



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005**

January 23, 2004

Mr. George Williams
Vice President, Nuclear Operations
Grand Gulf Nuclear Station
Entergy Operations, Inc.
P.O. Box 756
Port Gibson, Mississippi 39150

**SUBJECT: GRAND GULF NUCLEAR STATION - NRC INTEGRATED INSPECTION
REPORT 05000416/2003004**

Dear Mr. Williams:

On December 27, 2003, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Grand Gulf Nuclear Station. The enclosed integrated inspection report documents the inspection findings, which were discussed on January 6, 2004, with you and other members of your staff.

The inspection examined 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 license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection no findings of significance were identified. However, a licensee-identified violation which was determined to be of very low safety significance (Green) is listed in Section 4OA7 of this report. If you contest this noncited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator Region IV; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-001; and the NRC Resident Inspector at the Grand Gulf Nuclear Station.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be made 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/reading-rm/adams.html> (the Public Electronic Reading Room).

Entergy Operations, Inc.

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

Sincerely,

/RA/

William D. Johnson, Chief
Reactor Projects Branch A
Division of Reactor Projects

Docket Nos.: 50-416
License Nos.: NPF-29

Enclosure: Inspection Report 050000416/2003004
w/Attachment: Supplemental Information

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ADAMS: Yes No Initials: __WDJ__
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RIV:RI:DRP/A	SRI:DRP/A	C:DRP/A		
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 50-416

License No.: NPF-29

Report No.: 05000416/2003004

Licensee: Entergy Operations, Inc.

Facility: Grand Gulf Nuclear Station (GGNS)

Location: Waterloo Road
Port Gibson, Mississippi 39150

Dates: September 28, 2003 - December 27, 2003

Inspectors: T. L. Hoeg, Senior Resident Inspector
G. B. Miller, Resident Inspector

Approved By: W. D. Johnson, Chief
Reactor Projects Branch A
Division of Reactor Projects

Attachment: Supplemental Information

Enclosure

SUMMARY OF FINDINGS

IR 05000416/2003004; 9/28/03 - 12/27/03; Grand Gulf Nuclear Station; routine resident inspector report.

The report covered a 13-week period of inspection by resident inspectors. One licensee identified Green noncited violation is described in Section 4OA7 of this report. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609 "Significance Determination Process." Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

A violation of very low safety significance, which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into their corrective action program. This violation and its corrective action tracking number are listed in Section 4OA7 of this report.

Enclosure

REPORT DETAILS

Summary of Plant Status

Grand Gulf Nuclear Station (GGNS) began the period at full Rated Thermal Power (RTP) and operated at full power for the entire report period, except for planned short term power reductions for control rod pattern adjustments and control rod drive maintenance and testing.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

Prior to the onset of cold weather conditions, the inspectors reviewed GGNS readiness to operate under freezing conditions. Equipment Performance Instruction 04-1-03-A30-1, "Cold Weather Protection," Revision 15, was reviewed and site walkdowns were performed by the inspectors to verify the licensee had made the required preparations for cold weather. The inspection also included a detailed review of the standby service water system and the fire protection water system to ensure they were protected from freezing temperatures.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignments (71111.04)

a. Inspection Scope

Partial System Walkdowns. The inspectors performed three partial system walkdowns of systems important to reactor safety during this inspection period in order to verify the operability of the system trains. The inspectors reviewed system operating instructions, required system valve and breaker lineups, operator logs, control room indications, valve positions, breaker positions, and control circuit indications to verify these components were in their required configuration for operability. The following walkdown inspections were conducted:

- On October 20, 2003, an inspector walked down the Division II emergency diesel generator while the Division I emergency diesel generator was out of service for maintenance.
- On October 24, 2003, an inspector walked down the reactor core isolation cooling system while the high pressure core spray system was out of service for maintenance.

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- On December 19, 2003, an inspector walked down the low pressure core spray system while the high pressure core spray system was out of service for maintenance.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

Quarterly Tours. The inspectors reviewed area fire plans and performed walkdowns of six plant areas to assess the material condition and operational status of fire detection and suppression systems and equipment, the material condition of fire barriers, and the control of transient combustibles. As part of the inspection, the inspectors reviewed the licensee's fire prevention procedure 10-S-03-4, "Control of Combustible Material," Revision 13 to ascertain the requirements for the required fire protection design features. Specific risk-significant plant areas included:

- Radial Well Pump Switchgear House
- Residual Heat Removal Room A 1A103
- High Pressure Core Spray Pump Room 1A109
- Division I Standby Service Water Pump Room 1M110
- Reactor Core Isolation Cooling Pump Room 1A104
- Control Room Instrument Rack Area OC504

Annual Drill Observation. On October 31, 2003, the inspectors observed a fire brigade drill staged in the in-processing center within the owner controlled area. The inspectors observed the fire brigade members: (1) donning protective clothing, (2) selecting turnout gear, (3) entering the fire zone, and (4) communicating with the control room staff. The inspectors observed the fire fighting equipment brought to the fire scene to evaluate whether sufficient equipment was available for the simulated fire. The inspectors also observed fire fighting directions and radio communications between the brigade leader, brigade members, and the control room.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

On December 15, 2003, the inspectors observed one simulator scenario during licensed operator requalification annual examination to assess the licensee's effectiveness in conducting the requalification program and to verify that licensed

individuals were appropriately evaluated. The inspectors also observed the post-examination critique conducted by the evaluators to verify that weak areas observed during simulator operations were appropriately identified.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors reviewed performance-based problems involving two selected in-scope structures, systems, or components (SSCs) to assess the effectiveness of the Maintenance Rule Program. Reviews focused on: (1) proper Maintenance Rule scoping in accordance with 10 CFR 50.65; (2) characterization of failed SSCs; (3) safety significance classifications; (4) 10 CFR 50.65 (a)(1) and (a)(2) classifications; and, (5) the appropriateness of performance criteria for SSCs classified as (a)(2), and goals and corrective actions for SSCs classified as (a)(1). Also, the inspectors reviewed the system functional failures for the last two years. The following systems were reviewed:

- Reactor Core Isolation Cooling System E51
- Residual Heat Removal System E12

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

Throughout the inspection period, the inspectors reviewed weekly and daily work schedules to determine when risk-significant activities were scheduled. The inspectors discussed six 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. The inspectors verified the performance of plant risk assessments related to planned and emergent maintenance activities as required by 10 CFR 50.65(a)(4) and plant Procedure 01-S-18-6, "Risk Assessment of Maintenance Activities," Revision 1. Specific maintenance work orders (WO) reviewed during this period included:

- WO 50331159, Suppression pool cleaning maintenance
- WO 50327249, Division II standby service water cooling tower fan B maintenance
- WO 50327931, Main steam line flow transmitter maintenance
- WO 50326430, Relief valve 1E12F036 maintenance

- WO 13075, 208' Reactor containment building personnel airlock lock maintenance
- WO 50339822, Residual heat removal system Train A maintenance

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors selected four operability evaluations performed by the licensee during the report period involving risk-significant systems, structures, or components (SSC). The inspectors evaluated the technical adequacy of the operability determinations, determined whether appropriate compensatory measures were implemented, and determined whether the licensee considered all other pre-existing conditions, as applicable. Additionally, the inspectors evaluated the adequacy of the licensee's problem identification and resolution program as it applied to operability evaluations as specified in procedure 01-S-06-44, "Operability Assessment," Revision 105. Specific operability evaluations reviewed are listed below.

- CR-GGN-2003-2920, Drywell floor drain sump pump control circuit
- CR-GGN-2003-3355, Valve P21F390 leakage
- CR-GGN-2003-3485, Control rod drive mechanism 36-37 high temperature
- CR-GGN-2003-3520, Division II emergency diesel generator over speed trip

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

The inspector reviewed the only sample available for this inspection module during the week of October 27, 2003. The inspector evaluated an operator burden associated with controlling the operation of the drywell floor drain sump pump by use of manual power supply circuit breaker operation. The inspector evaluated the manual operation for effects related to the following attributes: (1) the reliability, availability, and potential to mis-operate the system; (2) the ability of the operators to respond in a correct and timely manner to a drywell floor drain sump high level; and (3) the potential for affecting supporting SSC. Also, the inspectors reviewed associated open condition reports in the corrective action program to verify the condition is identified and evaluated.

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing (71111.ST)

a. Inspection Scope

The inspectors reviewed postmaintenance test procedures and associated testing activities for five selected risk-significant mitigating systems. In each case, the associated work orders and test procedures were reviewed against the attributes in Inspection Procedure 71111.ST to determine the scope of the maintenance activity and determine if the testing was adequate to verify equipment operability. The reviewed activities were:

- WO 50326430, Relief Valve 1E12F036 local leak rate test
- WO 50318056, Relief Valve 1G36F084 local leak rate test
- WO 50339959, Reactor water cleanup system valve functional test
- WO 50338270, Off gas post treatment radiation monitor functional test
- WO 3166801, 1P11F064 actuator rebuild functional test

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.ST)

a. Inspection Scope

The inspectors observed performance of surveillance test procedures and reviewed test data of four selected risk-significant SSCs to assess whether the SSCs satisfied the Technical Specifications (TS), the Updated Final Safety Analysis Report, the Technical Requirements Manual, and licensee procedural requirements; and to determine if the testing appropriately demonstrated that the SSCs were operationally ready and capable of performing their intended safety functions. The following tests were inspected:

- 06-OP-1E22-Q-005, "High Pressure Core Spray System Functional Test,"
Revision 109
- 06-IC-1E61-Q-1004, "Drywell/Containment Hydrogen Analyzer Functional Test,"
Revision 102
- 06-ME-1M61-V-001, "1E12FO36 Local Leak Rate Test," Revision 107
- 06-OP-1D17-M-006, "Off Gas Post Treatment Radiation Monitor Functional Test,"
Revision 100

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Observation (71114.06)

a. Inspection Scope

On November 20, 2003, the inspectors observed a planned licensee emergency preparedness quarterly drill performed after normal working hours. The inspectors reviewed the drill scenario to determine if it reflected realistic plant configurations. The inspectors observed GGNS personnel at various locations during the exercise including the technical support center, the emergency operations facility, and the operations support center. The inspectors primarily focused on the ability of the emergency response organization to properly classify the simulated emergency through recognition of emergency action levels, their ability to activate the station emergency plan and procedures, and their ability to make proper and timely notifications as appropriate.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors sampled licensee submittals for the performance indicator (PI) listed below for the period from October 2002 through September 2003. In order to verify the accuracy of the PI data reported during the period, PI definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 2, were used to verify the basis in reporting for each element.

Mitigating Systems Cornerstone

- Residual Heat Removal System Unavailability

The inspectors reviewed operator log entries, chemistry log entries, daily shift manager reports, plant computer data, condition reports, maintenance action item paperwork, maintenance rule data, and PI data sheets to determine whether the licensee adequately verified the PI listed below during the previous four quarters. This number was compared to the number reported for the PI during the current quarter. Also, the inspectors interviewed licensee personnel responsible for compiling the information.

b. Findings

No findings of significance were identified.

4OA2 Problem Identification and Resolution (71152)

Annual Sample Review

Resident Inspector Sample

a. Inspection Scope

The inspectors chose one selected issue for followup inspection. The issue was associated with the drywell floor drain sump pump failures which occurred on October 7 and 8, 2003, documented in corrective action document CR-GGN-2003-2989. The inspectors reviewed the issue to ensure that the full extent of the condition was identified, an appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized. The inspectors evaluated the condition report against the requirements of the licensee's corrective action program as delineated in administrative procedure LI-102, "Corrective Action Process," Revision 2, and Root Cause Evaluation Report CR-GGN-2003-300.

b. Findings and Observations

No findings of significance were identified.

4OA6 Meetings, including Exit

On January 6, 2004, the senior resident inspector presented the inspection results to Mr. G. Williams, Vice President, Operations and other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspections.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a noncited violation.

10 CFR 20.1902 requires the licensee to post radiation areas. On October 1, 2003, the licensee identified an unposted area in their turbine building where radiation dose rates were 5 millirem per hour at 30 centimeters from the surface of a radioactive material storage container. This condition was described in condition report CR-GGN-2003-2913. This finding is only of very low safety significance because it did not involve as low as reasonably achievable (ALARA) planning and controls, there was no personnel

over exposure, there was no substantial potential for personnel overexposure, and the finding did not compromise the licensee's ability to assess dose.

ATTACHMENT: SUPPLEMENTAL INFORMATION

ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

D. Barfield, Manager, System Engineering
C. Bottemiller, Manager, Plant Licensing
B. Bryant, Supervisor, Chemistry
K. Christian, Superintendent, Mechanical Maintenance
J. Edwards, General Manager, Plant Operations
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M. Guynn, Manager, Emergency Preparedness
C. Holifield, Senior Licensing Engineer
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NRC personnel

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T. Farnholtz, Senior Project Engineer, Reactor Projects Branch A
C. Paulk, Senior Reactor Inspector, DRS
R. Nease, Senior Reactor Inspector, DRS

LIST OF DOCUMENTS REVIEWED

Procedures

Administrative Procedure 01-S-17-22, "Maintenance Rule Program," Revision 3
Administrative Procedure 01-S-18-6, "Risk Assessment of Maintenance Activities," Revision 1
Administrative Procedure LI-102, "Corrective Action Process," Revision 2
Administrative Procedure LI-101, "10 CFR 50.59 Review Process," Revision 2
Administrative Procedure 01-S-06-44, "Operability Assessment," Revision 105

System Operating Instruction 04-1-01-G33-1, "Reactor Water Cleanup System," Revision 118

System Operating Instruction 04-1-01-P45-2, "Floor Drain Sump System," Revision 18

Equipment Performance Instruction 04-1-03-A30-1, "Cold Weather Protection," Revision 15

Fire Prevention Procedure 10-S-03-4, "Control of Combustible Material," Revision 13

Surveillance Test Procedure 06-OP-1E22-Q-005, "High Pressure Core Spray System Functional Test," Revision 109

Surveillance Test Procedure 06-IC-1E61-Q-1004, "Drywell/Containment Hydrogen Analyzer Functional Test," Revision 102

Surveillance Test Procedure 06-ME-1M61-V-001, "Local Leak Rate Test," Revision 107

Surveillance Test Procedure 06-OP-1D17-M-006, "Off Gas Post Treatment Radiation Monitor Functional Test," Revision 100

Work Orders

06177	31668	50318056	50327249	50338270
10754	32803	50320917	50327931	50339822
13075	20031117	50322715	50331159	50339959
28739	50317013	50326430	50337848	50572329
28746	50317181	50327243		

Condition Reports

2002-2364	2003-3131	2003-3382
2003-2679	2003-3150	2003-3395
2003-2711	2003-3194	2003-3402
2003-2854	2003-3278	2003-3423
2003-2913	2003-3293	2003-3424
2003-2920	2003-3339	2003-3433
2003-2989	2003-3355	2003-3437
2003-3116	2003-3373	2003-3485
2003-3124	2003-3380	2003-3520
2003-3127		

Other Miscellaneous Documents

Grand Gulf Fire Pre-plans, Revision 11
Operations Standing Order 03-0024