



**Entergy Operations, Inc.**  
Waterloo Road  
P.O. Box 756  
Port Gibson, MS 39150  
Tel 601 437 6299

**Charles A. Bottemiller**  
Manager  
Plant Licensing

March 20, 2003

U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Document Control Desk

Subject: 2002 Annual Operating Report  
Grand Gulf Nuclear Station  
Unit 1  
Docket No. 50-416  
License No. NPF-29

GNRO-2003/00009

Ladies and Gentlemen:

Entergy Operations, Inc. is transmitting the Grand Gulf Nuclear Station (GGNS) Unit 1 Annual Operating Report for 2002. 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 2002,
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.

This letter does not contain any commitments.

March 20, 2003  
GNRO-2003/00009  
Page 2 of 2

If you have any questions, please contact Charles A. Bottemiller at (601) 437-6299 or Ann M. Townsend at (601) 437-6486.

Yours truly,



CAB/AMT:amt  
attachments:

1. Summary Of Operating Experience - 2002
2. Main Steam Safety Relief Valve Challenges - 2002
3. Person-rem Exposure - 2002
4. Failed Fuel Indications/Inspections - 2002

cc:

Hoeg	T. L.	(GGNS Senior Resident)	(w/a)
Levanway	D. E.	(Wise Carter)	(w/a)
Reynolds	N. S.		(w/a)
Smith	L. J.	(Wise Carter)	(w/a)
Thomas	H. L.		(w/o)

U.S. Nuclear Regulatory Commission  
ATTN: Mr. E. W. Merschoff (w/2)  
Regional Administrator, Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-4005

U.S. Nuclear Regulatory Commission  
ATTN: Mr. David H. Jaffe NRR/DLPM (w/2)  
**ATTN: FOR ADDRESSEE ONLY**  
ATTN: U.S. Postal Delivery Address Only  
Mail Stop OWFN/7D-1  
Washington, D.C. 20555-0001

## 2002 SUMMARY OF OPERATING EXPERIENCE

The following is a summary of Grand Gulf Nuclear Station (GGNS) Unit 1 operating experience for the 2002 calendar year. During 2002, the reactor was critical for 8,197.4 hours with the generator on line for 8,140.1 hours.

Date	Cause & Corrective Action	Duration Time
06/22/02	Automatic reactor scram after a partial loss of offsite power when a raccoon caused a ground fault in Service Transformer 21 resulting in a Turbine Trip.	73.8 hours
09/13/02	Manually scrammed reactor at reduced power @ 2001 hour for Refueling #12.	412.0 hours
09/13/02	Refueling #12 continued until 1408 hour on 10/6/02 when synchronized to grid.	134.1 hours
11/15/02	Core thermal power was reduced when Circulating Water Pump "B" tripped following failure of load center trip device.	0 hour

## **2002 MAIN STEAM SAFETY RELIEF VALVE CHALLENGES**

This section contains a summary of Main Steam Safety Relief Valve Challenges which occurred during 2002.

DOCKET NO.	<u>50-416</u>
DATE	<u>3/18/03</u>
COMPLETED BY	<u>A. M. Townsend</u>
TELEPHONE	<u>437-6486</u>

## MAIN STEAM SAFETY RELIEF VALVE CHALLENGES

Date of Occurrence: June 22, 2002

Plant Operating Condition:

Rx Thermal Power: 100%

Rx Power (MWE): 1157

Rx Pressure (psig): 1025

Rx Temperatures: 549° F

Rx MODE: 1

Number of main steam line SRVs: 20

Number of SRVs affected by event: 11

Narrative:

On June 22, 2002, GGNS experienced and opening of eleven Main Steam Safety Relief/Valves (SRV). The reactor automatic scrammed after a partial loss of offsite power when a raccoon caused a ground fault in Service Transformer 21 resulting in a Turbine Trip. The following SRVs actuated:

B21F051A	B21F047A	B21F047L
B21F051B	B21F047C	
B21F051D	B21F047D	
B21F051F	B21F047G	
B21F051K	B21F047H	

## **GGNS UNIT 1 ANNUAL REPORT**

### **MAN-REM EXPOSURE – 2002**

**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.**

The following is a break down of dose received due to Special Plant Maintenance.

	Person-rem
RHR A recovery & repair	11.011
B33F067 B repair	3.098
E12 piping replacement	1.498
E51F066 mod	1.472
RHR B recovery & repair	1.166
Furmanite Repair various components	1.020
Forced outage	0.933
N64F020a flange repair	0.583
G33F267 reliev valve	0.529
U/V sump pump repair	0.466
B33F028C solenoid repair	0.290
Minor Mods	0.376
Platform mod	0.220
Diving HFTS repair	0.206
Jet pump repair	0.146
He leak check of cond	0.155
Tip C replacement	0.110
<b>TOTAL</b>	<b>23.279</b>

Entergy Operations, Inc.  
 Grand Gulf Nuclear Station  
 P.O. Box 756  
 Port Gibson, MS.  
 39150  
 LICENSE: NPF-29

Regulatory Guide 1.16 Information  
 End of Year Report 2002

Work and Job Function	Number of Personnel > 100 mrem			Total man-rem *		
	Station	Utility	Contractor	Station	Utility	Contractor
<b>ROUTINE OPERATIONS AND SURVEILLANCE</b>						
MAINTENANCE AND CONSTRUCTION	0	0	0	0.121	0.001	0.051
OPERATIONS	32	0	0	8.573	0.153	0.161
HEALTH PHYSICS	12	3	7	3.308	1.154	2.605
SUPERVISORY	1	0	1	0.753	0.037	0.460
ENGINEERING	0	0	0	0.398	0.025	0.000
<b>ROUTINE PLANT MAINTENANCE</b>						
MAINTENANCE AND CONSTRUCTION	72	20	173	22.141	6.119	74.452
OPERATIONS	7	1	0	3.241	0.275	0.036
HEALTH PHYSICS	18	4	9	5.490	1.929	2.851
SUPERVISORY	5	5	16	2.265	1.306	5.738
ENGINEERING	0	0	5	1.114	0.018	5.019
<b>INSERVICE INSPECTION</b>						
MAINTENANCE AND CONSTRUCTION	0	0	0	0.002	0.000	0.797
OPERATIONS	0	0	0	0.000	0.000	0.000
HEALTH PHYSICS	0	0	0	0.004	0.000	0.008
SUPERVISORY	0	0	0	0.098	0.146	0.302
ENGINEERING	0	0	0	0.000	0.000	0.000
<b>SPECIAL PLANT MAINTENANCE</b>						
MAINTENANCE AND CONSTRUCTION	20	0	35	4.828	0.886	14.042
OPERATIONS	0	0	0	0.315	0.034	0.032
HEALTH PHYSICS	1	0	2	0.626	0.076	0.699
SUPERVISORY	0	1	0	0.173	0.524	0.717
ENGINEERING	0	0	0	0.300	0.022	0.005
<b>WASTE PROCESSING</b>						
MAINTENANCE AND CONSTRUCTION	1	0	1	0.452	0.004	0.321
OPERATIONS	0	0	1	0.010	0.000	0.294
HEALTH PHYSICS	1	0	0	0.435	0.037	0.016
SUPERVISORY	0	0	0	0.076	0.000	0.000
ENGINEERING	0	0	0	0.000	0.000	0.000
<b>REFUELING</b>						
MAINTENANCE AND CONSTRUCTION	4	0	39	1.442	0.371	11.735
OPERATIONS	2	0	0	1.005	0.000	0.046
HEALTH PHYSICS	4	0	2	1.128	0.339	1.734
SUPERVISORY	1	0	0	0.461	0.094	0.043
ENGINEERING	0	0	0	0.152	0.000	0.000
<b>Totals</b>						
MAINTENANCE AND CONSTRUCTION	97	20	248	28.986	7.381	101.398
OPERATIONS	41	1	1	13.144	0.462	0.569
HEALTH PHYSICS	36	7	20	10.991	3.535	7.913
SUPERVISORY	7	6	17	3.826	2.107	7.260
ENGINEERING	0	0	5	1.964	0.065	5.024
<b>Grand Totals</b>	<b>181</b>	<b>34</b>	<b>291</b>	<b>58.911</b>	<b>13.550</b>	<b>122.164</b>

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



## FAILED FUEL INDICATIONS/INSPECTIONS – 2002

Failed fuel assessments performed during the current cycle (Cycle 13) indicate a single, large-sized fuel failure exists in the Grand Gulf core.

The failure occurred on 11/21/2002. Fuel Reliability Index peaked at 9015  $\mu\text{Ci}/\text{sec}$  and after failure suppression, leveled out at about 400  $\mu\text{Ci}/\text{sec}$ . Power Suppression Testing was conducted to determine the location of the failure. Two rods were inserted (in cells 36-45 and 40-45) for suppression of the failure. Power suppression test data indicates that the failure is located in cell 40-45.

Using cesium data collected during the down power for the suppression testing, it was determined that the failure is most likely located in a fresh Atrium-10 bundle. Cell 40-45 contains two fresh bundles. If warranted, a mid-cycle outage will be performed to remove the fuel failure from the core. Either during this mid-cycle outage or during RF13, fuel sipping will be performed to determine where the failure is located. Subsequent inspections will be conducted on this bundle or bundles if it is determined from sipping results that there is more than 1 failure. No known bundles where failures are located will be reinserted, unless the fuel rod containing the failure is removed and replaced via reconstitution.