



ENTERGY

Entergy Operations, Inc.
P.O. Box 756
Port Clinton, MS 39150
Tel 601 437 6403

February 17, 1993

W. T. Cottle
Vice President
Operations
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
1992 Annual Operating Report

GNRO-93/00013

Gentlemen:

Entergy Operations, Inc. is transmitting the Grand Gulf Nuclear Station (GGNS) Unit 1 Annual Operating Report for 1992. 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 1992,
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,

W. T. Cottle

WTC/TMC/cg
attachments
cc: (See Next Page)

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February 17, 1993

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cc: Mr. R. H. Bernhard (w/a)
Mr. D. C. Hintz (w/a)
Mr. R. B. McGehee (w/a)
Mr. N. S. Reynolds (w/a)
Mr. H. L. Thomas (w/o)

Mr. Stewart D. Ebner (w/a)
Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
101 Marietta St., N.W., Suite 2900
Atlanta, Georgia 30323

Mr. P. W. O'Connor, Project Manager
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Mail Stop 13H3
Washington, D.C. 20555

SUMMARY OF OPERATING EXPERIENCE 1992

The following is a summary of Grand Gulf Nuclear Station (GGNS) Unit 1 operating experience for the 1992 calendar year. During 1992, the reactor was critical for 7,349.0 hours with the generator on line for 7,163.3 hours.

On December 29, 1991, a forced shutdown occurred for Recirc Pump 'B' shaft replacement. The plant returned to power on January 10, 1992. Total duration for this outage was 274 hours.

Grand Gulf's fifth refueling outage (RFO5) began on April 18, 1992 when the 500kv BKR J5232 was opened. The original goal of 46 days was not obtained. RFO5 ended on June 9, 1992, lasting 52 days, 15 hours and 31 minutes.

On June 18, 1992, a reactor scram occurred due to loss of Electro-hydraulic Control (EHC) fluid pressure during maintenance on EHC fluid filter. Corrective actions included: Vent plugs removed from filters and vent valves installed. Mechanics involved were counseled (written reprimand) for their failure to adhere to the procedural requirements. Plant management now requires direct supervisory attention to work being performed on trip critical systems. A preventative maintenance program will be established for three-way valves and their actuators. Duration hours were 68.2. (LER-92-013)

A reactor scram occurred August 4, 1992. This scram was due to a spurious low primary cooling water tank level signal when performing a grounding test with the test system malfunctioning. The root cause evaluation and corrective actions taken will be submitted in an updated report. This report is scheduled to be completed by March 31, 1993. Duration time was 65.0 hours. (LER-92-017)

On August 26, 1992, the system dispatcher requested power reduction for grid stability during Hurricane Andrew. Duration time 39.6 hours.

MAIN STEAM SAFETY RELIEF VALVE CHALLENGES 1992

This section contains a summary of main steam line safety relief valve challenges which occurred during 1992 as reported in the GGNS Monthly Operating Reports for that period.

The summaries were originally included in the following reports:

<u>June</u> 1992 Report	-	GNRO-92/00090	-	dated:	<u>July 15, 1992</u>
<u>Aug.</u> 1992 Report	-	GNRO-92/00115	-	dated:	<u>Sept. 14, 1992</u>

MAIN STEAM SAFETY RELIEF VALVE CHALLENGES

DOCKET NO. 50-416
UNIT 1
COMPLETED BY T. M. Carter
TELEPHONE (601) 437-2401

Date of Occurrence: June 18, 1992

Plant Operating Condition:

Rx Thermal Power 100% Rx Pressure (psia) 1044.7 Rx Mode 1

Rx Power (MWE) 1226 Fx Temperatures 523°F

Number of main steam line SRVs: 20

Number of SRVs affected by event 11

Narrative:

On June 18, 1992, a reactor scram occurred due to loss of EHC fluid pressure during maintenance on EHC fluid filter.

The following SRV's actuated automatically once:

B21-F047D, B21-F047A, B21-F051B, B21-F051A, B21-F051K, B21-F047L, B21-F051D, B21-F047H, B21-F051F, B21-F047C, and B21-F047G.

MAIN STEAM SAFETY RELIEF VALVE CHALLENGES

DOCKET NO. 50-416
UNIT 1
COMPLETED BY T. M. Carter
TELEPHONE (601) 437-2401

Date of Occurrence: August 04, 1992

Plant Operating Condition:

Rx Thermal Power 100% Rx Pressure (psia) 1047.9 Rx Mode 1

Rx Power (MWE) 1225.6 Rx Temperatures 545°F

Number of main steam line SRVs: 20

Number of SRVs affected by event 2

Narrative:

On August 4, 1992, a reactor scram occurred due to primary water low generator trip.

The following SRV's actuated automatically once:

B21-F051B
B21-F051D

GGNS UNIT 1 ANNUAL REPORT

MAN-REM EXPOSURE - 1992

This section contains a tabulation of the number of station, utility and other personnel receiving exposures greater than 100 mrem/yr 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.

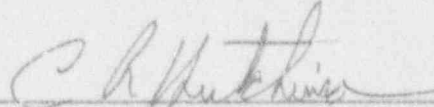
SUMMARY OF PERSONNEL MONITORING REPORT
FINAL END OF THE YEAR REPORT FOR 1992

Estimated whole body exposure range	Number of individuals in each range
No Measurable Exposure	1556
Less than 0.1	952
0.1 to 0.25	409
0.25 to 0.5	374
0.5 to 0.75	153
0.75 to 1.0	69
1.0 to 2.0	69
2.0 to 3.0	6
3.0 to 4.0	0
4.0 to 5.0	0
5.0 to 6.0	0
6.0 to 7.0	0
7.0 to 8.0	0
8.0 to 9.0	0
9.0 to 10.0	0
10.0 to 11.0	0
11.0 to 12.0	0
12.0 and over	0

Total number of personnel monitored	3588
(1) True Total Dose (REM)	454.537
(1) Average REM per person	0.421


Radiation Protection Manager

2/12/93
Date


General Manager GGNS

2/12/93
Date

(1) Excluding 2508 persons with less than 0.1 REM. The Total Dose on site for 1992 is 484,248 REM for all personnel monitored.

ENERGY OPERATIONS, INC.


PERSONNEL AND REM BY WORK AND DUTY FUNCTION FINAL END OF THE YEAR REPORT FOR 1992

	NUMBER OF PERSONNEL OVER 100 MREM			TOTAL REM		
	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS AND OTHERS	STATION EMPLOYEES	UTILITY EMPLOYEES	CONTRACT WORKERS AND OTHERS
REACTOR OPS/SURVEILLANCE						
MAINTENANCE	17	0	62	0.242	0.000	1.537
OPERATIONS	63	0	45	24.736	0.000	2.100
HEALTH PHYSICS	35	0	57	13.350	0.000	20.220
SUPERVISORY	13	0	44	0.321	0.000	0.624
ENGINEERING	21	0	14	1.782	0.000	0.254
ROUTINE MAINTENANCE						
MAINTENANCE	147	0	585	66.781	0.000	189.582
OPERATIONS	23	1	45	1.175	0.107	23.600
HEALTH PHYSICS	36	0	37	5.343	0.000	6.812
SUPERVISORY	12	0	41	2.715	0.000	2.453
ENGINEERING	21	2	46	2.499	0.244	9.091
IN-SERVICE INSPECTION						
MAINTENANCE	3	0	86	0.028	0.000	31.643
OPERATIONS	0	0	7	0.000	0.000	3.786
HEALTH PHYSICS	2	0	1	0.004	0.000	0.004
SUPERVISORY	9	0	55	0.789	0.000	21.239
ENGINEERING	2	0	12	0.436	0.000	0.261
SPECIAL MAINTENANCE						
MAINTENANCE	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
WASTE PROCESSING						
MAINTENANCE	74	0	48	1.937	0.000	1.841
OPERATIONS	1	0	1	0.069	0.000	1.579
HEALTH PHYSICS	8	0	6	2.772	0.000	0.318
SUPERVISORY	0	0	0	0.000	0.000	0.000
ENGINEERING	0	0	0	0.000	0.000	0.000
REFUELING						
MAINTENANCE	62	0	106	0.971	0.000	6.992
OPERATIONS	7	1	32	0.403	0.116	5.854
HEALTH PHYSICS	19	0	14	1.484	0.000	2.122
SUPERVISORY	2	0	6	0.191	0.000	0.418
ENGINEERING	5	0	5	0.395	0.000	1.037
TOTALS						
MAINTENANCE	303	0	890	69.559	0.000	231.595
OPERATIONS	94	2	130	26.323	0.223	36.919
HEALTH PHYSICS	100	0	115	22.953	0.000	29.476
SUPERVISORY	36	0	146	4.016	0.000	24.934
ENGINEERING	49	2	77	5.112	0.244	10.643
GRAND TOTAL	582	4	1358	127.963	0.467	333.567

Approved by


 Date 2/12/93
 Radiation Protection Manager

Approved by


 Date 2/12/93
 General Manager CGMS

SPECIAL MAINTENANCE ACTIVITIES

There were no special maintenance activities in 1992.

FAILED FUEL INDICATIONS/INSPECTIONS - 1992

Offgas and coolant activity analyses performed during Cycle 5 indicated a small number (1 to 3) of fuel rod failures. During RFO5 two 9x9 assemblies, AND-122 and AND-018, and one 8x8 assembly, XNC-827, were identified by sipping as containing failed fuel rods.

Siemens Power Corporation identified the failed rods in both 9x9 assemblies by both eddy current testing and visual examination. Rod A02 in assembly AND-018 and rod A05 in assembly AND-122 were identified failures. Both failed rods were replaced by natural uranium rods. The reconstituted bundles were returned to the reactor for subsequent use.

The 8x8 assembly was visually examined during RFO5 but the failed rod could not be examined due to difficulty removing the upper tie plate. The upper tie plate removal problem led to the additional examination of eleven 8x8 assemblies to support continued operation. Conclusions from the exam indicated that the unexpected differential growth observed would have no adverse impact on continued reactor operation. XNC-827 was placed in the spent fuel pool for storage until further examination could be performed.

Assemblies XNC-827 and XNC-582 (both 8x8) were further examined in October 1992 to complete the 8x8 differential rod growth exams. Fuel assembly and rod length measurements, eddy current testing, rod diameter, oxide thickness and visual exams were performed on selected rods of each assembly. Rod B05 from assembly XNC-827 was identified as failed by eddy current testing. The failed rod was returned to the assembly and will remain with the bundle in the spent fuel pool.

Root cause evaluation of the failed fuel rods has been indeterminate, whereas operational causes have been ruled out (i.e., PCI, debris, handling, chemistry, etc.). The 8x8 differential rod growth information has been previously reported under LER 92-009 and an information meeting held with the NRC staff on May 22, 1992.