

LICENSEE EVENT REPORT (LER)

Facility Name (1) QUAD-CITIES, NUCLEAR POWER STATION, UNIT TWO						Docket Number (2) 0 5 0 0 0 2 6 5			Page (3) 1 of 0 4		
Title (4) 2A and 2B Core Spray Subsystems Inoperable Due To Failure OP Room Cooler And Diesel Generator											
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 5	2 5	8 6	8 6	0 0 8	0 0	0 6	2 0	8 6			0 5 0 0 0
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)									
POWER LEVEL (10)		20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)			
0 9 2		20.405(a)(1)(i)		50.36(c)(1)		X 50.73(a)(2)(v)		73.71(c)			
		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		Other (Specify in Abstract below and in Text)			
		20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)					
		20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)					
		20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)					
LICENSEE CONTACT FOR THIS LER (12)											
Name Tom Crippes, Technical Staff Engineer Ext. 2151						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	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	
X	B M	C L R	B 5 1 5	N							
X	E K	B K R	G 0 8 0	Y							
SUPPLEMENTAL REPORT EXPECTED (14)									Expected Submission Date (15)		
[Yes (If yes, complete EXPECTED SUBMISSION DATE)] X NO											
ABSTRACT (Limit to 1400 spaces, i.e. approximately fifteen single-space typewritten lines) (16)											

On May 25, 1986, Unit 2 was operating in the RUN mode at approximately 92 percent of rated core thermal power. At 0008 hours the Unit 2 Equipment Attendant discovered that the 2-5748A Core Spray System Room Cooler had frayed belts. The 2A Core Spray room cooler was declared inoperable. The required surveillances were initiated in accordance with Technical Specification 3.5.A.2/4.5.A.2. The Unit 2 Diesel Generator (DG) was started and loaded for the surveillance requirements. The DG had run for approximately one minute loaded to 1000KW when the DG output breaker to Bus 24-1 tripped. The Unit 2 DG was declared inoperable, a shutdown initiated and Unusual Event declared. Fraying of the room cooler belts was attributed to normal wear. The belts were replaced, and as corrective action to prevent recurrence, the room cooler belts will be inspected monthly to detect wear before failure occurs. The cause of the Unit 2 DG trip could not be determined and repeated attempts to duplicate the event were unsuccessful. Loss of the emergency power supply for the 2B Core Spray subsystem (Unit 2 DG) rendered the 2B Core Spray subsystem inoperable as per Technical Specification 3.0.B. Because both Core Spray subsystems were inoperable, this report is submitted in accordance with the requirements of 10 CFR 50.73(a)(2)(v).

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT							

PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2511 MWt rated core thermal power. Energy Industry Identification System (EIIS) codes are identified in the text as [XX].

IDENTIFICATION OF OCCURRENCE:

The 2-5748A Core Spray Room Cooler was found to have frayed belts making the 2A Core Spray loop inoperable. The surveillances required when it is determined that one Core Spray subsystem is inoperable were performed and in doing so, it was found that the Unit 2 Diesel Generator (DG) was inoperable.

Discovery Date: 05-25-86

Report Date: 06-20-86

This report was initiated by Deviation Report D-4-2-86-33

CONDITIONS PRIOR TO OCCURRENCE:

RUN Mode(4) - Rx Power XX% - Unit Load XXX MWe

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).

DESCRIPTION OF OCCURRENCE:

On May 25, 1986, Unit 2 was in the RUN mode operating at approximately 92 percent of rated core thermal power. At 0008 hours the Unit 2 Equipment Attendant (EA) while on his rounds discovered that the 2-5748A Core Spray [BM] Room Cooler had frayed belts beyond acceptably safe use, making the 2A Core Spray loop inoperable. Technical Specifications 4.5.A.2 states that when it is determined that one Core Spray subsystem is inoperable, the operable Core Spray subsystem, the Low Pressure Coolant Injection (LPCI) [BO] mode of the Residual Heat Removal (RHR) system, and the Diesel Generators (DG) [EK] required for operation of such components if no external source of power were available shall be demonstrated to be operable immediately. The operable Core Spray subsystem shall be demonstrated to be operable daily thereafter. At 0050 hours the Unit 2 DG and system operability test (QOS 6600-S1) was initiated. At 0100 hours, the DG was loaded to 1000 KW and had run for approximately one minute when the Unit 2 DG output breaker to Bus 24-1 tripped. The Unit 2 DG was then declared inoperable at 0125 hours. At 0130 hours a Unit 2 shutdown was initiated as required by technical Specification 3.5.A.6, and an Unusual Event was declared. The Unit 2 operator commenced shutting down at 25 MWe per hour. At 0205 hours the resident NRC was notified of the event.

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The A Core Spray room cooler was repaired by 0725 hours and was tested and considered operable. The unit shutdown was terminated and a load increase was begun at 0730 hours. At 0745 hours the Unit 2 DG was loaded to 1000 KW in order to recreate the problem, however no trip occurred. Several attempts were made to duplicate the event, yet no problems were found. At 0815 notifications were made terminating the Unusual Event.

The 2A Core Spray loop was inoperable due to failure of the room cooler. Loss of the emergency power supply for the 2B Core Spray loop (Unit 2 DG) rendered this loop inoperable as per Technical Specification 3.0.B. Because the Core Spray system was inoperable, this report is submitted in accordance with the requirements of 10 CFR 50.73(a)(2)(v), which requires the reporting of any event or condition that above could have prevented the fulfillment of the safety function of systems needed for emergency core cooling.

APPARENT CAUSE OF OCCURRENCE:

The cause for the belts to be frayed on the 2A Core Spray room cooler was due to normal wear of the belts. The belts are manufactured by Gates Co. Part CB-68. The room cooler is manufactured by Buffalo Forge Co..

The cause of the D.G. breaker trip could not be determined. There were several attempts to duplicate the event but these were not successful. The circuit breaker is manufactured by General Electric, type AMH-476-250-OD.

ANALYSIS OF OCCURRENCE:

The safety implication of this event were reduced since the Reactor Core Isolation Cooling System (RCIC) [BN] the High Pressure Coolant Injection System (HPCI) [BJ] the Automatic Depressurization System (ADS), the Safe Shutdown Makeup Pump and the A loop of the Residual Heat Removal System (RHR) were all operable at the time of the event. The B RHR loop and the 2B Core Spray loop were also available if powered by their normal power supply.

CORRECTIVE ACTION:

The corrective action for the 2A Core Spray room cooler was to replace the belts with new belts. As a future corrective action, operating personnel will be performing monthly inspection's of all the room cooler belts in order to detect any wear to the belts before they fail.

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The immediate action for the DG trip was to declare the diesel inoperable and to declare a GSEP unusual event. In an effort to determine the cause, the Electrical Maintenance Department (EMD) removed the diesel to Bus 24-1 KV breaker from its cubical and cycled it open and closed several times. The breaker operated properly every time. The Electrical Maintenance Department also checked the diodes at the exciter cabinet, the Potential Current Transformer at the Generator Connection panel, the voltage regulator at bus 24-1 and the maintenance switch, however, no problems were found. The diesel was then loaded to 1000 KW and the problem was simulated twice. Since no problems could be found, the diesel was declared operable.

As a future corrective action, temperature surveys are going to be conducted of the Core Spray, HPCI, RHR and RCIC rooms. The test will be performed while the system pumps are running and while the ventilation and room coolers are off. The purpose of the test is to determine whether or not the room coolers are necessary for the operation of the Emergency Core Cooling Systems.

FAILURE DATA:

Past failures that have occurred consists of the following:

LER 265/85-021 - 2B Core Spray & 2B RHR room cooler inoperable due to broken belts.

CECO Deviation Report

04-01-85-69 - 1B RHR room cooler inoperable due to broken belt.

04-02-85-68 - Unit 2 DG to bus 24-1 breaker tripped for no apparent reason causing a GSEP unusual event.



Commonwealth Edison

DEVIATION REPORT

DVR NO. 4 - 2 - 86 - 33
STA UNIT YEAR NO.

RECLASSIFIED TO REPORTABLE

PART 1 TITLE OF DEVIATION OCCURRED
FAILURE OF 2A CORE SPRAY ROOM COOLER 5-25-86 0008
DATE TIME

ITEM AFFECTED 1400 PLANT STATUS AT TIME OF EVENT
MODE RUN POWER(%) 92% Q 49997 TESTING
WORK REQUEST NO. YES NO

DESCRIPTION OF EVENT
UNIT TWO EA, WHILE ON ROUNDS, FOUND 2A CORE SPRAY ROOM COOLER BELTS FRAYED
AND THE COOLER INOPERABLE.

POTENTIALLY SIGNIFICANT EVENT PER NSD DIRECTIVE A-07 YES NO

10CFR50.72 NRC RED PHONE NOTIFICATION MADE 1 HOUR 4 HOUR NO FRANK NIZIOLEK 5-25-86
RESPONSIBLE SUPERVISOR DATE

PART 2 OPERATING ENGINEER'S COMMENTS

SURVEILLANCE WAS BEGUN FOR AN INOPERABLE 2A CORE SPRAY PUMP.

NON REPORTABLE EVENT
30 DAY REPORTABLE/10CFR 50.73 (a) (2) (v)
5 DAY REPORT PER 10CFR21
ANNUAL/SPECIAL REPORT REQUIRED
A.I.R. #
L.E.R. # 86-08
NOTIFICATION REGION III DATE TIME
NSD DATE TIME
CECO CORPORATE NOTIFICATION MADE IF ABOVE NOTIFICATION IS PER 10CFR21
TELECOPY CECO CORPORATE OFFICER DATE TIME

PRELIMINARY REPORT COMPLETED AND REVIEWED
FREDERICK J. GEIGER 5-27-86
OPERATING ENGINEER DATE

INVESTIGATION REPORT & RESOLUTION ACCEPTED BY STATION REVIEW
RESOLUTION APPROVED AND AUTHORIZED FOR DISTRIBUTION
STATION MANAGER
DATE 6/23/86
IF22





Commonwealth Edison

DEVIATION REPORT

DVR NO. 4 - 2 - 86 - 33
STA UNIT YEAR NO.

SUPPLEMENT 1

PART 1	TITLE OF DEVIATION	OCCURRED	
	TRIP OF U2 D/G BKR	5-25-86	0100
EM AFFECTED	PLANT STATUS AT TIME OF EVENT	Q 49998	TESTING
6600	MODE RUN, POWER(%) 92%	WORK REQUEST NO.	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

DESCRIPTION OF EVENT

WHILE RUNNING U2 D/G IAW QOS 6600-S1 FOR 2A CORE SPRAY ROOM COOLER INOP (SEE DEV. REPORT FOR THAT) THE D/G BKR TO 24-1 TRIPPED. THE D/G WAS LOADED TO ~1000 KW AND WAS RUNNING FOR ~1 MINUTE LOADED. THIS EVENT MADE THE ROOM COOLER INOP, A T.S. S/D & AN UNUSUAL EVENT.

POTENTIALLY SIGNIFICANT EVENT PER NSD DIRECTIVE A-07 YES NO

10CFR50.72 NRC RED PHONE NOTIFICATION MADE	<input checked="" type="checkbox"/> 1 HOUR <input type="checkbox"/> 4 HOUR 0145 TIME	<input type="checkbox"/> NO	FRANK NIZIOLEK RESPONSIBLE SUPERVISOR	5-25-86 DATE
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PART 2 OPERATING ENGINEER'S COMMENTS

THE D.G. OUTPUT BREAKER TRIPPED WHEN THE 2A RHR SWP WAS STARTED. ALL TRIP CIRCUITRY WAS CHECKED FOR OBVIOUS PROBLEMS INCLUDING THE "MAINTENANCE SWITCH", FOUND NOTHING WRONG. TRIED TO REPRODUCE CONDITIONS OF TRIP TWICE, BUT BREAKER WOULD NOT TRIP.

- NON REPORTABLE EVENT
- 30 DAY REPORTABLE/10CFR 50.73 (a) (2) (v)
- 5 DAY REPORT PER 10CFR21
- ANNUAL/SPECIAL REPORT REQUIRED

NOTIFICATION _____ REGION III _____ DATE _____ TIME _____

_____ NSD _____ DATE _____ TIME _____

CECO CORPORATE NOTIFICATION MADE IF ABOVE NOTIFICATION IS PER 10CFR21

TELECOPY _____ CECO CORPORATE OFFICER _____ DATE _____ TIME _____

A.I.R. # _____

L.E.R. # 86-08

PRELIMINARY REPORT COMPLETED AND REVIEWED _____ H. G. LIHOU _____ 5-25-86 _____
OPERATING ENGINEER DATE

INVESTIGATION REPORT & RESOLUTION ACCEPTED BY STATION REVIEW _____

RESOLUTION APPROVED AND AUTHORIZED FOR DISTRIBUTION _____

_____ STATION MANAGER _____ 6/23/86 _____
DATE



Commonwealth Edison

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

RLB-86-86

June 20, 1986

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 please find Licensee Event Report (LER) 86-008, Revision 00, for Quad-Cities Nuclear Power Station.

This report is submitted to you in accordance with the requirements of the Code of Federal Regulations, Title 10, Part 50.73(a)(2)(v), which requires the reporting of any event or condition that alone could have prevented the fulfillment of the safety function to systems that are needed to mitigate the consequences of an accident.

Respectfully,

COMMONWEALTH EDISON COMPANY
QUAD-CITIES NUCLEAR POWER STATION

R. L. Bax
Station Manager

RLB/MSK/dak

Enclosure

cc: J. Wojnarowski
A. Madison
INPO Records Center
NRC Region III

0370H