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LWP-96-021

March 1, 1996

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) 96-005, Revision 0, 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)(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 that are needed to mitigate the consequences of an accident.

The following commitments are being made by this letter:

Implementation of a Technical Specification change to measure heater power instead of differential temperature across the Control Room Emergency Filtration System heater to determine operability. This action will be completed by 06/30/96.

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

L. W. Pearce
L. W. Pearce
Station Manager

LWP/NC/plm
Enclosure

cc: P. Piet
C. Miller
INPO Records Center
NRC Region III

Post-It™ brand fax transmittal memo 7671		# of pages = 10	
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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	
Title (4) B CR HVAC System Inoperable Due To Outside Air Temperature													
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 2	0 3	9 6	9 6	- 0 0 5	- 0 0	0 3	0 1	9 6		0 5 0 0 0 2 5 4	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) 9 2	20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)						
	20.405(a)(1)(i)		50.36(c)(1)		<input checked="" type="checkbox"/> 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 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				
SUPPLEMENTAL REPORT EXPECTED (14)								Expected Submission Date (15)		Month	Day	Year	
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)													

ABSTRACT

On February 3, 1996, Unit One and Unit Two were in the RUN mode at 92 and 100 percent power, respectively. At 0544 hours, the "B" Control Room (CR) heating, ventilating, and air conditioning (HVAC) system [VI] was declared inoperable due to outside air temperature of -29 degrees Fahrenheit (*F). Previous calculation had determined that the Control Room Emergency Filtration System (CREFS) could not meet Technical Specification operability requirement below -28.1 *F.

The apparent cause of the event was the method by which the Technical Specification requires the operability of the air filtration unit heater to be determined.

The heater was still capable of performing its design function of reducing the relative humidity of the incoming air to less than or equal to 70 percent.

Waited until outside air temperature increased naturally. A corrective action already in place is a Technical Specification change, which had been submitted, requesting that heater power be measured instead of differential temperature across the heater to determine operability.

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Quad Cities Unit One	0 5 0 0 0 2 5 4					9	6	-	0	0	5	-	0	0	2	OF	0	3

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: B CR HVAC System Inoperable Due To Outside Air Temperature.

A. CONDITIONS PRIOR TO EVENT:

Unit: One Event Date: February 3, 1996 Event Time:
 Reactor Mode: 4 Mode Name: RUN Power Level:

This report was initiated by Licensee Event Report LER254\96-005.

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 February 3, 1996, Unit One and Unit Two were in the RUN mode at 92 and 100 percent power, respectively. No systems or components were inoperable prior to this event that contributed to this event. At 0544 hours, the "B" Control Room (CR) heating, ventilating, and air conditioning (HVAC) system [VI] was declared inoperable due to outside air temperature of -29 °F. Per QOS 0005-01, "Operations Department Weekly Summary of Daily Surveillances," the "B" CR HVAC system is considered inoperable whenever outside air temperatures fall below -28.1 °F.

At 1300 hours on February 3, 1996, outside air temperatures were verified to be above -28.1 °F and the "B" CR HVAC system was declared operable.

C. APPARENT CAUSE OF EVENT:

DESIGN CONFIGURATION AND ANALYSIS

The design basis criteria for the Control Room Emergency Filtration System (CREFS) heater is to ensure the relative humidity at the inlet of the charcoal adsorber is less than 70%. The apparent root cause of the event was the method by which the system is analyzed and evaluated for operability. Existing Technical Specification 4.8.H.2.b.2 requires that the operability of the heater demonstrates heater differential temperature determined by the formula: $DT \geq 28.5 - (0.0075F)$, where DT is differential temperature and F is flow (cfm) at which test is performed. This corresponds to a 13.5 °F DT at a flow rate of 2000 standard cubic feet per minute (SCFM). A Halliburton NUS calculation, 3K36-M-06, determined that the heater would be incapable of meeting the Technical Specification DT requirement at outside air temperatures of -28.1 °F or lower. This low temperature operability point is contained in QCOS 5750-02, "Control Room Emergency Filtration System Monthly Test" as well as QOS 0005 -01.

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TEXT Energy Industry Identification System (EIS) codes are identified in the text as [XX]												

D. SAFETY ANALYSIS OF EVENT:

There was no safety consequence as a result of this event. The heater was still capable of performing its design function. The sole design function of the heater is to reduce the relative humidity of the incoming air to the charcoal adsorbers to less than or equal to 70 percent. At outside air temperatures less than or equal to -28.1 °F the relative humidity is already below 70 percent.

E. CORRECTIVE ACTIONS:

The "B" Control Room HVAC system was declared operable when the outside air temperatures increased above -28.1 °F.

A corrective action that was already in progress is a Technical Specification change as a part of the Technical Specification Upgrade Program (TSUP). This change will eliminate the requirement to measure differential temperature across the heater to verify operability. Instead, the new Technical Specification will require the station to measure heater power to verify operability. A measure of heater power is a better indicator of heater performance since differential temperature does not necessarily correspond to relative humidity. The current NRC implementation window for TSUP ends June 30, 1996.

F. PREVIOUS EVENTS:

There are no previous events where the B CR HVAC system was declared inoperable due to outside air temperatures.

G. COMPONENT FAILURE DATA:

There was no component failure associated with this event.