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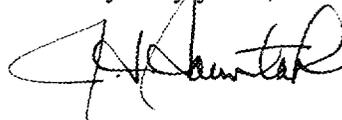
October 21, 1999

Re: Indian Point Unit No. 2
Docket No. 50-247
LER 99-017-00

Document Control Desk
US Nuclear Regulatory Commission
Mail Station PI-137
Washington, DC 20555-0001

The attached Licensee Event Report 99-017-00 is hereby submitted in accordance with the requirements of 10 CFR 50.73.

Very truly yours,



Attachment

C: 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
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LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1) Indian Point No. 2	DOCKET NUMBER (2) 05000-247	PAGE (3) 1 OF 4
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TITLE (4)
Fire Protection System Design Deficiency Resulting In Potential Flooding

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 NAME	DOCKET NUMBER
9	21	1999	1999	-- 017 --	00	10	21	1999		05000
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)									
POWER LEVEL (10) 0	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)	X 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						
	20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A						
	20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)							

LICENSEE CONTACT FOR THIS LER (12)	
NAME Richard T. Louie, Licensing Engineer	TELEPHONE NUMBER (Include Area Code) 914-734-5678

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)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE.)	X	NO					

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On September 21, 1999 with the unit in hot shutdown condition, an ongoing review of the Fire Protection (FP) system identified the existence of a design deficiency associated with one (1) Victaulic pipe coupling which could, in certain postulated seismic circumstances, have resulted in flooding concerns to safety-related equipment. It was determined that predicted high impact loads due to pipe movement and as-found clearances during a postulated seismic event, could have resulted in piping failure and localized area flooding within the Primary Auxiliary Building (PAB). The potentially affected flooding area was in the lower level of the PAB, which includes safety-related equipment such as the Residual Heat Removal (RHR) pumps. To correct this design deficiency, additional piping supports were installed to limit pipe movement in the affected area.

This report is being made per 10CFR50.73(a)(2)(ii)(B), as a condition found to be outside the design basis of the plant.

The health and safety of the public was not affected by this event.

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TEXT CONTINUATION

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Indian Point No. 2	05000-247	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 4
		1999	-- 017	-- 00	

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

PLANT AND SYSTEM IDENTIFICATION:

Westinghouse 4-Loop Pressurized Water Reactor

IDENTIFICATION OF OCCURRENCE:

Fire Protection System Design Deficiency Resulting In Potential Flooding

EVENT DATE:

September 21, 1999

REFERENCES:

Condition Reporting System (CRS) No: 199907141

PAST SIMILAR OCCURRENCES:

None

DESCRIPTION OF OCCURRENCE:

On September 21, 1999 with the unit in hot shutdown condition, an ongoing review of the Fire Protection (FP) standpipe system in the Primary Auxiliary Building (PAB) identified the existence of a design deficiency associated with one (1) Victaulic pipe coupling which could result in flooding concerns to safety-related equipment. This review was initiated in response to concerns associated with the mechanical integrity of the Victaulic pipe couplings. Part of the review included conducting walkdowns of the PAB standpipe piping to identify locations where as-found clearances between Victaulic couplings and adjacent structures or equipment were less than required. A total of nine (9) areas were identified as potential concerns. For those instances where a potential for impact existed, an impact load assessment was performed. Predicted high impact loads due to excessive pipe movement and as-found clearances, such as could occur during a postulated seismic event, may result in piping failure and localized area flooding within the PAB. One of the nine areas evaluated was determined to be subject to high impact stresses which could have induced flooding, under postulated seismic event circumstances, in the lower level of the PAB. This location of the plant includes safety-related equipment such as the Residual Heat Removal (RHR) pumps. To correct this design deficiency, additional piping supports were installed to limit pipe movement at the affected area.

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

ANALYSIS OF OCCURRENCE:

The review was initiated as a result of earlier activities associated with the procurement of replacement Victaulic pipe couplings on the PAB standpipe system. During those earlier activities, some differences between the proposed replacement and existing coupling materials were noted. Specific concerns were identified regarding the structural integrity of the couplings in the event that they were subjected to postulated impact loads during a seismic event. Consequently, Con Edison evaluated the potential of the FP system piping to be subjected to high impact loads. Part of this review included conducting walkdowns of FP piping to identify locations where as-found clearances between Victaulic couplings and adjacent structures or equipment were less than required.

Where applicable, as-found clearances were compared with analysis-predicted pipe movements. If the predicted movement due to a Design Basis Earthquake (DBE) event was less than the as-found clearance, the as-found condition was acceptable without further review. If the predicted movement was greater than the as-found clearance, impact was assumed to occur and an impact evaluation was undertaken. Because of the difficulty of accurately predicting impact loads, a factor of two (2) times the impacting mass was used to account for dynamic amplification. In general, the evaluation covered all pipe and in-line components extending to a point midway, on either side, between the potential impact point and the next support that acts in the direction of the potential impact.

For the impacted structures or equipment, judgement was applied as to whether the items would be flexible enough to react itself from the impact of the FP line. If so, the mass of the structures or equipment was estimated in a fashion similar to that of the fire protection line. The total mass used for impact was then taken as the sum of the contributory mass of the fire protection piping and that of the impacted items. Because this is a local stress evaluation involving impact, there are no direct Code equations applicable. However, since the intent was to assure integrity following impact, it was appropriate to look at the capability of the cast Victaulic couplings to sustain such loads. One of the nine areas evaluated was determined to have unacceptably high impact stresses, for which, if a failure were assumed to occur, flooding could occur in the lower level of the PAB. This location of the plant includes safety-related equipment such as the Residual Heat Removal (RHR) pumps.

This report is being made per 10CFR50.73(a)(2)(ii)(B), as a condition found to be outside the design basis of the plant. The health and safety of the public were not affected since an actual FP system pipe failure potentially disabling safety-related equipment did not occur.

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

CAUSE OF OCCURRENCE:

The above mentioned design deficiencies associated with the Victaulic couplings were discovered while conducting engineering / procurement activities. While evaluating the material differences of the proposed replacement couplings, the impact susceptibility concern with the Victaulic couplings was discovered. The design criteria did not consider impact resistance as a requirement of the PAB standpipe system.

CORRECTIVE ACTION:

The Primary Auxiliary Building FP piping has been evaluated to assess the potential for flooding concerns in the event of seismic loading conditions. Where Victaulic couplings were utilized, the conclusions indicated the flooding concern was limited to one location, of nine evaluated, as a result of potentially high impact loads.

To correct this design deficiency, additional piping supports were installed to limit pipe movement at the affected area. The required modifications were completed within two days of notification of this condition.