



Commonwealth Edison

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

RLB-91-16

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) 90-015, 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/jmt

Enclosure

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

9101280055 910121
PDR ADOCK 05000265
S PDR

3291H

250076

IF22
11

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 | 1 | of | 0 | 4 Page (3)

Title (4) Unit Two HPCI Steam Drain Lines and Supports Found Outside FSAR Compliance Due to an Inadequate Original Seismic Evaluation

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)	
1 2	2 1	9 0	9 0	0 1 5	0 0	0 1	2 1	9 1		0 5 0 0 0 1 1	
										0 5 0 0 0 1 1	

OPERATING MODE (9) 4

POWER LEVEL (10) 0 | 0 | 6

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 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 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: Nick Radloff, Tech Staff Ext. 2942

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 NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

Expected Submission Date (15) _____

Month | Day | Year

Yes (if yes, complete EXPECTED SUBMISSION DATE) NO

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

ABSTRACT:

On December 21, 1990 at 1030 hours, Unit Two was in the RUN mode at approximately 96 percent of rated core thermal power. At this time, Sargent and Lundy (S&L) informed the station that the Unit Two High Pressure Coolant Injection (HPCI) steam line drain piping and supports did not meet the Final Safety Analysis Report (FSAR) allowables for thermal and seismic loadings. Operability was verified for Unit Two, thus no immediate action was required by the station. An Emergency Notification System (ENS) phone notification was completed at 1058 hours as required by 10CFR50.72(b)(1)(ii)(B).

The cause of this event is due to an inadequate original seismic evaluation of the drain line. Corrective actions for this event are to install additional supports to comply with FSAR thermal and seismic allowables. The Unit One HPCI steam line drain piping and supports were analyzed and found to meet FSAR allowables. This report is being submitted in accordance with 10CFR50.73(a)(2)(ii)(B).

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 Two		0	1	5	0	0	0	2	6	5	9	0	-	0	1	5	-	0	1	0	0	2	OF	0	4

TEXT Energy Industry Identification System (EIIS) 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: Unit Two HPCI Steam Drain Lines and Supports Found Outside FSAR Compliance Due to an Inadequate Original Seismic Evaluation.

A. CONDITIONS PRIOR TO EVENT:

Unit: Two Event Date: December 21, 1990 Event Time: 1030
 Reactor Mode: 4 Mode Name: RUN Power Level: 96%

This report was initiated by Deviation Report D-4-02-90-076

RUN Mode (4) - In this position the reactor system pressure is at or above 825 psig, and the reactor protection system is energized, with APRM protection and RBM interlocks in service (excluding the 15% high flux scram).

B. DESCRIPTION OF EVENT:

On December 21, 1990 at 1030 hours, Unit Two was in the RUN mode at approximately 96 percent of rated core thermal power. Sargent and Lundy Corporation (S&L) notified the station that the piping [PSF] and supports [SPT] on the High Pressure Coolant Injection (HPCI) [BJ] steam line drain [WK] did not comply with the Final Safety Analysis Report (FSAR) allowables for thermal and seismic loadings. An Emergency Notification System (ENS) phone notification was completed at 1058 hours as required by 10CFR50.72(b)(1)(ii)(B). S&L performed an evaluation on the HPCI piping supports and steam line drain based on the as-built conditions. The piping and supports were found to be acceptable for operability. No immediate action was required by the station.

This problem was identified during an investigation of vibrations on the HPCI steam line drain and pipe supports. The vibrations were caused by a cycling action inside of the steam drain trap [TRP] and resulted in damage to the pipe supports.

C. APPARENT CAUSE OF EVENT:

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

The cause of this event is due to an inadequate original seismic evaluation of the drain line. The safety-related steam line drain piping and supports did not meet FSAR allowables for thermal and seismic loadings. Because of the age of the plant, no documentation of the original seismic evaluation could be located. Since the documentation could not be located Engineering performed an evaluation. This evaluation determined that the piping and supports did not meet FSAR allowables.

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

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

D. SAFETY ANALYSIS OF EVENT:

This event was of minimal safety consequences in terms of plant and personnel safety. S&L determined that the operability criteria of the Unit Two HPCI steam line drain piping and supports was satisfied.

The steam line drain is provided to remove condensation from the HPCI steam supply piping to eliminate water slugs from the main steam [SB] header thereby permitting rapid start of the unit without warmup. The drain line discharges condensation to the main condenser [SG].

E. CORRECTIVE ACTIONS:

No immediate corrective action was necessary as the Unit Two HPCI drain line piping and supports were determined to be operable.

Additional supports will be installed on the drain piping to comply with FSAR seismic and thermal code allowables under Minor Design Change PQ4-2-90-178. (NTS 2652009007601)

S&L performed an evaluation on the Unit One HPCI steam line drain piping and supports and found the piping to be within design basis.

F. PREVIOUS EVENTS:

There have been other LERs where system piping and/or supports were found outside design basis.

LER#	DESCRIPTION
254/90-022	Piping system outside FSAR compliance
254/88-004	Piping outside FSAR allowable stress
265/89-003	Inadequate design - Interlock Doors
265/89-004	Inability of ACAD to perform - design error
265/88-006	Flued Head Anchors outside design
265/88-012	Improper design of RWCU supports
265/86-019	HPCI piping supports outside design
254/86-022	Pre-Service design error due to A/E
254/86-024	RHR Service Water piping supports

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 Two	0 5 0 0 0 2 6 5	9 0	- 0 1 5	- 0 0	0 4	QF	0 4

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

Based on the corrective actions in progress, no further action is deemed necessary at this time.

G. COMPONENT FAILURE DATA:

No component failure is associated with this event.