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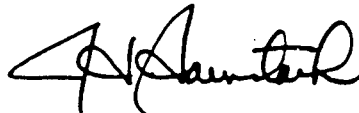
November 6, 1998

Re: Indian Point Unit No. 2
Docket No. 50-247
LER 98-18-00

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

The attached Licensee Event Report 98-18 is hereby
submitted in accordance with the requirements of 10
CFR 50.73.

Very truly yours,



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
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LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

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FACILITY NAME (1) Indian Point Unit No. 2	DOCKET NUMBER (2) 50-247	PAGE (3) 1 OF 6
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TITLE (4)
Missed Technical Specification Surveillance Test

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIA L NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
10	09	98	98	1 8	00	11	06	98		05000
										05000

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)			
POWER LEVEL (10) 99	20.2201(b)	20.2203(a)(2)(v)	50.73(a)(2)(i)	50.73(a)(2)(viii)
	20.2203(a)(1)	20.2203(a)(3)(i)	50.73(a)(2)(ii)	50.73(a)(2)(x)
	20.2203(a)(2)(i)	20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71
	20.2203(a)(2)(ii)	20.2203(a)(4)	50.73(a)(2)(iv)	OTHER
	20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
20.2203(a)(2)(iv)	50.36(c)(2)	X 50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER (12)

NAME Philip Griffith, Sr. Licensing Engineer	TELEPHONE NUMBER (Include Area Code) (914)734-5190
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)		
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO		MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On October 9, 1998, with the unit operating at 99% power, a Quality Assurance (QA) audit of the Radiological Effluent Program determined that certain requirements of Technical Specification (TS) Table 4.10-1 were not fully met for the Sphere Foundation Drain Sump (SFDS) and the North Curtain Drain (NCD).

The requirement to prepare and analyze a monthly (rather than quarterly) composite sample of the SFDS for gross alpha was not met for the years 1995, 1996, 1997, and for the months of January, February and March 1998. The requirement to prepare and analyze a weekly composite sample of the NCD for principal gamma was not met for the week of June 7- 13, 1998. The requirement to prepare and analyze a monthly (rather than quarterly) composite sample of the NCD for gross alpha was not met for the months of October, November and December 1996, all months of 1997 with the exception of November, and for the months of February, March, April, June and August 1998. The requirement to prepare and analyze a quarterly composite sample of the NCD for Sr-89, Sr-90 and Fe-55 was not met for the first and fourth quarters of 1997, and the first, second and third quarters of 1998. As a result of these missed monthly and quarterly samples, the Annual Effluent and Waste Disposal Reports for 1995, 1996 and 1997 contained an incorrect indication that liquid sampling had been performed in accordance with specified periodic requirements of TS Table 4.10-1.

It should be noted that alpha activity, Sr-89, and Fe-55 has not been detected in these two pathways, and Sr-90 activity has been constant near the TS defined Lower Limit of Detection. As a result it is not expected that dose calculations submitted in the Annual Effluent and Waste Disposal Reports for 1995, 1996 and 1997 would have changed.

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PLANT AND SYSTEM IDENTIFICATION:

Westinghouse 4-Loop Pressurized Water Reactor

IDENTIFICATION OF OCCURRENCE:

Missed Liquid Effluent Samples

EVENT DATE:

October 9, 1998

REPORT DUE DATE:

November 9, 1998

REFERENCES:

Indian Point 2 Condition Reporting System (CRS) No. 199808972 and 199809322

Letter dated October 29, 1998 from A. Alan Blind, Con Ed Vice President Nuclear Power to Hubert J. Miller, Regional Administrator - Region 1 USNRC; Subject: Required Notification in Accordance with 10 CFR 50.9 in regards to the material statement contained within the 1995, 1996 and 1997 Annual Effluent and Waste Disposal Reports

PAST SIMILAR OCCURRENCES:

None

DESCRIPTION OF OCCURRENCE:

Technical Specification (TS) Table 4.10-1 identifies the sampling and analysis requirements for continuous radioactive liquid releases. Some of these requirements were not fully met for the Sphere Foundation Drain Sump (SFDS) and the North Curtain Drain (NCD).

TS Table 4.10-1 requires the following program for radioactive liquid waste releases deemed to be "continuous":

- 1) A composite sample prepared and analyzed weekly for principal gamma emitters.
- 2) A grab sample taken and analyzed monthly for dissolved and entrained gases.
- 3) A composite sample prepared and analyzed monthly for tritium and gross alpha.
- 4) A composite sample prepared and analyzed quarterly for Sr-89, Sr-90 and Fe-55.

The requirement to prepare and analyze a monthly (rather than quarterly) composite sample of the SFDS for gross alpha was not met for the years 1995, 1996, 1997, and for the months of January, February and March 1998. The requirement to prepare and analyze a weekly composite sample of the NCD for principal gamma was not met for the week of June 7- 13, 1998. The requirement to prepare and analyze a monthly (rather than quarterly) composite sample of the NCD for gross alpha was not met for the months of October, November and December 1996, all months of 1997 with the exception of November, and for the months of February, March, April, June and August 1998. The requirement to prepare and analyze a quarterly composite sample of the NCD for Sr-89, Sr-90, and Fe-55 was not met for the first and fourth quarters of 1997, and the first, second and third quarters of 1998.

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DESCRIPTION OF OCCURRENCE CONTINUED:

7 NQA audit of the Radiological Effluent Program identified that not all of the requirements of Unit 2 Technical Specification (TS) Table 4.10-1 regarding the Sphere Foundation Drain Sump (SFDS) and the North Curtain Drain (NCD) were being met. Specifically, some of the required monthly and quarterly samples had not been properly prepared and analyzed for 1998. During the investigation, it was determined the extent of the condition also included the years 1995, 1996 and 1997.

The recognition of the SFDS and the NCD as potential pathways for the release of radioactive liquid to the environment occurred in 1994 during an investigation of leakage from the Unit 1 Fuel Storage Pools.

SFDS

A contribution from the SFDS was added to the monthly Meteorological Information Dose Assessment System (MIDAS) report in July of 1994, and the practice continued for the balance of that year. The MIDAS program is used to calculate the off-site doses from radioactive gaseous and liquid waste releases. The action was taken because samples of the SFDS showed positive indications of radioactivity. The SFDS was designated in MIDAS as a "continuous" release, and the isotopic information included was based solely on sample analyses performed on-site (Tritium and gamma isotopic). Because the SFDS had not been formally added to the Chemistry Sampling Program (CSP), no samples were sent for off-site analysis (alpha, Sr-89, Sr-90 and Fe-55.)

In January 1995 the SFDS was recognized as an active continuous effluent pathway and added to the CSP, and the preparation of quarterly composite samples for off-site analyses was initiated. A quarterly composite sample has been prepared and analyzed for each quarter through the first quarter of 1998.

The CSP did not include the TS Table 4.10-1 requirement to prepare and analyze a monthly composite sample for gross alpha. This omission was due to an incorrect interpretation of the TS Table 4.10-1 requirements for the SFDS pathway. The CSP was based on the belief that a quarterly, not monthly, composite for gross alpha was required for the SFDS. A grab sample from each month was used to prepare a quarterly composite sample and then sent off-site for gross alpha analyses.

The TS requirement to prepare and analyze monthly composite samples of the SFDS for gross alpha activity was not met for the years 1995, 1996, 1997 and the months of January, February and March 1998.

The significance, with regard to off-site dose calculations, of missing these monthly analyses is negligible as no alpha activity has been identified in any quarterly composite sample from 1995 to the present.

NCD

A contribution from the NCD was added to the monthly MIDAS report for July 1994. The NCD was designated in MIDAS as a "continuous" release, and the isotopic information included was based solely on sample analyses performed on-site. The action was taken because samples of the NCD showed positive indications of radioactivity. There were no further releases from the NCD until October 1995. There were two "batch" releases during October 1995, three "batch" releases during November 1995, and no release during December 1995. Because this pathway was under investigation and had not been formally added to the CSP, no samples were sent for off-site analysis.

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DESCRIPTION OF OCCURRENCE CONTINUED:

There were no releases from the NCD between November 1995 and October 1996. In October 1996 the NCD was identified as a TS Table 4.10-1 release pathway added to the CSP. The three releases during October 1996 were considered to be "batch" releases and since November 1996 the NCD has been considered a "continuous" release pathway. A quarterly composite sample was prepared from monthly samples and sent for off-site analyses for the fourth quarter of 1996.

Monthly and quarterly composite samples were not prepared or sent for off-site analyses for the first quarter of 1997. Quarterly and monthly composite samples were prepared and sent for off-site analyses from the appropriate monthly samples for the second and third quarters of 1997. A quarterly composite sample was not prepared for the fourth quarter of 1997; a single monthly sample from November 1997 was sent for off-site analyses.

Quarterly composite samples were not prepared for the first, second or third quarters of 1998; single monthly samples taken from January, May and July were sent for off-site analyses.

The CSP did not include the TS Table 4.10-1 requirement to prepare and analyze a monthly composite sample for gross alpha. This omission was due to an incorrect interpretation of the TS Table 4.10-1 requirements for the NCD release pathway. The CSP was based on the belief that a quarterly analysis for gross alpha was required for the NCD. A grab sample from each month of a quarter was to be used to prepare a quarterly composite sample. The quarterly composite sample was then to be sent off-site for gross alpha analyses.

The TS requirement to prepare and analyze monthly (rather than quarterly) samples of the NCD for gross alpha activity was not met for the months of October, November and December 1996; all months of 1997 with the exception of November; and the months of February, March, April, June and August 1998. The significance, with regard to off-site dose calculations, of missing these monthly analyses is negligible because no alpha activity has been identified in any quarterly sample.

The TS requirement to prepare and analyze quarterly samples of the NCD for Sr-89, Sr-90 and Fe-55 was not met for the first and fourth quarters of 1997, and the first, second and third quarters of 1998.

Chemistry Sampling Program

The CSP for radiochemistry TS compliance consists of procedural instructions and informal instructions, both written and oral, provided by the Chemistry Supervisor. The formal requirements are specified in the following procedures, IPC-S-012-S, "Chemistry Specifications" and IPC-S-020, "Liquid Radiological Effluent Sample Preparation".

Instructions are provided by the Radiochemistry Counting Schedule Sheet (RCSS), which was used by the Chemistry Supervisor to designate the tasks to be completed by the Chemistry Technician assigned to the counting room. An entry was made in the Radiochemistry Counting Room Logbook for each sample obtained and analyzed. The RCSS directs the technician each Wednesday to take a sample from the NCD and SFDS and perform isotopic analyses, including tritium. The SFDS samples are to be saved for off-site analyses performed by Teledyne. The RCSS did not require that a sample of the NCD be routinely saved. The Chemistry Supervisor provided direction to the technicians to routinely save the NCD sample for composite sample preparation. A summary cover sheet was attached to each analysis required by the RCSS and forwarded to the Chemistry Supervisor for review.

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ANALYSIS OF OCCURRENCE:

This report is being made because radiochemistry samples for the NCD and SFDS were not obtained or analyzed in accordance with the specified periodic requirements of TS Table 4.10-1. As a result of the missed samples, the May 1, 1996, April 30, 1997 and May 1, 1998 submittals of the Annual Effluent and Waste Disposal Reports for Indian Point Units No. 1 and 2 were not accurate in all material respects in that the statement in section A.4.d, Liquid Effluents of the Annual Effluent and Waste Disposal Reports for Indian Point Units No. 1 and 2, that "Samples of continuous discharges have been taken and analyzed in compliance with Table 4.10-1 of Technical Specifications" did not reflect actual practice.

CAUSE OF OCCURRENCE:

An evaluation has been performed with the following identified as the root and contributing causes of these sampling and analysis inadequacies:

Root Cause: The Chemistry Sampling Program for radiochemistry TS compliance is not sufficiently detailed to ensure TS requirements are met.

The requirements of IPC-S-012-S were met for 1998 but were not sufficient to ensure TS compliance. The procedure does not properly identify the "continuous" release requirement for weekly sampling and analysis of the North Curtain Drain. The procedure requires monthly sampling but the practice is to perform weekly sampling and analysis. As a result the Chemistry Supervisor applied his "knowledge of process" to determine TS requirements. The Chemistry Supervisor typically makes the determination of when samples should be saved for preparation for off-site analysis. Additionally, the Chemistry Supervisor improperly uses the criteria that a pathway becomes "active" when radioactivity is found.

There currently is no formal process to ensure that sample analysis results are reviewed in a timely manner. When asked how positive analysis results would be handled in the supervisor's absence, the supervisor indicated the technician would be relied upon to bring it to the attention of another supervisor. Program review is informal and insufficient to ensure required tasks are performed. The Chemistry Manager indicated that while there is a mechanism in place for his review of the non-radiological or chemistry TS results, there is not a similar mechanism for the radiological TS results. The Chemistry Supervisor review of RCSS task completion is informal and infrequent. The Chemistry Manager indicated that there are multiple mechanisms in place to ensure TS compliance, however some of them are informal.

Contributory Cause:

- The position training for Chemistry Supervisors appears to be inadequate in that:
- A) The Chemistry Supervisor relied on "knowledge of process" to interpret TS requirements.
 - B) The Chemistry Supervisor's technical knowledge was obtained primarily through self-training.

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CORRECTIVE ACTIONS:

The following corrective actions have been implemented or are scheduled for implementation to preclude a recurrence of the missed sampling and analysis identified in this event:

1. The continuous sampling program for the NCD and SFDS has been changed to include monthly composite sampling and analysis for gross alpha, Sr-89, Sr-90 and Fe-55 for each month starting with April 1998 for the SFDS and September 1998 for the NCD. This increased frequency of analyses for these additional isotopes will also satisfy the TS quarterly requirement.
2. A review was performed to ensure the mis-interpretations of the alpha analysis frequency was limited to the NCD and SFDS. No other mis-interpretations were found.
3. A procedure is scheduled to be prepared by November 20, 1998, for use by Chemistry to ensure that radioactive liquid waste effluent sampling and analyses required by Technical Specifications are properly completed.
4. A Chemistry Technical Specification compliance program according to the guidance and requirements given in SAO-470, "Surveillance Test Program", is scheduled for completion by January 31, 1999. The program will include Administrative procedures stating the requirements for writing, reviewing, approving and scheduling Chemistry Surveillance Tests.
5. A Review of the "Radiation Protection Department Supervisors Training Program" and "Chemistry Section Supervisor Job Familiarization Guide Program" to determine if any modifications should be made based on this event is scheduled for completion by December 31, 1998.