



Commonwealth Edison

Quad Cities Nuclear Power Station
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RLB-91-117

April 18, 1991

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
Docket Number 50-265, DPR-30, Unit Two

Enclosed is Licensee Event Report (LER) 91-008, 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)(iv). The Licensee shall report any event or condition that resulted in a manual or automatic actuation of any Engineered Safety Feature.

Respectfully,

COMMONWEALTH EDISON COMPANY
QUAD CITIES NUCLEAR POWER STATION

R. L. Bax
Station Manager

RLB/MJB/vmw

Enclosure

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

STMGR 90

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Quad Cities Unit One
 Title (4)
 Docket Number (2) 0 | 5 | 0 | 0 | 0 | 2 | 5 | 4 | 1 | of | 3 |
 Page (3)

Reactor Building Ventilation Isolation Due to Lightning Strike

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	3	2	2	9	1	9	1	0	0	0
0	3	2	2	9	1	9	1	0	0	0
0	3	2	2	9	1	9	1	0	0	0

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

OPERATING MODE (9)	1	20.402(b)	20.405(a)(1)(1)	20.405(a)(1)(11)	20.405(a)(1)(111)	20.405(a)(1)(1v)	20.405(a)(1)(v)	20.405(c)	50.36(c)(1)	50.36(c)(2)	50.73(a)(2)(1)	50.73(a)(2)(11)	50.73(a)(2)(111)	50.73(a)(2)(1v)	50.73(a)(2)(v)	50.73(a)(2)(v11)	50.73(a)(2)(v111)(A)	50.73(a)(2)(v111)(B)	50.73(a)(2)(x)	73.71(b)	73.71(c)	Other (Specify in Abstract below and in Text)	
POWER LEVEL (10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

LICENSEE CONTACT FOR THIS LER (12)

Name Rachel Hamann, Tech Staff Ext. 2119
 TELEPHONE NUMBER
 AREA CODE 3 | 0 | 9 | 6 | 5 | 4 | - | 2 | 2 | 4 | 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs

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)

ABSTRACT:

On March 22, 1991 at 2035 hours, Unit One was in the SHUTDOWN mode at 0% of rated core thermal power for a refueling outage. Unit Two was in the RUN mode at 98% of rated core thermal power. At 2035 hours, lightning struck in a Transmission Substation (TSS) where line 0402 (Barstow) terminates. The lightning strike caused the Reactor Building [VA] and Control Room Vents [VI] to isolate, a channel 'B' 1/2 scram, and oil circuit breaker (OCB) 10-11 to trip. Other systems also had actuations caused by the lightning strike. At 2057 hours, the Reactor Building Vent Fans were returned to normal, the Control Room Vents were reset and Toxic Gas sample point 'A' was selected. Line 0402 (OCB 10-11) was closed back in at 2141 hours. The 4 hour Emergency Notification System (ENS) phone call was made at 2205 hours on March 22, 1991.

This event is being reported according to 10CFR50.73(a)(2)(iv).

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 1	-	0 0 8	-	0 0	0 2 OF 0 3		
TEXT Energy Industry Identification System (EIIIS) codes are identified in the text as [XX]													

PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2511 MWt rated core thermal power.

EVENT IDENTIFICATION: Reactor Building Ventilation Isolation Due to Lightning Strike

A. CONDITIONS PRIOR TO EVENT:

Unit: One	Event Date: March 22, 1991	Event Time: 2035
Reactor Mode: 1	Mode Name: Shutdown	Power Level: 00%

This report was initiated by Deviation Report D-4-01-91-050

Shutdown Mode (1) - In this position, a reactor scram is initiated, power to the control rod drives is removed, and the reactor protection trip systems have been deenergized for 10 seconds prior to permissive for manual reset.

B. DESCRIPTION OF EVENT:

On March 22, 1991 at 2035 hours, Unit One was in the SHUTDOWN mode at 0% of rated core thermal power for a refueling outage. Unit Two was in the RUN mode at 98% of rated core thermal power. The 'A' train of Standby Gas Treatment (SBGT) was running for the weekly operability surveillance and channel 'B' of the Reactor Protection System (RPS) was on backup power. At 2035 hours, lightning struck in a Transmission Substation (TSS) where line 0402 (Barstow) terminates. The lightning strike caused the Reactor Building [VA] and Control Room Vents [VI] to isolate, the 1-220-44 & 45 valves to close, a channel 'B' 1/2 scram, and oil circuit breaker (OCB 10-11) to trip. Radiation Protection was notified of the Vent Isolation so air samples could be taken in the Reactor Building. On Unit Two the 'B' Feedwater Regulator Valve locked up. All trips associated with the lightning strike were reset immediately. At 2057 hours, the Reactor Building Vent Fans were returned to normal, the Control Room Vents were reset and Toxic Gas sample point 'A' was selected. Line 0402 (OCB 10-11) was closed back in, at 2141 hours. The 4 hour Emergency Notification System (ENS) phone call was made at 2205 hours on March 22, 1991.

C. APPARENT CAUSE OF EVENT:

The apparent cause of the event was a lightning strike on a Transmission Substation (TSS) where line 0402 (Barstow) terminates.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			Page (3)		
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Quad Cities Unit One	0 5 0 0 0 2 5 4	9 1	-	0 0 8	-	0 0	0 3 OF 0 3
TEXT Energy Industry Identification System (EIIIS) codes are identified in the text as [xx]							

D. SAFETY ANALYSIS OF EVENT:

This event is being reported according to 10CFR50.73(a)(2)(iv) which states that the licensee shall report any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature (ESF).

The safety consequences of the event are minimal. All trips due to the lightning strike were reset immediately and at 2141 hours, line 0402 was closed back in. Radiation Protection was notified following the Reactor Building Vent Isolation so that air samples could be taken in the Reactor Building. The 'A' train of SBTG was already running for its weekly operability surveillance.

E. CORRECTIVE ACTIONS:

The immediate corrective actions were to close back in line 0402 (Barstow) and return the Reactor Building Vents to normal. The Control Room Vents were also reset and Toxic Gas Sample point 'A' was selected. All other trips associated with the lightning strike were reset immediately. The 4 hour Emergency Notification System phone call was made at 2205 hours on March 22, 1991.

F. PREVIOUS EVENTS:

The following is a list of recent events caused by a lightning strike. There are no reported events of Reactor Building Isolation due a lightning strike.

D4-1-87-71(LER 87-14) Control Room Vent Isolation due to a lightning strike on the 345 Kv line 0403.

D4-1-87-74(LER 87-16) Smoke detector close-MCR damper due to lightning strike.

D4-1-90-21(LER 90-04) U1 Generator Trip/Reactor Trip due a lightning strike.

D4-1-90-054(LER 90-13) Valve 1-220-45 closed due to a lightning strike.

G. COMPONENT FAILURE DATA:

There is no equipment failure to report.