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May 20, 1994

Re: Indian Point Unit No. 2
Docket No. 50-247
LER 92-14-01

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

The attached Licensee Event Report LER 92-14-01 is the expected supplemental report indicated in LER 92-14-00, and 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. 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
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EXPIRES: 4/30/92

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 24 7 PAGE (3) 1 OF 0 5

TITLE (4) CCR Ventilation Isolation Due to Ammonia Toxic Gas Monitor Alarms

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	6	0	5	9	2	9	2	0	1	4	0	5	0	0	0
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)											0	5	0	0	0
OPERATING MODE (9) N			20.402(b)			20.405(c)			X 50.73(e)(2)(iv)			73.71(b)			
POWER LEVEL (10) 1 0 0			20.405(a)(1)(i)			50.38(c)(1)			50.73(e)(2)(v)			73.71(c)			
			20.405(a)(1)(ii)			50.38(c)(2)			50.73(e)(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(e)(2)(viii)(A)						
			20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(e)(2)(viii)(B)						
			20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(e)(2)(ix)						

LICENSEE CONTACT FOR THIS LER (12) NAME George Dahl, Engineer TELEPHONE NUMBER 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) YES (If yes, complete EXPECTED SUBMISSION DATE) X NO EXPECTED SUBMISSION DATE (15) MONTH DAY YEAR

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

On June 5, 1992, and again at eight other times during a thirty day period, channel 2 of the Central Control Room (CCR) toxic gas monitor alarmed at the setpoint of 3 ppm and isolated the CCR ventilation system, which is an Engineered Safety Feature. Local manual sampling following each of the nine actuations determined there was no ammonia present in the CCR. Alarms were reset as indicated levels permitted and the ventilation system was eventually returned to the normal mode which uses outside air make-up. Although a specific cause for the actuations could not be conclusively determined, it is believed they were due to sensor drift from a setpoint that was too low for the range of the detectors. The actuation setpoint was increased to a higher non-toxic level, after the issuance of a Technical Specification Amendment, to avoid ventilation system isolations due to sensor drift or low non-toxic levels of ammonia. No actuations have occurred since then. The CCR ventilation system functioned as designed in each of the events and the health and safety of the public were not affected by these events.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

YEAR

SEQUENTIAL
NUMBERREVISION
NUMBER

Indian Point Unit No. 2

0 | 5 | 0 | 0 | 0 | 2 | 4 | 7

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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:

Alarming of Central Control Room (CCR) channel 2 ammonia toxic gas monitor causes isolation of the CCR ventilation system, an Engineered Safety Feature (ESF).

EVENT DATES:

June 5, 9, 10, 15, 21, 25, July 1, 5, 6, 1992

REPORT DUE DATE:

Revision 0 - July 6, 1992

REFERENCES:

Significant Occurrence Reports (SOR) 92-278, 92-284, 92-289, 92-299, 92-306, 92-310, 92-323, 92-330, 92-331

PAST SIMILAR OCCURRENCES:

Two events that occurred in May, 1992 were reported in LER 92-10. However, indications of ammonia were obtained on both channels and their differences were within the expected tolerance limits for the detection system. It is believed that those actuations had the same cause as the events reported herein.

DESCRIPTION OF OCCURRENCES:

There have been a number of events involving the CCR ammonia toxic gas monitors. All have occurred at 100% power and at various times although the majority have occurred in the early morning hours. In all cases, upon alarming of the channel 2 monitor at the setpoint of 3 ppm, the CCR ventilation system transferred from the normal outside air make-up alignment to full internal recirculation. Local manual sampling of the CCR indicated no presence of ammonia in all of the occurrences. Alarms were reset when indicated levels decreased sufficiently and the ventilation system was eventually returned to the normal mode.

LICENSEE EVENT REPORT (LER)
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FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

YEAR

SEQUENTIAL
NUMBERREVISION
NUMBER

Indian Point Unit No. 2

0 | 5 | 0 | 0 | 0 | 2 | 4 | 7

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

DESCRIPTION OF OCCURRENCES: (continued)

The events have involved short-term trending, long-term trending or spiking of the indications and they are summarized as follows:

<u>Date</u>	<u>Actuation Time (hours)</u>	<u>Channel 2 Max ppm</u>	<u>Channel 1 Max ppm</u>
June 5	0025	6.0	0.0
June 9	0615	6.0	0.5
June 10	1132	5.5	0.0
June 15	2215	4.0	1.0
June 21	0328	6.0	1.5
June 25	0240	4.0	0.0
July 1	0955	3.0	0.0
July 5	1815	3.0	0.0
July 6	0659	3.0	0.0

It should be noted that the maximum concentrations recorded for each channel were not attained at the same time.

ANALYSIS OF OCCURRENCES:

The CCR ammonia toxic gas monitor consists of two channels that sample the intake air of the CCR ventilation system. The channels are newly installed electro-chemical type monitors which use a gas diffusion sensor that generates a current that is proportional to the concentration of the gas. The sensor communicates with a transmitter which relays a signal to a receiver. An alarm on either channel will automatically transfer the ventilation system from the normal line-up, which uses outside air make-up, to the incident mode of full recirculation. At the time of these events, the alarm/actuation setpoint for ammonia was 3.0 ppm and the Technical Specification limit was 3.5 ppm.

EXPIRES: 4/30/92

LICENSEE EVENT REPORT (LER)
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FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

Indian Point Unit No. 2

0 5 0 0 0 2 4 7 9 2 - 0 1 4 - 0 1

YEAR SEQUENTIAL REVISION

NUMBER NUMBER NUMBER

0 4 OF 0 5

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

ANALYSIS OF OCCURRENCES: (continued)

For the events reported herein, channel 2 reached the alarm setpoint in all instances, channel 1 did not always indicate and the differences between the indications on the two channels are not within expected tolerance limits for the detection system. In all the occurrences, the CCR ventilation system functioned as designed by successfully isolating the CCR from the outside air supply upon the indication of ammonia. However, assuming there actually was ammonia present, because the levels indicated are well below the threshold limit value for toxic effects that is recognized by the American Conference of Government Industrial Hygienists (ACGIH), the isolation of the ventilation system was not required to mitigate any adverse condition. Further, since the levels indicated did not exceed the ACGIH recognized value for toxicity, a hypothetical failure of the ventilation system to isolate would not have resulted in any adverse effects. Therefore, there were no safety consequences of these events. This report is being made, however, because the CCR ventilation system is an ESF and it was actuated to its safeguards position.

CAUSE OF OCCURRENCES:

A definitive cause for the actuations could not be determined. After discussions with the supplier of the toxic gas detection system it is believed they were due to sensor drift from a setpoint that was too low for the range of the detectors.

CORRECTIVE ACTIONS:

While this series of events was occurring, a number of corrective actions were attempted. The sensor and transmitter for channel 2 was replaced, both channels were successfully calibrated several times, a loose connection on the channel 1 inlet tubing was discovered and repaired, and the indicating module (a component of the receiver) for channel 2 was replaced with the module from channel 1. These did not correct the situation as subsequent events did occur within the time period. A sample vessel was installed on the monitor exhaust line and samples were obtained during the last four events. Analyses of their contents were performed to determine if there was ammonia present or if there was another gas with the same signature that was causing the monitors to indicate, but no gases were identified. Currently, sensors are routinely replaced at least once a year.

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FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

Indian Point Unit No. 2

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CORRECTIVE ACTIONS: (continued)

It is important to note that previous analysis had determined that the Technical Specification limit for ammonia was overly conservative. This resulted in an alarm setpoint very near the low end of the scale of the installed equipment. A Technical Specification Amendment Application was submitted and approved (Amendment No. 157) to increase the ammonia limit to 25 ppm. This threshold limit value adequately assures a non-toxic exposure over a 40 hour period. A warning alarm has been set at 10 ppm to allow the operators time to respond to a potential problem prior to automatic action. The setpoint for automatic actuation of the isolation of the CCR ventilation system has been set at 21 ppm to account for channel inaccuracies. Thus, low non-toxic levels of ammonia and indications due to sensor drift no longer actuate the CCR ventilation isolation.