

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8806100117 DOC. DATE: 88/05/24 NOTARIZED: NO DOCKET #
 FACIL: 50-265 Quad-Cities Station, Unit 2, Commonwealth Edison Co. 05000265
 AUTH. NAME AUTHOR AFFILIATION
 TAGATZ, G. Commonwealth Edison Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 88-008-00: on 880504, reactor water cleanup weld detected.
 Caused by IGSCC. Flawed welds to be repaired prior to startup
 & reactor vessel hydrostatic test will be conducted to
 verify no leakage from weld repairs. W/880524 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

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	PD3-2 LA	1 1		PD3-2 PD	1 1
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INTERNAL:	ACRS MICHELSON	1 1		ACRS MOELLER	2 2
	AEOD/DOA	1 1		AEOD/DSP/NAS	1 1
	AEOD/DSP/ROAB	2 2		AEOD/DSP/TPAB	1 1
	ARM/DCTS/DAB	1 1		DEDRO	1 1
	NRR/DEST/ADS 7E	1 0		NRR/DEST/CEB 8H	1 1
	NRR/DEST/ESB 8D	1 1		NRR/DEST/ICSB 7	1 1
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	NRR/DEST/SGB 8D	1 1		NRR/DLPQ/HFB 10	1 1
	NRR/DLPQ/GAB 10	1 1		NRR/DOEA/EAB 11	1 1
	NRR/DREP/RAB 10	1 1		NRR/DREP/RPB 10	2 2
	NRR/DRIS/SIB 9A	1 1		NUDOCS-ABSTRACT	1 1
	REG FILE 02	1 1		RES TELFORD, J	1 1
	RES/DE/EIB	1 1		RES/DRPS DEPY	1 1
	RGN3 FILE 01	1 1			
EXTERNAL:	EG&G WILLIAMS, S	4 4		FORD BLDG HOY, A	1 1
	H ST LOBBY WARD	1 1		LPDR	1 1
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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 1 of 0 4										Page (3) 1 of 4																													
Title (4) LINEAR INDICATIONS ON REACTOR WATER CLEANUP SYSTEM WELD DUE TO POSTULATED STRESS CORROSION CRACKING																																																	
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			0 4			8 8				8 8			---			0 0 8			---			0 0			0 5			2 4				8 8																	
OPERATING MODE (9) POWER LEVEL (10) 0 0 0										THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)																																							
										20.402(b)										20.405(c)										50.73(a)(2)(iv)										73.71(b)									
										20.405(a)(1)(i)										50.36(c)(1)										50.73(a)(2)(v)										73.71(c)									
										20.405(a)(1)(ii)										50.36(c)(2)										50.73(a)(2)(vii)										Other (Specify									
										20.405(a)(1)(iii)										50.73(a)(2)(i)										50.73(a)(2)(viii)(A)										in Abstract below									
										20.405(a)(1)(iv)										X 50.73(a)(2)(ii)										50.73(a)(2)(viii)(B)										and in Text)									
										20.405(a)(1)(v)										50.73(a)(2)(iii)										50.73(a)(2)(x)																			
LICENSEE CONTACT FOR THIS LER (12)																																																	
Name Gary Tagatz, Technical Staff Engineer, Extension 2152																				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		C E		P 5 X		D 2 4 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 April 10, 1988, Quad-Cities Unit Two was shutdown for refueling. At 1515 hours, on May 4, 1988, ultrasonic examination detected a Reactor Water Cleanup weld area with a through wall crack indication 0.9 inch long. The NRC was notified of this condition at 1655 hours.

The cause of this occurrence is postulated to be Intergranular Stress Corrosion Cracking (IGSCC). Corrective action for this situation includes additional inspections and the use of weld overlays on the affected piping. This report is submitted in accordance with the requirements of 10CFR50.73(a)(2)(ii).

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LIC 1 THE EVENT REPORT (LER) TEXT CONTINUATION												
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		Year	///	Sequential Number	///	Revision Number						
Quad Cities Unit Two	0 5 0 0 0 2 6 5	8 8	-	0 0 8	-	0 0	0 2	OF	0 4			
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].

EVENT IDENTIFICATION: 12S-S24 (Reactor Water Cleanup weld) was ultrasonically detected to have a through wall indication 0.9 inch in length due to postulated intergranular stress corrosion cracking.

A. CONDITIONS PRIOR TO EVENT:

Unit: Two	Event Date: May 4, 1988	Event Time: 1515
Reactor Mode: 2	Mode Name: Refuel	Power Level: 00%

This report was initiated by Deviation Report D-4-2-88-022

Refuel Mode(2) - In this position interlocks are established so that one control rod only may be withdrawn when flux amplifiers are set at the proper sensitivity level and the refueling crane is not over the reactor. Also, the trip from the turbine control valves, turbine stop valves, main steam isolation valves, and condenser vacuum are bypassed. If the refueling crane is over the reactor, all rods must be fully inserted and none can be withdrawn.

B. DESCRIPTION OF EVENT:

On April 10, 1988, Quad-Cities Unit Two was shutdown to begin the end of cycle nine refueling and maintenance outage. At 1515 hours, on May 4, 1988, while conducting a scheduled in-service inspection (ISI) on Intergranular Stress Corrosion Cracking (IGSCC) susceptible piping, in accordance with Generic Letter 84-11, an ultrasonic examination on Reactor Water Cleanup (RWCU) [CE] line 2-1202-6" ISI weld number 12S-S24 revealed a through wall crack indication. The extent of the crack indication in the pipe to penetration flued head weld was determined to be 0.9 inch long and located in the heat affected zone (HAZ) on the pipe side at the twelve o'clock position. In addition to the through wall axial flaw, one other axial and two circumferential flaws were detected in the ultrasonic examination on the pipe side. NRC notification of this condition was completed at 1655 hours.

Due to the finding, the inspection scope was augmented per Generic Letter 84-11 to all three remaining welds on Reactor Water Cleanup line 2-1202-6". Of these three welds, one more was identified to have crack indications in the HAZ. Both RWCU welds are summarized below.

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TEXT															

WELD NUMBER	DISCOVERY DATE	PIPE SIZE	LOCATION	EVALUATION
1. 12S-S24	05-04-88	6.00"	RWCU Suction Line	Two axial (one through wall) cracks
2. 12S-F26AR	05-05-88	6.00"	RWCU Suction Line	Two circumferential cracks One circumferential crack

All ultrasonic examinations were performed by technicians from General Electric Company, who have been qualified by the Electric Power Research Institute (EPRI) after September 10, 1985.

C. APPARENT CAUSE OF THE EVENT:

This report is being submitted to comply with the requirements of 10CFR50.73(a)(2)(ii), which requires the reporting of any event or condition that resulted in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded. The exact cause of these crack indications was not determined, but it is postulated that IGSCC is the mode of failure.

D. SAFETY ANALYSIS OF EVENT:

Crack indications in this type of material, type 304 stainless steel, have been demonstrated to propagate at a very slow rate. Therefore, a 100 percent through wall crack would be easily detected using existing Primary Containment [NH] leakage monitoring [IJ] systems and temperature monitoring systems before a complete failure would occur. No leakage was detected prior to the current outage.

E. CORRECTIVE ACTION:

All flawed welds are to be repaired with a "full structural" design overlay and are scheduled to be completed prior to Unit Two startup. In addition to the weld overlay repairs, a reactor vessel hydrostatic test will be conducted at 1110 psig prior to startup to verify no leakage from weld repairs.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	SECRET NUMBER (2)	LER NUMBER (3)					Page (3)		
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TEXT									

F. PREVIOUS EVENT:

Incidents similar to this involving weld crack indications on stainless steel piping are documented in the following Licensee Event Reports:

Unit One

254/84-005

Unit Two

83-20/OIT
83-21/OIT
265/85-008
265/86-017

G. COMPONENT FAILURE DATA:

See Section B of this report for a listing of the affected welds. The type 304 stainless steel piping affected by this event was supplied by Dravo Corporation.



Commonwealth Edison

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

RLB-88-175

May 24, 1988

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) 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)(ii), which requires the reporting of any event or condition that resulted in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded.

Respectfully,

COMMONWEALTH EDISON COMPANY
QUAD-CITIES NUCLEAR POWER STATION

R. L. Bax
Station Manager

RLB/MSK/e

Enclosure

cc: I. Johnson
R. Higgins
INPO Records Center
NRC Region III

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