

Indian Point 3
Nuclear Power Plant
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Joseph E. Russell
Resident Manager

April 30, 1990
IP3-90-041

Docket No. 50-286
License No. DPR-64

Document Control Desk
Mail Station PI-137
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Sir:

The attached Licensee Event Report LER 90-003-00 is hereby submitted in accordance with the requirements of 10CFR50.73. This event is of the type defined in the requirements per 10CFR50.73 (a) (2) (ii).

Very truly yours,

A handwritten signature in cursive script, appearing to read 'J. E. Russell', written over the typed name.

Joseph E. Russell
Resident Manager
Indian Point Three Nuclear Power Plant

MFP:dw

Attachment

cc: Mr. William Russell
Regional Administrator
Region 1
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Indian Point Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 2 8 6	PAGE (3) 1 OF 0 5
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TITLE (4)
Non-Category I Isolation Valve In Category I Boundry

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)
0 3	3 1	9 0	9 0	0 0 3	0 0	0 4	3 0	9 0			0 5 0 0 0
											0 5 0 0 0

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) 1 0 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(e)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.38(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.38(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)							
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input checked="" type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)								

LICENSEE CONTACT FOR THIS LER (12)									
NAME Joseph Macchiarulo							TELEPHONE NUMBER 9 1 4 7 3 6 - 8 0 4 6		

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		

SUPPLEMENTAL REPORT EXPECTED (14)								EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input type="checkbox"/> NO												

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

On March 29, 1990, the Authority discovered that a non-category I, seismic class III nitrogen supply line had been installed in a safety-related, category I, seismic class I line between two containment isolation valves. Although the nitrogen supply line was non-category I, it has been successfully tested in accordance with the containment isolation leak test procedure on a periodic basis since it was originally installed. The Authority has identified the root cause of this event to be a less than adequate engineering review of the modification that originally installed the nitrogen supply line. The problem was corrected by removing the pipe connection and the restoration of the line to its original classification.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Indian Point Unit 3	0 5 0 0 0 2 8 6 9 0	-	0 0 3	-	0 0	0 2 OF 0 5

TEXT (If more space is required, use additional NRC Form 368A's) (17)

DESCRIPTION OF THE EVENT

On March 29, 1990, a New York Power Authority Quality Assurance Engineer, while auditing containment integrity procedure SOP-CB-1, revision 13, discovered a refueling cavity filter system line that connected to the safety injection accumulator nitrogen supply line between two containment isolation valves, NNE-1610 and NNE-863. The Tech Services Department was asked to evaluate the situation.

On March 31, 1990, at 1300 hours, the Tech Services Department completed their investigation and determined that the refueling cavity filter system tie-in and WD-520, its associated isolation valve, were non-category I, seismic class III components. The shift supervisor was informed and the Nuclear Regulatory Commission was notified at 1405 hours.

INVESTIGATION OF THE EVENT

On March 26, 1978, modification 78-3-22-RHR was initiated to install a refueling cavity filter system in the refueling cavity return line/drain line. The modification was completed on August 5, 1981. The purpose of the refueling cavity filter system was to filter refueling cavity water prior to pumping it to the reactor water storage tank.

Included in this modification was a 1/2 inch refueling cavity filter system nitrogen supply line that tied into line number 68 of the nitrogen supply to the safety injection accumulators, a category I, seismic class I line. This tie-in formed a tee between containment isolation valves NNE-1610, a one inch check valve, and NNE-862, a one inch air-operated globe valve.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Indian Point Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 2 8 6	LER NUMBER (8)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 0	- 0 0 3	- 0 0	0 3	OF	0 5

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

The nuclear safety evaluation included in the modification stated that the refueling cavity filter system would interface with non-category I systems except for certain taps on the reactor heat removal bypass line. The tie-in to line number 68 of the Nitrogen Supply to the Safety Injection Accumulators, a Category I system, was not evaluated properly.

On March 29, 1990, a New York Power Authority Quality Assurance Engineer discovered that the refueling cavity filter system nitrogen supply line was installed between two containment isolation valves. The resulting investigation revealed that the refueling cavity filter system line and its associated isolation valve were non-category I, seismic class III components.

CAUSES OF THE EVENT

The following root cause has been identified as contributing to this event:

1. The engineering review of modification 78-3-22-RHR was less than adequate. An adequate engineering review of the refueling cavity filter system installation would have included a close examination of all interfaces with other plant systems. Had this been done, this situation would not have occurred.

CORRECTIVE ACTIONS

1. Modification 90-03-084-N2 was performed to remove the refueling cavity filter system nitrogen supply line from line number 68 of the nitrogen supply to the accumulators and a category I pipe spool was welded in its place. The weld was inspected and tested in accordance with the requirements of ANSI B31.1, 1967 edition, and an in-service leak test was performed.
2. On April 20, 1990, the Tech Services Department completed:
 - * A database of outside containment isolation valves.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Indian Point Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 2 8 6	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 0	- 0 0 3	- 0 0	0 4	OF	0 5

TEXT (If more space is required, use additional NRC Form 386A's) (17)

- * A cross-reference of isolation valves identified from a drawing review to the updated safety analysis report and the IP-3 technical specifications.
 - * Field walk-downs to confirm existing outside containment isolation valves and check for any valves within the IP-3 containment integrity boundary that are not identified in the drawings, the IP-3 updated safety analysis report, or the IP-3 technical specifications.
3. The modification review practices at Indian Point 3 have greatly improved since 1978. Specifically, the implementation of the modification control manual in 1988 affected a marked increase in the attention to detail applied to modification reviews at Indian Point 3. The modification control manual achieves this end by establishing extensive administrative controls.

ANALYSIS OF THE EVENT

This event is reportable under 10CFR50.73(a)(2)(ii)(B). The plant was in a condition that was outside the design basis of the final safety analysis report section 5.2.1 from August 5, 1981 to April 1, 1990.

Section 5.2.1 of the final safety analysis report requires that two barriers between the containment atmosphere and the environment be provided on lines that penetrate containment. These lines are considered an extension of containment up to and including the second isolation barrier and therefore must be of seismic class I design. When isolation valves serve as barriers, system design is such that failure of one valve to close will not prevent isolation.

Since the refueling cavity filter system nitrogen supply line and WD-520, its associated isolation valve, were non-category I, seismic class III components and were tied into the accumulator nitrogen supply line just upstream of NNE-1610, between two containment isolation valves, the containment integrity design specifications in the final safety analysis report were compromised.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Indian Point Unit 3	0 5 0 0 0 2 8 6 9 0	-	0 0 3	-	0 0	0 5 OF 0 5

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

The required containment isolation valve leak test was performed on this header in accordance with 10CFR50 Appendix J every refueling outage with satisfactory results. It has been demonstrated by testing that the leak-proof integrity of containment has been maintained.

SECURING FROM THE EVENT

The refueling cavity filter system tie-in was removed from accumulator nitrogen supply line number 68 and a category I pipe spool was welded in its place. The weld was inspected and tested in accordance with the requirements of ANSI B31.1, 1967 edition, and an in-service leak test was performed.

Pursuant to 10CFR50.72(b)(ii)(B), during reactor shutdown, the New York Power Authority made a four hour event notification at 1405 hours on March 31, 1990, after an engineering evaluation revealed the significance of this event.