

CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9909030215 DOC.DATE: 99/08/28 NOTARIZED: NO DOCKET #
 FACIL:50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moha 05000410
 AUTH.NAME AUTHOR AFFILIATION
 WARD,K. Niagara Mohawk Power Corp.
 PALEOLOGOS,N. Niagara Mohawk Power Corp.
 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 99-012-01:on 990706,inadequate inservice testing of testable check valve was noted.Caused by omission of relevant info from procedure N2-OSP-Q002.Revised procedure N2-OSP-Q002.With 990828 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 5
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

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AD4



Niagara Mohawk

August 28, 1999
NMP2L 1891

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

RE: Docket No. 50-410
LER 99-12, Supplement 1

Gentlemen:

In accordance with 10 CFR 50.73(a)(2)(i)(B), we are submitting Licensee Event Report 99-12, Supplement 1, "Inadequate Inservice Testing of Testable Check Valve." This report provides the cause of this event and the associated corrective actions that were not determined at the time of our previous submittal.

Very truly yours,



Nick Paleologos
Plant Manager - NMP2

NCP/KLL/jb
Attachment

xc: Mr. H. J. Miller, Regional Administrator, Region I
Mr. G. K. Hunegs, NRC Senior Resident Inspector
Records Management

1311 74

9909030215 990828
PDR ADOCK 05000410
S PDR

11/11
I/E

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1)

Nine Mile Point Unit 2

DOCKET NUMBER (2)

05000410

PAGE (3)

01 OF 04

TITLE (4)

Inadequate Inservice Testing of Testable Check Valve

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 NAMES	DOCKET NUMBER(S)	
07	6	99	99	012	01	08	28	99	N/A		
									N/A		

OPERATING MODE (9)

4

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

POWER LEVEL (10) 0%	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(2)(v)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(x)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 73.71
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> OTHER
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<i>(Specify in Abstract below and in Text, NRC Form 366A)</i>
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME

Mr. Keith Ward, Manager, Technical Support

TELEPHONE NUMBER

(315) 349-1043

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPD	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPD

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)

NO

EXPECTED SUBMISSION DATE (15)

MONTH

DAY

YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16)

On July 6, 1999, with Nine Mile Point Unit 2 in cold shutdown, operators reported that residual heat removal system Testable Check Valve 2RHS*AOV150 failed to open during valve exercise inservice testing. During troubleshooting, a system engineer observed that the operators on at least one occasion had in the past misinterpreted the initial movement of the valve actuator shaft to be full movement of the valve to the open position. Based on operator interviews, and review of the check valve trend data sheet, system engineering personnel determined that several previously completed inservice tests for the valve had been misinterpreted as satisfactory. As a result, inservice testing criteria of Technical Specification Surveillance Requirement 4.0.5 were not being met.

Niagara Mohawk Power Corporation determined that the cause of this event was the omission of relevant information from Procedure N2-OSP-Q@002, "Residual Heat Removal System Loop B Valve Operability Test..."

Corrective actions for this event included: revising Procedure N2-OSP-Q@002, reperforming the appropriate sections of the test, and reviewing this event with the operations staff.



LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 30.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Nine Mile Point Unit 2	05000410	99	- 12	- 01	02 OF 04

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

I. DESCRIPTION OF EVENT

On July 6, 1999, with Nine Mile Point Unit 2 in cold shutdown, operators reported that residual heat removal system (RHS) Testable Check Valve 2RHS*AOV150 failed inservice testing requirements. The valve failed to open during performance of Procedure N2-OSP-RHS-Q@002, "Residual Heat Removal System Loop B Valve Operability Test..." In discussions with the operators during troubleshooting on July 9, 1999, the system engineer determined that at least one previously performed inservice test of Valve 2RHS*AOV150 had been misinterpreted as satisfactory. The operators had prematurely terminated the test prior to full movement of the valve actuator shaft.

Valve 2RHS*AOV150 is unique from other Anchor Darling testable check valves at Nine Mile Point Unit 2 in that the position limit switches are not connected to any remote position indication circuit, and the valve is not able to be remotely operated. Procedure N2-OSP-RHS-Q@002 required that operators observe the valve local position indication. However, when interviewed, the operators indicated that they were not previously aware of the location of the valve's position indication (located on the wall side of valve; position indication cannot be easily observed). The location of the valve is such that the most practical method of verifying that the valve has operated is to observe the valve actuator shaft. The operators who were interviewed were unaware as to how the valve actuator shaft linear travel equated to rotary motion of the valve disk actuator shaft. As a result, during testing, they observed that the valve actuator shaft stopped after 2.5 inches of travel and assumed that full travel had occurred. Actually there had been only a partial stroke of the valve actuator as it rotated to engage the valve disk prior to actual valve opening.

System engineers conducted an investigation of eight surveillance tests performed on Testable Check Valve 2RHS*AOV150 over the last two years. The size of the sampling was considered to be adequate for identifying the extent of condition. The engineers concluded that three of the surveillances had been misinterpreted as satisfactory, in that the tests were terminated before the valve had fully exercised.

Valve 2RHS*AOV150 is an Anchor Darling testable check valve in the cross-tie line between the service water system and the Division II RHS. Operators may be required to establish flow through the valve to flood the containment for long-term recovery following a loss of coolant accident. The valve would check to prevent the reverse flow of contaminated water from the Division II RHS to the service water system, should a loss of power be experienced during containment flooding operations.

II. CAUSE OF EVENT

Niagara Mohawk Power Corporation (NMPC) determined that the root cause of this event was the omission of relevant information from Operations Surveillance Procedure N2-OSP-RHS-Q@002. The procedure did not provide sufficient guidance to ensure that operators located and used the local position indication to verify that the valve had fully exercised. As a result, some operators observed partial movement of the valve



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LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20535, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Nine Mile Point Unit 2	05000410	99	12	01	03 OF 04	

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

II. CAUSE OF EVENT (Cont'd)

actuator shaft, and prematurely terminated testing without realizing that the valve was not fully exercised.

A contributing factor in this event was that NMPC did not take adequate corrective actions to determine the cause of previous valve failures. In three past surveillance failures, Testable Check Valve 2RHS*AOV150 was retested satisfactorily following the failures, so no further troubleshooting was performed. In addition, there was a failure to follow the procedure as it was written, in that the acceptance criteria required verification of valve motion using the valve position indicator, not the actuator rod motion.

III. ANALYSIS OF EVENT

NMPC is reporting this event in accordance with 10CFR50.73(a)(2)(i)(B), "Any operation or condition prohibited by the plant's Technical Specifications," in that at least one previously performed inservice test of Valve 2RHS*AOV150 had been misinterpreted as satisfactory. As a result, inservice testing criteria of Technical Specification Surveillance Requirement 4.0.5 were not met.

NMPC properly tested Valve 2RHS*AOV150 and determined the valve was operable. The valve would have been able to perform its safety function. In addition, NMPC engineering services personnel performed a probabilistic risk assessment of this event, and determined that the effect on core damage frequency was non-risk significant. Therefore, there was no adverse affect on the health and safety of the public or plant operators.

IV. CORRECTIVE ACTIONS

- On July 10, 1999, NMPC revised Procedure N2-OSP-RHS-Q@002 to:
 - Include a waiting period for the pressure upstream and downstream of the valve to equalize.
 - Include steps to observe the cam position and position indicator before and after operating the valve.
 - Include information on the length of the actuator stroke.
 - Include a waiting period to allow full air pressurization of the valve actuator ram.
- On July 10, 1999, operations and system engineering personnel satisfactorily performed the surveillance test in accordance with the revised procedure, and determined that the valve was operable.



14
15

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATIONESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION.
REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE
RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY
COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT
(3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Nine Mile Point Unit 2	DOCKET NUMBER (2) 05000410	LER NUMBER (6)			PAGE (3) 04 OF 04
		YEAR 99	SEQUENTIAL NUMBER 12	REVISION NUMBER 01	

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

IV. CORRECTIVE ACTIONS (Cont'd)

3. NMPC will review this event with operators to reinforce the need for a questioning attitude during surveillance testing, as well as normal day-to-day operation, and to be alert for actions or system responses that are not consistent with reasonable expectations by October 30, 1999.

V. ADDITIONAL INFORMATION

- A. Failed components: none.
- B. Previous Similar Events: none.
- C. Identification of components referred to in this LER:

Components	IEEE 803A Function	IEEE 805 System ID
Check Valve	V	BO
Service Water System	N/A	BI
Residual Heat Removal System	N/A	BO
Limit Switches	33	BO
Actuator Shaft	N/A	BO

