

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	Page (3) 1 of 0 3
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Title (4)
B Control Room HVAC System Inoperable Due to Refrigerant Leak Preventing Operation of the Compressor

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

OPERATING MODE (9) 4	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)										
POWER LEVEL (10) 1 0 0	<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)							
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input checked="" 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 Nick Chrissotimos, Regulatory Assurance, Ext. 3100								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	
X	V	I	C M P	C 1 4 7	Y					

SUPPLEMENTAL REPORT EXPECTED (14)								Expected Submission Date (15)		Month	Day	Year
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)								<input checked="" type="checkbox"/> NO				

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

On August 12, 1995, Unit One and Unit Two were operating at 100% and 50% of full power, respectively. At 1247 hours, the "B" Control Room (CR) heating, ventilating, and air conditioning (HVAC) system [VI] was declared inoperable due to a complete loss of refrigerant from the compressor [CMP]. Nuclear Work Request (NWR) Q23895 was written, repairs were made, and the compressor was operated successfully. QCOS 5750-2, "Control Room Emergency Filtration System Monthly Test," was then performed and at 2258 hours on August 16, 1995, the "B" CR HVAC system was declared operable.

The apparent cause of the event was a failure of a brazed joint in the system which caused a complete loss of refrigerant for the compressor.

Corrective actions for this event included fixing the damaged joint and inspecting the remaining joints.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT Energy Industry Identification System (EIS) 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:

A. CONDITIONS PRIOR TO EVENT:

Unit: One Event Date: August 12, 1995 Event Time: 1247
 Reactor Mode: 04 Mode Name: Run Power Level: 100

This report was initiated by Licensee Event Report 254\95-005.

RUN (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 12, 1995, Unit One and Unit Two were operating at 100% and 50% of full power, respectively. No systems or components were inoperable prior to this event that contributed to this event. At 1247 hours, during performance of QCOS 5750-2, "Control Room Emergency Filtration System Monthly Test", the refrigeration compressor [CMP] for the "B" Control Room (CR) heating, ventilating, and air conditioning (HVAC) system [VI] would not operate. Nuclear Work Request (NWR) Q23895 was generated to investigate the problem.

On August 13, 1995, troubleshooting activities identified that the compressor had lost all of its refrigerant charge through an unknown leakage path. The loss of charge prohibited the start of the compressor.

On August 14, 1995, additional leaks on the refrigeration system were identified and repairs were started. The most noticeable leak was located at a brazed joint on the discharge piping of the fourth stage of the evaporator [EVP]. The other brazed joints were checked for integrity and found to be acceptable at this time.

On August 15, 1995, repairs of the leaks were completed and a vacuum was started on the refrigerant piping.

On August 16, 1995, the vacuum was checked and found to be acceptable. Refrigerant was then added to the system. The compressor was run and operated successfully. QCOS 5750-2, "Control Room Emergency Filtration System Monthly Test," was performed and at 2258 hours, the "B" CR HVAC system was declared operable.

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C. APPARENT CAUSE OF EVENT:

FAILURE MODE AND EFFECTS ANALYSIS

The apparent root cause of the event was a failure of a brazed joint in the refrigeration piping. The failure of the joint allowed a total loss of the refrigerant charge which prevented operation of the compressor. A pinhole leak was identified at the joint, which was most likely caused by a poor original braze. The other brazed joints on this system were inspected for brazing quality and found to be acceptable. Therefore, there is no evidence which indicates a trend of inadequate brazed joints.

D. SAFETY ANALYSIS OF EVENT:

The safety consequences at the time of the event were not significant. The "A" CR HVAC system was always available to provide cooling for the CR. In addition, the compressor failure in no way compromised the system's ability to provide filtered air to the CR during a radiological accident. The "B" CR HVAC supply fan will operate with or without the compressor. Therefore, if the failure had occurred during such an accident, dose limits to the CR would not have been affected.

E. CORRECTIVE ACTIONS:

The corrective actions for the event were to generate NWR Q23895, make the repairs to the leaks on the system, check the integrity of the remaining brazed joints, and return the system to operation. QCOS 5750-2 was then performed and at 2258 hours on August 16, 1995, the "B" CR HVAC system was declared operable.

QOS 005-S13, "U1 Equipment Attendants' Surveillance/Turnover Sheets," was also updated to begin trending compressor refrigerant pressure each shift.

No further corrective actions are needed as a result of this event.

F. PREVIOUS EVENTS:

There are no previous events where the "B" CR HVAC system refrigeration compressor was made inoperable due to a loss of refrigerant.

G. COMPONENT FAILURE DATA:

There is currently no failure data for the CR HVAC system since it was only recently added to the Nuclear Plant Reliability Data System database in August 1995.