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October 18, 1990

Re: Indian Point Unit No. 2  
Docket No. 50-247  
LER 90-08-00

Document Control Desk  
US Nuclear Regulatory Commission  
Mail Station P1-137  
Washington, DC 20555

The attached Licensee Event Report LER 90-08-00 is hereby submitted in accordance with the requirements of 10 CFR 50.73.

Very truly yours,



Attachment

cc: Mr. Thomas T. Martin  
Regional Administrator - Region I  
US Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406

Mr. Donald S. Brinkman, Senior 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

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PDR ADOCK 05000247  
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LICENSEE EVENT REPORT (LER)

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.

FACILITY NAME (1) Indian Point Unit No. 2		DOCKET NUMBER (2) 0 5 0 0 0   2   4   7	PAGE (3) 1 OF 3
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TITLE (4)  
Plant Vent Gaseous Activity Monitor ESF Actuation due to Electrical Spike

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)																																																																																																
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LICENSEE CONTACT FOR THIS LER (12)

NAME George Dahl, Engineer	TELEPHONE NUMBER AREA CODE: 9 1 4   5 2 6 -   5 1 8 6
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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)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15) MONTH:   DAY:   YEAR:
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

At the conclusion of a containment pressure relieving operation on September 18, 1990, with the plant at 96% power, the Plant Vent Gaseous Activity Monitor (R-14) experienced a spurious electrical spike, which in turn initiated Containment Ventilation Isolation and partially actuated the Weld Channel and Containment Penetration Pressurization system. A review of other radiation monitoring instrumentation confirmed there had been no actual increase in gaseous activity. The health and safety of the public were not affected by this event.

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 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.

FACILITY NAME (1)  Indian Point Unit No. 2	DOCKET NUMBER (2)  0 5 0 0 0 2 4 7	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		9 0	- 0 0 8	- 0 0	0 2	OF 0 3

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

**PLANT AND SYSTEM IDENTIFICATION:**

Westinghouse 4-Loop Pressurized Water Reactor

**IDENTIFICATION OF OCCURRENCE:**

Engineered Safety Feature (ESF) actuation due to a spurious electrical spike in the Plant Vent Gaseous Activity Monitor (R-14).

**REPORTABILITY DETERMINATION DATE:**

September 18, 1990

**REPORT DUE DATE:**

October 18, 1990

**REFERENCES:**

Significant Occurrence Report (SOR) 90-461

**PAST SIMILAR OCCURRENCES:**

- LER 90-04: ESF actuation due to spurious electrical spike in R-12 (Containment Radiogas Monitor)
- LER 90-03: ESF actuation due to spurious electrical spike in R-12
- LER 89-05: ESF actuation due to spurious electrical spike in R-14
- LER 87-12: ESF actuation due to spurious electrical spike in R-11 (Containment Air Particulate Monitor)

**DESCRIPTION OF OCCURRENCE:**

On September 18, 1990, at the conclusion of a containment pressure relieving operation, the Plant Vent Gaseous Activity Monitor (R-14) experienced a spurious electrical spike at approximately 0220 hours which resulted in ESF actuation of the Weld Channel and Containment Penetration Pressurization (WCCPP) system and isolation of the Containment Ventilation system, which includes the pressure relief line. These safety systems functioned as required in accordance with plant design. A review of other radiation monitoring instrumentation was conducted and verified that the instrument behavior was not due to an actual increase in gaseous activity.

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TEXT CONTINUATION**

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

**CAUSE OF OCCURRENCE:**

A spurious electrical spike in the circuitry of the Plant Vent Gaseous Activity Monitor (R-14) initiated ESF actuation of the WCCPP system and isolation of the Containment Ventilation System. As described in LER 90-04 and repeated below, electrical circuits in general can be subject to spurious electrical spikes of indeterminate cause.

**ANALYSIS OF OCCURRENCE:**

The Containment Ventilation system can be automatically isolated by a Containment Isolation Phase A signal, containment spray actuation, or a high radiation indication from Containment Air Particulate Monitor R-11, Containment Radiogas Monitor R-12, or Plant Vent Gaseous Activity Monitor R-14. Any of these three initiating signals results in the isolation of the containment purge and supply lines and the containment pressure relief line, which are the components of the Containment Ventilation system. Coincident actuation of that portion of the WCCPP system that supplies sealing air to the three ventilation lines also occurs.

Electrical circuits can be subject to infrequent spurious electrical spikes to some degree. Occasionally, the spike is of sufficient amplitude to produce an undesired effect. For this particular event, a setpoint on monitor R-14 was exceeded and a Containment Ventilation isolation signal was generated. This setpoint is set conservatively low to provide early warning of an increase in gaseous activity. In this instance, there was no actual increase in activity and Containment Ventilation isolation and WCCPP system actuation were not required to mitigate any adverse condition.

The chart recorder for R-14 indicated an instantaneous increase, with radiation levels the same before and after the event. The chart recordings for monitors R-11, R-12 indicated no increase in activity for that instant of time. Subsequent investigation determined that monitor R-14 had not failed and did not require repair or recalibration.

**CORRECTIVE ACTION:**

A program is ongoing to replace certain radiation monitors, including R-14. The existing monitors are original installed equipment of an early vintage. The newer instruments have improved voltage regulation, shielding and signal processing circuitry and will be less susceptible to electrical spikes. Several monitors have already been replaced and monitor R-14 is currently scheduled for replacement in 1991.