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June 18, 1992

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
ESF Actuation Due To Blown Fuse
LER 92-008-00

GNRO-92/00076

Gentlemen:

Attached is Licensee Event Report (LER) 92-008 which is a final report.

Yours truly,

WTC Cottle

WTC/RSJ/cg
attachment

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NRC Form 366 (9-82)		U.S. NUCLEAR REGULATORY COMMISSION APPROVED OMB NO. 3150-0104 EXPIRES 8-31-98								
LICENSEE EVENT REPORT (LER)										
FACILITY NAME (1) Grand Gulf Nuclear Station - Unit 1						DOCKET NUMBER (2) 0 5 0 0 0 4 1 6		PAGE (3) 1 OF 0 3		
TITLE (4) ESF Actuation Due to Blown Fuse										
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	
0 5	1 9	9 2	9 2	0 0 8	0 0	0 6	1 8	9 2	NA	
OPERATING MODE (9) 5			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)							
POWER LEVEL (10) 0 0 0		20.406(a)(1)(i)	20.406(a)	50.73(a)(2)(iv)		50.73(a)(2)(v)		73.71(a)		
		20.406(a)(1)(ii)	50.36(a)(1)	50.73(a)(2)(vi)		50.73(a)(2)(vii)		73.71(a)		
		20.406(a)(1)(iii)	50.36(a)(2)	50.73(a)(2)(viii)		50.73(a)(2)(ix)(A)		OTHER (Specify in Abstract below and in Text, NRC Form 366A)		
		20.406(a)(1)(iv)	50.73(a)(2)(i)	50.73(a)(2)(x)		50.73(a)(2)(x)(B)				
		20.406(a)(1)(v)	50.73(a)(2)(ii)	50.73(a)(2)(xi)		50.73(a)(2)(xii)				
		20.406(a)(1)(vi)	50.73(a)(2)(iii)	50.73(a)(2)(xiii)		50.73(a)(2)(xiv)				
LICENSEE CONTACT FOR THIS LER (12)										
NAME Ramon S. Johnson/Engineering Assistant						TELEPHONE NUMBER AREA CODE: 6 0 1 4 3 7 - 2 3 7 5				
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFAC. TOLER.	REPORTABLE TO NRC?	CAUSE	SYSTEM	COMPONENT	MANUFAC. TOLER.	REPORTABLE TO NRC?	
SUPPLEMENTAL REPORT EXPECTED (14)						EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)						<input checked="" type="checkbox"/> NO				
ABSTRACT (Limit to 1400 spaces. * approximately 17000 single space typewritten lines) (16) <p>On May 19, 1992 during performance of a containment isolation logic surveillance, several containment isolation valves actuated upon deenergization of two containment monitoring system relays. The valves were part of the containment and reactor vessel isolation control system, a GGNS engineered safety feature system. An isolation circuitry fuse blew while the I&C technician was performing a surveillance. An electrical arc occurred when completing a test connection to a relay base.</p> <p>A previously established program installed permanent test jacks to frequently used relays to preclude this type occurrence. They were not installed on this particular relay due to its infrequent use. Station personnel are currently identifying additional relays for test jack installation. All I&C personnel were made aware of the incident to prompt them to exercise greater caution when performing similar tasks and working in congested areas.</p>										

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		0 0 8	0 0	0 0	0 2	OF	0 3

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

A. Reportable Occurrence

On May 19, 1992, several containment isolation valves [NH] closed when power was lost to system relays due to a blown fuse. This deenergized actuator solenoids for containment isolation valves and caused the valves to close. This occurrence is classified as an engineered safety feature (ESF) actuation and is being reported pursuant to 10CFR50.73(a)(2)(iv).

B. Initial Conditions

The plant was in Mode 5, Refueling and reactor water temperature was 82 degrees Fahrenheit at the time of occurrence. The reactor head was removed with the reactor vessel flooded.

C. Description of Occurrence

On May 19, 1992 at approximately 1027 hours during performance of a containment isolation logic surveillance, an instrument and control (I&C) technician proceeded to connect an instrumentation lead to containment monitoring system [JM] relay M71-R56 test terminal as instructed by procedure. While completing the connection, the technician accidentally drew an arc with an adjacent relay terminal. Containment monitoring system relays M71-R57 and M71-R68 then deenergized which caused several containment isolation valves to isolate. Investigation revealed a blown fuse in the containment monitoring circuit caused the isolations. The valves closed to their failed position following loss of power to their respective solenoids. The fuse was replaced and containment isolation valves were repositioned at approximately 1110 hours.

D. Apparent Cause

The causal factor of the incident was primarily the design of the associated panel and relay base. The congested panel increases the probability of incidental contact with other components during surveillance or maintenance activities.

A program was previously established which installed test jacks on relay terminals frequently used for surveillances to improve accessibility and provide a more secure instrument lead-to-terminal connection. Test jacks were not installed on this particular relay due to its infrequent use.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		9 2	0 0 8	0 0	0 3	OF 0 3

TEXT (If more space is required, use additional NRC Form 386A's) (17)

E. Corrective Actions

All I&C personnel were made aware of the incident to prompt them to exercise greater caution when performing similar tasks and working in congested areas.

F. Supplemental Corrective Actions

As an ongoing process, plant staff is presently identifying and evaluating additional relays which require installation of permanent test jacks. Permanent test jacks will be installed on the M71-R56 relay and other identified relays as plant conditions permit. Different test connector designs which include outer edge insulation are also being investigated.

G. Safety Assessment

This event occurred during refueling and did not result in any adverse safety consequences. The reactor vessel was flooded and all rods were fully inserted. The valves performed as designed upon deenergization of their respective solenoids. Consequently, this event did not cause degradation of any system required for safety. The health and safety of the public were not compromised at any time during this event.

H. Additional Information

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