

April 22, 1993

U.S. Nuclear Regulatory Commission  
Mail Station P1-137  
Washington, D.C. 20555

Attention: Document Control Desk

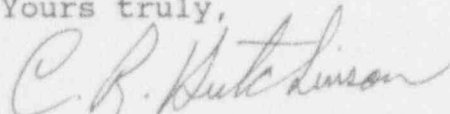
SUBJECT: Grand Gulf Nuclear Station  
Unit 1  
Docket No. 50-416  
License No. NPF-29  
Primary Containment Penetration Overcurrent Protection  
Not Tested  
LER 93-002-00

GNRO-93/00050

Gentlemen:

Attached is Licensee Event Report (LER) 93-002-00 which is a final report.

Yours truly,



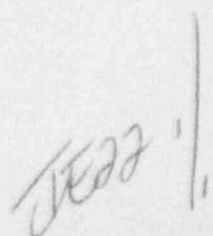
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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1)  Grand Gulf Nuclear Station	DOCKET NUMBER (2)  0 5 0 0 0 4 1 6	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		9 3	— 0 0 2	— 0 0 0	2	OF 0 4

TEXT (If more space is required, use additional NRC Form 305A's) (17)

## A. Reportable Occurrence

During a review of design drawings, it was determined that two electrical circuits installed through a containment electrical penetration were not identified as being associated with Technical Specifications (TS). As a result no functional test of the circuit breaker protection was documented. This is a condition prohibited by Technical Specifications. This condition is being reported pursuant to 10 CFR 50.73(a)(2)(i).

## B. Initial Conditions

The plant was operating in Operational Condition 1 at approximately 100 percent thermal power. Reactor pressure was approximately 1028 psig at the time of discovery.

## C. Description of Occurrence

TS 3.8.4.1 requires that all primary containment penetration conductors overcurrent protection devices specified in the associated TS Table be OPERABLE.

On March 22, 1993, plant design personnel were reviewing design drawings for a design package. During this review, it was discovered that the electrical circuits for the Containment Hatchway Crane (480V) and its control power (120V) had not been identified as being associated with TS 3.8.4.1. As a result, no functional test of the circuit breaker protective devices was documented. A functional test is required to demonstrate the capability of the devices to adequately protect the containment electrical penetrations, in order to maintain containment integrity.

Upon discovery of the condition, the power supply breakers for the crane and its control power were taken to the open position. These breakers are controlled in the open position in accordance with Administrative Procedure 01-S-06-1, Protective Tagging System.

A nonconformance report was initiated to document this condition. The protective device(s) were tested in accordance with approved plant procedure and an evaluation was performed to determine if a potential for a degraded condition existed.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104  
EXPIRES: 8/31/88

FACILITY NAME (1)  Grand Gulf Nuclear Station	DOCKET NUMBER (2)  0500041693	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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TEXT (If more space is required, use additional NRC Form 388A's) (7)

## D. Apparent Cause

The electrical circuits were installed in accordance with a design change package (DCP) in 1986. DCP 85/4503 installed the circuits through containment penetration 1Z023.

Penetration overcurrent protection was installed in accordance with the requirements of Regulatory Guide 1.63. However, the associated safety evaluation and subsequent reviews did not identify that the breaker protective devices should have been included in TS Table 3.8.4.1-1.

Three causes were identified during the investigation of this event.

- o The design process did not incorporate lessons learned from previous nonconformance documents which identified design concerns with similar TS considerations.
- o The safety evaluation did not receive adequate interdisciplinary input and review.
- o The personnel involved in the design had no formal training on TS and Updated Final Safety Analysis Report. There was no safety evaluation training in place at that time.

Due to the length of time since the preparation and implementation of the subject DCP and the extensive changes that have occurred in the applicable processes, further refinement of the root cause evaluation will not be fruitful.

## E. Corrective Actions

The penetration overcurrent protection devices were tested in accordance with approved plant procedures. The results of the test verified proper operation of the protective devices.

Design Engineering Administrative Procedure, Internal Design Interface, had previously been changed, for reasons separate from this occurrence, to include interdisciplinary input for safety evaluation as required.

In License Amendment 102, TS Table 3.8.4.1-1 was removed from TS and placed in the plant's Technical Requirements Manual (TRM). The above electrical circuits will be added to the applicable table in the TRM.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/86

FACILITY NAME (1)  Grand Gulf Nuclear Station	DOCKET NUMBER (2)  0 5 0 0 0 4 1 6	LER NUMBER (6)			PAGE (3)		
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TEXT (If more space is required, use additional NRC Form 365A's) (17)

Since 1986, all the engineers who are responsible for maintaining penetration overcurrent protection have received safety evaluation training and a briefing was performed to highlight the significance of this type of occurrence.

A review of the applicable TS table was performed and drawings were revised to indicate all breakers specified by the associated table.

#### F. Safety Assessment

The Containment Hatchway Crane is only permitted to lift loads during Operational Conditions 4 and 5. The only operations of the system during other modes would have been to meet preventive maintenance requirements.

The design of the circuits was adequate to ensure overcurrent protection of the containment penetration. The installed devices are similar to other protective devices used for containment penetration protection. The devices were tested to ensure proper operation. The devices operated well within acceptable limits. Therefore the condition which existed did not adversely impact the integrity of primary containment.