

CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9907010253 DOC. DATE: 99/06/21 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 99-008-00: on 990520, inadequate surveillance of reactor core isolation cooling check valve, was identified. Caused by improper evaluation of operating parameters. Procedure N2-OSP-ICS-Q 002 revised. With 990621 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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Niagara Mohawk

June 21, 1999
NMP2L 1874

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

RE: Docket No. 50-410
LER 99-08

Gentlemen:

In accordance with 10 CFR 50.73 (a)(2)(i)(B), we are submitting Licensee Event Report 99-08, "Inadequate Surveillance of Reactor Core Isolation Cooling Check Valve."

Very truly yours,



Nick Paleologos
Plant Manager - NMP2

NCP/CES/kap
Attachment

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

9907010253 990621
PDR ADOCK 05000410
S PDR



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LICENSEE EVENT REPORT (LER)

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)

Nine Mile Point Unit 2

DOCKET NUMBER (2)

05000410

PAGE (3)

01 OF 04

TITLE (4)

Inadequate Surveillance of Reactor Core Isolation Cooling 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)	
05	20	99	99	08	00	06	21	99	N/A		
									N/A		

OPERATING MODE (9)

1

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

POWER LEVEL (10) 100%	<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

Keith Ward - Manager of 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 EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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 May 20, 1999, while the plant was at 100 percent power, Niagara Mohawk Power Corporation identified that Reactor Core Isolation Cooling Check Valve 2ICS*V249 was not being tested as required by Technical Specification 4.0.5. Technical Specification Surveillance Requirement 4.0.5 requires inservice testing of all ASME Code Class 1, 2, and 3 components in accordance with Section XI of the ASME Boiler and Pressure Vessel Code. Section XI of the ASME Boiler and Pressure Vessel Code requires a quarterly surveillance to reverse flow test Reactor Core Isolation Cooling Check Valve 2ICS*V249. NMPC's surveillance procedure did not properly set up the test condition that would reverse flow test the check valve.

The root cause was determined to be that Niagara Mohawk Power Corporation did not properly evaluate the operating parameters to ensure a proper test was developed and implemented.

Corrective actions include revising the surveillance procedure to properly test the valve and to include an identifier to protect inservice testing steps, verifying the adequacy of all ASME Code Section XI check valves test methods, revising an administrative procedure to provide instructions on when to obtain engineering input for the development of inservice testing surveillance procedures, and providing a case study of this event to all inservice testing generation specialists and operators.



**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 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) 02 OF 04
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
		99	- 08	- 00	

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

I. DESCRIPTION OF EVENT

On May 20, 1999, while the plant was at 100 percent power, Niagara Mohawk Power Corporation (NMPC) identified that Reactor Core Isolation Cooling Check Valve 2ICS*V249 was not being tested as required by Technical Specification 4.0.5. Technical Specification Surveillance Requirement 4.0.5 requires inservice testing of all ASME Code Class 1, 2, and 3 components in accordance with Section XI of the ASME Boiler and Pressure Vessel Code. Section XI of the ASME Boiler and Pressure Vessel Code requires a quarterly surveillance to reverse flow test Reactor Core Isolation Cooling Check Valve 2ICS*V249. NMPC's surveillance procedure did not properly set up the test condition that would reverse flow test the check valve.

The reverse flow test depended on the reactor core isolation cooling keepfill pump to develop enough discharge energy to provide pressurized water against the downstream side of the check valve. For an adequate reverse flow test, the downstream side of the check valve would be pressurized with water. If the check valve was functioning properly, the pressurized water would close the check valve. Then the upstream piping of the check valve was isolated from the condensate storage tank by closing the suction valve. A drain valve, between the suction valve and the check valve, was opened, draining the piping between the two valves. If the check valve had closed, the flow of water would dissipate to a very low value or stop.

From initial plant startup to 1988, the reverse flow tests were inadequate because the keepfill pump in a normal lineup could not provide pressurized water to close the check valve. In 1988, the test method was revised to increase the discharge pressure by closing the minimum flow valve. This provided pressurized water to close and properly test the check valve, but deadheaded the keepfill pump. In 1991, the surveillance procedure was revised to open the minimum flow valve, based on judgement that deadheading the keepfill pump was improper and could result in damaging the pump. This change rendered the check valve reverse flow test inadequate.

II. CAUSE OF EVENT

The root cause was determined to be that NMPC did not properly evaluate the operating parameters to ensure a proper test was developed and implemented.



LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Nine Mile Point Unit 2	05000410	99	08	00	03 OF 04

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

III. ANALYSIS OF EVENT

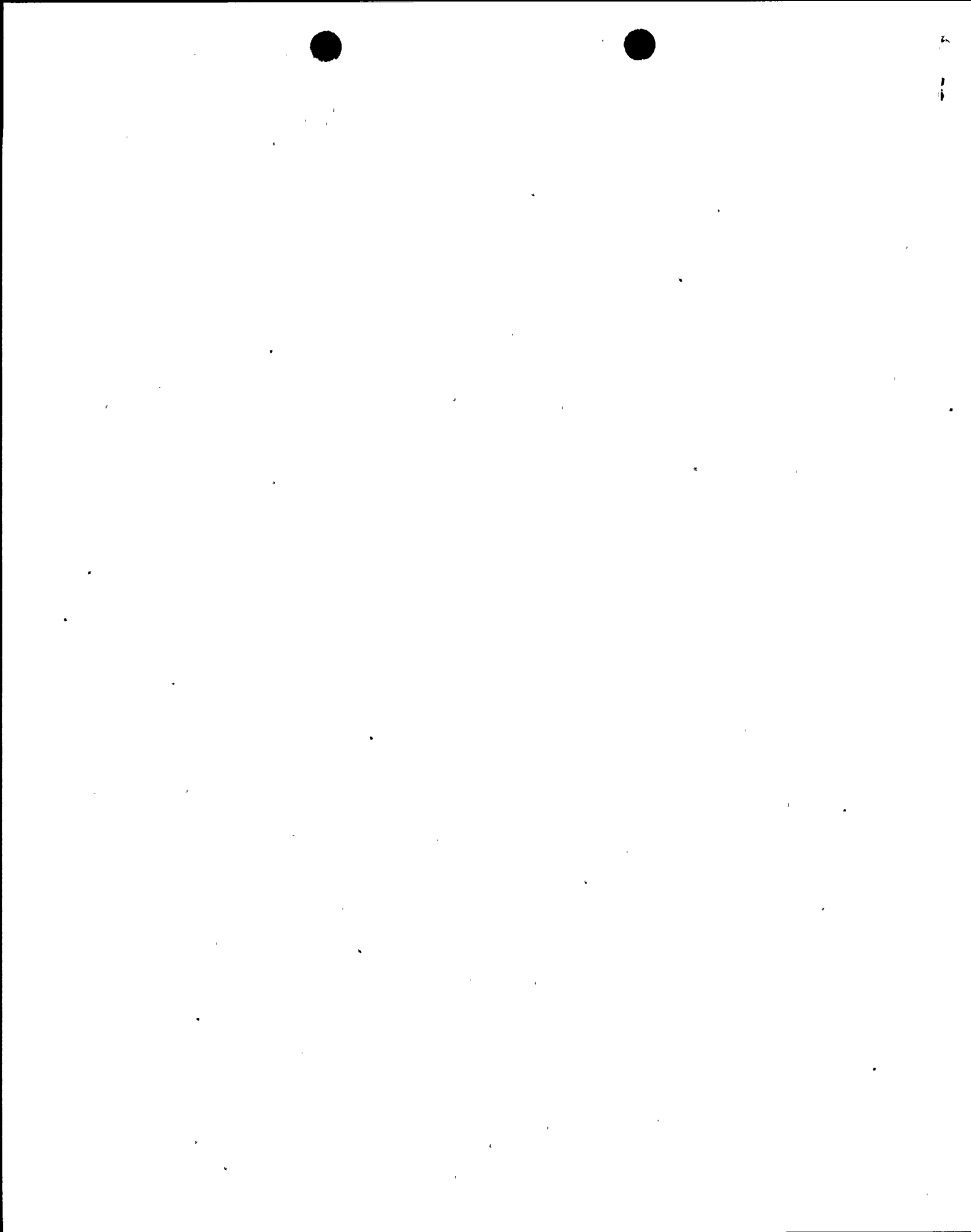
This event is considered reportable under 10 CFR 50.73 (a)(2)(i)(B), "any operation or condition prohibited by the plant's Technical Specifications." Technical Specification Surveillance Requirement 4.0.5 requires inservice testing of all ASME Code Class 1, 2, and 3 components in accordance with Section XI of the ASME Boiler and Pressure Vessel Code. Section XI of the ASME Boiler and Pressure Vessel Code requires a quarterly surveillance to verify reverse flow for Reactor Core Isolation Cooling Check Valve 2ICS*V249.

The probabilistic risk assessment model showed that the failure of Check Valve 2ICS*V249 to close is not risk significant. The probability of a design basis accident, a seismic event, and a failure of the check valve occurring at the same time is less than 1.0 E-07/year.

The check valve was inspected and found acceptable. Then the check valve was properly reverse flow tested. Based on these inspection and test results, NMPC concluded that the check valve functioned properly since initial plant startup. Therefore, this condition did not pose a threat to the health and safety of the public or site workers.

IV. CORRECTIVE ACTIONS

1. Procedure N2-OSP-ICS-Q@002 was revised to properly test the check valve by throttling the minimum flow valve on the keepfill pump. The test was completed satisfactorily.
2. Procedure N2-OSP-ICS-Q@002 was revised to add an identifier to ensure inservice testing steps would not be removed without further inservice testing evaluation.
3. Other keepfill pump lineups for ASME Code Section XI check valves were reviewed to ensure proper reverse flow testing. From this review, Check Valve 2CSH*V59 was also found to have been inappropriately tested. This valve was subsequently tested satisfactorily and this issue will be reported in a future Licensee Event Report.
4. Procedure N2-TDP-IIT-0105, Establishment of Inservice Testing Acceptance Criteria, will be revised to provide instructions on obtaining engineering evaluations and analysis to properly evaluate operating parameters when developing future surveillance procedures or tests by August 15, 1999.
5. All ASME Code Section XI check valves will be reviewed to verify the adequacy of the test method by September 15, 1999.



LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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FACILITY NAME (1) Nine Mile Point Unit 2	DOCKET NUMBER (2) 05000410	LER NUMBER (6)			PAGE (3) 04 OF 04
		YEAR 99	SEQUENTIAL NUMBER 08	REVISION NUMBER 00	

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

IV. CORRECTIVE ACTIONS (Cont'd)

- 6. All inservice testing generation specialists and operators will be trained using this licensee event report as a case study by September 15, 1999.

V. ADDITIONAL INFORMATION

- A. Failed components: none.
- B. Previous similar events:

A review of previous LERs involving check valve surveillance testing revealed one similar event; LER 96-07, "Technical Specification Violation Due to Inadequate Work Organization/Planning." This event involved the failure to perform required testing due to improperly grouping multiple surveillance requirements. Since this root cause was administrative in nature and did not involve an inadequate testing methodology, it would not be reasonable to expect that those corrective actions would have prevented the current event.

C. Identification of components referred to in this LER:

Components	IEEE 803A Function	IEEE 805 System ID
Reactor Core Isolation Cooling Check Valve	V	BN
Reactor Core Isolation Cooling Drain Valve	V	BN
Reactor Core Isolation Cooling Minimum Flow Valve	V	BN
Reactor Core Isolation Cooling Keepfill Pump	P	BN
Condensate Storage Tank Suction Valve	V	BN
Condensate Storage Tank	TK	KA

