alternative instrumentation is verified by engineering personnel prior to approval of the temporary change. We believe this event is an isolated case where the initial engineering review of the suitability of the alternative

instrumentation was not thorough enough. The need for a questioning attitude has been reemphasized with the personnel involved.

Failed Component Identification

Not applicable.

Similar Events

None