NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Indian Point Unit 3	0 5 0 0 0 2 8 6	1 OF 0 6

TITLE (4)

Inadvertently Missed Backup Sample for Inoperable Radiation Monitor

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 7	1 1	9 1	9 1	0 0 9	0 1	0 1	3 1	9 2		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	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)	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)	X 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
William Sorrell, Plant Engineer II	AREA CODE 9 1 4 7 8 6 8 0 4 7

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
A	I L	R I	T 2 6 0	Y	A	I L	R I	S 6 3 7	
A	I L	R I	V 1 1 5	Y					

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 July 11, 1991, with the reactor at 100 percent power, a backup sample of condenser air ejector noble gas activity required while the associated radiation monitor was inoperable was missed. The required sampling frequency of twelve hours was exceeded. On October 30, 1991, during an NRC followup investigation to LER 286-91-009, the NRC resident inspector identified five overdue backup samples required by Technical Specifications. The Chemistry Department subsequently identified three additional occurrences of overdue backup samples. The evaluation of the original event was inadequate. The Operational Experience Review Group re-evaluated the events. The causes are insufficient prompting, sample status tracking and backup sample scheduling. The Chemistry Department has implemented a procedure change to ensure sample schedule consistency. The Operations Department has issued a night order to senior control room operators to track backup sample status. An Administrative Procedure AP-21.9 has established a log of all limiting conditions for Operations in effect requiring compensatory action.

DESCRIPTION OF THE EVENT

On July 11, 1991, with the plant operating at 100 percent power, the watch chemist on the 1500-2300 hours shift missed the required backup sample for the out of service condenser air ejector noble gas activity monitor (R-15) (Tracer Lab Model No. MQ-180)(T260)(IL)(RI).

As a result of the LER that was submitted for this event, the NRC resident inspector audited the Chemistry Department sample logs for other missed backup samples. On October 30, 1991, at 1615 hours, the NRC resident inspector notified plant management of overdue samples required by Technical Specification compensatory action for out of service effluent radiation monitors. The reactor was at hot shutdown due to a problem with the main generator.

The resident inspector identified four instances of overdue samples on the administration building vent while the administration building noble gas monitor (R-46) was out of service. The NRC resident inspector found one instance of an overdue backup sample for the condenser air ejector effluent.

A NYPA review of the Technical Specification backup samples from October 1990 identified two additional overdue samples of the condenser air ejector effluent and one steam generator blowdown liquid effluent on March 14, 1991 while that radiation monitor (R-19)(Sorrento Electric Model No. 0398-2100)(S637)(IL)(RI) was out of service.

INVESTIGATION OF THE EVENT

On July 6, 1991 at 2245 hours, the condenser air ejector noble gas activity monitor, R-15, failed low. The R-15 detector is an in-line Geiger-Mueller detector installed in the condenser air ejector vent stack. Technical Specification Appendix B 2.2.B. requires that either R-15 be operable during condenser air ejector discharge or, if it is declared inoperable, the condenser air ejector effluent must be sampled at least once every twelve hours.

Since the condenser air ejectors were continuously discharging, the Chemistry Department was taking the required samples. For consistency, the sampling was done once per eight hour shift.

The watch chemist on the 1500-2300 hours shift on July 11, 1991 became involved in solving a chemistry-related problem in another area of the plant, and he overlooked taking the required air ejector effluent sample. Other Chemistry Department personnel had been available on shift to whom he could have delegated this responsibility.

When the watch chemist on the 2300-0700 hours shift of July 12, 1991 logged his condenser air ejector sample results, he noticed that the previous day's 1500-2300 hours shift sample results were missing. He notified Chemistry Department management during watch turnover at 0700 hours. Since the previous logged sample was taken at 1100 hours on July 11, 1991 and the current sample was taken at 0435 hours on July 12, 1991, about seventeen and one-half hours had elapsed between samples.

Subsequent investigation determined that additional backup samples were overdue on the following dates:

For the administration building vent (R-46):

June 11, 1991, sample was three hours fifteen minutes beyond twelve hours.
June 13, 1991, sample was two hours thirty minutes beyond twelve hours.
June 18, 1991, sample was four hours twenty-seven minutes beyond twelve hours.
June 24, 1991, sample was twenty-five minutes beyond twelve hours.

For the condenser air ejector (R-15):

June 7, 1991, sample was two hours fifteen minutes beyond twelve hours.
June 13, 1991, sample was fifty-five minutes beyond twelve hours.
October 18, 1991, sample was forty-five minutes beyond twelve hours.

For steam generator blowdown liquid (R-19):

March 14, 1991, sample was five minutes beyond twenty-four hours.

CAUSE OF THE EVENT

The cause of the events was the overlooking of the required out-of-service effluent radiation monitors' backup samples by the watch chemists, a cognitive error by non-licensed utility personnel.

The root causes of the events have been identified as follows:

1. There were insufficient prompts to remind the chemists to perform the backup samples.

2. The status of the backup samples was not sufficiently tracked.

3. Scheduling of the backup samples was insufficient.

4. Inadequate root cause determination and corrective actions for the July 11, 1991 event.

CORRECTIVE ACTIONS

1. The Operations Department has implemented a night order to have the control room senior operators carry Technical Specification compensatory actions for out-of-service radiation monitors on their watch turnover sheets. This night order also directs the oncoming senior operator to contact the shift chemist to verify that a required sample was taken on the last shift, and, if the sample was not taken, to direct the shift chemist to immediately do the required sampling.

2. The Chemistry Department has implemented a procedure change to procedure RE-CS-21, revision 7, "Radiation Sampling Schedule for Inplant and Effluent Monitoring", to ensure that sampling required for out-of-service radiation monitors is consistently done within the first four hours of the shift.

3. The Operations Department has implemented a revision to the Operations Directive OD-6, "Shift Relief and Turnover". The revision requires that compensatory actions be listed for the out of service Technical Specification equipment on the shift turnover sheet. The department responsible for the compensatory action will be notified each shift and the notification of and performance of compensatory actions will be verified and initialed for on the shift turnover sheet. The revision was effective on January 17, 1992.

   Administrative Procedure AP-21.9, "Inoperable Technical Specification Equipment Tracking Log", was written and became effective January 22, 1992. This procedure formalizes LCO tracking and provides guidance on radiation monitor associated Technical Specifications.

4. The Power Authority will assess the backup sample logs in six months to verify the effectiveness of the corrective actions.

5. The Operational Experience Review Group re-evaluated the July 11, 191 event causes.

ANALYSIS OF THE EVENT

These events are reportable under 10CFR50.73(a)(2)(i)(B) because the plant was in a condition prohibited by Technical Specifications.

Table 2.2-1 of Technical Specifications, Appendix B, requires samples of the administration building vent at least once every twelve hours when the administration building vent noble gas monitor (R-46) is inoperable. Indian Point Three departed from this requirement on the following dates:

June 11, 1991, sample was three hours fifteen minutes beyond twelve hours.
June 13, 1991, sample was two hours thirty minutes beyond twelve hours.
June 18, 1991, sample was four hours twenty-seven minutes beyond twelve hours.
June 24, 1991, sample was twenty-five minutes beyond twelve hours.

Table 2.2-1 of Technical Specifications, Appendix B requires that if the condenser air ejector noble gas activity monitor (R-15) is inoperable, the condenser air ejector effluent must be sampled at least once every twelve hours. Indian Point Three departed from this requirement on the following dates:

June 7, 1991, sample was two hours fifteen minutes beyond twelve hours.
June 13, 1991, sample was fifty-five minutes twelve hours.
July 11, 1991, sample was seventeen and one-half hours beyond twelve hours.
October 18, 1991, sample was forty-five minutes beyond twelve hours.

Table 2.2-1 of Technical Specifications, Appendix B, requires samples of the steam generator blowdown liquid effluent at least once every twenty-four hours when the steam generator blowdown liquid effluent monitor (R-19) is inoperable. Indian Point Three departed from this requirement on March 14, 1991, the sample was five minutes beyond twenty-four hours.

The significance of these events is mitigated by the fact that samples taken prior and subsequent to the missed samples indicated no activity. Furthermore, the steam generator blowdown liquid effluent monitor (R-19) was continuously monitoring the steam generator liquid effluent during the periods of overdue R-15 backup samples and was capable of detecting a primary-to-secondary leak. Conversely, when R-19 was inoperable R-15 was capable of detecting a primary-to-secondary leak.

Previously, the Power Authority had determined that the single event of July 11, 1991 had resulted from a human performance issue. The subsequent investigation revealed that programmatic weaknesses existed in the backup sample program.

A similar event was reported in LER 28690-009.

SECURING FROM THE EVENT

Corrective actions, i.e., status tracking and sample scheduling, were implemented November 7, 1991.