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February 18, 1997

Re: Indian Point Unit No. 2
Docket No. 50-247
LER 97-01-00

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

The attached Licensee Event Report 97-01-00 is hereby submitted in accordance with the requirements of 10 CFR 50.73.

Very truly yours,

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
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NRC FORM 366 (6-89) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-104
EXPIRES: 4/30/92
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.

LICENSEE EVENT REPORT (LER)

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

TITLE (4)

Automatic Start of the Auxiliary Feedwater Pumps and Steam Generator Blowdown Isolation

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 5 0 0 0
0 1	1 6	9 7	9 7	- 0 0 1	- 0 0	0 2	1 8	9 7		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	20.402(b)	20.405(c)	x 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 336A)*
		20.405(a)(1)(iii)	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
James J. Maylath, Senior Engineer	AREA CODE 9 1 4 7 3 4 - 5 3 5 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
YES *(If yes, complete EXPECTED SUBMISSION DATE)*	x NO				

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

On January 16, 1997, with the unit operating at 100% power, the motor driven auxiliary feedwater pumps automatically started and the steam generator blowdown isolation valves automatically closed. At that time, Instrument and Control technicians were performing a reactor protection surveillance test. The test was stopped to investigate the cause of the above actuations. The test includes verification of the steam generator low level logic. Test switches are used to actuate the logic relays and to open the logic output circuit in order to preclude any equipment actuation during testing. Verification that the logic has been established is done by observing that approximately 125 VDC exists across the open logic output. A digital voltage meter is used to make this observation. The digital voltage meter was found to have the test leads inserted into the ammeter position input, instead of the voltmeter position input as required. The low impedance of the ammeter measuring circuit shorted out the open logic output circuit causing the actuating relays for the motor driven auxiliary feedwater pumps and steam generator blowdown isolation to operate. Following operator verification that the plant was stable, the auxiliary feedwater pumps were secured and returned to standby and steam generator blowdown was removed from isolation.

PLANT AND SYSTEM IDENTIFICATION:

Westinghouse 4-Loop Pressurized Water Reactor

IDENTIFICATION OF OCCURRENCE:

Automatic Start of the Auxiliary Feedwater Pumps and Steam Generator Blowdown Isolation

EVENT DATE:

January 16, 1997

REPORT DUE DATE:

February 18, 1997

REFERENCES:

Condition Identification and Tracking System (CITRS) No. 97-E00183

PAST SIMILAR OCCURRENCE:

None

DESCRIPTION OF OCCURRENCE:

On January 16, 1997 at 1005 hours, with the unit operating at 100% power, the motor driven auxiliary feedwater pumps (AFPs) automatically started and the steam generator (S/G) blowdown isolation valves automatically closed. The isolation of S/G blowdown caused the radiation monitor for S/G blowdown, R-49, to alarm due to low flow. At that time, Instrument and Control (I&C) technicians were performing reactor protection logic surveillance test PT-2M3. The test was stopped to investigate the cause of the above actuations. PT-2M3 includes verification of the S/G low level logic that is used to automatically start the AFPs and isolate S/G blowdown. Test switches are used to actuate the logic relays and to open the logic output circuit to preclude any equipment actuation during testing. Verification that the logic has been established is

accomplished by observing that approximately 125 VDC exists across the open the logic output circuit. A digital voltage meter is used to make this observation. The digital voltage meter was found to have the test leads inserted into the ammeter position input terminal, instead of the voltmeter position input as required. The I&C technicians immediately notified their supervisor of this condition. The low impedance of the ammeter measuring circuit had shorted out the open logic output circuit causing the actuating relays for the motor driven AFPs and S/G blowdown isolation to operate.

Approximately two minutes after operator verification that the plant was stable and that both Main Boiler Feedwater Pumps were operating normally, the AFPs were secured and returned to standby. S/G blowdown was removed from isolation, and R-49 was returned to service. The operators verified that S/G levels, which had risen with the running of the AFPs, returned to normal levels.

ANALYSIS OF OCCURRENCE:

This report is being made because actuation of an Engineered Safety Feature (ESF) System occurred. Any unplanned manual or automatic actuation of an ESF is reportable under 10CFR50.73(a)(2)(iv). There were no adverse safety implications as a result of this event. All ESFs performed as expected. S/G levels, which had risen with the running of the AFPs, returned to normal levels. This event did not cause any personnel injury or damage to equipment.

The feedwater system appeared to react slow as S/G levels increased. This is currently being evaluated as part of the analysis of the feedwater related shutdown on January 26, 1997.

CAUSE OF OCCURRENCE:

The cause of the automatic AFP starts and S/G blowdown isolation was that the I&C technicians performing the test inserted the test leads into the wrong terminal. This is considered a human performance error. The digital voltage meter had the test leads inserted into the ammeter position input terminal, instead of the voltmeter position input as required. This shorted out the open the logic output circuit causing the motor driven AFPs and S/G blowdown isolation to operate when the logic was established by the test switches.

CORRECTIVE ACTION:

Following the event, the operators verified that the plant was stable and that both Main Boiler Feedwater Pumps were operating normally. Approximately two minutes later, the AFPs were secured and returned to standby. S/G blowdown was restored, and R-49 was returned to service. The operators verified that S/G levels, which had risen with the running of the AFPs, returned to normal levels. Subsequent to these verifications, the event was reviewed with the Senior Watch Supervisor, Senior Reactor Operator and Reactor Operator. Permission was then given to I&C to proceed with PT-2M3. PT-2M3 was resumed and completed successfully.

The I&C technicians were counseled by their supervisor on the importance of self-checking and the use of STAR (Stop-Think-Act-Review) techniques. A discussion was held among the I&C manager, supervisors and technicians on the appropriateness of the use of an external voltmeter, rather than the use of installed indicating lights, as is the case for most of the ESF logic test circuits. A human performance evaluation is presently being done on this event.

A modification to install test lights for the low S/G logic that is used for the AFPs automatic start and S/G blowdown isolation will be considered. This would preclude the use of an external voltmeter and provide for a test circuit design that is similar to other ESF logic test circuits.