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

April 29, 2005

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 05000416/2005002

Dear Mr. Williams:

On March 31, 2005, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Grand Gulf Nuclear Station. The enclosed inspection report documents the inspection findings, which were discussed on April 5, 2005, with you and 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.

The report documents two NRC identified findings that were evaluated under the risk significance determination process as having very low safety significance (Green). The NRC also determined that both findings involve violations of NRC requirements. The violations are being treated as noncited violations (NCVs), consistent with Section VI.A of the Enforcement Policy. The NCVs are described in the subject inspection report. If you contest either violation or the significance of the NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011-4005; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Grand Gulf Nuclear Station facility.

In accordance with 10 CFR 2.390 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).

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

Sincerely,

/RA/

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

Docket: 50-416
License: NPF-29

Enclosure:
Inspection Report 050000416/2004005
w/Attachment: Supplemental Information

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SISP Review Completed: wdj ADAMS: / Yes ☐ No Initials: wdj
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RIV:SRI:DRP/A	RI:DRP/A	C:DRS/PSB	C:DRS/EMB	
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	50-416
License:	NPF-29
Report:	05000416/2005002
Licensee:	Entergy Operations, Inc.
Facility:	Grand Gulf Nuclear Station (GGNS)
Location:	Waterloo Road Port Gibson, Mississippi 39150
Dates:	January 1 through March 31, 2005
Inspectors:	T. L. Hoeg, Senior Resident Inspector G. B. Miller, Senior Resident Inspector A. J. Barrett, Resident Inspector L. T. Ricketson, Senior Health Physicist R. E. Lantz, Senior Emergency Preparedness Inspector M. S. Haire, Operations Inspector M. O. Miller, Resident Inspector
Approved By:	W. D. Johnson, Chief Project Branch A Division of Reactor Projects
Attachment:	Supplemental Information

Enclosure

SUMMARY OF FINDINGS

IR 05000416/2005002; 1/1/05 - 3/31/05; Grand Gulf Nuclear Station; routine integrated report; Operability Evaluations, ALARA Planning and Controls.

The report covered a 13-week period of inspection by resident inspectors and announced inspections by a regional senior health physics inspector and an emergency preparedness inspection team. Two Green noncited violations were identified. 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 Significance Determination Process 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

Cornerstone: Mitigating Systems

- Green. The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for a failure to follow procedures that resulted in an inadequate operability determination. Specifically, operators failed to adequately implement the provisions of their operability determination to evaluate a degraded condition in the control room air conditioning system.

  This finding is greater than minor since it is associated with the equipment performance attribute of the mitigating systems cornerstone and directly affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. Using the Phase 1 worksheet in Manual Chapter 0609, “Significance Determination Process,” the finding is of very low safety significance since: (1) it did not represent an actual loss of system safety function for the control room air conditioning system, (2) it did result in a loss of function for a single train of Technical Specification equipment, but for less than the Technical Specification allowed outage time, and (3) it did not represent a loss of function of non-technical specification risk significant equipment or screen as potentially risk significant due to a seismic, flooding or severe weather event. This finding has crosscutting aspects associated with human performance in that the control room operators failed to implement the operability determination procedure. This finding was entered in the licensee's corrective action program (Section 1R15).

  Cornerstone: Occupational Radiation Safety

- Green. The inspector identified a non-cited violation of Technical Specification 5.7.1 because the licensee failed to barricade and conspicuously post a high radiation area. On March 16, 2005, during walkdowns of the reactor containment building 185-foot elevation, the inspector noted that a high radiation area posting in the reactor water clean-up system sample sink area was not properly positioned across the access to the

high radiation area. Radiation surveys taken in the area documented general area dose rates as high as 150 millirem per hour.

This finding is greater than minor because it was associated with the cornerstone attribute (human performance) and affected the cornerstone objective because not posting a high radiation area with dose rates greater than 100 millirem per hour could increase personnel dose. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined that the finding was of very low safety significance because it did not involve (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. Additionally, this finding had crosscutting aspects associated with human performance. When licensee personnel exited the high radiation area and failed to ensure that the entrance was properly barricaded and conspicuously posted, their actions directly contributed to the finding. This finding was placed into the licensee's corrective action program (Section 2OS2).

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Grand Gulf Nuclear Station (GGNS) began this inspection period at full rated thermal power. The plant remained at or near full rated thermal power except for planned control rod pattern adjustments and control rod drive maintenance and testing, except as follows: On February 11 an automatic reactor scram occurred due to a partial loss of offsite power resulting in a loss of feedwater. The plant returned to full power on February 15 and remained there until February 18 when power was lowered to sixty percent to repair minor steam leaks in the condensate bay. The plant returned to full power on February 18.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

During cold weather conditions on January 24, 2005, the inspectors reviewed GGNS readiness to respond to freezing conditions. The inspectors reviewed Procedure 04-1-03-A30-1, "Cold Weather Protection," Revision 16, and performed site walkdowns to verify the licensee had made the required preparations for cold weather conditions. The inspection also included a detailed review of susceptible components in the standby service water pump houses, diesel generator building, and the fire pump rooms to ensure they were protected from freezing conditions.

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 January 18, 2005, an inspector walked down the high pressure core spray system while the reactor core isolation cooling system was out of service for planned maintenance.

- On January 21, 2005, an inspector walked down Train A of the control room air conditioning system while Train B was out of service for maintenance.

- On February 1, 2005, an inspector walked down the Division II emergency diesel generator during a planned outage of the Division I emergency diesel generator.

Complete System Walkdown. The inspectors conducted a detailed review of the alignment and condition of the Division I emergency diesel generator system to determine if there were any discrepancies between the actual equipment alignment and the procedural requirements. During the walkdown, System Operating Instruction 04-1-01-P75-1, "Standby Diesel Generator System," Revision 67, was used by the inspectors to verify major system components were correctly labeled and aligned. The inspectors also reviewed open condition reports on the system for any deficiencies that could affect the ability of the system to perform its design function. Documentation associated with control room deficiencies, temporary modifications, operator workarounds, and items tracked by plant engineering were also reviewed to assess their collective impact on system operation.

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:

- Reactor protection system motor generator Set 'A' Room OC707
- Computer and control panel Room OC403
- Lower cable spreading Room OC 402
- Division I emergency diesel generator Room 1D302
- Containment Building 186' elevation 1A514
- Reactor water cleanup control panel Area 1A509

b. Findings

No findings of significance were identified.

1R06 Flood Protection (71111.06)

a. Inspection Scope

During the week of March 14 the inspectors reviewed external flood protection barriers associated with the owner controlled area culvert drainage as required by Technical Requirements Manual Specification 6.7.5 and described in section 2.4.2 of the Updated Safety Analysis Report. The inspectors visually inspected culverts, storm drains, and drainage piping in the owner controlled area and the protected area for proper slope and non-blockage.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

Quarterly Inspection

a. Inspection Scope

On February 10, 2005, the inspector observed one session of licensed operator requalification training activities in the simulator to assess the licensee's effectiveness in conducting licensed operator training and to verify that licensed operators received the appropriate level of training required to maintain their licenses. The observed training scenario included GSMS-LOR-ONX07, Revision 0, "Loss of BOP Transformer 13/Loss of Plant Service Water." The inspector also observed the post-training critiques conducted by the training instructors and the shift manager.

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)(1), and goals and corrective actions for SSCs classified as (a)(2). Also, the inspectors reviewed the system functional failures for the last two years. The following systems were reviewed:

- Division I Emergency Diesel Generator P75
- Containment Integrity System MXX

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 2. Specific maintenance work orders (WO) reviewed during this period included:

- WO 44403, Control Heating, Ventilation, and Air Conditioning 'B' Maintenance
- WO 61304, Control Room Fresh Air 'A' Recovery
- WO 50981063, Reactor Core Isolation Cooling Maintenance
- WO 54622, Suppression Pool Makeup Valve Maintenance
- WO 60444, Reactor Protection System Agastat Replacement
- WO 46830, Control Room Ventilation In-leakage Testing

b. Findings

No findings of significance were identified.

1R14 Nonroutine Events (71111.14)

a. Inspection Scope

On February 11, 2005, the inspectors observed control room personnel performance while responding to a switchyard transient that isolated Service Transformer 21 resulting in a partial loss of offsite power and a reactor scram. The licensee determined that the switchyard transient was caused by a raccoon that had climbed onto a breaker and created a phase-to-ground fault in the 34.5 kV switchyard. The protective relaying in the switchyard properly functioned and removed the offsite feeder from service, resulting in a loss of feedwater to the reactor vessel and an automatic scram on low reactor vessel

water level. The high pressure core spray and reactor core isolation cooling systems started automatically and restored reactor vessel level to the normal control band. The inspectors responded to the plant and observed operators placing the reactor plant in a shutdown condition and reviewed nuclear steam supply system responses to the scram. The inspectors reviewed Procedures 03-1-01-4, "Scram Recovery," Revision 107, and 03-1-01-3, "Plant Shutdown," Revision 114, and observed operators for procedural compliance. The inspectors also reviewed 10 CFR 50.72 reporting requirements, the posttrip analysis review report, and associated corrective actions.

On February 18, 2005, the inspectors observed operations personnel perform a planned, nonroutine plant power reduction to sixty percent rated thermal power in order to perform repairs of small steam leaks identified on two main steam line strainers and a manway cover on the 'B' moisture separator/reheater. The inspectors observed control room shift personnel performing the pre-evolution brief, establishing prerequisites, and lowering recirculation flow, and observed operator procedural compliance and response for the evolution.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors selected seven operability evaluations performed by the licensee during the report period involving risk-significant SSCs. 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 106. Specific operability evaluations reviewed are listed below.

- CR-GGN-2005-0020, Standby service water basin 'B' leakage
- CR-GGN-2005-0109, Division III emergency diesel generator oil leak
- CR-GGN-2005-0131, Control room air conditioning 'B'
- CR-GGN-2005-0162, Division III station battery
- CR-GGN-2005-0545, Division III emergency diesel generator
- CR-GGN-2005-0756, Standby fresh air 'B' fan vibration
- CR-GGN-2005-0702, Power monitoring relays
- CR-GGN-2005-1016, Control room air conditioning 'A' refrigerant leak

b. Findings

Introduction. The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for a failure to follow procedures that resulted in an inadequate operability determination.

Description. On January 15, 2005, control room operators initiated condition report CR-GGN-2005-0131, which stated in the condition description

> "The Control Room Air Conditioning is not working correctly. During times when the "B" Control Room Air Conditioning is in service there comes a loud noise and the noise level of the running air conditioner changes. . . It also appears that some of the registers in the Control Room do not have as much flow as before the noise."

The operability determination performed for CR-GGN-2005-0131 declared the system operable, stating ". . . no associated [Technical Specification] limits have been exceeded and all associated surveillances are met."

The inspectors reviewed the operability determination on January 18. The inspectors noted that the Technical Specification Surveillance Requirement 3.7.4.1 required verification that each control room air conditioning subsystem had the capability to remove the assumed accident analysis heat load. Given that the condition description in CR-GGN-2005-0131 reported a reduction in airflow, the inspectors questioned the ability of the control room air conditioning system to remove the assumed post-accident heat load. The inspectors expressed their concerns to the shift technical advisor on January 18 and again on January 19. The shift technical advisor stated that he understood their concerns and would review the operability determination. Administrative Procedure 01-S-06-44, "Operability Assessment," Revision 106, required that corrective actions be issued in the corrective actions program in cases where operability determination requires further engineering evaluation or judgement; however, no such actions were generated to evaluate the condition of the control room air conditioning system.

Shortly before day shift on January 20 operators noted a burning smell in the control room. The source of the smell was isolated to the control room air conditioning Unit 'B'. Operators initiated condition report CR-GGN-2005-0191 and declared the associated air conditioning subsystems inoperable per Technical Specifications 3.7.3 and 3.7.4. Maintenance technicians determined that the pulleys in the air conditioning Unit 'B' were slightly misaligned and one of the belts was slightly (0.030 inches) oversized, resulting in slippage of the belts on the pulleys. Maintenance personnel realigned the pulleys and replaced the belts, and the associated air conditioning subsystems were declared operable on January 21.

Analysis. The failure of control room operators to adequately implement the provisions of the operability determination procedure was a performance deficiency. This finding is greater than minor since it is associated with the equipment performance attribute of the mitigating systems cornerstone and directly affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. Using the Phase 1 worksheet in Manual Chapter 0609, “Significance Determination Process,” the finding is of very low safety significance since: (1) it did not represent an actual loss of system safety function for the control room air conditioning system, (2) it did result in a loss of function for a single train of Technical Specification equipment, but for less than the Technical Specification allowed outage time, and (3) it did not represent a loss of function of non-technical specification risk significant equipment or screen as potentially risk significant due to a seismic, flooding or severe weather event. This finding has crosscutting aspects associated with human performance in that the control room operators failed to implement the operability determination procedure.

Enforcement. 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Administrative Procedure 01-S-06-44, "Operability Assessment," Revision 106, states in Section 6.3.1c, "If operability determination requires further engineering evaluation/judgement, the Operations representative must request an initial engineering evaluation of the degraded condition." Contrary to these requirements, the control room operators did not request engineering evaluation for the degraded condition either as part of the initial operability determination on January 15 or following subsequent questioning of the operability determination by NRC inspectors. Because this finding is of very low safety significance and has been entered in the licensee corrective action program as CR-GGN-2005-1436, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000416/2005002-01, "Failure to Follow Operability Determination Procedure."

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

The inspectors evaluated one sample of an operator workaround associated with operation of the emergency diesel generator starting system as identified in CR-GGN-2004-4447. Under certain initial conditions, operators must manually start the Division I and II diesel driven air compressors within the first three days following a design basis loss of coolant accident in order for the associated emergency diesel generators to continue to run for the full seven days required by the Updated Safety Analysis Report. The inspectors 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 operate the equipment and (3) the potential for affecting supporting SSCs. 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 (71111.19)

a. Inspection Scope

The inspectors reviewed postmaintenance test procedures and associated testing activities for six selected risk-significant mitigating systems. In each case, the associated work orders and test procedures were reviewed against the attributes in Inspection Procedure 71111.19 to determine the scope of the maintenance activity and to determine if the testing was adequate to verify equipment operability. The reviewed activities were:

- WO 41934, Reactor protection system 'A' motor generator set maintenance
- WO 59263, Reactor core isolation cooling injection valve maintenance (Valve E51-F013)
- WO 52914, Division I Emergency diesel generator turbocharger replacement
- WO 56718, Standby fresh air 'B' fan weld repair
- WO 27509, Standby service water 'A' fan blade replacement
- WO 59522, Drywell hydrogen analyzer conductivity cell replacement

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors observed licensee forced outage planning and execution activities following the automatic scram on February 11, 2005. The inspectors' review included

scheduling, decay heat removal operation and management, reactivity controls, inventory controls, and tag out and clearance activities. Specific activities observed included:

- Equipment tagout clearance activities
- Control of switchyard activities
- Reactor startup and Mode 2 operations
- Reactor power ascension and Mode 1 operations
- Turbine synchronization to the grid

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed performance of surveillance test procedures and reviewed test data of six selected risk-significant SSCs to assess whether the SSCs satisfied the Technical Specifications, Updated Final Safety Analysis Report, 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-1P81-R-001, "Division III Standby Diesel Generator 18 Month Functional Test," Revision 112
- 06-OP-1E51-Q-003, "Reactor Core Isolation Cooling Functional Test," Revision 116
- 06-OP-1E30-Q-001, "Suppression Pool Makeup Quarterly Valve Testing," Revision 101
- 06-OP-1000-D-001, "Reactor Coolant System Daily Leakage," Revision 118
- ST1-GG-2005-001, "Control Room Air Conditioning Inleakage" Revision 0

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation (71114.01)

a. Inspection Scope

The inspectors reviewed the objectives and scenario for the 2005 biennial emergency preparedness exercise to determine if the exercise would acceptably test major elements of the emergency plan. The scenario included a fire onsite due to hydrogen leakage from the main generator, several electrical and mechanical malfunctions that resulted in a loss of reactor feed water and an unisolable steamline rupture outside of primary containment. Loss of reactor vessel level resulted in significant fuel damage, and an ongoing radioactive steam release to the environment. The licensee activated all of their emergency facilities to demonstrate their capability to implement the emergency plan.

The inspectors evaluated exercise performance by focusing on the risk-significant activities of classification, notification, protective action recommendations, and assessment of offsite dose consequences in the simulator control room and the following emergency response facilities:

- Technical Support Center
- Operations Support Center
- Emergency Operations Facility

The inspectors also assessed personnel recognition of abnormal plant conditions, the transfer of emergency responsibilities between facilities, communications, protection of emergency workers, emergency repair capabilities, and the overall implementation of the emergency plan to verify compliance with the requirements of 10 CFR 50.47(b), 10 CFR 50.54(q), and Appendix E to 10 CFR Part 50.

The inspectors attended the post-exercise critiques in each of the above emergency response facilities to evaluate the initial licensee self-assessment of exercise performance. The inspectors also attended the formal presentation of critique items to plant management.

The inspectors completed one sample during the inspection.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspectors reviewed the Grand Gulf Emergency Plan, Revisions 52 and 53, submitted in August 2004 and March 2005, respectively. Revision 52 updated the offsite letters of agreement, and added a protective action recommendation for the state to consider the use of potassium iodine. Revision 53 added the emergency response organization position of information specialist in the Emergency Operations Facility and the Technical Support Center. This revision also relocated the primary emergency news media center from Port Gibson, Mississippi to Jackson, Mississippi.

The revisions were compared to the previous revisions, to the criteria of NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, and to the requirements of 10 CFR 50.47(b) to determine if the licensee adequately implemented the emergency plan change process described in 10 CFR 50.54(q).

The inspectors completed one sample during the inspection.

b. Findings

No findings of significance were identified.

1EP6 Drill Observation

a. Inspection Scope

The inspectors observed one planned licensee emergency preparedness quarterly drill conducted on January 26, 2005. The inspectors reviewed the drill scenario to determine if it reflected realistic plant configurations. The inspectors observed GGNS personnel at various locations during the drill including the control room simulator, 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 emergencies 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.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety [OS]

2OS2 ALARA Planning and Controls (71121.02)

a. Inspection Scope

The inspector assessed licensee performance with respect to maintaining individual and collective radiation exposures as low as is reasonably achievable (ALARA). The inspector used the requirements in 10 CFR Part 20 and the licensee's procedures required by Technical Specifications as criteria for determining compliance. The inspector interviewed licensee personnel and reviewed:

- Current 3-year rolling average collective exposure
- Three on-line maintenance work activities scheduled during the inspection period and associated work activity exposure estimates which were likely to result in the highest personnel collective exposures.
- Site specific trends in collective exposures, plant historical data, and source-term measurements
- Site specific ALARA procedures
- ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements
- Intended versus actual work activity doses and the reasons for any inconsistencies
- Integration of ALARA requirements into work procedure and radiation work permit (or radiation exposure permit) documents
- Person-hour estimates provided by maintenance planning and other groups to the radiation protection group with the actual work activity time requirements
- Shielding requests and dose/benefit analyses
- Method for adjusting exposure estimates, or re-planning work, when unexpected changes in scope or emergent work were encountered
- Use of engineering controls to achieve dose reductions and dose reduction benefits afforded by shielding
- Self-assessments, audits, and special reports related to the ALARA program since the last inspection

- Corrective action documents related to the ALARA program and followup activities such as initial problem identification, characterization, and tracking

The inspector completed 12 of the required 15 samples and 4 of the optional samples.

b. Findings

Introduction. The inspector identified a noncited violation of Technical Specification 5.7.1 for failure to barricade and conspicuously post a high radiation area. The violation was of very low safety significance (Green).

Description. On March 16, 2005, during walkdowns of the reactor containment building 185-foot elevation, the inspector noted that a high radiation area posting in the reactor water clean-up sample sink area was not properly positioned across the access to the high radiation area. The posting was attached to a yellow and magenta boundary rope, but the end of the boundary rope was not fastened to its hook. This allowed the posting to fall to the side and flip backwards so that the posting was not visible to persons entering the area. Radiation surveys taken in the area documented general area dose rates as high as 150 millirems per hour.

Analysis. The failure to barricade and post a high radiation area is a performance deficiency. This finding is greater than minor because it was associated with the cornerstone attribute (human performance) and affected the cornerstone objective because not posting a high radiation area with dose rates greater than 100 millirem per hour could increase personnel dose. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined that the finding was of very low safety significance because it did not involve (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. Additionally, this finding had crosscutting aspects associated with human performance. When licensee personnel exited the high radiation area and failed to ensure that the entrance was properly barricaded and conspicuously posted, their actions directly contributed to the finding.

Enforcement. Technical Specification 5.7.1 states, in part, that each high radiation area shall be barricaded and conspicuously posted as a high radiation area. The licensee violated this requirement when the entry to the reactor water clean-up sample sink was not barricaded and conspicuously posted.

Because the failure to barricade and post a high radiation area was determined to be of very low safety significance and has been entered into the licensee's corrective action program as Condition Report CR-GGN-2005-01082, this violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000416/2005002-02, "Failure to Barricade and Conspicuously Post a High Radiation Area."

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors sampled submittals for the performance indicators listed below for the period January 1 through December 31, 2004. The inspectors used the definitions and guidance of Nuclear Engineering Institute 99-02, “Regulatory Assessment Indicator Guideline,” to verify the licensee’s basis for reporting each data element in order to verify the accuracy of performance indicator data reported during the assessment period.

Emergency Preparedness Cornerstone:

- Drill and Exercise Performance
- Emergency Response Organization Participation
- Alert and Notification System Reliability

The inspectors reviewed a 100 percent sample of drill and exercise scenarios, licensed operator simulator training sessions, notification forms, and attendance and critique records associated with training sessions, drills, and exercises conducted during the verification period. The inspectors reviewed the qualification, training, and drill participation records for a sample of 10 emergency responders. The inspectors reviewed alert and notification system maintenance records and procedures, and a 100 percent sample of siren test results. The inspectors also interviewed licensee personnel that were responsible for collecting and evaluating the performance indicator data. The inspectors completed 3 samples during the inspection.

b. Findings

No findings of significance were identified.

4OA2 Problem Identification and Resolution (71152)

1. Section 2OS2 evaluated the effectiveness of the licensee's problem identification and resolution processes regarding exposure tracking, higher than planned exposure levels, and radiation worker practices. The inspector reviewed the corrective action documents listed in the attachment against the licensee’s problem identification and resolution program requirements. No findings of significance were identified.

2. Daily Condition Report Review

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems,” and in order to help identify repetitive equipment failures or specific human performance

issues for followup, the inspectors performed a daily screening of items entered into the licensee's corrective action program. This review was accomplished by reviewing hard copy summaries of each condition report, attending various daily screening meetings, and by accessing the licensee's computerized corrective action program database.

b. Findings and Observations

No findings of significance were identified. The licensee identified deficiencies and took appropriate actions to resolve them in a timely manner.

4OA4 Crosscutting Aspects of Findings

Section 1R15 describes a human performance error associated with the failure of operations department personnel to properly implement the operability determination procedure. This error led to the inappropriate classification of the control room air conditioning system as operable when it would not have been able to perform its safety function.

Section 2OS2 described a violation with human performance crosscutting aspects which involved the failure to conspicuously post a high radiation area.

4OA6 Meetings, including Exit

On March 17, 2005, the senior health physicist presented the inspection results to Mr. D. Wiles, Director, Engineering, and other members of his staff who acknowledged the findings. The inspector confirmed that proprietary information was not provided or examined during the inspection.

On March 25, 2005, the senior emergency preparedness inspector discussed the inspection findings with Mr. R. Brian, General Manger, Plant Operations and other members of the licensee's staff. The inspector verified that no proprietary information was provided during the inspection.

On April 5, 2005, the senior resident inspector presented the inspection results to Mr. G. Williams, Vice President, Operations, and members of his staff. The inspectors confirmed that proprietary information was not provided or examined during the inspections by the resident inspectors.

ATTACHMENT: SUPPLEMENTAL INFORMATION

ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

C. Abbott, Supervisor, Quality Assurance
D. Barfield, Manager, Outage
C. Bottemiller, Manager, Plant Licensing
C. Buford, Senior Operations Instructor
T. Curtis, Senior Health Physicist/Chemistry Specialist, Radiation Protection
N. Edney, Supervisor, Radiation Control
M. Causey, Senior Lead Technical Specialist
R. Collins, Manager, Operations
R. Bryan, General Manager, Plant Operations
L. Eaton, Senior Lead Engineer
C. Ellsaesser, Manager, Planning and Scheduling
D. Gibson, Senior. Technical Instructor, Training
M. Guynn, Manager, Emergency Preparedness
S. Humphries, Emergency Planner
M. Krupa, Director, Nuclear Safety Assurance
M. Larson, Senior Licensing Engineer
C. Roberts, Supervisor, Requalification Training
M. Rohrer, Manager, System Engineering
R. Sorrels, Technical Specialist
G. Sparks, Manager, Design Engineering
R. Sumrall, Emergency Planner
G. Williams, Vice President, Operations
D. Wiles, Director, Engineering
D. Wilson, Supervisor, Design Engineering
R. Wilson, Superintendent, Radiation Protection
P. Worthington, Supervisor, Engineering
E. Wright, Senior Health Physicist/Chemistry Specialist, Radiation Protection
H. Yeldell, Manager, Maintenance

NRC personnel

T. Farnholtz, Senior Project Engineer, Reactor Project Branch A
D. Stearns, Health Physics Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000416/2005002-01	NCV	Failure to Follow Operability Procedure (Section 1R15)
05000416/2005002-02	NCV	Failure to Barricade and Conspicuously Post a High Radiation Area (2OS2)

LIST OF DOCUMENTS REVIEWED

Procedures

Administrative Procedure EN-LI-102, "Corrective Action Process," Revision 1

Administrative Procedure 01-S-06-44, "Operability Assessment," Revision 106

Administrative Procedure 01-S-10-4, "Emergency Preparedness Drills and Exercises," Revision 11

Administrative Procedure 01-S-10-6, "Emergency Response Organization," Revision 18

Administrative Procedure 01-S-18-6, "Risk Assessment of Maintenance Activities," Revision 2

Desk Top Procedure EDP-045, "GGNS EOOS Risk Monitor User's Guide," Revision 2

Equipment Performance Instruction 04-1-03-A30-1, "Cold Weather Protection," Revision 16

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

Administrative Procedure 01-S-06-26, "Post-Trip Analysis," Revision 16

Administrative Procedure 01-S-06-3, "Control of Temporary Alterations," Revision 32

Radiation Protection Procedure 08-01-28, "Use and Control of Temporary Shielding," Revision 11

Integrated Operations Instruction 03-1-01-3, "Plant Shutdown," Revision 114

Integrated Operations Instruction 03-1-01-4, "Scram Recovery," Revision 107

System Operating Instruction 04-1-01-P75-1, "Standby Diesel Generator System," Revision 67

Emergency Preparedness Procedure 10-S-01-1, "Activation of the Emergency Plan," Revision 111

Emergency Preparedness Procedure 10-S-01-6, "Notification of Offsite Agencies and Plant On-call Emergency Personnel," Revision 40

Emergency Preparedness Procedure 10-S-01-12, "Radiological Assessment and Protective Action Recommendations," Revision 31

Emergency Preparedness Procedure 10-S-01-20, "Administration of Thyroid Blocking Agents," Revision 11

Emergency Preparedness Procedure 10-S-01-26, "Offsite Emergency Response," Revision 10

Emergency Preparedness Procedure 10-S-01-29, "Operations Support Center (OSC) Operations," Revision 19

Emergency Preparedness Procedure 10-S-01-30, "Technical Support Center (TSC) Operations," Revision 12

Emergency Preparedness Procedure 10-S-01-33, "Emergency Operations Facility (EOF) Operation," Revision 13

Work Orders / Maintenance Action Items

27509	44403	54622	59263	60444
41934	44470	56718	59264	61304
43463	46830	56718	59522	
44371	50981063	59214		

Condition Reports

CR-GGN-2004-1570	CR-GGN-2005-0191	CR-GGN-2005-0583
CR-GGN-2004-3709	CR-GGN-2005-0256	CR-GGN-2005-0702
CR-GGN-2004-4295	CR-GGN-2005-0289	CR-GGN-2005-0756
CR-GGN-2004-4447	CR-GGN-2005-0365	CR-GGN-2005-0756
CR-GGN-2004-4603	CR-GGN-2005-0428	CR-GGN-2005-0882
CR-GGN-2004-7347	CR-GGN-2005-0436	CR-GGN-2005-0897
CR-GGN-2005-0020	CR-GGN-2005-0441	CR-GGN-2005-0905
CR-GGN-2005-0037	CR-GGN-2005-0492	CR-GGN-2005-0906
CR-GGN-2005-0081	CR-GGN-2005-0543	CR-GGN-2005-1016
CR-GGN-2005-0097	CR-GGN-2005-0545	CR-GGN-2005-1042
CR-GGN-2005-0109	CR-GGN-2005-0548	CR-GGN-2005-1082
CR-GGN-2005-0117	CR-GGN-2005-0551	CR-GGN-2005-1113
CR-GGN-2005-0131	CR-GGN-2005-0552	CR-GGN-2005-1115
CR-GGN-2005-0162	CR-GGN-2005-0553	CR-GGN-2005-1281
CR-GGN-2005-0171	CR-GGN-2005-0562	
CR-GGN-2005-0173	CR-GGN-2005-0576	

Calculations

MC-QSZ51-01001, "Determination of Control Room Heat Load at 90 F," Revision 0

MC-QSZ51-96009, "Thermal Performance Evaluation of the As-Found Condition of the Control Room Air Conditioning Units (MNCR 0004-96)," Revision 1

Miscellaneous Documents

Operations Section Guideline OPG-12, "Operator Workarounds," Revision 1
Hot Spot Index
Grand Gulf Nuclear Station Refueling Outage Critique Thirteen
RP-109, "Hot Spot Program," Revision 0
RP-110, "ALARA Program," Revision 2
GSMS-LOR-ONX07, "Loss of BOP Transformer 13/Loss of Plant Service Water," Revision 0
Material Nonconformance Report 0112-91
TQ-110, "Emergency Preparedness Training Program," Revision 3

Audits and Self-Assessments

LO-GLO-2004-00015 ALARA Planning and Controls Assessment (NRC Inspection IP-71121.02)

Radiation Work Permit Packages

2005-1032 Installation of Clamp and Furmanite of the 'B' MSR Manway and all Support Work

2005-1033 Install Furmanite Boxes and Furmanite 1N11D001A/1C

Temporary Shielding Requests

02-01
04-19
04-23
04-34

Hot Spot Action Forms

HS-26
HS-78

Emergency Preparedness Drill and Exercise Reports

Training Drills: Second and Third Quarter 2004 simulator drills.

Exercises: October 2003 NRC Biennial; April 7, 2004, Red Team; May 2004, Blue Team; September 2004, Green Team; November 2004, Yellow Team.