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Christina L. Perino  
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GNRO-2009/00057

September 22, 2009

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

Subject: LER 2009-004-00 Condition Prohibited by Technical Specifications due to  
Control Room Air Conditioning Subsystem 'B' Inoperability not Recognized

Grand Gulf Nuclear Station, Unit 1  
Docket No. 50-416  
License No. NPF-29

Dear Sir or Madam:

Attached is Licensee Event Report (LER) 2009-004-00 which is a final report. This report is submitted in accordance with 10 CFR 73(a)(2)(i)(B).

This letter does not contain any commitments. Should you have any questions regarding the attached report, please call Peggy R. Rescheske at 601-437-1781 or Christina L. Perino at 601-437-6299.

Sincerely,

A handwritten signature in cursive script, appearing to read "Christina L. Perino".

CLP/PRR

Attachment: LER 2009-004-00

cc: (See Next Page)



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Page 2

cc: NRC Senior Resident Inspector  
Grand Gulf Nuclear Station  
Port Gibson, MS 39150

U. S. Nuclear Regulatory Commission  
ATTN: Mr. Elmo E. Collins (w/a)  
Regional Administrator, Region IV  
612 East Lamar Drive, Suite 400  
Arlington, TX 76011-4005

U.S. Nuclear Regulatory Commission  
ATTN: Mr. Carl F. Lyon, NRR/ADRO/DORL (w/2)  
**ATTN: ADDRESSEE ONLY**  
ATTN: Courier Delivery Only  
Mail Stop OWFN/8 B1  
11555 Rockville Pike  
Rockville, MD 20852-2378

**LICENSEE EVENT REPORT (LER)**

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

<b>1. FACILITY NAME</b> Grand Gulf Nuclear Station, Unit 1	<b>2. DOCKET NUMBER</b> 05000416	<b>3. PAGE</b> 1 of 3
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**4. TITLE** Condition Prohibited by Technical Specifications due to Control Room Air Conditioning Subsystem 'B' Inoperability Not Recognized

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
07	24	2009	2009	- 004 -	00	09	22	2009	N/A	N/A
									FACILITY NAME	DOCKET NUMBER
									N/A	N/A

<b>9. OPERATING MODE</b>  1	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§:</b> <i>(Check all that apply)</i>									
<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)							
<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)							
<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)							
<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)							
<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)							
<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)							
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER							
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A							

12. LICENSEE CONTACT FOR THIS LER	
FACILITY NAME  Christina L. Perino, Licensing Manager	TELEPHONE NUMBER (Include Area Code)  601-437-6299

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT									
CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
		N/A							

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO						
<b>15. EXPECTED SUBMISSION DATE</b>	<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%; border-bottom: 1px solid black;">MONTH</td> <td style="width:33%; border-bottom: 1px solid black;">DAY</td> <td style="width:33%; border-bottom: 1px solid black;">YEAR</td> </tr> <tr> <td style="height: 20px;"></td> <td style="height: 20px;"></td> <td style="height: 20px;"></td> </tr> </table>	MONTH	DAY	YEAR			
MONTH	DAY	YEAR					

**ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On July 24, 2009, at 2254 hours Central Daylight Time, Grand Gulf Nuclear Station (GGNS) was in Mode 1 operating at approximately 100 percent power, when a past operability concern related to Control Room Air Conditioning (CRAC) subsystem B was discovered. On May 13, 2009, a surveillance test had been performed per Technical Specification (TS) Surveillance Requirement 3.7.4.1, with questionable test results. Based on the event investigation, the questionable test results were due to a deficiency introduced during previous maintenance. Subsequent evaluation of the test data determined that the CRAC B unit would not maintain a control room temperature of less than or equal to 90 degrees F under design basis accident heat loads. Therefore, the surveillance acceptance criteria were not met for verifying the CRAC subsystem is capable of removing the assumed heat load. Based on this evidence, CRAC B had been inoperable from March 28, 2009, to June 25, 2009, when the surveillance retest was completed satisfactorily. Since a Condition Prohibited by Technical Specifications had existed but was not recognized, the required 30-day action completion time for TS Limiting Condition for Operation 3.7.4 for one inoperable CRAC subsystem was exceeded. This condition is reportable under 10 CFR 73(a)(2)(i)(B). This event did not prevent the fulfillment of the safety function of the CRAC system.

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**A. REPORTABLE OCCURRENCE**

On July 24, 2009 at 2254 hours Central Daylight Time (CDT), Grand Gulf Nuclear Station (GGNS) was in Mode 1 operating at approximately 100 percent power, when a past operability concern related to the control room air conditioning (CRAC) [VI] subsystem B was discovered. Subsequent investigation determined that CRAC B was inoperable from March 28, 2009, to June 25, 2009. Since a Condition Prohibited by Technical Specifications (TS) existed but was not recognized, the required 30-day action completion time for TS Limiting Condition for Operation (LCO) 3.7.4 for one inoperable CRAC subsystem was exceeded. This condition is reportable under 10 CFR 73(a)(2)(i)(B).

**B. INITIAL CONDITIONS**

The reactor was in OPERATIONAL MODE 1 with reactor power at approximately 100 percent. There were no additional inoperable structures, systems, or components that contributed to this event.

**C. DESCRIPTION OF OCCURRENCE**

On July 24, 2009, a past operability concern related to the CRAC B subsystem was discovered (reference CR-GGN-2009-03779). Evaluation of test data from the TS surveillance test performed on May 13, 2009, determined that the acceptance criteria was not met for providing verification that the CRAC B unit was capable of removing the assumed heat load as defined in TS Surveillance Requirement (SR) 3.7.4.1. The failure to meet the surveillance requirement indicated that the discrepancy occurred prior to the performance of the surveillance test. The investigation concluded that an inadequate functional test to verify operability was performed on March 28, 2009, following maintenance. Therefore, CRAC B was considered inoperable from March 28, 2009, until the TS surveillance retest was completed satisfactorily on June 25, 2009.

The investigation determined that following installation of a rebuilt CRAC B freon compressor on March 28, 2009, a post maintenance functional test was not adequate to verify proper performance of the CRAC B unit. Specifically, adjustment to the freon compressor capacity controller for the CRAC B unit was not performed in accordance with vendor instructions prior to returning CRAC B to service following maintenance. On May 13, 2009, a surveillance test was performed per TS SR 3.7.4.1, which requires an 18-month verification that the each CRAC subsystem is capable of removing the assumed heat load while maintaining the control room envelope at or below 90 degrees F. Initial review of the test results indicated that the CRAC B condenser had an unacceptable fouling rate (reference CR-GGN-2009-02892). Since the condenser had been cleaned and the compressor rebuilt in March 2009, these test results were considered invalid, and a retest was scheduled. On May 14, 2009, an issue with control room cooling was identified and subsequently corrected by adjusting the CRAC B capacity controller (reference CR-GGN-2009-02521). It was not recognized during this time that a deficiency had been introduced during the March 28, 2009, maintenance causing CRAC B to be inoperable. The TS surveillance test (TS SR 3.7.4.1) was completed satisfactorily on June 25, 2009, and CRAC B was verified to be operable.

On August 12, 2009, an engineering evaluation using data from the May 13, 2009, test calculated that the CRAC B unit would maintain a control room temperature of 91.54 degrees F under design basis accident heat loads. Therefore, the surveillance procedure acceptance criteria (TS SR 3.7.4.1) of less than or equal to 90 degrees F was not met. Based on this evaluation, it was concluded that CRAC B had been inoperable from March 28, 2009, through June 25, 2009.

NRC FORM 366A (9-2007)		U.S. NUCLEAR REGULATORY COMMISSION		
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#### D. APPARENT CAUSE

The Root Cause Evaluation Report identified two root causes of the event. One root cause was related to inadequate use and implementation of maintenance procedures, and a lack of understanding of what constitutes a proper functional or post-maintenance test. The other root cause involved inadequate change management following the change in status of the CRAC system to a TS-required system. Following a 1995 improved TS implementation change which designated the CRAC system as required by TS, post-maintenance testing requirements were not appropriately defined for returning the system to operation.

#### E. CORRECTIVE ACTIONS

Immediate Corrective Actions - Immediate operability of the CRAC system was not affected. Condition Report CR-GGN-2009-03779 was written to evaluate past operability, and a Root Cause Evaluation was initiated.

Long Term Corrective Actions - The Root Cause Evaluation addressed additional corrective actions.

#### F. SAFETY ASSESSMENT

Although the TS surveillance acceptance criteria of less than or equal to 90 degrees F was not met, CRAC B would have maintained control room temperature well below the temperature required to maintain control room equipment functional. During the period of time CRAC B was considered inoperable, the independent redundant CRAC A subsystem remained operational except for three short periods of time (approximately 6, 8, and 19 hours in duration) in which components affecting the operability of CRAC A were tagged out of service for planned maintenance. CRAC A remained functional during these three instances, and could have been returned to operable status within 2 to 4 hours if required. Therefore, the TS LCO was met for two inoperable CRAC subsystems (i.e., restore operability of one CRAC subsystem within 7 days). This event did not prevent the fulfillment of the safety function of the CRAC system, nor were there any actual or potential safety consequences.

#### G. ADDITIONAL INFORMATION

Previous Occurrences - There has not been any occurrence of an event or condition in the past five years at Grand Gulf Nuclear Station involving issues related to changing a system status to a TS-required system. The Root Cause Evaluation addressed the extent of condition as well as the extent of the cause of this event.