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September 23, 1996

Re: Indian Point Unit No. 2
Docket No. 50-247
LER 96-18-00

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

The attached Licensee Event Report LER 96-18-00 is hereby submitted in accordance with the requirements of 10 CFR 50.73.

Very truly yours,

Stephen E. Quinn

Attachment

cc: Mr. Hubert J. Miller
Regional Administrator - Region I
US Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

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Project Directorate I-1
Division of Reactor Projects I/II
US Nuclear Regulatory Commission
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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)

CIV Actuation From Exceeding of Steam Jet Air Ejector Exhaust Line Rad Monitor Setpoint

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 8	2 4	9 6	9 6	0 1 8	0 0	0 9	2 3	9 6		0 5 0 0 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)	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 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
George Dahl, Engineer	AREA CODE 9 1 4 7 3 4 - 5 1 8 6

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	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 August 24, 1996 the Steam Jet Air Ejector Radiation Monitor (R-45) alarmed during the process of transferring the non-condensable gas removal for the condenser from the electric-driven vacuum pumps to the steam jet air ejectors. Automatic diversion of the ejector exhaust to the containment atmosphere occurred as designed. This diversion is accomplished by the opening of two series, normally closed containment isolation valves, which are Engineered Safety Features. The normal exhaust flow path was automatically reestablished when the alarm was reset.

PLANT AND SYSTEM IDENTIFICATION:

Westinghouse 4-Loop Pressurized Water Reactor

IDENTIFICATION OF OCCURRENCE:

Exceedance of radiation monitor setpoint results in actuation of containment isolation valves, and Engineered Safety Feature (ESF), associated with the steam jet air ejector exhaust system.

EVENT DATE:

August 24, 1996

REPORT DUE DATE:

September 23, 1996

REFERENCE:

CITRS (Condition Identification and Tracking System) No. 96-E01975

PAST SIMILAR OCCURRENCES:

Although there have been a number of ESF actuations due to setpoint practice for radiation monitors, none have involved the steam jet air ejector radiation monitor.

DESCRIPTION OF OCCURRENCE:

On August 24, 1996 at approximately 2100 hours, with the plant operating at 100% power, the Steam Jet Air Ejector Radiation Monitor (R-45) alarmed during the process of transferring the non-condensable gas removal for the condenser from the electric-driven vacuum pumps to the steam jet air ejectors. Automatic diversion of the ejector exhaust to the containment atmosphere occurred as designed. The normal exhaust flow path was automatically reestablished when the alarm was reset.

ANALYSIS OF OCCURRENCE:

Accumulation of non-condensable gases in the condenser will result in a gradual decrease in vacuum and efficiency. These gases, due mainly to air leakage into the system, are removed from the condensers by three steam jet air ejector sets or a condenser vacuum pump.

ANALYSIS OF OCCURRENCE (continued):

Normally, the non-condensable gases are released to the atmosphere by the air ejector and vacuum pump exhaust system. In the event of tube leakage in a steam generator, the exhaust is automatically diverted to the containment. Diversion is accomplished by air operated, three-way valves which route the exhaust gases to a blower and then through two series, normally closed, containment isolation valves which also close on a phase A containment isolation signal. The system is actuated by radiation monitor R-45 located on the air ejector normal exhaust header. When the alarm setpoint of R-45 is exceeded, the steam supply to the priming jets is isolated, the blower is started, and the two containment isolation valves are opened, all actions occurring automatically. The alarm setpoint is adjustable by the operators.

Monitor R-45 has two setpoints, a "Warn" and an "Alarm". Both "Warn" and "Alarm" annunciate in the Central Control Room while only the higher alarm setpoint diverts the air ejector exhaust to containment. Plant procedures require that the warn setpoint be as close to the normal steady-state value as possible, but not to exceed approximately three times that value or three times the background, as applicable. The alarm setpoint should not exceed a pre-determined maximum value (2.97E-3 uCi/cc), which represents approximately 1% of the instantaneous release limit.

The philosophy of setting the alarm well below 2.97E-3 uCi/cc is to select a value that is conservatively low such that a potential source of excessive radioactive material can be diverted before larger quantities can be released. This conservative approach may result in unnecessary actuations to the open position of the steam jet air ejector containment isolation valves. However, this is presently considered to be a preferred approach because it provides additional margin to prevent radioactive releases.

For this event, the setpoint on monitor R-45 was exceeded due to an undetermined reason. However, the observed momentary spike of 8.7E-6 uCi/cc (which represents approximately 210 counts per minute, gross), although it exceeded the setpoint (8E-6 uCi/cc) of R-45, did not cause release rate to approach regulatory limits and, in fact, represents a diversion of a very small fraction of the total release from this pathway during the month. The alarm setpoint was set at greater than 1000 times below the regulatory limit. Therefore, the safety significance of this event is minimal. This report is being made, however, because the containment isolation valves, which are Engineered Safety Feature (ESF) components, in the diversion flow path to containment actuated open. This event is reportable per 10 CFR 50.73(a)(2)(iv) because it involved the automatic actuation of ESF components. The actuation of the ESF components was not in response to an ESF signal and was not required to mitigate any adverse radiological event.

CAUSE OF OCCURRENCE:

This occurrence resulted from the operating practice of maintaining the radiation monitor alarm setpoint at a low value above the steady-state indications. This alarm value is conservative with respect to, and significantly below, the allowable release limits.

There are several possible reasons for the setpoint exceedance:

1. A spurious electrical spike in the 120V electrical supply system.

2. An actual momentary spike in radiation level. Since other radiation monitors did not confirm an increase in activity, this is not considered likely.

3. The process of transferring from the vacuum pump to the steam jet air ejectors may result in pressure and flow changes in the system. These fluctuations could result in momentary anomalous readings by the instrument at the low end of its sensitivity range.

Although the specific cause is indeterminate, the monitor did not malfunction but only reacted to process conditions or was affected by external factors.

CORRECTIVE ACTIONS:

There have been a number of ESF actuations in the past due to the conservative setpoint practice for plant radiation monitors. As previously stated, this is presently considered to be a preferred approach because it provides additional margin to prevent radioactive releases. However, an evaluation will be made of current practice to determine if setpoint changes can be made which would still maintain a conservative approach to releases of radioactivity.