

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Cooper Nuclear Station	DOCKET NUMBER (2) 0 5 0 0 0 2 9 8	PAGE (3) 1 OF 0 3
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TITLE (4) Control Building Heating, Ventilating, and Air Conditioning Design Concerns Identified During a NRC Inspection

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)																																			
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<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;">OPERATING MODE (9) N</td> <td colspan="11">THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)</td> </tr> <tr> <td rowspan="5">POWER LEVEL (10) 1 0 0</td> <td>20.402(b)</td> <td>20.406(e)</td> <td>50.73(a)(2)(iv)</td> <td>73.71(b)</td> </tr> <tr> <td>20.405(a)(1)(i)</td> <td>50.38(c)(1)</td> <td>X 50.73(a)(2)(v)</td> <td>73.71(c)</td> </tr> <tr> <td>20.405(a)(1)(ii)</td> <td>50.38(c)(2)</td> <td>50.73(a)(2)(vii)</td> <td rowspan="3">OTHER (Specify in Abstract below end in Text, NRC Form 386A)</td> </tr> <tr> <td>20.405(a)(1)(iii)</td> <td>50.73(a)(2)(i)</td> <td>50.73(a)(2)(viii)(A)</td> </tr> <tr> <td>20.405(a)(1)(iv)</td> <td>50.73(a)(2)(ii)</td> <td>50.73(a)(2)(viii)(B)</td> </tr> <tr> <td>20.405(a)(1)(v)</td> <td>50.73(a)(2)(iii)</td> <td>50.73(a)(2)(x)</td> <td></td> </tr> </table>												OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)											POWER LEVEL (10) 1 0 0	20.402(b)	20.406(e)	50.73(a)(2)(iv)	73.71(b)	20.405(a)(1)(i)	50.38(c)(1)	X 50.73(a)(2)(v)	73.71(c)	20.405(a)(1)(ii)	50.38(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below end in Text, NRC Form 386A)	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)	
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LICENSEE CONTACT FOR THIS LER (12)

NAME Donald L. Reeves, Jr.	TELEPHONE NUMBER 4 0 2 8 2 5 - 3 8 1 1
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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)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH DAY YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

During the Safety System Functional Inspection performed by an NRC Inspection Team over the period of May 11, 1987, to June 19, 1987, concerns regarding the adequacy of the non-essential Control Building Heating, Ventilating, and Air Conditioning (HVAC) system were expressed. Specifically, the NRC Inspection Team noted that the Control Building HVAC System was non-essential and, consequently, would be lost during certain design basis accidents.

As a result, a worst case thermal transient evaluation for critical AC Switchgear Rooms 1F & 1G, DC Switchgear Rooms 1A & B, and Battery Rooms 1A & 1B was conducted. This evaluation revealed that should the ventilation system fail during plant operation or during the course of an accident, the use of portable equipment would be required so that temperatures in the rooms in question could be maintained within equipment specifications. The temporary equipment was staged, procedures were developed or revised and appropriate training for Operations Department personnel was conducted.

A long-term program is being implemented to improve the existing non-essential Control Building HVAC system and to install permanent essential HVAC equipment that will provide acceptable room temperatures during all postulated events. A Justification for Continued Operation has been developed which shows that until an upgraded HVAC System design can be implemented, the temporary measures in place will provide for continued safe operation.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

A. Event Description

During the period of May 11, 1987 to June 19, 1987, an NRC Inspection Team identified a potential concern with the Heating, Ventilating, and Air Conditioning (HVAC) system for critical AC Switchgear, DC Switchgear, and Battery Rooms. The NRC Inspection Team noted that the Control Building HVAC system was non-essential and, consequently, would be lost during certain design basis accidents.

In response to the concerns expressed during the Safety System Functional Inspection (SSFI), an evaluation of the ventilation systems associated with essential electrical equipment located in the Control Building was initiated. The evaluation was performed on Battery Rooms 1A and 1B, DC Switchgear Rooms 1A and 1B, and critical AC Switchgear Rooms 1F and 1G to develop the bounding transient room temperature profiles resulting from Loss of Coolant Accident (LOCA), Loss of Offsite Power (LOOP), High Energy Line Break (HELB), and Loss of Ventilation (LOV) events. The evaluation was conducted for a combination of accident scenarios to determine the worst case. HELB combined with loss of ventilation was determined to be the worst case.

This evaluation indicated that abnormal ambient temperatures could result if a complete loss of ventilation was to occur either during normal operation or certain design basis accident conditions. However, it was further determined that temperatures in the rooms could be maintained within equipment specifications if portable ventilation equipment were used, consistent with the guidance provided for its use by Operations Department personnel.

B. Plant Status

At the time of the SSFI, the plant was in a normal load follow mode of operation.

C. Basis for Report

The basis for this report is that the worst case analyzed conditions constitute a situation where loss of essential equipment could have prevented the fulfillment of a safety function, reportable in accordance with 10CFR50.73(a)(2)(v).

A Licensee Event Report had not been submitted prior to the SSFI followup inspection conducted during the week of February 13, 1989, since the condition was already the subject of correspondence between the District and the NRC and submittal of an LER on this subject had not been considered necessary.

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TEXT (If more space is required, use additional NRC Form 306A's) (17)

D. Cause of Event

Design. The root cause appears to be that ambient temperatures which would result upon loss of the ventilation system either during normal operation or certain design basis accidents were not identified as a concern for these rooms during original plant design.

E. Safety Significance

Ambient temperatures less than that shown in Table X-10-1 of the USAR or greater than that as shown in Table X-10-2 of the USAR, would result if a complete loss of ventilation were to occur. While correspondence with vendors and testing laboratories indicate that the ambient temperatures that were derived may be permissible, malfunctions of essential equipment could have occurred, resulting in an interruption of power to critical plant equipment.

F. Safety Implications

While the likelihood of occurrence of the postulated event is minimal, if abnormal temperatures in those areas were to occur, operator action would have been required to provide temporary ventilation or heating in order to mitigate the consequences of the postulated event.

G. Corrective Action

The following actions were taken after the concern was raised by the NRC Inspection Team;

1. A very conservative evaluation of ambient temperatures in these rooms resulting from the worst case accident scenario was completed.
2. The temporary ventilation equipment was staged, plant procedures were developed or revised and appropriate training for the equipment's use was completed.
3. The temporary heating equipment was staged and plant procedures were developed or revised for the equipment's use and appropriate training for the equipment's use was completed.
4. A Justification for Continued Operation was developed which shows that until an upgraded HVAC System design can be implemented, the temporary measures in place will provide for continued safe operation.

In addition, steps to install permanent essential equipment that will provide acceptable room temperatures during all postulated events is being pursued.

H. Similar Events

None.