



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
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January 23, 2001

William A. Eaton, Vice President  
Operations - Grand Gulf Nuclear Station  
Entergy Operations, Inc.  
P.O. Box 756  
Port Gibson, Mississippi 39150

SUBJECT: GRAND GULF NUCLEAR STATION - NRC INSPECTION REPORT NO.  
50-416/00-12

Dear Mr. Eaton:

On January 6, 2001, the NRC completed an inspection at your Grand Gulf Nuclear Station. The enclosed report documents the inspection findings which were discussed on December 8, 2000, and January 9, 2001, with Mr. Joe Venable and members of your staff.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your operating license. It also examined the implementation of the safety evaluation program required by 10 CFR 50.59. Within these areas, the inspection involved examination of selected procedures and representative records, observations of activities, and interviews with personnel.

No findings of significance were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

***Elmo E. Collins for***

Joseph I. Tapia, Chief  
Project Branch A  
Division of Reactor Projects

Docket No.: 50-416  
License No.: NPF-29

Entergy Operations, Inc.

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Enclosure:  
NRC Inspection Report No.  
50-416/00-12

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Only inspection reports to the following:

- Scott Morris (**SAM1**)
- NRR Event Tracking System (**IPAS**)
- GG Site Secretary (**MJS**)
- Dale Thatcher (**DFT**)

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**ENCLOSURE**

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Docket No.: 50-416  
License No.: NPF-29  
Report No.: 50-416/2000-12  
Licensee: Entergy Operations, Inc.  
Facility: Grand Gulf Nuclear Station  
Location: Waterloo Road  
Port Gibson, Mississippi 39150  
Dates: November 19, 2000, through January 6, 2001  
Inspectors: P. J. Alter, Senior Resident Inspector  
C. E. Johnson, Senior Reactor Inspector  
Approved By: J. I. Tapia, Chief, Project Branch A

**ATTACHMENTS:**

Attachment 1: Supplemental Information  
Attachment 2: NRC's Revised Reactor Oversight Process

## SUMMARY OF FINDINGS

Grand Gulf Nuclear Station  
NRC Inspection Report No. 50-416/00-12

IR 05000416-00-12, on 11/19/00-01/06/01, Entergy Operations, Inc., Grand Gulf Nuclear Station. Integrated resident and regional report; implementation of the safety evaluation program required by 10 CFR 50.59. No findings were identified.

The inspection was conducted by a resident inspector and a regional engineering and maintenance programs inspector.

## Report Details

Summary of Plant Status: During this inspection period, the plant operated at 100 percent power, with the exception of a downpower to 80 percent for on line repairs to two reactor water cleanup system containment isolation valves on December 9, 2000.

### **1. REACTOR SAFETY**

#### **Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity**

#### 1R01 Adverse Weather Protection (71111.01)

##### a. Inspection Scope

The inspectors performed an evaluation of the implementation of the licensee's cold weather preparation procedure and compensatory measures taken for cold weather October 5-8, 2000. The inspectors reviewed equipment performance Instruction 04-1-03-A30-1, "Cold Weather Protection," Revision 11, and routine maintenance Tasks 28269 and 28271.

##### b. Findings

No findings of significance were identified.

#### 1R02 Evaluation of Changes, Tests, or Experiments (71111.02)

##### a. Inspection Scope

The inspector reviewed a selected sample of safety evaluations to verify that the licensee had appropriately considered the conditions under which the licensee may make changes to the facility, procedures, conduct tests, or experiments without prior NRC approval.

The inspector reviewed a selected sample of safety evaluation screenings in which the licensee determined that safety evaluations were not required to ensure that the licensee's exclusion of a full evaluation was consistent with the requirements of 10 CFR 50.59.

The inspector reviewed condition reports initiated by the licensee that addressed problems or deficiencies associated with 10 CFR 50.59 to ensure that appropriate corrective actions were being taken.

##### b. Findings

No findings of significance were identified.

#### 1R04 Equipment Alignment (71111.04)

##### a. Inspection Scope

The inspectors performed a partial walkdown inspection of control room standby fresh

air Unit A to verify the operability of the system while control room standby fresh air Unit B was out of service for planned maintenance. The inspectors reviewed piping and instrumentation Drawings M-0049, "Control Room HVAC System," Revision 34, and M-1108A, "Safeguard Switchgear and Battery Rooms Ventilation System," Revision 10, and system operating Instruction 04-S-01-Z51-1, "Control Room HVAC System," Revision 36.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors performed walkdowns to assess the material condition and operational status of fire detection and suppression systems and equipment, the material condition of fire barriers, and control of transient combustibles. Specific risk-significant areas covered were the Division I and II engineered safety features 4160 VAC switchgear rooms. The inspectors reviewed Fire Preplans C-03, Revision 2, C-07-1, Revision 2, and C-07-2, Revision 1.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report Section 3.4.1, "Flood Protection," to identify those areas of the plant that can be affected by internal flooding. The inspectors inspected the emergency core cooling system equipment areas of the auxiliary building which are below the internal flood levels and otherwise susceptible to flooding. The inspectors also reviewed Preventative Maintenance Instruction 07-1-24-T10-1, "Periodic Leak Check of Airtight Door Sealing Surfaces," Revision 4, Procedure 05-1-02-VI-1, "Flooding," Revision 101, and Emergency Procedure 05-S-01-EP-4, "Auxiliary Building Control," Revision 25.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors reviewed three failures that were evaluated under the maintenance rule



to assess the effectiveness of the implementation of the maintenance rule. Specifically, the inspectors evaluated:

- Failure of diesel driven fire water Pump A cooling water valve
- Failure of diesel driven fire water Pump A automatic start circuit
- Failure of the standby liquid control pump suction piping heat tracing

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Evaluation (71111.13)

a. Inspection Scope

Throughout the inspection period, the inspectors reviewed daily and weekly work schedules to determine when risk-significant activities were scheduled. The inspectors discussed selected activities with operations and work control personnel regarding risk evaluations and overall plant configuration control. The inspectors discussed emergent work issues with work control center personnel and reviewed the prioritization of scheduled activities when scheduling conflicts occurred. Specific items reviewed during this period included:

- Postponement of replacement of reactor water cleanup system logic power supply.
- Reinjection of furmanite sealant into reactor water cleanup system primary containment isolation Valves 1G33F039 and 1G33F040.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

The inspectors reviewed the licensee's list of operator workarounds to determine whether any mitigating system function was affected and if the operator's ability to implement off normal and emergency operating procedures was affected.

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing

a. Inspection Scope

The inspectors observed or evaluated the postmaintenance tests conducted on the following systems and components following maintenance to determine whether the tests confirmed equipment operability:

- Secondary containment isolation Valve 1P71F301 air operator
- Standby service water cooling tower Fan 1P41C003B gearbox
- Standby gas treatment system Train A logic

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed or reviewed the following surveillance tests:

- 06-IC-1B21-Q-1003, "Reactor Vessel Low/High Level (RPS) Functional Test Channel A," Revision 100, performed on November 30, 2000
- 06-CH-1000-V-0038, "Diesel Fuel Oil Receipt Analysis," Revision 102, performed on December 14 and 19, 2000

b. Findings

No findings of significance were identified.

1R23 Temporary Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed the licensee's list of temporary modifications and verified that there were no safety-related temporary modifications in place.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

Exit Meeting Summary

On December 8, 2000, and January 9, 2001, the resident and regional inspectors

conducted meetings with Joe Venable, General Manager, Plant Operations and other members of plant management, and presented the inspection results. The plant management acknowledged the findings presented. Plant management also informed the inspectors that no proprietary or safeguards material was examined during the inspection.

## ATTACHMENT 1

### PARTIAL LIST OF PERSONS CONTACTED

C. Bottemiller, Manager, Plant Licensing  
B. Eaton, Vice President, Operations  
B. Edwards, Manager, Maintenance  
C. Ellsaesser, Manager, Corrective Action and Assessment  
C. Lambert, Director, Engineering  
J. Roberts, Director, Nuclear Safety Assurance  
G. Sparks, Manager, Operations  
J. Venable, General Manager, Plant Operations  
R. Wilson, Superintendent, Radiological Protection

### LIST OF DOCUMENTS REVIEWED

#### Procedures:

LI-101, "10 CFR 50.59 Review Program," Revision 0  
LI-102, "Corrective Action Process," Revision 0  
01-S-06-24, "Safety And Environmental Evaluations," Revision 103  
01-S-06-3, "Control Of Temporary Alterations," Revision 29  
06-OP-1P41-M-0004, "SSW Loop A Operability Check," Revision 106  
06-OP-1T48-M-0001, "Standby Gas Treatment System A Operability," Revision 103  
06-EL-1T48-R-0001, "Standby Gas Treatment Heater Test," Revision 101

#### Maintenance Action Items:

MAI # 277693  
MAI # 283024  
MAI # 290653

#### Condition Reports:

CR-GGN-1998-1463	CR-GGN-2000-1831
CR-GGN-1999-1725	CR-GGN-2000-1841
CR-GGN-1999-1869	CR-GGN-2000-1845
CR-GGN-2000-1731	CR-GGN-2001-0039
CR-GGN-2000-1761	

#### Drawings:

M-1061B	Revision 43	M-1110A	Revision 18
M-1061D	Revision 35	E-KD1063-001	Revision A
M-1091	Revision 30	E-KD1065-001	Revision A

#### Safety Evaluations:

98-0037-R00            Revised Commitment to Perform Valve Line-Up

98-0052-R00 Accept As Is Unapproved Fire Seal Material  
99-0002-R00 Accept As Is Unapproved Fire Seal Material  
99-0017-R00 Revise Offsite Dose Calculation And Management (ODCM) Software  
99-0020-R00 Repair, Abandon In Place Existing Piping  
99-0025-R00 Revised CRD Hydraulic System SOI With Flow Requirements of  
NUREG-0619  
99-0039-R00 Use of Alternate Battery For the Diesel Driven Fire Pumps  
00-0003-R00 UFSAR Correction of Day Tank Elevations With Respect to the Fuel Oil  
Pump Elevations  
00-0031-R00 Providing A Leak Repair For The Reactor Water Clean Up System  
Outboard Isolation Valve  
00-0047-R00 Removal of Makeup Water Treatment Equipment  
00-0006-R00 Revised Nominal Trip Set Points in TRM for the Division I and II Loss of  
Bus Voltage  
00-0052-R01 Repair Instructions for On Line Leak Repair

Miscellaneous:

ER 98-0013-R00  
ER 98-0037-R00  
ER 98-0067-R00  
ER 99-0024-R00  
ER 99-0058-R00  
ER 99-0285-01-00  
ER 00-0026-00-00  
ER 00-0106-00-00  
ER 00-0063-02  
Temporary Alteration No. 99-016  
Temporary Alteration No. 99-025  
Temporary Alteration No. 99-033  
Standard Specification Change Notice No. 99-0001  
10 CFR 50.59, Review Program Guidelines, Revision 1  
Root Cause Analysis Report, Failure of P41F169 A&B Check Valves to Close Properly, 1/23/00

## ATTACHMENT 2

### NRC REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

<b>Reactor Safety</b>	<b>Radiation Safety</b>	<b>Safeguards</b>
<ul style="list-style-type: none"><li>•Initiating Events</li><li>•Mitigating Systems</li><li>•Barrier Integrity</li><li>•Emergency Preparedness</li></ul>	<ul style="list-style-type: none"><li>•Occupational</li><li>•Public</li></ul>	<ul style="list-style-type: none"><li>•Physical Protection</li></ul>

To monitor these seven cornerstones of safety, the NRC used two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, or RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.