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February 28, 1995

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Grand Gulf Nuclear Station

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  
1994 Annual Operating Report

GNRO-95/00025

Gentlemen:

Entergy Operations, Inc. is transmitting the Grand Gulf Nuclear Station (GGNS) Unit 1 Annual Operating Report for 1994. This report is in accordance with the reporting program described in Regulatory Guide 1.16, Revision 4, Part C.1.b as modified by the NRC letter to GGNS dated May 25, 1987 (MAEC-87/0131).

Provided as attachments are:

1. A narrative summary of operating experience during the year 1994,
2. Main Steam Line Safety Relief Valve challenges,
3. A tabulated annual report of personnel exposure greater than 100 mrem/yr, and
4. A summary of failed fuel indications/inspections.

Yours truly,

CRH/TMC  
attachments  
cc: (See Next Page)

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### SUMMARY OF OPERATING EXPERIENCE 1994

The following is a summary of Grand Gulf Nuclear Station (GGNS) Unit 1 operating experience for the 1994 calendar year. During 1994, the reactor was critical for 8,464.5 hours with the generator on line for 8,286.5 hours.

On 3/27/94, the reactor was shutdown due to maintenance on slow control rod (ROD) times. [LER-94-004] Solenoid pilot valve head assemblies were cleaned and new top head assemblies using Teflon tape as a thread sealant were installed. Duration hours - 192

On 5/28/94, Power was reduced to approximately 80% for performing control rod sequence exchange. It remained at low power for performing control rod scram time testing. Duration of low power was 162.5 hours.

On 7/16/94, power was reduced to approximately 70% for control rod sequence exchange. Control rod scram time testing was performed during the low power operation. Duration time for low power was 138 hours.

On 8/24/94, the reactor was manually shut down for high vibration of main generator bearing #11 caused by cooling water leaking into rotor cavity through cracked welding. The reactor remained shut down for work on main generator cooling water pipes to obtain generator balance. Duration hours - 220.3

On 9/11/94, reactor power was reduced to approximately 10% to take main generator off line for repairing ground-fault detection wiring damaged by fallen lighting fixture.

A reactor scram occurred on 11/1/94. The scram was caused by ground of backup scram valve C11F110A which energized during Division I surveillance (JC) [94-011]. Duration hours - 45.7

### **MAIN STEAM SAFETY RELIEF VALVE CHALLENGES 1994**

There were no main steam line safety relief valve challenges occurring in 1994.

## **GGNS UNIT 1 ANNUAL REPORT**

### **MAN-REM EXPOSURE - 1994**

This section contains a tabulation of the number of station, utility and other personnel receiving exposures greater than 100 mrem/year and their associated man-rem exposure according to work and job function. Also included is a tabulation of the number of personnel by exposure range.

Grand Gulf Nuclear Station  
P.O. Box 756  
Port Gibson, MS 39150

LICENSE: NPF-2

Regulatory Guide 1.16 Information  
End of Year Report 1994

Work and Job Function	Number of Personnel > 100 mrem			Total man-rem *		
	Station	Utility	Contractor	Station	Utility	Contractor
ROUTINE OPERATIONS AND SURVEILLANCE						
MAINTENANCE AND CONSTRUCTION	46	0	6	10.212	0.000	1.875
OPERATIONS	44	0	3	11.085	0.008	1.778
HEALTH PHYSICS	21	0	2	6.978	0.002	0.543
SUPERVISORY	1	0	0	0.526	0.003	0.198
ENGINEERING	2	0	0	1.317	0.000	0.075
ROUTINE PLANT MAINTENANCE						
MAINTENANCE AND CONSTRUCTION	58	0	16	14.248	0.000	8.022
OPERATIONS	2	0	1	0.648	0.000	1.402
HEALTH PHYSICS	9	0	1	2.565	0.000	0.536
SUPERVISORY	0	0	0	0.280	0.001	0.018
ENGINEERING	1	0	4	0.346	0.000	0.818
INSERVICE INSPECTION						
MAINTENANCE AND CONSTRUCTION	0	0	0	0.000	0.000	0.000
OPERATIONS	0	0	0	0.000	0.000	0.000
HEALTH PHYSICS	0	0	0	0.000	0.000	0.000
SUPERVISORY	0	0	0	0.000	0.000	0.000
ENGINEERING	0	0	0	0.000	0.000	0.000
SPECIAL PLANT MAINTENANCE						
MAINTENANCE AND CONSTRUCTION	0	0	0	0.000	0.000	0.000
OPERATIONS	0	0	0	0.000	0.000	0.000
HEALTH PHYSICS	0	0	0	0.000	0.000	0.000
SUPERVISORY	0	0	0	0.000	0.000	0.000
ENGINEERING	0	0	0	0.000	0.000	0.000



Regulatory Guide 1.16 Information  
End of Year Report 1994

Work and Job Function	Number of Personnel > 100 mrem			Total man-rem *		
	Station	Utility	Contractor	Station	Utility	Contractor
WASTE PROCESSING						
MAINTENANCE AND CONSTRUCTION	0	0	0	0.000	0.000	0.000
OPERATIONS	0	0	0	0.000	0.000	0.000
HEALTH PHYSICS	0	0	0	0.000	0.000	0.000
SUPERVISORY	0	0	0	0.000	0.000	0.000
ENGINEERING	0	0	0	0.000	0.000	0.000
REFUELING						
MAINTENANCE AND CONSTRUCTION	0	0	0	0.000	0.000	0.000
OPERATIONS	0	0	0	0.000	0.000	0.000
HEALTH PHYSICS	0	0	0	0.000	0.000	0.000
SUPERVISORY	0	0	0	0.000	0.000	0.000
ENGINEERING	0	0	0	0.000	0.000	0.000
Totals						
MAINTENANCE AND CONSTRUCTION	104	0	22	24.460	0.000	9.897
OPERATIONS	46	0	4	11.733	0.008	3.180
HEALTH PHYSICS	30	0	3	9.543	0.002	1.079
SUPERVISORY	1	0	0	0.806	0.004	0.216
ENGINEERING	3	0	4	1.663	0.000	0.893
Grand Totals	184	0	33	48.205	0.014	15.265

\* The total radiation exposure of the above personnel constitutes 100% of the site's exposure for the year.

### **SPECIAL MAINTENANCE ACTIVITIES**

There were no special maintenance activities in 1994 that resulted in exposure greater than 100 mrem.



### **FAILED FUEL INDICATIONS/INSPECTIONS - 1994**

Failed fuel assessments performed during Cycle 7 indicate there are no fuel failures presently in the Grand Gulf core.

During September, five spent bundles were examined for performance data gathering. In addition, bundles AND-043 and XNC-703 were inspected for a failure. The inspection revealed a small hole (0.04") in a fuel pin of bundle AND-043.

The examination revealed the failure resulted from debris fretting. The debris was trapped at 140.5 inches above the lower end cap in the seventh spacer grid. Flow induced mechanical vibration of the trapped debris caused the primary breach of the cladding. The hole in the cladding does not correspond to the spacer spring or dimple contact areas. Examination of the spacer grid showed no debris present.

Reference -- Siemens Power Corporation Report. Inspection of SPC 8x8 and 9x9 Fuel Assemblies at Grand Gulf, September 1994, EMF-94-195(P).