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November 9, 1990

Re: Indian Point Unit No. 2
Docket No. 50-247
LER 90-11-00

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

The attached Licensee Event Report LER 90-11-00 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
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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)

ESF Actuations Due to Electrical Spikes on Radiation Monitors

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
1 0	1 5	9 0	9 0	0 1 1		0 0	1 1	0 9	9 0		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)	9 7	20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.38(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.38(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		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
Joan F. Etzweiler	AREA CODE 9 1 4 5 2 6 - 5 3 6 5

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)

During the performance of a pressure relief of containment on October 15, 1990, with the plant at 96.5% power, the Plant Vent Gaseous Activity Monitor (R-14) experienced a spurious electrical spike, which in turn initiated Containment Ventilation Isolation (CVI) and partially actuated the Weld Channel and Containment Penetration Pressurization (WCCPP) system. After determining there had been no actual increase in gaseous activity, the radiation monitor was reset and pressure relief was reinstituted. About five minutes later, the Containment Radiogas Monitor (R-12) experienced a spurious electrical spike, which again actuated CVI and partially actuated the WCCPP system. Containment pressure relief was terminated and normal containment airborne radioactivity levels were verified by analysis of manual air samples. The health and safety of the public were not affected by this event.

PLANT AND SYSTEM IDENTIFICATION:

Westinghouse 4-Loop Pressurized Water Reactor

IDENTIFICATION OF OCCURRENCE:

Engineered Safety Feature (ESF) actuations due to spurious electrical spikes in the Plant Vent Gaseous Activity Monitor (R-14) and the Containment Radiogas Monitor (R-12).

REPORTABILITY DETERMINATION DATE:

October 15, 1990

REPORT DUE DATE:

November 14, 1990

REFERENCES:

Significant Occurrence Report (SOR) 90-513

PAST SIMILAR OCCURRENCES:

LER 90-10: ESF actuation due to simultaneous spurious electrical spikes in R-12 and R-14
LER 90-08: ESF actuation due to spurious electrical spike in R-14
LER 90-04: ESF actuation due to spurious electrical spike in R-12
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 October 15, 1990, during the performance of a pressure relief of containment, the Plant Vent Gaseous Activity Monitor (R-14) experienced a spurious electrical spike at approximately 1012 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.

DESCRIPTION OF OCCURRENCE: (continued)

A review of other radiation monitoring instrumentation was conducted to verify that the instrument behavior was not due to an actual increase in gaseous activity. After confirming there was no actual increase of radiation, monitor R-14 was reset and pressure relief was reinstituted.

About five minutes later (1017 hours), the Containment Radiogas Monitor (R-12) alarmed and again actuated Containment Ventilation Isolation and the WCCPP system. These safety systems again functioned as required in the plant design. Containment pressure relief was terminated. Manual air samples were taken from the containment and analyzed to verify that the containment airborne radioactivity level remained normal.

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. The containment Radiogas Monitor (R-12) had been behaving erratically, spiking low, since about 0945 hours. About five minutes after the R-14 alarm, R-12 spiked high and initiated a second WCCPP system actuation and containment ventilation isolation. 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.

ANALYSIS OF OCCURRENCE: (Continued)

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, setpoints on monitors R-12 and R-14 were exceeded and Containment Ventilation isolation signals were generated. These setpoints are 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 recorders for R-12 and R-14 indicated radiation levels within the same ranges before and after the event. Subsequent investigation determined that monitors R-14 and R-12 had not failed and did not require repair or recalibration.

CORRECTIVE ACTION:

A program is ongoing to replace certain radiation monitors, including R-12 and 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 monitors R-12 and R-14 are currently scheduled for replacement in 1991.