



**Commonwealth Edison**

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

RLB-90-244

September 28, 1990

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) 90-018, 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)(i)(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  
9010030093 900928  
PDR ADOCK 05000254  
S PNU

cc. K. Stois  
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 One Docket Number (2) 0 | 5 | 0 | 0 | 0 | 2 | 5 | 4 | 1 Page (3) 1 of 0 | 4

Title (4)  
Unit One and Two Outside Their Design Specification For Electrical Separation Criteria For Two Redundant Safety Systems Due To Inadequate Engineering Review.

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   8	2   9	9   0	9   0	0   1   8	0   0	0   9	2   8	9   0	Quad Cities Unit 2	0   5   0   0   0   2   6   5

OPERATING MODE (9) <u>4</u>	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)						
POWER LEVEL (10) <u>1   0   0</u>	<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 Kevin R. Brohm, Technical Staff Engineer Ext. 2149 TELEPHONE NUMBER 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	MANUFAC-TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS

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 August 29, 1990, at 1736 hours, Units One and Two were both in the RUN mode at 100 percent of rated core thermal power. Engineering notified the station that both units were potentially outside the design basis of the plant's electrical divisional separation criteria. Test leads for the Emergency Core Cooling System (ECCS) Simulated Automatic Actuation and Diesel Generator (DG) Auto-Start Surveillance were wired such that two redundant safety-related divisions were landed on one terminal block without an adequate fire barrier. An Emergency Notification System (ENS) telephone call was completed in accordance with 10CFR50.72(b)(1)(ii). All test leads were removed prior to the expiration of the 24 hour Limiting Condition for Operation (LCO).

The cause of this event was lack of adequate engineering review when these leads were installed. Immediate corrective actions were to remove the test leads. Further corrective actions are to change the test procedure to install temporary leads for the test and remove them immediately afterward.

This report is submitted to comply with 10CFR50.73(a)(2)(ii)(B).



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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 One and Two Outside Their Design Specification For Electrical Separation Criteria For Two Redundant Safety Systems Due To Inadequate Engineering Review.

A. CONDITIONS PRIOR TO EVENT:

Unit: One	Event Date: August 29, 1990	Event Time: 1736
Reactor Mode: 4	Mode Name: RUN	Power Level: 100%

This report was initiated by Deviation Report D-4-1-90-085

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 August 29, 1990, at 1736 hours, Units One and Two were both in the RUN mode at 100 percent of rated core thermal power. The Engineering and Construction (ENC) department notified the station that both units were potentially outside their design basis for electrical divisional separation of the Emergency Core Cooling Systems (ECCS) [JE]. This determination resulted from an engineering review of a Drawing Change Request (DCR) which had been submitted to correct wiring discrepancies identified during the performance of Work Request Q82395. This work request was being performed as a corrective action for an event previously reported in LER 265/90-004. Specifically, test leads [CBL1] connected to the logic circuitry of Division I and Division II equipment were landed on the same terminal strip [BLK] in the 901(2)-5 panel. These test leads provided a method of attaching a six-pen recorder [AR] during the performance of QTS 110-1(3), Unit One(Two) Emergency Core Cooling System (ECCS) Simulated Automatic Actuation and Diesel Generators Auto-Start Surveillance. The installation of this wiring had been performed on April 28, 1978 under Work Requests 1232-78 for Unit One and 1233-78 for Unit Two.

Both units, at this time entered a voluntary 24 hour Limiting Condition for Operation (LCO) as stated in Technical Specification 3.5.A.6 and 3.5.B.5. The 1/2 diesel generator (DG) [DG], 1A and 2A Core Spray [BM] Pumps [P], and the 1A, 1B, 2A and 2B Low Pressure Coolant Injection (LPCI) [BO] pumps were declared inoperable, administratively.

The test leads were removed by 0810 hours on August 30, 1990 and all affected systems were declared operable.

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

C. APPARENT CAUSE OF EVENT:

This report is being submitted in accordance with 10CFR50.73(a)(2)(11)(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.

The cause of this event is inadequate engineering review for the installation of these test leads. The installation of these test leads was performed in 1978 under nonsafety related work requests and did not receive engineering review for design basis compliance. This is not in accordance with General Electric's Design Specification 22A2501, Separation Requirements For Reactor Safety and Engineered Safeguards Systems.

D. SAFETY ANALYSIS OF EVENT:

The divisional separation criteria for electrical systems in the control room is designed to prevent failure of ECCS equipment in both divisions due to damage from a fire or missiles from rotating equipment. Since there is no rotating equipment in the control room this failure is not of concern. Damage due to a fire has previously been evaluated under the Appendix R Fire Protection Program. The control room was evaluated as a single fire area, and therefore all equipment located in the control room was assumed to be rendered inoperable. Modifications have been installed as a result of this review which provide the capability to shutdown the reactors to a cold shutdown condition independent of the equipment located in the control room. Based on this, the safety consequences of this event are minimal.

E. CORRECTIVE ACTIONS:

The immediate corrective action was to remove all the test leads between control room panels [PL] 901(2)-3, 901(2)-5 and 901(2)-8 and lift the leads that ran between both units for the 1/2 DG running indication. This met the design specification and single failure criterion.

Present modification and minor design change programs involve several design and installation walkdowns along with several engineering reviews which were not performed when the test leads were installed. Therefore, an event similar to this would not occur with these programs.

Further corrective actions will be to enhance procedures QTS 110-1 and 3 so that they instruct the test director to temporarily install the test leads, perform the test, and remove the leads one division at a time so that the station stays within their design specification (NTS 2542009008501). No further corrective actions are deemed necessary.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

F. PREVIOUS EVENTS:

No previous Licensee Event Reports were identified which were similar to this event.

G. COMPONENT FAILURE DATA:

There were no component failures associated with this event.