

Stephen B. Bram  
Vice President

Consolidated Edison Company of New York, Inc.  
Indian Point Station  
Broadway & Bleakley Avenue  
Buchanan, NY 10511  
Telephone (914) 737-8116

December 6, 1990

Re: Indian Point Unit No. 2  
Docket No. 50-247  
LER 90-14-00

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

The attached Licensee Event Report LER 90-14-00 is hereby submitted in accordance with the requirements of 10 CFR 50.73.

Very truly yours,

*Michael L. Mule*

Attachment

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

Mr. Francis J. Williams, Jr., 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

9012140023 901206  
PDR ADOCK 05000247  
S PDC

IE22  
11

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   0   5
--	--	----------------------------

TITLE (4)  
ESF Actuations Associated With Exceeding of Radiation Monitor Setpoints

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)
1	1	0	9	0	0	1	2	0			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) 0   9   6	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.406(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.406(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.406(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	<input type="checkbox"/> 20.406(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)							
	<input type="checkbox"/> 20.406(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
<input type="checkbox"/> 20.406(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)								

LICENSEE CONTACT FOR THIS LER (12)	
NAME George Dahl, Engineer	TELEPHONE NUMBER AREA CODE: 9   1   4   5   2   6   -   5   1   8   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) <input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15) MONTH:    DAY:    YEAR:
--	--

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

In two separate events, alarm setpoints on radiation monitors were exceeded during containment pressure relieving operations, which in turn initiated Containment Ventilation Isolation and partially actuated the Weld Channel and Containment Penetration Pressurization system. On November 6, 1990, with reactor power at 96.5%, the Containment Radiogas Monitor (R-12) experienced a spurious electrical spike when the Containment Area Radiation Monitor (R-2) was reset. There was no actual increase in gaseous activity. On November 16, 1990, with the plant at 96% power, a planned monitored gaseous release was in progress through the plant vent as a result of maintenance activities associated with the venting of a charging pump suction stabilizer. The release was sufficient to exceed the setpoint of the Plant Vent Gaseous Activity Monitor (R-14), but corresponded to a maximum value of only 7.5% of the maximum instantaneous concentration for an unrestricted area. The total noble gas radioactivity released was 5.4E-1 curies. No Technical Specification or NRC limits were exceeded. The health and safety of the public were not affected by these events.

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

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	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 0	- 0 1 4	- 0 0	0 2	OF	0 5

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 OCCURRENCES:**

Engineered Safety Feature (ESF) actuation due to alarm setpoints on radiation monitors being exceeded during pressure relief of containment.

**EVENT DATES:**

November 6, 1990 and November 16, 1990

**REPORTABILITY DETERMINATION DATES:**

November 6, 1990 and November 16, 1990

**REPORT DUE DATE:**

December 6, 1990

**REFERENCES:**

Significant Occurrence Reports (SOR) 90-556 and 90-578

**PAST SIMILAR OCCURRENCES:**

- LER 90-13: ESF actuation due to indicated radioactivity increase in containment
- LER 90-12: ESF actuation due to planned gaseous release through plant vent
- LER 90-11: ESF actuations due to spurious electrical spikes in R-12 and R-14
- 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 89-03: ESF actuation due to unplanned gaseous release through plant vent
- LER 87-12: ESF actuation due to spurious electrical spike in R-11 (Containment Air Particulate Monitor)
- LER 87-10: ESF actuation due to unplanned gaseous activity in containment

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

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	LER NUMBER (6)			PAGE (3)	
		YEAR 9   0	SEQUENTIAL NUMBER 0   1   4	REVISION NUMBER 0   0	0   3	OF 0   5

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

**DESCRIPTION OF OCCURRENCES:**

At the conclusion of a pressure relief of containment on November 6, 1990, the resetting of the Containment Area Radiation Monitor (R-2) caused a spurious electrical spike on the Containment Radiogas Monitor (R-12) at approximately 1620 hours. This in turn 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.

On November 16, 1990, the suction stabilizer to Charging Pump No. 21 was being vented to the plant vent during preparations to restore the pump to service following completion of maintenance activities. At approximately 1728 hours, the release of radioactivity was sufficient to exceed the setpoint of the Plant Vent Gaseous Activity Monitor (R-14). This resulted in automatic termination of the containment pressure relief and actuation of the WCCPP system. The spike was about 13,000 counts over the normal R-14 reading for a duration of approximately six minutes. Subsequent calculation determined the release represented 7.5% of the maximum instantaneous concentration for an unrestricted area.

**CAUSE OF OCCURRENCES:**

Setpoints on radiation monitors were exceeded during containment pressure relieving operations, which in turn initiated Containment Ventilation Isolation and partially actuated the WCCPP system. In one event, a setpoint was exceeded when a spurious electrical spike was induced in the circuitry of the Containment Radiogas Monitor (R-12) when an adjacent Containment Area Radiation Monitor (R-2) was reset in an attempt to clear a failure light. In the second event, the venting of the suction stabilizer for Charging Pump No. 21 following completion of maintenance activities resulted in a release of radioactivity that exceeded the setpoint of the Plant Vent Gaseous Activity Monitor (R-14).

**ANALYSIS OF OCCURRENCES:**

The Containment Ventilation system can be automatically isolated by a Containment Isolation Phase A signal, containment spray actuation, or a high radiation indication from either the 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

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

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 9 0 - 0 1 4 - 0 0	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
					0 4 OF 0 5	

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

**ANALYSIS OF OCCURRENCES: (Continued)**

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.

For these two events, setpoints on monitors were exceeded and a Containment Ventilation Isolation signal was generated. The setpoints are set conservatively low such that the normal containment vent release path is isolated whenever the activity level in containment is at a fraction of the level permitted by Technical Specifications for normal releases. In both events, although Containment Ventilation Isolation and the WCCPP system did function as designed, their actuation was not required to mitigate any adverse radiological conditions in containment. There were no equipment failures associated with either event.

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. Monitor R-12 is an original installed equipment of an early vintage that is more susceptible to spurious electrical spikes than newer equipment. Although mounted in different racks and powered from different instrument buses, the close proximity of monitor R-2 to R-12 could have resulted in an induced electrical signal on the electronics of R-12 when R-2 was reset.

As a result of recent similar occurrences, operators in the field were instructed to notify the control room to ensure that no containment pressure relief is in progress prior to venting a charging pump line. Further, training was planned to remind operators that radiation monitor setpoints are to be chosen within procedural limits such that evolutions altering plant operational and/or radiological conditions will not cause unnecessary radiation monitor automatic trips resulting in ESF actuations. For the second event reported here, the operator in the field received permission from the control room prior to venting the charging pump. The operators had not yet received the setpoint awareness training discussed previously as it will be addressed in a future ongoing requalification training cycle.

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

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	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 0	— 0 1 4	— 0 0	0 5	OF 0	5

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

**CORRECTIVE ACTIONS:**

A program is ongoing to replace certain radiation monitors, including R-12. Several monitors have already been replaced and monitor R-12 is currently scheduled for replacement in 1991. The new instrument has improved voltage regulation, shielding and signal processing circuitry and will be less susceptible to spurious electrical spikes. In addition, the electronics will no longer be located in the control room so it will not be susceptible to signals induced by monitor R-2.

Operators will receive training on setpoint awareness in a future ongoing requalification training cycle. Additionally, instructions to avoid venting of equipment to the plant vent during a pressure relief of containment have been posted in the control room operators' night order book.