NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3150-0104
EXPIRES:

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)	DOCKET NUMBER (2)	PAGE (3)
Nine Mile Point Unit 2	05000410	01 OF 04

TITLE (4)
Missed Technical Specification ASME Section XI Surveillance Testing

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	29	99	99		014	01	10	04	99		

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%	☐ 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 *(Specify in Abstract below and in Text, NRC Form 366A)*
	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(1)	☐ 50.73(a)(2)(v)	
	☐ 20.2203(a)(2)(iv)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
S. Geier, Manager Engineering	315-349-7887

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO EPIX		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	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 fifteen single space typewritten lines)* (16)

On July 29, 1999, with Nine Mile Point Unit 2 at full power, engineering personnel identified that high pressure core spray Valve 2CSH*V16 had not been reverse flow tested during a portion of the first and during the second ten year interval as required by American Society of Mechanical Engineers (ASME) Code Section XI. The reverse flow testing requirement was inappropriately deleted from the inservice test program during the first ten year interval, and the deletion was carried over into the second ten year program. This was discovered as a result of the investigation stemming from Licensee Event Report 99-07 (Violation of Technical Specifications Regarding ASME Code Section XI Class 2 Weld Inspection Requirements Due to Improper Use of a Code Exemption) and LER 99-08 (Inadequate Surveillance of Reactor Core Isolation Cooling Check Valve).

The cause of the event has been determined to be an inadequate safety review and failure mode and effects evaluation in design documents used to justify the deletion of the testing requirement from the inservice test program. Contributing causes included the omission of relevant information from design documents, inadequate experience and system level knowledge of personnel using these documents, and inadequate independent reviews.

Valve 2CSH*V16 was added to the ASME Section XI second ten year interval plan and tested satisfactorily. Design documents will be properly revised, all safety-related check valve safety classification determination documents will be reviewed, the remaining safety classification determination documents will be evaluated, and management expectations will be reinforced with engineering personnel.

I. DESCRIPTION OF EVENT

Nine Mile Point Unit 2 (NMP2) Technical Specification Surveillance Requirement 4.0.5.a requires that inservice testing of American Society of Mechanical Engineers (ASME) Code Class 2 valves be conducted in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda. On July 29, 1999, with NMP2 at full power, Niagara Mohawk Power Corporation (NMPC) determined that the inservice test program did not require reverse flow testing of the check valve on the high pressure core spray pump suction line from the suppression pool, Valve 2CSH*V16. On July 30, 1999, NMPC reinstated the reverse flow testing requirement for Valve 2CSH*V16 to the inservice test program and the valve was satisfactorily reverse flow tested.

NMPC deleted the quarterly reverse flow testing requirement on July 22, 1997, based on the valve design documentation, the Updated Safety Analysis Report, inaccurate vendor (General Electric) information, and the 1991 safety classification determination. According to these documents, the valve safety function was to open on demand to supply a flow path from the suppression pool to the high pressure core spray pump. However, based on further review of design requirements, the valve also has a safety function to check closed to prevent flow from the condensate storage tank to the suppression pool on the failure of the condensate storage tank supply valve (2CSH*MOV101) to close.

II. CAUSE OF EVENT

The cause of this event has been determined to be an inadequate safety review and failure mode and effects evaluation of the original design documents. The original valve specifications and information contained in the Updated Safety Analysis Report indicated that the subject valve had a forward flow function only. This information was subsequently used in the development of the safety class determination for the valve in 1991, as well as the safety evaluation performed in 1997 that justified removing the valve from the inservice test program.

Contributing to the cause is that the function of the valve, as defined in the General Electric system design specification, and its failure modes were not addressed in the original design documentation used in the preparation of the safety class determinations, and that the personnel performing the safety class determinations lacked the necessary system level knowledge and experience to recognize this lack of relevant information. Additionally, independent reviews of the safety class determinations and the safety evaluation failed to identify and correct these errors.

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." The valve is required to be tested in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda. NMPC had not reverse flow tested Valve 2CSH*V16 since July 1997. Therefore, NMPC did not meet the requirements of NMP2 Technical Specification Surveillance Requirement 4.0.5.a for ASME Class 2 valves.

III. ANALYSIS OF EVENT (Cont'd)

NMPC reverse flow tested Valve 2CSH*V16. From the satisfactory reverse flow test results, NMPC concluded that the valve checked properly and would have been able to perform its safety function. Therefore, there was no adverse affect on the health and safety of the public or plant operators.

IV. CORRECTIVE ACTIONS

1. Reverse flow testing of Valve 2CSH*V16 was re-entered into the inservice test program and the valve was satisfactorily reverse flow tested.

2. The safety classification determination will be revised and a licensing document change request will be issued to incorporate this change in the next update of the Updated Safety Analysis Report. These items will be completed by October 15. 1999.

3. Safety classification determinations for all safety-related check valves will be reviewed for failure modes and effects analysis considerations, appropriate supporting safety evaluations, and the adequacy of vendor information by December 15, 1999.

4. An activity has been generated to evaluate a sample of the remaining safety classification determinations not addressed in Corrective Action #3. The initial sampling will be completed and any additional corrective actions will be identified by January 31, 2000.

5. Expectations on use of design documents and licensing correspondence has previously been reinforced with appropriate design engineering groups. This Licensee Event Report (LER) will be used to reinforce expectations again with emphasis on ownership, the need for research, questioning attitude, and independent reviews by September 30, 1999.

V. ADDITIONAL INFORMATION

A. Failed components: None.

B. Previous similar events:

1. LERs 99-08 (Inadequate Surveillance of Reactor Core Isolation Cooling Check Valve) and 99-09 (Nonconformance with Technical Specification Regarding ASME Section XI Class 2 Check Valve Reverse Flow Testing) describe NMPC's failure to test safety-related check valves. These LERs were identified as a result of the investigation stemming from LER 99-07 (Violation of Technical Specifications Regarding ASME Code Section XI Class 2 Weld Inspection Requirements Due to Improper Use of a Code Exemption). This LER (99-14) resulted from NMPC's continuing investigation stemming from these LERs.

V. ADDITIONAL INFORMATION (Cont'd)

2. 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
High Pressure Core Spray System	N/A	BG
Check Valve	V	BG