NRC FORM 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED BY OMB NO. 3150-0104
EXPIRES 04/30/98

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Grand Gulf Nuclear Station, Unit 1	05000-416	1 of 4

TITLE (4)
Supplement to LER 94-002 "ESF Switchgear Room Temperature Could Exceed Allowable Limits"

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 NAME	DOCKET NUMBER
									N/A	05000
02	25	94	94	002	02	06	28	96	N/A	05000

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more) (11)							
			20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)
POWER LEVEL (10)	100		20.2203(a)(2)(i)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)
			20.405(a)(1)(ii)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71
			20.2203(a)(2)(ii)		20.2203(a)(4)		50.73(a)(2)(iv)	X	OTHER
			20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)		Voluntary

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Riley Ruffin / Licensing Specialist	601-437-2167

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)	X	NO				

ABSTRACT (Limit to 1400 spaces, i. e., approximately 15 single-spaced typewritten lines) (16)

On February 25, 1994, Design Engineering personnel identified that temperatures in four ESF Switchgear rooms would exceed previously evaluated values during post-LOCA conditions if the associated room cooler was not in operation. The condition identification was based on calculations of ventilation cooling loads. The availability of equipment in these rooms could not be guaranteed. Specific actions, which are commensurate with this condition, were implemented to address room coolers being out of service.

An investigation revealed that non-conservative assumptions were made in the original design calculation performed by the Architect/Engineer. The original calculation did not address all heat loads that would be expected during accident conditions, i. e., created by certain electrical cables, space heaters, etc. Subsequent reviews of this condition and reporting requirements revealed that this condition did not meet the criteria of a reportable condition. The health and safety of the public are not compromised as a result of this condition.Therefore, the reportable of status this Licensee Event Report is being changed to voluntary.

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FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

A. Reportable Occurrence

During a review of preliminary cooling load calculations, plant personnel identified the potential for four ESF Switchgear rooms to exceed the previously evaluated temperature conditions in certain post-LOCA conditions. This condition was originally considered to be an unanalyzed condition which significantly compromised plant safety and was reported pursuant 10 CFR 50.73(a)(2)(ii)(A). However, this was in error. Subsequent reviews have shown that this condition would only exist when the respective room coolers were removed from service. Therefore, the reported condition did not significantly compromise plant safety.

NUREG 1022, in discussing "Unanalyzed Conditions", makes allowances for equipment being removed from service for maintenance, testing, etc. Entergy concludes that the subject matter does not constitute a reportable condition. Therefore the reportable status of Licensee Event Report 94-002-00 and its supplment are being changed to voluntary.

B. Initial Condition

The reactor was in OPERATIONAL CONDITION 1 with reactor power indicating 100 percent power. Reactor temperature was indicating approximately 532 degrees F at the time of discovery.

C. Description of Occurrence

The ESF Switchgear room coolers provide a support function for the ESF electrical Switchgear which are addressed in GGNS Technical Specification (TS) Section 3.8.3. The operability of the electrical distribution system [ED] must be evaluated in the event a room cooler is out of service. Following the identification of cooling load deficiencies in 1986 (as reported in LER 86-029 and its supplements), an evaluation was performed to determine the impact of the increased temperatures that would be experienced in affected rooms. This evaluation was based on the original design calculations and assumptions for cooling loads. The evaluation determined that equipment located in the ESF Switchgear rooms would not be significantly affected by the loss of one room cooler during a design basis accident (DBA).

Room coolers are removed from service for routine maintenance, repair or other procedures, as required. Since the TS do not address the operability of the Switchgear room coolers, a TS position statement (PS) was developed to establish actions in the event that a cooler was out of service. The justification used to support the PS was based on the aforementioned evaluation. The actions specified by the PS required an inoperable room cooler to be restored within 72 hours. Otherwise, obtain Management approval of a plan and schedule for restoration within the next 8 hours. In accordance with our requirements if more than one cooler was inoperable, the associated onsite power distribution system would be declared inoperable and the appropriate TS actions taken.

On February 25, 1994, while performing a review of preliminary ventilation cooling loads calculations, plant personnel identified four ESF Switchgear rooms that would exceed allowable temperatures during a DBA if the associated room cooler was not in service. The operability of the equipment located in the Switchgear rooms could not be guaranteed. These preliminary calculations indicated that the temperature in these four rooms would exceed the maximum temperature for which equipment operability is assured.

D. Apparent Cause

The investigation of this condition revealed the following cause.

Calculations performed by the Architect/Engineer (Bechtel) were based on non-conservative assumptions regarding the loads created by certain electrical cables, space heaters, etc. The capacity of the room coolers is based on the maximum expected heat loads during accident conditions. However, the heat loads generated by electrical equipment in the rooms was underestimated in original design calculations.

The calculations described above were approved without adequate technical review. During initial design, there were no approved design standards providing a methodology for calculating heat loads for electrical components. Therefore, the calculations were developed using assumptions made by the responsible engineer and reviewer. Some of these assumptions were non-conservative.

A contributing factor was also identified during the investigation. Plant personnel missed an opportunity to identify the above deficiencies during a review that took place following Standby Service Water (SSW) [BI] deficiencies identified in 1986. Reviews were performed; however the non-conservative assumptions made by the AE were not identified.

E. Corrective Actions

As a result of the findings, more stringent actions (Technical Requirements Manual Specification TR6.7.1) were implemented for rooms that could possibly exceed the previously evaluated temperatures. The required action with one room cooler inoperable, is to declare the associated SSW subsystem inoperable.

F. Safety Assessment

A review of Room Cooler Limiting Condition for Operation (LCO) Reports was performed to determine the out-of-service time for the subject room coolers. Based on our maintenance practices, a review of LCO reports for one year (1993) should be representative of the yearly out-of-service time for the room coolers. The review revealed that the average out-of-service time for each room cooler was approximately 30 hours.

Although our current processes do allow more than one room cooler within a single division to be removed from service at one time, plant maintenance practices do not allow cross-divisional outages. Thus, no two room coolers from redundant divisions would have been removed from service concurrently. No coolers were inoperable for greater than 72 hours which is the TS allowed outage time for the SSW system.

The likelihood of an accident occurring during the time a cooler was out of service is low as indicated by the TS allowed out-of-service time for the SSW system. Therefore it is concluded that the condition did not pose an increased risk to the safety of the plant. The health and safety of the public are not compromised as a result of the described conditions.

G. Additional Information

Energy Industry Identification System (EIIS) codes are identified in the text within brackets [ ].