



Commonwealth Edison

Quad Cities Nuclear Power Station
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RLB-92-116

May 14, 1992

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Reference: Quad Cities Nuclear Power Station
Docket Number 50-254, DPR-29, Unit One

Enclosed is Licensee Event Report (LER) 92-012, Revision 00, for Quad Cities Nuclear Power Station.

This report is submitted in accordance with Station Technical Specifications Table 3.2-6 Action F. With inoperable Radwaste Gaseous Effluent Monitoring Instruments either restore the inoperable channel to operable status within 7 days of the event or prepare and submit a Special Report to the Commission within 30 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to operable status.

Respectfully,

COMMONWEALTH EDISON COMPANY
QUAD CITIES NUCLEAR POWER STATION

R. L. Bax
Station Manager

RLB/TB/plm

Enclosure

cc: J. Schrage
T. Taylor
INPO Records Center
NRC Region III

STMGR 363

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PDR ADJCK 05000254
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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Quad Cities Unit One						Docket Number (2) 0 5 0 0 0 2 5 4			Page (3) 1 of 0 5		
Title (4) Main Chimney HRNG Monitor INOP > 7 Days Due To Management Deficiency In Scheduling Work											

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 4	2 2	9 2	9 2	0 1 2	0 0	0 5	1 8	9 2	Quad Cities Unit Two	0 5 0 0 0 2 6 5	
									7 5 0 0 0		

OPERATING MODE (9) 4

POWER LEVEL (10) 1 | 0 | 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.405(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"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input checked="" type="checkbox"/> Other (Specify in Abstract below and in Text)
<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
<input type="checkbox"/> 20.405(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 Mark Bridges, Technical Staff Engineer, Ext. 2944	TELEPHONE NUMBER AREA CODE 3 0 9 6 5 4 - 2 2 4 1
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CLASS	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
ES	I L			N	CW2	I L	4 5	E 0 7 0	N
CW2	I L	E C B D	E 0 7 0	N					

SUPPLEMENTAL REPORT EXPECTED (14)

Yes (If yes, complete EXPECTED SUBMISSION DATE) NO

Expected Submission Date (15) _____

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

ABSTRACT:

On April 15, 1992, at 2300 hours, Unit One was in the RUN mode operating at 100% of rated core thermal power and Unit Two was in the REFUEL mode. A Chemistry technician found the Separate Particulate Iodine and Noble Gas (SPING) monitor [45] [IL] was in the purge mode, thereby halting sample flow through the Main Chimney Activity monitors [45] [IL]. The Main Chimney High Range Noble Gas (HRNG) monitor [45] [IL] was declared inoperable due to the inability to automatically divert to the Main Chimney HRNG monitor [45] [IL] on a high activity condition thereby placing the Station in a 7 day Limiting Condition of Operation (LCO). The LCO was exceeded when the monitor could not be repaired within 7 days. This report is being submitted in accordance with the requirements of Technical Specification Table 3.2-6 which requires a 30 day letter to be submitted if the Main Chimney HRNG monitor is inoperable for longer than seven days. The root cause of this event was a management deficiency in prioritizing and scheduling this work. On April 27, 1992, an Instrument Maintenance technician replaced the I/O board [ECBD] for the Main Chimney HRNG monitor and the Main Chimney HRNG monitor was declared operable. This problem has been identified by Error Free Investigation (EFI) 91-08 and corrective actions have been instituted.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Form Rev 2.0

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)		
		Year	Sequential Number	Revision Number						
Quad Cities Unit One	0 5 0 0 0 2 5 4	5 2	- 0 1 2	-	0 0	0 3	OF	0 5		

TEXT Energy Industry Identification System (EIIIS) codes are identified in the text as [XX]

At 0720 hours, the SE declared the Main Chimney HRNG monitor inoperable retroactive to 2300 hours and initiated Outage Report QOS 1700-08, "Main Chimney High Range Noble Gas Monitor Inoperable Outage Report." This placed the Station in a Limiting Condition of Operation (LCO) which requires a written report to be submitted to the Nuclear Regulatory Commission (NRC) if the monitor is not returned to operable status within seven days. Since the Chemistry technician was able to establish flow through the Main Chimney Noble Gas Activity monitor by bypassing the SPING monitor, the SE declared the Main Chimney Noble Gas Activity monitor operable, terminated Outage Report QOS 1700-03 and informed Chemistry to cease taking grab samples. Also, in bypassing the SPING monitor, the Main Chimney Sampler Flow Rate monitor [FI] [VL] was removed from the sample loop. The SE declared the Main Chimney Sampler Flow Rate monitor inoperable. Outage Report QOS 1700-09, "Main Chimney Sample Flow Rate Monitor Inoperable Outage Report", was also initiated. At 0855 hours, the Chemistry technician reinitialized the SPING monitor which returned it to the normal operating mode and opened valve V5. The SPING monitor was then valved into the sample stream. This returned flow to the Main Chimney Sampler Flow Rate monitor. At 0902 hours, the SE then declared the Main Chimney Sampler Flow Rate monitor operable and closed Outage Report QOS 1700-09.

On April 20, 1992, an Electrical Maintenance (EM) technician began work on the SPING sample pump under NWR Q99729. They found no indication of pump degradation, but replaced it as a preventative measure. On April 22, 1992, at 1455 hours, a Chemistry technician successfully performed QCP 400-18, SPING 3/4 Calibration", to functionally test the Main Chimney HRNG monitor. Then, during the performance of QOP 1700-11, SPING Control Terminal Operation", the check source mechanism for Main Chimney HRNG monitor failed and NWR Q99826 was initiated

On April 23, 1992, at 2300 hours, the 7 day LCO for an inoperable Main Chimney HRNG monitor was exceeded and the SE initiated a deviation report in accordance with the requirements of TS Table 3.2-6. The SPING sample pump had been replaced which was the original cause of the monitor being inoperable.

On April 27, 1992, an Instrument Maintenance (IM) technician replaced the I/O board [ECBD] for the Main Chimney HRNG monitor. A Chemistry technician reprogrammed the monitor and the functional test was successfully completed. At 1255 hours, the SE received the completed Work Package Q99826 and declared the Main Chimney HRNG monitor operable and closed Outage Report QOS 1700-08.

C. APPARENT CAUSE OF EVENT:

This report is being submitted in accordance with the requirements of TS Table 3.2-6 which requires a 30 day letter to be submitted to the NRC if the HRNG monitor is inoperable for longer than seven days.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Form Rev 2.0

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			Page (3)	
		Year	Sequential Number	Revision Number		
Quad Cities Unit One	0 5 0 0 0 2 5 4	9 2	- 0 1 2	- 0 0	0 4	OF 0 5

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The root cause of this event was a management deficiency in prioritizing and scheduling this work. The priority of the NWR was not effectively communicated from the Operating Department to the EM Department. The EM Department was not aware of the LCO and did not begin work on the SPING sample pump until day 5 of a 7 day LCO. By beginning work so far into the LCO, time was not allowed to correct other emergent problems.

The root cause of the Main Chimney HRNG monitor being inoperable was a failure of an integrated circuit on the I/O board for the Main Chimney HRNG monitor and the closure of a valve internal to the SPING. These failures appear to have been brought on by an electrical spike caused by lightning. The lightning induced spike placed the SPING monitor in the purge mode and closed valve V5. With valve V5 closed, no flow passed through the system and the SPING sample pump tripped, its internal thermal overloads. If the SPING sample pump would have been allowed to cool down longer the next morning, it would have started. The EM Department replaced the pump as a precautionary measure. The pump was tested in the EM shop and worked fine. An IC on the check source I/O board was damaged by the spike rendering the check source function inoperable.

D. SAFETY ANALYSIS OF EVENT:

The safety consequences of this event were minimal. The Chemistry technicians collected grab samples once per shift in accordance with TS Table 3.2-6. Grab samples were halted after flow through the Main Chimney Noble Gas Activity monitors was reestablished. If a high effluent activity release were to occur, the Main Chimney HRNG monitor could have been manually activated to monitor the release.

E. CORRECTIVE ACTIONS:

The Chemistry technician began taking grab samples in accordance with TS Table 3.2-6. The Chemistry technician reinitialized the SPING monitor returning it to the normal operating mode and opening valve V5. The SPING monitor was then valved into the sample stream. An IM technician replaced the I/O board for the Main Chimney HRNG monitor. The SPING was reprogrammed and functionally tested.

No further corrective actions are warranted to prevent recurrence of this event. Error Free Investigation (EFI) 91-08 had identified this problem and instituted the following corrective actions. First, all LCOs will be listed on the POD report identifying the current day, the LCO length, and responsible department. Next, all work packages pertaining to LCOs will be clearly identifiable as priority work. To accomplish this, a change will be made to QAP 1500-10 "Work Request Initiation/Classification /Cancellation Procedure", to have the Operating Engineer identify all work requests pertaining to LCOs (NTS#2542009203701).

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Form Rev 2.0

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)	
		Year	///	Sequential Number	///	Revision Number			
Quad Cities Unit One	0 5 0 0 0 2 5 4	9 2	-	0 1 2	-	0 0	0 5	OF	0 5

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F. PREVIOUS EVENTS:

The Main Chimney HRNG monitor is not reportable to the Nuclear Plant Reliability Data System (NPRDS). A search was conducted of previous deviation reports with the similar events listed below.

1. LER 1-91-13 3 of 10 Control Room HVAC detectors OOD for more than 14 days due to faulty relay which was in stock.
2. LER 1-91-15 Exceeded 14 day LCO on U1 Cable Tunnel due to lack of OAD knowledge of LCO and scheduling more work than could be completed in 14 days.
3. Semi-Annual
Effluent Report
(06-25-91) SWRM OOS for 38 days due to lost surveillance.

G. COMPONENT FAILURE DATA:

Manufacturer: Eberline Instrument Corporation
 Description: Detector I/O Circuit Board
 Part Number YP10890000/0
 Vendor Code: E070