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GGC-94-120

September 19, 1994

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 is Licensee Event Report (LER) 94-010, Revision 00, for Quad Cities Nuclear Power Plant Station.

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

The following commitments are being made by this letter:

- Nuclear Work Request Q17488 was written to repair the flow indicator.

- A permanent procedure change to QCOP 5750-9, Control Room Ventilation System, will be made to clarify the ability to operate the system with either normal Service Water or RHRSW. This change will specifically instruct operators to align the system to RHRSW if the compressor fails to operate or will not remain operating utilizing normal service water.

If there are any questions or comments concerning this letter, please refer them to Nick Chrissotimos, Regulatory Assurance Administrator at 309-654-2241, ext. 3100.

Respectfully,

COMMONWEALTH EDISON COMPANY
QUAD CITIES NUCLEAR POWER STATION

for G. G. Campbell
Station Manager

GGC/TB/plm
Enclosure

cc: J. Schrage
C. Miller
INPO Records Center
NRC Region III

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LICENSEE EVENT REPORT (LER)

Form Rev. 2.0

Facility Name (1)	Docket Number (2)	Page (3)
Quad Cities Unit One	0 5 0 0 0 2 5 4	1 of 0 4

Title (4)

Control Room Air Conditioning Unavailable Due To Plugged Service Water Strainers

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	0 8	9 4	9 4	--	0 1 0	--	0 0	0 9	2 1	9 4	Unit 2 Quad Cities	0 5 0 0 0 2 6 5
												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)			
	01	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	0 0 0	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	TELEPHONE NUMBER
	AREA CODE
Michael J. Melton, Regulatory Assurance, Ext. 3299	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
X	V I	F I	B 4 4 0	No						

SUPPLEMENTAL REPORT EXPECTED (14)

		Expected Submission Date (15)	Month	Day	Year
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

ABSTRACT:

On 8/08/94 Unit-1 was shutdown and Unit-2 was in Run at 100% power. At 1756 hours when attempting to start the B-train Control Room air conditioning (HVAC) [VI] the compressor [CMP] repeatedly tripped on high pressure. At 1931 hours, Operations declared the B-train of Control Room HVAC inoperable as of 1823 hours. A 4-hour Non-Emergency NRC notification was made in accordance with 10CFR50.72(b)(2)(iii)(D). At 2013, Operations discovered the on-line Service Water strainer [STR] upstream of both the Control Room HVAC compressors was clogged with mud. This problem was not diagnosed earlier as a flow indicator [FI] was providing a false indication of adequate flow. The cause of this event was the failed flow indicator. Corrective actions include repairing the flow indicator and modifying a procedure to ensure Operations utilizes the backup source of cooling water in a timely fashion.

Discussions were held with NRC R III and the due date for this LER was extended to 9/23/94.

PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2511 MWt rated core thermal power.

EVENT IDENTIFICATION: Control Room Air Conditioning unavailable due to plugged service water strainers.

A. CONDITIONS PRIOR TO EVENT:

Unit: One Event Date: August 8, 1994 Event Time: 2030
Reactor Mode: 01 Mode Name: Shutdown Power Level: 0

This report was initiated by Licensee Event Report 254\94-010.

SHUTDOWN (1) - In this position, a reactor scram is initiated, power to the control rod drives is removed, and the reactor protection trip systems have been deenergized for 10 seconds prior to permissive for manual reset.

B. DESCRIPTION OF EVENT:

On 8/08/94 Unit-1 was shutdown and Unit-2 was in Run at 100% power. At 1756 hours when attempting to start the B-train Control Room air conditioning (HVAC) [VI] the compressor [CMP] repeatedly tripped on high pressure. The System Engineer was available to assist in troubleshooting the problem. Cooling water flow indication of Service Water [KG] to the compressor appeared adequate based on the local flow indicator and the valve lineup was checked and found to be correct. Procedure QOP 5750-9, Control Room Ventilation System, allows operation with either Service Water or the Residual Heat Removal Service Water (RHRSW) system [KG]. As there was indication of adequate cooling water flow, Operations did not switch over to RHRSW for cooling.

Attempts were made to start the A-train of Control Room HVAC at 1828 hours and the compressor also began tripping on high discharge pressure. At 1850 hours the Control Room ventilation was placed in the "smoke purge" mode which would provide outside air exchange to assist in controlling temperatures. At 1931 hours, Operations and the System Engineer were still unable to determine the reason for the repeated trips of the compressors and declared the B-train of Control Room HVAC inoperable as of 1823 hours. A 4-hour Non-Emergency NRC notification was made in accordance with 10CFR50.72(b)(2)(iii)(D).

At 2013, further checking of the system revealed the on-line Service Water strainer [STR] upstream of both the Control Room HVAC compressors was clogged with mud. This strainer filters the cooling water for both compressors. This problem was not diagnosed earlier as the flow indicator [FI] was providing a false indication of adequate flow. The strainers were initially bypassed and then an operator switched to the other basket of the parallel strainers. The B Control Room HVAC system was started utilizing normal Service Water and operated normally. Nuclear Work Request (NWR) Q17488 was initiated to repair the flow indicator. The monthly operability surveillance for the compressor was then performed and no problems were noted. On 8/09/94, at 2120 hours, the B Control Room HVAC system was declared operable.

C. APPARENT CAUSE OF EVENT:

The following is a summary of Conclusions and Causal Factors relating to problems which may have influenced human performance and/or contributed to equipment malfunctions.

Plant/System Operation, Failure was the result inaccurate indication (P.2.d.):

This event occurred because the flow indicator (EPN FI-1/2-5741-342) was stuck in a high flow condition giving a false indication of flow hampering the diagnosis of the clogged strainer. If the indicator had been working properly, the operators could have switched to the other strainer immediately. The B-train of Control Room HVAC was inoperable during the event due to the inability to identify the need to switch to an alternate source of water which was available from the RHRSW system.

D. SAFETY ANALYSIS OF EVENT:

The safety significance of this event was minimal. RHRSW was available at all times to provide cooling to the compressor condenser section. After the problem with the Service Water strainers was identified and resolved, the B Control Room HVAC compressor was started and operated normally. The monthly operability surveillance for the compressor was performed with no difficulties. The B Control Room HVAC system was designed to operate during an accident condition when a loss of the A Control Room HVAC system has occurred. There is currently no time limit in which the compressor must be started and operation of the compressor in no way affects the ability of the Control Room HVAC system to pressurize the Control Room emergency zone and radiologically filter the air entering the zone.

E. CORRECTIVE ACTIONS:

1. Maintenance was requested to clean the basket strainer and an interim procedure change to QCOP 5750-9, Control Room Ventilation System, has been issued to specifically instruct operators to align the system to RHRSW if the compressor fails to operate or will not remain operating utilizing normal service water.

2. NWR Q17488 was written to repair the flow indicator. (Instrument Maintenance; NTS 2541809401001).

3. A permanent procedure change to QCOP 5750-9, Control Room Ventilation System, will be made to clarify the ability to operate the system with either normal Service Water or RHRSW. This change will specifically instruct operators to align the system to RHRSW if the compressor fails to operate or will not remain operating utilizing normal service water. (System Engineering; NTS 2541809401002).

F. PREVIOUS EVENTS:

A search was conducted for previous events over the last five years where the B-train of Control Room HVAC was declared inoperable due to a loss condenser cooling water flow and no events were found.

G. COMPONENT FAILURE DATA:

Manufacturer of flow indicator: Brooks Instrument Company (B440), Model # 3261A15E1F1A. The B-train Control Room HVAC is not reportable per NPRDS.