

LICENSEE EVENT REPORT (LER)

Facility Name (1) QUAD-CITIES NUCLEAR POWER STATION, UNIT ONE Docket Number (2) 0 | 5 | 0 | 0 | 0 | 2 | 5 | 4 Page (3) 1 | of | 0 | 3

Title (4) Group I Isolation in Startup/Hot Standby Mode Caused by Reactor Mode Switch Rotational Play

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)
04	08	88	88	008	00	04	26	88		0   5   0   0   0   1   1

OPERATING MODE (9) 3

POWER LEVEL (10) 0 | 0 | 2

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 checked="" 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 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 Dennis Dziewiecki, Technical Staff Engineer Ext. 2190 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	
B	J   C	H   S	G   0   8   0	Y							

SUPPLEMENTAL REPORT EXPECTED (14)

Expected Submission Date (15) X | NO Month | Day | Year

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

On April 8, 1988, Quad Cities Unit One was in the STARTUP/HOT STANDBY mode at approximately two (2) percent thermal power. At 1800 hours, a Group I isolation (and Channel A 1/2 scram) occurred as reactor pressure was decreasing (at about 840 psig). This was caused by bypass relays that did not energize because of rotational play in the mode switch when the mode switch was placed from RUN to STARTUP/HOT STANDBY at 1615 hours. This failure to energize resulted in protective actions normally bypassed in STARTUP/HOT STANDBY to actually be in effect. NRC notification was completed at 1840 hours to comply with 10CFR50.72.

To correct this failure, the mode switch was moved toward the REFUEL position and then back to STARTUP/HOT STANDBY. This corrected the problem identified. Temporary procedures are administratively controlling the movement of the mode switch and verification of appropriate relay position. This will remain in place until the mode switch can be replaced (per modification M4-1(2)-86-26). This report is provided per 10CFR50.73(a)(2)(iv).

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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The cause of this event was due to rotational "play" in the mode switch. When the reactor mode switch was rotated from RUN mode to STARTUP/HOT STANDBY mode, certain contacts did not fully close. With the contacts still open some of the reactor protection system bypass relays [RLY] (1-590-112A, 112C), and some of the Group I isolation bypass relays (1-595-106A, 106C) did not energize. The presence of low steam pressure, and the bypass relays being de-energized, caused the Group I isolation. The resultant MSIV closure caused the channel "A" reactor half scram to occur, as designed. However, the channel "B" half scram did not occur because the associated bypass contacts had closed. Technical Specification Table 3.2-1 states the instrumentation need not trip until 825 pounds per square inch gauge (PSIG) but due to the conservative setting of instruments, the trip was actuated at approximately 840 PSIG.

D. SAFETY ANALYSIS OF EVENT:

The safety consequences of this event are minimal. When the contacts did not close on the mode switch, the protection systems that should have been bypassed were not. This caused the system to react in a conservative manner, actuating the Group I isolation and the reactor half scram.

E. CORRECTIVE ACTIONS:

The NRC Regional Office was informed of this situation and a test was developed that is documented on Work Request Q65724. The Electrical Maintenance Department verified that when moving the mode switch from RUN mode to STARTUP/HOT STANDBY mode that if the mode switch handle was turned slightly past the STARTUP/HOT STANDBY position, toward the REFUEL position and then back to the STARTUP/HOT STANDBY position all the contacts would operate properly. Temporary procedure 5441 (QGP 2-1, Normal Unit Shutdown) and 5442 (QGP 2-4) were initiated April 9, 1988 to administratively control the movement of the mode switch and verify appropriate relay position. These changes will be permanently implemented until the mode switch can be replaced.

The BWR Owners Group has contracted General Electric to design and qualify a modified SB-9 mode switch to replace the existing mode switch. Due to the long lead time associated with procurement, installation of the modified SB-9 mode switch is scheduled for the 1989 refuel outage. The mode switch replacement will be completed per modification M4-1(2)-86-26 (Nuclear Tracking System: Unit One - 2542008802601; Unit Two - 2542008802602).

F. PREVIOUS EVENTS:

There have been no documented similar events at Quad Cities Station since implementation of 10 CFR 50.73 reporting requirements.

A Nuclear Plant Reliability Data System (NPRDS) contained one similar event. The corrective action was to replace a pressure pin that had dropped through causing the leaf spring not to apply enough pressure to close the contacts. The Electrical Maintenance Department has reviewed the event and indicates that it is unrelated.

G. COMPONENT FAILURE DATA:

The reactor mode switch is a product of the General Electric Company model number SB-1.



**Commonwealth Edison**

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RLB-88-154

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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 please find Licensee Event Report (LER) 88-008, 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), which requires the reporting of any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature.

Respectfully,

COMMONWEALTH EDISON COMPANY  
QUAD-CITIES NUCLEAR POWER STATION

R. L. Bax  
Station Manager

RLB/MSK/e

Enclosure

cc: I. Johnson  
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NRC Region III

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