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June 7, 2000

Re: Indian Point Unit No. 2
Docket No. 50-247
LER 1998-005-01

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

The attached Licensee Event Report 1998-005-01 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
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RGH-001

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LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1) Indian Point No. 2	DOCKET NUMBER (2) 05000-247	PAGE (3) 1 OF 4
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TITLE (4)
Common Power Supply Found on Pressurizer Power-Operated Relief Valves

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
03	20	1998	1998	-- 005	-- 01	06	07	2000		05000
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)				
	20.2201(b)	20.2203(a)(2)(v)	50.73(a)(2)(I)	50.73(a)(2)(viii)	
POWER LEVEL (10)	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 James J. Maylath, Senior Engineer	TELEPHONE NUMBER (Include Area Code) (914) 734-5356
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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 March 20, 1998, with the unit at cold shutdown, the Power-Operated Relief Valves (PORVs), PCV-455C and PCV-456, were found to have a common 125 VDC power source for both solenoids and control circuits. This condition could have rendered the Overpressure Protection System (OPS) inoperable if a failure of the common 125 VDC power supply were to occur. A jumper was found in the Central Control Room Flight Panel FBF. Subsequently, it was verified that this jumper was not in the plant drawings and the power supply, which should have been connected to PCV-455C, as shown in the plant drawings, was disconnected upstream of the supply fuses. A review of the Jumper Log Index was conducted, and applicable jumpers were reviewed for potential impact. No documentation showing the installation of a jumper of the PORV 125 VDC power supply was found. Physical evidence (e.g. - photographs, jumper wires, documentation of prior inspections, jumper tags, etc.) was investigated. The investigation was inconclusive in determining the date or rationale for the installation of the PORV 125 VDC power supply jumper. The root cause for this event has been determined as inadequate jumper control or personnel compliance at the time the jumper was installed.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Indian Point No. 2	05000-247	1998	-- 005	-- 01	2 OF 4

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:

Common Power Supply Found on Pressurizer Power-Operated Relief Valves

EVENT DATE:

March 20, 1998

REVISION DATE:

June 7, 2000

REFERENCES:

Condition Identification and Tracking System (CITRS) No. 98-E02240

PAST SIMILAR OCCURRENCE:

None.

DESCRIPTION OF OCCURRENCE:

On March 20, 1998, a power supply verification of the 125 VDC and 118 VAC Systems was self-initiated to demonstrate that the 125 VDC distribution panel and 118 VAC instrument bus circuitry and loads were consistent with the expected plant configuration. In the course of this verification, the Power-Operated Relief Valves (PORVs), PCV-455C and PCV-456, were found to have a common 125 VDC power source for both solenoids and control circuits. During the performance of Test Procedure IC-SL-61 for 125 VDC Distribution Panel 22, circuit 15, the green position indicating light for PCV-455C did not extinguish when expected. When the valve switch is placed in the valve closed position, the solenoid for PCV-455C de-energizes to close PCV-455C. When PCV-455C closes, a limit switch closes to energize the green position indicating light. According to plant drawings the solenoid and position indicating light for PCV-455C are fed off circuit 15 of Distribution Panel 22. When the control switch for PCV-455C was placed in the valve closed position with circuit 15 of Distribution Panel 22 open, the green light remained lit. Although PCV-455C was closed as expected (the green light indicated that the valve was closed), with the Distribution Panel 22, circuit 15 power supply open, the green light should have been extinguished.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
Indian Point No. 2	05000-247	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 4
		1998	-- 005	-- 01	

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

DESCRIPTION OF OCCURRENCE (con't.):

A field check of the wiring for Distribution Panel 22, circuit 15, and Distribution Panel 21, circuit 5 (which feeds PCV-456), established that the two circuits were cross connected at the fuse clips for PCV-456 and PCV-455C behind the central control room FBF panel. The power supply for PCV-455C (as per plant drawings) was found disconnected from the upstream side of Fuses FU22P & N with the lugged ends taped and hanging in the vicinity of the fuses; the other end of this required supply line was still connected to the terminal block in panel FBF. Closer inspection of the fuse block uncovered a tag tied to both jumper wires which read:

"REMOVE JUMPER AND RECONNECT TO P1-N1 STRIP L2"

Initially, the tag had not been found because it was hanging behind the fuses, which are not flush mounted. The tag is of white manila with a brown tie ring, similar to other wire tags in the vicinity, but does not have any date or indication of responsible individual. The tag is not of a type currently used by Operations in conjunction with control and administration of the Jumper Log.

ANALYSIS OF OCCURRENCE:

This report is being submitted in accordance with 10CFR50.73(a)(2)(ii) for a condition that is outside the plant design basis. This plant condition, as discovered, could have resulted in a single failure to the common 125 VDC supply rendering the Overpressure Protection System (OPS) inoperable. The OPS is designed to automatically relieve RCS pressure for certain unlikely pressure transients, with RCS temperature <305°F, to preclude these incidents from causing RCS pressure to exceed 10 CFR 50, Appendix G limits. Station operating procedures address plant operation, with RCS temperature <305°F, for either OPS operable or inoperable. The operating procedures provide for specific actions if OPS is inoperable to preclude exceeding 10 CFR 50, Appendix G limits. At the time of discovery the unit was in cold shutdown with RCS temperature <170°F, and the OPS was not required to be operable. Since the OPS was installed in the late 1970's, there have been no excesses of Appendix G limits. There was no injury to personnel, nor was there any damage to equipment.

CAUSE OF OCCURRENCE:

The cause of the failure to remove the PORV jumper, which resulted in the plant being outside its design basis, was investigated. The investigation, which is described in the corrective action section below, was inconclusive in determining the date or rationale for the installation of the PORV 125 VDC power supply jumper. The root cause for this event was that the plant jumper control system or its compliance by personnel connected with the PORV jumper was inadequate at the time the jumper was installed.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Indian Point No. 2	05000-247				4 OF 4
		1998	-- 005	-- 01	

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

CORRECTIVE ACTION:

Within an hour of the discovery of both PORVs being powered from a common bus, notification was made in accordance with 10CFR50.72(b)(1)(ii)(B). Since the plant was at cold shutdown in a condition where the OPS was not required to be operable according to Technical Specifications, no immediate action was required with regard to re-establishing the design basis wiring configuration. The design basis wiring configuration has now been restored.

A full investigation of the PORV jumper was performed. This investigation included the following:

1. A search of the work order data base was performed. This identified 21 modifications that affected the PORV or PORV power supply circuits.
2. The 21 modifications were reviewed. None of these had any information on the PORV jumper.
3. A review of the Jumper Log Index was conducted. Jumper Log Indexes for 1981 through 1985 and 1988 through March 1998 were reviewed. No indexes for jumpers installed prior to 1981 or for the years 1986 or 1987 were found. This review identified three jumpers (from the early 1980's) that affected the PORV or PORV power supply circuits. However, the jumper log documentation could not be found. Comprehensive reviews performed in 1998 on safety-related logic circuits for adequate surveillance testing and on the control room annunciator circuits, as well as the power supply verification that identified the PORV jumper, provide reasonable assurance that no other jumpers affecting a safety-related function are in place despite the missing Jumper Log Indexes and documentation.
4. The PORV jumper tags, tag ink, wire, lugs and lug crimping method were examined in an attempt to determine the time frame that the PORV jumper could have been installed. However, no conclusive determination could be made on the date of the PORV jumper installation, although based on observation of the jumper tags and hardware it is believed that the jumper had been in place for more than 10 years.

Further corrective actions completed include the following:

1. Station administrative procedures for the installation and removal of jumpers have been enhanced to ensure that jumpers are removed when required.
2. Maintenance and construction procedures have been reviewed to ensure that jumpers used during maintenance and construction are installed and removed in accordance with the above station administrative procedures.
3. A review of instrument bus, 125 VDC and control room annunciator circuits was conducted during the 1998 maintenance outage. Anomalies found during this review (such as the PORV jumper) were dispositioned.
4. Condition reports were reviewed, no events similar to the PORV jumper were found.