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Grand Gulf Nuclear Station

August 28, 1995

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
Reactor Scram Due to Turbine/Generator Trip
LER 95-010-00

GNRO-95/00102

Gentlemen:

Attached is Licensee Event Report (LER) 95-010 which is a final report.

Yours truly,

CRH/CDH
attachment

cc: Mr. J. E. Tedrow (w/a)
Mr. H. W. Keiser (w/a)
Mr. R. B. McGehee (w/a)
Mr. N. S. Reynolds (w/a)

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NRC FORM 366 (5-92)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95						
LICENSEE EVENT REPORT (LER)					ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), 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) Grand Gulf Nuclear Station, Unit 1					DOCKET NUMBER (2) 05000-416		PAGE (3) 1 of 3				
TITLE (4) Reactor Scram Due to Turbine/Generator Trip											
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	
07	30	95	95	010	00	08	28	95	N/A	05000	
									FACILITY NAME	DOCKET NUMBER	
									N/A	05000	
OPERATING MODE (9)		1		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more (11))							
POWER LEVEL (10)		100		20.402(b)		20.405(c)		X		50.73(a)(2)(iv)	73.71(b)
				20.405(a)(1)(i)		50.36(c)(1)				50.73(a)(2)(v)	73.71(c)
				20.405(a)(1)(ii)		50.36(c)(2)				50.73(a)(2)(vii)	OTHER
				20.405(a)(1)(iii)		50.73(a)(2)(i)				50.73(a)(2)(viii)(A)	(Specify in abstract below and in text, NRC Form 366A)
				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)	
LICENSEE CONTACT FOR THIS LER (12)											
NAME Charles Holifield / Licensing Engineer						TELEPHONE NUMBER (include Area Code) (601)437-6439					
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	
SUPPLEMENTAL REPORT EXPECTED (14)						EXPECTED		MONTH	DAY	YEAR	
YES (If yes, complete EXPECTED SUBMISSION DATE)		X		NO		SUBMISSION DATE (15)					
ABSTRACT (Limit to 1400 spaces, i. e., approximately 15 single-spaced typewritten lines) (16)											
<p>At 1148 on July 30, 1995, a reactor scram occurred due to a Main Turbine/Generator trip. The Main Turbine/Generator trip resulted in a turbine control valve fast closure and turbine stop valve closure actuation immediately followed by a full Reactor Protection System (RPS) actuation.</p> <p>Operators determined that the generator tripped on Generator Current Differential. The root cause of the scram was the failure of a current transformer on the 'A' phase for one of the generator output breakers. The current transformer failure generated an 'A' phase Unit Differential Protective Relay trip.</p> <p>Corrective actions include an inspection/test of all equipment monitored by the unit differential relay scheme, replacement in kind of the failed current transformer and a failure analysis of the current transformer to be performed by the transformer vendor to determine the failure mode.</p> <p>The RPS actuation is reportable pursuant to 10CFR50.73(a)(2)(iv). Emergency Core Cooling Systems did not inject and safety relief valves did not actuate during the plant transient. The health and safety of the general public were not compromised as a result of this event.</p>											

NRC FORM 366A (5-92)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95		
<p align="center">LICENSEE EVENT REPORT (LER) TEXT CONTINUATION</p>		<p>ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), 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.</p>		
		FACILITY NAME (1) Grand Gulf Nuclear Station, Unit 1	DOCKET NUMBER (2) 05000-416	LER NUMBER (8) 95-010-00

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

A. Reportable Occurrence

A reactor scram occurred on July 30, 1995, due to the automatic actuation of the Reactor Protection System (RPS) [JC]. The RPS actuation is reportable pursuant to 10CFR50.73(a)(2)(iv).

B. Initial Conditions

At the time of the event, the reactor was in OPERATIONAL CONDITION 1 with reactor power at 100 percent. Reactor temperature, reactor pressure vessel (RPV) pressure and RPV water level were at approximately 532 degrees F, 1025 psig and 36 inches, respectively.

C. Description of Occurrence

At 1148 on July 30, 1995, a reactor scram occurred due to a Main Turbine/Generator trip. The Main Turbine/Generator trip resulted in a turbine control valve (TCV) fast closure and turbine stop valve (TSV) closure actuation immediately followed by a full RPS actuation.

Additionally, because of the fast closure of the TCVs and TSVs, the reactor high pressure scram setpoint of 1064.7 psig was reached. Bypass valves opened to control pressure. RPV level shrink resulted in a low level scram signal at 11.4 inches but was quickly restored using feedwater. Reactor pressure remained stable on the bypass valves.

Operators determined that the generator tripped on Generator Current Differential as indicated by a flag on the 'A' phase unit differential relay.

D. Apparent Cause

The root cause of the scram was the failure of a current transformer (CT) on the 'A' phase for one of the generator output breakers. The CT failure generated an 'A' phase Unit Differential Protective Relay trip.

NRC FORM 366A (5-82)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95	
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		FACILITY NAME (1) Grand Gulf Nuclear Station, Unit 1	DOCKET NUMBER (2) 05000-416

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

E. Corrective Actions

- All equipment monitored by the unit differential relay scheme was inspected and/or tested but revealed no abnormalities.
- The failed CT was replaced in kind and returned to service.
- To determine the failure mode, the CT was sent to the vendor for a failure analysis.

F. Safety Assessment

This event did not impair the ability of any system to perform its intended safety function. Although the Emergency Core Cooling System (ECCS) was available to perform its safety function, ECCS did not inject during the event. Additionally, the safety relief valves did not actuate during the plant transient. The health and safety of the general public were not compromised as a result of this event.

G. Additional Information

The CT was installed during refueling outage seven (RFO7) in conjunction with a breaker replacement and was in service for about two and a half months prior to failure. Saturation tests were successfully performed on the CT immediately following the RFO7 installation.

As a result of this scram, Incident Report 95-07-08, Material Nonconformance Report 0239-95 and Root Cause Analysis Report RCDL#95-22 were generated.

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