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Vice President

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March 31,1997

Re: Indian Point Unit No. 2
Docket No. 50-247
LER 97-03-00

Document Control Desk
US Nuclear Regulatory Commission
Mail Station PI-137
Washington, DC 20555

The attached Licensee Event Report 97-03-00 is hereby submitted in accordance with the requirements of 10 CFR 50.73.

Very truly yours,

Steph S. Q

Attachment

cc: Mr. Hubert J. Miller
Regional Administrator - Region I
US Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. Jefferey Harold, Project Manager
Project Directorate I-1
Division of Reactor Projects I/II
US Nuclear Regulatory Commission
Mail Stop 14B-2
Washington, DC 20555

Senior Resident Inspector
US Nuclear Regulatory Commission
PO Box 38
Buchanan, NY 10511

110007

NRC FORM 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH 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.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Indian Point Unit No. 2	0 5 0 0 0 2 4 7	1 OF 0 4

TITLE (4)
Plant Shutdown due to Excessive Leakage through Valve 838D

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 2	2 7	9 7	9 7	0 0 3	0 0	0 3	3 1	9 7		0 5 0 0 0
										0 5 0 0 0

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

OPERATING MODE (9): N

POWER LEVEL (10): 0 0 0

[ ] 20.402(b)	[ ] 20.405(c)	[ ] 50.73(a)(2)(iv)	[ ] 73.71(b)
[ ] 20.405(a)(1)(i)	[ ] 50.36(c)(1)	[ ] 50.73(a)(2)(v)	[ ] 73.71(c)
[ ] 20.405(a)(1)(ii)	[ ] 50.36(c)(2)	[ ] 50.73(a)(2)(vii)	[ ] OTHER *(Specify in Abstract below and in Text, NRC Form 366A)*
[ ] 20.405(a)(1)(iii)	[X] 50.73(a)(2)(i)	[ ] 50.73(a)(2)(viii)(A)	
[ ] 20.405(a)(1)(iv)	[ ] 50.73(a)(2)(ii)	[ ] 50.73(a)(2)(viii)(B)	
[ ] 20.405(a)(1)(v)	[ ] 50.73(a)(2)(iii)	[ ] 50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (AREA CODE)
Richard Louie, Engineer	9 1 4 7 3 4 - 5 6 7 8

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS
B	B P	I S V	V 0 8 0	Yes					

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
[ ] YES *(If yes, complete EXPECTED SUBMISSION DATE)*	[X] NO				

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

On February 27, 1997, with the plant at hot shutdown and the reactor subcritical at zero percent power, the restrictions of Indian Point Unit No. 2 Technical Specification 3.1.F.2.b were triggered as a result of excessive seat leakage detected through RCS/RHR pressure isolation check valve 838D. Test data taken during the performance of test procedure PT-V16 determined that a leakage rate greater than that allowed by Technical Specification 3.1.F.2.b(1)(c) existed. Consequently, in accordance with the requirements of Technical Specification 3.1.F.2.b(2), an orderly plant shutdown was initiated and the reactor was safely brought to cold shutdown conditions.

PLANT AND SYSTEM IDENTIFICATION:

Westinghouse 4-Loop Pressurized Water Reactor

IDENTIFICATION OF OCCURRENCE:

Plant Shutdown Due To Excessive Leakage Through Valve 838D

EVENT DATE:

February 27, 1997

REPORT DUE DATE:

March 31, 1997

REFERENCES:

Condition Identification and Tracking System (CITRS) No. 97-E00702, 97-E00712

PAST SIMILAR OCCURRENCE:

LER 89-008

DESCRIPTION OF OCCURRENCE:

On February 27, 1997 with the plant at hot shutdown, the reactor subcritical at zero percent power, and in preparation for returning the unit to service, test personnel were in the process of verifying acceptable RCS/RHR isolation valve leakage rates. Test data taken during the performance of test procedure PT-V16 determined that a seat leakage rate through check valve 838D greater than that allowed by IP-2 Technical Specification 3.1.F.2.b(1)(c) existed. Therefore, in accordance with the requirements of Technical Specification 3.1.F.2.b(2), an orderly plant shutdown was initiated and the reactor was safely brought to cold shutdown conditions. Determination of the causes of the excessive leakage and the appropriate corrective action required disassembly and inspection of the internals of valve 838D.

ANALYSIS OF OCCURRENCE :

Indian Point Unit No. 2 Technical Specification 4.16.A.5 requires that, "the RCS/RHR pressure isolation valves be leakage tested every time the plant is placed in the cold shutdown condition for refueling, each time the plant is placed in a cold shutdown condition for at least 72 consecutive hours if testing has not been accomplished in the preceding 9 months, and prior to returning the valve to service after maintenance, repair or replacement work is performed." Surveillance test PT-V21, "Low Head Injection and RHR Check Valves," determines the back leakage through RCS/RHR check valves 838A, 838B, 838C and 838D by measuring the differential pressure across each of the valves. The test verifies gross leakage by measuring the pressure upstream of the valve and comparing it to the Safety Injection accumulator pressure. The leakage rate limits imposed on the RCS/RHR pressure isolation check valves are intended to provide an assurance of valve integrity. A minimum differential pressure across the valve of 150 psig must exist for acceptance. On February 1, 1997, valve 838D had been tested with acceptable results. However on February 27, 1997, while performing another test, it was observed that the differential pressure was less than 150 psig. Surveillance test PT-V16, "838 and 897 Check Valve Leakage Test," was performed and quantified the leakage rate at 7.93 gpm through valve 838D. Leakage rates greater than 5 gpm are unacceptable. Therefore, in accordance with the requirements of Technical Specification 3.1.F.2.b(2) an orderly plant shutdown was initiated and the reactor was safely brought to cold shutdown conditions. Determination of the causes for the excessive valve leakage and corrective action could not be determined until disassembly and internal inspection of the valve 838D were performed. The safety significance of this occurrence was minimal due to the shutdown condition of the plant.

CAUSE OF OCCURRENCE :

The cause of the excessive leakage has been attributed to corrosion-induced failure of the hanger bracket bolts used to secure the hanger and disk within valve 838D. The failure of the bolts caused a misalignment of the valve disk assembly which resulted in improper valve disk closure. Subsequent chemical analysis of the remaining bolt material confirmed the material to be carbon steel instead of stainless steel as specified on the vendor drawing for the valve. In addition to the incorrect hanger bracket bolt material, three additional discrepancies were noted in valve 838D. They were, a missing lock bracket, an incorrectly installed disk lock wire, and the incorrect alignment of the disk stop tabs. These discrepancies lead us to believe that valve 838D was

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	PAGE (3)
Indian Point Unit No. 2	0 5 0 0 0 2 4 7	9 7	— 0 0 3 —	0 0	0 4 OF 0 4

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

reworked sometime after it was received from the manufacturer. A search of past Con Edison work orders did not identify any activities which required valve 838D to be inspected internally or repaired since 1974. Based upon our investigations of past work orders and the manufacturer's 10 CFR Part 21 history, we believe valve 838D was incorrectly reworked sometime prior to 1974, causing this event.

CORRECTIVE ACTION:

The immediate corrective action taken was to initiate an orderly plant shutdown in accordance with the requirements of Technical Specification 3.1.F.2.b(2). Because the cause for the excessive valve leakage could not be determined without the disassembly and inspection of the internals of valve 838D, evaluations were initiated to determine the best method to isolate the valve from the reactor coolant system. Subsequent to the successful installation of several freeze seals for isolation, valve 838D was disassembled for inspection. Replacement hanger bracket bolts of an acceptable material for this type of service were installed in valve 838D. All other noted discrepancies were corrected to conform to the manufacturer's requirements. To ensure that a similar condition did not exist with the other RCS/RHR pressure isolation check valves (838A, 838B, and 838C), a search for recent maintenance work orders associated with these valves was performed. It was determined that because of earlier leakage concerns these other three valves had been disassembled and internally inspected within the past two refueling outages. The areas inspected included the disk hinge assembly, disc hinge movement, and the stud and strike area. No discrepancies associated with the hanger bracket bolts were noted. Based upon these recent inspections, Con Edison is reasonably certain that the non-conformance and discrepancies associated with valve 838D do not likely exist in valves 838A, 838B, and 838C. Nevertheless, to ensure that hanger bracket bolts of the correct material are installed within valves 838A, 838B, and 838C, inspections will be performed during the 1997 Refueling Outage which is scheduled to start in May 1997.