



Commonwealth Edison

Quad Cities Nuclear Power Station
22710 206 Avenue North
Cordova, Illinois 61242-9740
Telephone 309/654-2241

RLB-91-018

January 21, 1991

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

Reference: Quad Cities Nuclear Power Station
Docket Number 50-265, DPR-30, Unit Two

Enclosed is Licensee Event Report (LER) 90-014, Revision 00, for Quad Cities Nuclear Power Station.

This report is submitted in accordance with the requirements of the Code of Federal Regulations, Title 10, Part 50.73(a)(2)(ii)(B): The licensee shall report any event or condition that resulted in the nuclear power plant being in a condition that was outside the design basis of the plant.

Respectfully,

COMMONWEALTH EDISON COMPANY
QUAD CITIES NUCLEAR POWER STATION

R. L. Bax
R. L. Bax
Station Manager

RLB/MJB/jlg

Enclosure

cc: R. Stols
T. Taylor
INPO Records Center
NRC Region III

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Quad Cities Unit Two	Docket Number (2) 0 5 0 0 0 2 6 5	Page (3) 1 of 0 5
Title (4) Torus Level Sightglass Left Valved in Due to Personnel Error Causing a Containment Integrity Violation		

Event Date (5) Month Day Year 1 2 2 0 9 0			LER Number (6) Sequential Number 0 1 4			Report Date (7) Month Day Year 0 1 2 1 9 1			Other Facilities Involved (8) Facility Names Docket Number(s) 0 5 0 0 0 1 1		
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THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)

OPERATING MODE (9) 4	<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)
POWER LEVEL (10) 0 9 4	<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"/> 50.72(a)(2)(viii)	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 checked="" 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 David Harmon, Tech Staff Engineer	ext. 2116	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)

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)

Expected Submission Date (15)	Month Day Year
<input type="checkbox"/> Yes (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO

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

ABSTRACT:

On December 20, 1990, at 0500 hours Unit Two was in the RUN mode at 94 percent of rated core thermal power. Operating personnel determined that a primary containment violation existed because the torus level sightglass was left valved in since 0040 hours on December 17, 1990. The valving error was corrected upon discovery. The sightglass is not seismically qualified and therefore cannot function as a containment boundary.

An Emergency Notification System (ENS) phone notification was completed at 0558 hours under 10CFR50.72(b)(1)(i)(B). After further review, the ENS should have been completed in accordance with 10CFR50.72(b)(1)(ii)(B).

The cause of this event was personnel error during a valving evolution. Although not contributing causes to this event, incorrect labeling of the sightglass isolation valves, no labeling on other valves near the sightglass, and poor lighting in the area were found.

Corrective action will include enhancing training and stressing the importance of performing adequate independent verifications. A discussion with the individuals involved will be held and disciplinary action will be considered.

Further corrective action will be to correct the lack of labeling and labeling errors, and investigate the need for additional lighting near the sightglass.

This report is being submitted as required by 10CFR50.73(a)(2)(ii)(B).

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

At approximately 0412 hours on December 17, 1990, annunciator A-14 [IB] [ANN], TORUS HI/LOW LEVEL, was received at control room panel [PL] 902-3. This annunciator receives its signal from LT 2-1626. Operations personnel checked torus level on Torus Level Recorder [IP] [LR] 2-1602-7, and found the level to be near the high level alarm [ALM] of +1.25 inches. Torus level is normally maintained between -.3 inches and +1.25 inches.

Operations personnel began lowering torus level. At 0517 hours, Operations personnel stopped torus level reduction at a level of approximately -0.05 inches; however, the alarm did not clear. Work request Q88944 was written to investigate.

On December 20, 1990, at approximately 0300 hours, an Instrument Maintenance (IM) technician, while investigating the level alarm, discovered that the sightglass lower isolation valve was open and not locked and the normally open lower isolation valve for LT 2-1626 was closed and locked. The level transmitter valve is not required to be locked and normally has a lead seal on it to indicate that the valve should not be moved. The IM Technician found the lead seal broken and hanging from the valve. The IM Technician immediately halted work and notified his foreman of the situation.

The IM Foreman notified the Shift Engineer (SE) who dispatched an EA to investigate the valve line-up. At approximately 0330 hours, the EA verified the valving error and corrected the valve line-up.

The SE notified an Operating Engineer (OE) of the situation. The OE inspected the sightglass piping and valves. At approximately 0500 hours on December 20, 1990, the OE concluded that the sightglass had been functioning as a primary containment boundary probably since the morning of December 17, 1990 at 0040 hours.

An Emergency Notification System (ENS) phone notification was completed at 0558 hours under 10CFR50.72(b)(1)(i)(B). Further review shows that the ENS should have been completed in accordance with 10CFR50.72(b)(1)(ii)(B).

C. APPARENT CAUSE OF EVENT:

This report is being submitted to comply with 10CFR50.73(a)(2)(ii)(B) which requires the licensee report any event or condition that resulted in the plant being in a condition that was outside the design basis of the plant.

The apparent cause of the event is personnel error. The EA who performed the surveillance closed and locked the lower isolation valve for the 2-1626 level transmitter instead of the sightglass lower isolation valve. The EA performing the independent verification failed to identify the incorrect valve line-up.

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

Readings from the 2-1626 transmitter became erratic when the isolation valve was closed. Computer [CPU] point history for the 2-1626 level transmitter shows that readings became extremely erratic at 0040 hours on December 17, 1990, trended high until 0650 hours, and fluctuated erratically and randomly until December 20, 1990 at 0410 hours.

There is no evidence of any other cause for the valving error. The S-key Check Out Sheet, QAP 1900-S5, shows that between 2100 hours on December 16, 1990 and 1039 hours on December 17, 1990, the only S-key checked out was checked out to the EA who performed the surveillance.

Although not a cause of this event, it was discovered that there was incorrect labeling of the sightglass isolation valves, no labeling of other valves in the vicinity, and poor lighting in the area which made valve labels and the lead seal difficult to see. The Equipment Part Number (EPN) was reversed on the upper and lower sightglass isolation valves. The 2-1626 level transmitter isolation valves are not labeled. The valves are located in the reactor building basement about ten feet from the floor in an area of poor lighting.

D. SAFETY ANALYSIS OF EVENT:

The safety of the public and plant personnel was not affected by this event. All required torus level instrumentation was available during the event.

Engineering analysis shows that the sightglass would withstand post-Loss of Coolant Accident (LOCA) pressure. Following installation of the sightglass in October of 1976, either a pneumatic pressure test at 61.6 psig or a hydrostatic test at 84 psig was performed on the sightglass. In addition, the sightglass has been tested to full Integrated Primary Containment Leak Rate Test (IPCLRT) pressure, 48 psig.

However, the sightglass is not a primary containment boundary. Engineering analysis shows that the sightglass would not withstand a Significant Seismic Event (SSE).

The sightglass was valved in for about 75 hours. The likelihood of a LOCA coincident with a seismic event during this time is minimal. In this event the leakage through the small one inch diameter instrument line would be minimal and would be contained by secondary containment.

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E. CORRECTIVE ACTIONS:

The initial corrective action was to correct the valve line-up which was accomplished by an EA within one hour of initial discovery by the IM technician.

The event will be discussed at a weekly safety meeting. Operating personnel will be reminded of the importance of performing adequate independent verifications. (NTS 2652009007501)

Further discussions will be held with the individuals involved in this event and disciplinary action will be considered. (NTS 2652009007502)

Further corrective action will be to correct the sightglass isolation valve labels. (NTS 2652009007503) A walkdown will be done on other valves in the area and labels will be installed as necessary. (NTS 2652009007504) Review the EA on-the-job (OJT) training program to ensure that the torus level verification procedure is performed. (NTS 2542009007505)

The station will investigate the need for the installation of additional lighting near the sightglass. (NTS 2652009007506)

F. PREVIOUS EVENTS:

There has been one previous similar event. Deviation Report (DVR) 04-C2-83-39 documents and event on July 14, 1983, in which an EA failed to close and lock the 2-1601-101 valve on completion of the QOS 1600-25 surveillance. The EA mistakenly placed the lock on another valve located next to the 2-1601-101 valve.

The conclusions of the previous event were that Primary Containment was intact at all times during the event. This conclusion was based on the fact that the sightglass had been tested to full IPCLRT pressure.

G. COMPONENT FAILURE DATA:

There is no component failure associated with this event.