UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-4005

August 5, 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 05000416/2004003

Dear Mr. Williams:

On June 30, 2004, 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 July 1, 2004, 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 four self-revealing findings of very low safety significance (Green). All of these findings were determined to involve violations of NRC requirements. However, because of the very low safety significance and because they are entered in your corrective action program, the NRC is treating these four findings as noncited violations (NCVs) consistent with Section VI.A of the NRC Enforcement Policy. If you contest these noncited violations, 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 2.390 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 050000416/2004003
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	50-416
License:	NPF-29
Report:	05000416/2004003
Licensee:	Entergy Operations, Inc.
Facility:	Grand Gulf Nuclear Station (GGNS)
Location:	Waterloo Road Port Gibson, Mississippi 39150
Dates:	March 28 through June 30, 2004
Inspectors:	T. L. Hoeg, Senior Resident Inspector G. B. Miller, Resident Inspector R. E. Lantz, Senior Emergency Preparedness Inspector B. D. Baca, Health Physics Inspector
Approved By:	W. D. Johnson, Chief Project Branch A Division of Reactor Projects
Attachment:	Supplemental Information

Enclosure

CONTENTS

SUMMARY OF FINDINGS

IR 05000416/2004003; 4/1/04 - 6/30/04; Grand Gulf Nuclear Station; ALARA Planning and Controls, Problem Identification and Resolution, Event Followup

The report covered a 13-week period of inspection by resident inspectors and announced inspections by a health physics inspector and an emergency response inspector. Four 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: Initiating Events

- Green. The inspectors reviewed a self-revealing noncited violation of Technical Specification 5.4.1.a for failure of maintenance technicians to comply with a surveillance procedure for performing maintenance on the reactor vessel water level control system. This failure resulted in the high pressure core spray system inadvertently initiating and injecting into the reactor vessel.

  This finding is greater than minor because it affected the human performance attribute (human error) of the Initiating Events Cornerstone and affected the cornerstone objective of limiting events that challenge plant stability. The finding was of very low safety significance because it did not contribute to the likelihood of a primary or secondary loss of coolant accident initiator; did not contribute to both the likelihood of a reactor trip and the likelihood of the mitigation equipment or functions being unavailable; nor did it increase the likelihood of a fire or internal/external flooding (Section 4OA2).

Cornerstone: Mitigating Systems

- Green. A self-revealing Green noncited violation of Technical Specification 5.4.1.a involved the failure of operators to comply with a valve lineup procedure prior to restoring the residual heat removal system to operation. This failure resulted in the isolation of the minimum flow line for the Train B residual heat removal pump, rendering one low pressure emergency core cooling system inoperable for fourteen days, which violated the requirements of Technical Specification 3.5.1 prohibiting power operation with one low pressure emergency core cooling system out of service for greater than seven days.

  This finding is greater than minor because it affected the configuration control and human performance attributes of the Mitigating Systems Cornerstone and affected the cornerstone objective to ensure the availability of systems that respond to initiating events. Using the Inspection Manual Chapter 0609 Significance Determination Process Phase 1 screening worksheet, this performance deficiency required a Phase 2 evaluation since it resulted in the actual loss of a single train for longer than its Technical Specification Allowed Outage Time. The Phase 2 and Phase 3 evaluations determined this finding to result in a core damage frequency change of less than 1.0E-6 and a change in Large Early Release Fraction of less than 1.0E-7. Therefore, the finding was considered to be of very low safety significance (Section 4OA3).

Cornerstone: Barrier Protection

- Green. A self-revealing noncited violation of Technical Specification 5.4.1.a was identified by the inspectors as a result of reactor operators failing to comply with an operating procedure used to establish a required rod pattern configuration during a reactor startup. This failure resulted in the reactor operators inadvertently withdrawing a control rod out of sequence.

  This finding is greater than minor because it involved the configuration control attribute (reactivity control) of the Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding was of very low safety significance because it only affected the fuel barrier and not the reactor coolant system barrier (Section 4OA2).

Cornerstone: Occupational Radiation Safety

- Green. A self-revealing noncited violation of Technical Specification 5.4.1.a was evaluated for a worker who failed to follow a radiation work permit requirement. On March 15, 2004, a worker alarmed the personnel contamination monitors upon exiting the Radiologically Controlled Area because the individual had become contaminated. A followup survey of the work area identified contamination levels of up to 180,000 disintegrations per minute per 100 cm^2 inside a drain pipe and 500,000 disintegrations per minute per 100 cm^2 inside the valve housing. The licensee determined that the worker did not follow the radiation work permit requirement to contact Radiation Protection for approval before commencing cutting activities.

  This finding is greater than minor because it is associated with the program and process attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to ensure adequate protection of worker health and safety from exposure to radiation. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined the finding was of very low safety significance because it did not involve ALARA planning and controls, an overexposure, a substantial potential for overexposure, or an impaired ability to assess dose (Section 2OS2).

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Grand Gulf Nuclear Station (GGNS) remained at or near full rated thermal power throughout this inspection period except for planned 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 summer weather conditions on May 4, 2004, the inspectors reviewed GGNS readiness to operate under adverse weather conditions including tornadoes and hurricanes. The inspectors reviewed Procedure 05-1-02-VI-2, "Hurricanes, Tornadoes, and Severe Weather," Revision 105, and performed site walkdowns to verify the licensee had made the required preparations for summer weather conditions. The inspection also included a detailed review of the standby service water system basins and the main switchyard area for vulnerabilities associated with high winds.

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 May 18, 2004, an inspector walked down the standby service water system Train A while Train B was out of service for maintenance.

- On April 14, 2004, an inspector walked down the standby liquid control (SLC) system Train A while the SLC system Train B was out of service for maintenance.

- On April 19, 2004, an inspector walked down the Division I emergency diesel generator while the Division II emergency diesel generator was out of service for maintenance.

Complete System Walkdown. The inspectors conducted a detailed review of the alignment and condition of the low pressure core spray 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-E21-1, "Low Pressure Core Spray System," Revision 35, 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:

- Division II Switchgear Room 1A221
- RHR Piping Penetration and Valve Room 1A220
- Division II Standby Service Water Pump Room 2M110
- High Pressure Core Spray Pump Room 1A109
- Division I Upper Cable Spreading Room 1OC702
- Unit 1 Control Cabinet Room 1OC703

b. Findings

No findings of significance were identified.

1R06 Flood Protection (71111.06)

a. Inspection Scope

During the week of June 7, 2004, the inspectors reviewed internal flooding protection features and off-normal event Procedure 05-1-02-VI-1, "Flooding," Revision 102, dealing with the potential flooding of the Low Pressure Core Spray Pump Room area. The inspectors reviewed internal flooding vulnerabilities and the protective features installed to mitigate the impact of any flooding.

During the week of June 21, 2004, the inspectors reviewed external flood protection barriers associated with owner controlled area culvert drainage as required by Technical Requirements Manual Specification 6.7.5 and described in Updated Safety Analysis Report 2.4.2. 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 June 3, 2004, the inspector observed two scenarios during 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 scenarios included GSMS-RO-0N022, Revision 3, "Bomb Threat in the Control Room and Reactor Shutdown from the Remote Shutdown Panel," and GSMS-LOR-00208, Revision 0, "Loss of BOP Transformer 23 and Loss of Primary Service Water." The inspectors 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 three 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:

Standby Service Water System P41
Low Pressure Core Spray System E21
Division II Emergency Diesel Generator P75

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 50617894, Reactor Protection System Maintenance
- WO 50748045, Reactor Core Isolation Cooling System Maintenance
- WO 50319434, 1T46B005A ESF Switchgear Ventilation Maintenance
- WO 50684783, Division II Standby Service Water System Maintenance
- WO 50319141, Division I Standby Service Water System Maintenance
- WO 00027679, Residual Heat Removal System Valve 1E12F021 Maintenance

b. Findings

No findings of significance were identified.

1R14 Nonroutine Events (71111.14)

a. Inspection Scope

On April 23, 2004, the inspectors observed control room personnel performance while responding to an oil leak from Service Transformer 11, which is the normal power source for one half of the balance of plant loads and one safety related division. Operators took action to transfer loads from Service Transformer 11 to Service Transformer 21 per the applicable System Operating Instructions. The licensee determined the cause of the event to be a failed air bladder in the transformer oil reservoir. The inspectors reviewed site maintenance activities, control of plant risk, and common cause analysis for the repair of the transformer. On May 30, 2004, the failed bladder was replaced and the transformer returned to normal operations.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors selected six operability evaluations performed by the licensee during the report period involving risk-significant 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-2003-1587, Division II emergency diesel generator vibration
- CR-GGN-2004-1644, Residual heat removal system valve line up
- CR-GGN-2004-1872, Division II emergency diesel generator bolting
- CR-GGN-2004-1978, Division I emergency diesel generator cylinder vent
- CR-GGN-2004-2002, Valve E21F012 failed test
- CR-GGN-2004-2166, Valve E21F012 over stress condition

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

The inspectors performed a semiannual review of the cumulative effects of all open operator workarounds to determine whether or not they could affect the reliability, availability, and potential for misoperation of a mitigating system; affect multiple mitigating systems; or affect the ability of operators to respond in a correct and timely manner to plant transients and accidents. The inspectors also assessed whether operator workarounds were being identified and entered into the corrective action program at an appropriate threshold.

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 00034599, Division II standby service water system radiation monitor
- WO 50319434, 1T46B005A switchgear ventilation
- WO 50684783, Division II standby service water system Fan C
- WO 00030073, Division II standby service water system pump motor
- WO 50337352, Suppression pool makeup Valve 1E30F002A
- WO 00037773, Spent fuel pool heat exchanger isolation Valve 1P42F028A

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:

- 04-S-03-P81-001, "Division III Emergency Diesel Generator Pre-lube," Revision 21

- 06-OP-1E12-Q-024, "Train A Residual Heat Removal Quarterly Functional Test," Revision 108

- 06-OP-1E21-Q-006, "Low Pressure Core Spray System Functional Test," Revision 105
- 07-S-12-127, "Valve E12-F021 Stroke Testing," Revision 5
- 06-OP-1R21-M-002, "Division I and II Load Shedding and Sequencing Functional Test," Revision 101
- 06-OP-1E12-Q-024, "Train B Residual Heat Removal Quarterly Functional Test," Revision 108

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed the temporary alteration listed below to assess the following attributes: (1) the adequacy of the safety evaluation; (2) the consistency of the installation with the modification documentation; (3) the updating of drawings and procedures, as applicable; and (4) the adequacy of the post-installation testing.

- Temporary Alteration 2004-015, LPCS System Out of Service Annunciator

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert Notification System Testing (71114.02)

a. Inspection Scope

The inspector evaluated the adequacy of licensee methods for testing the alert and notification system in accordance with 10 CFR Part 50, Appendix E. The alert and notification system testing program was evaluated against the criteria contained in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, Federal Emergency Management Agency Report REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants," and the licensee's current Federal Emergency Management Agency-approved alert and notification system design report. The inspector also reviewed the documents described in the attachment to this report. The inspector completed one sample during this inspection.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization Augmentation Testing (71114.03)

a. Inspection Scope

The inspector reviewed the results of a December 12, 2003, unannounced off-hours call-in augmentation drill. The inspector also interviewed members of the emergency planning staff responsible for training and testing of the emergency response organization. The inspector evaluated drill performance and training implementation against emergency plan implementation procedures and other documents related to the emergency response organization augmentation system to determine the ability of licensee personnel to staff emergency response facilities in accordance with their emergency plan and the requirements of 10 CFR Part 50, Appendix E. The inspector also reviewed the documents described in the attachment to this report. The inspector completed one sample during this inspection.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspector reviewed Revision 51 to the GGNS Emergency Plan, submitted February 2, 2004. The revision removed the requirement to perform a post-accident sampling system drill, removed a letter of agreement from the United States Coast Guard, and made other administrative and editorial changes.

The revision was compared to the previous revision, to the criteria of NUREG-0654 and to the requirements of 10 CFR 50.47(b) and 50.54(q) to determine if the revisions decreased the effectiveness of the emergency plan. The inspector completed one sample during the inspection.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

a. Inspection Scope

The inspector reviewed a summary of all GGNS condition reports associated with emergency preparedness generated since January 1, 2003, to determine the licensee's ability to identify and correct problems in accordance with the requirements of 10 CFR 50.47(b)(14) and 10 CFR Part 50, Appendix E. The inspector also reviewed 13 drill reports, 2 self assessments, 2 quality assurance audits, 14 specific condition reports, and other documents listed in the attachment to this report. Corrective actions were evaluated against the requirements of Procedure LI-102, "Corrective Action Process," Revision 4. The inspector completed one sample during this inspection.

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 the Technical Specifications as criteria for determining compliance. The inspector interviewed licensee personnel and reviewed:

- Current 3-year rolling average collective exposure.
- Five outage work activities scheduled during the inspection period and associated work activity exposure estimates which were likely to result in the highest personnel collective exposures.
- Five work activities of highest exposure significance completed during the last outage.
- ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements
- Intended versus actual work activity doses and the reasons for any inconsistencies
- Interfaces between operations, radiation protection, maintenance, maintenance planning, scheduling and engineering groups
- Integration of ALARA requirements into work procedure and RWP documents

- Method for adjusting exposure estimates, or re-planning work, when unexpected changes in scope or emergent work were encountered

- Exposure tracking system

- Use of engineering controls to achieve dose reductions and dose reduction benefits afforded by shielding

- Exposures of individuals from selected work groups

- Radiation worker and radiation protection technician performance during work activities in radiation areas, airborne radioactivity areas, or high radiation areas

- Declared pregnant workers during the current assessment period, monitoring controls, and the exposure results

- Self-assessments and audits related to the ALARA program since the last inspection

- Resolution through the corrective action process of problems identified through post-job reviews and post-outage ALARA report critiques

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

The inspector completed 10 of the required 15 samples and 6 of the optional samples.

b. Findings

Introduction. A Green self-revealing noncited violation of a Technical Specification 5.4.1.a-required procedure was reviewed because a worker failed to follow a radiation work permit requirement and became contaminated.

Description. On March 15, 2004, a worker alarmed the personnel contamination monitors upon exiting the Radiologically Controlled Area because the individual was contaminated. A followup survey of the work area identified contamination levels of up to 180,000 disintegrations per minute per 100 cm^2 inside a drain pipe and 500,000 disintegrations per minute per 100 cm^2 inside the high pressure control valve housing. The licensee determined that the worker did not follow the radiation work permit requirement to contact radiation protection for approval before commencing cutting activities.

Analysis. The failure to follow a radiation work permit requirement is a performance deficiency. The inspector compared this finding to the examples found in Appendix E of Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," and determined there was no applicable example to establish whether or not the finding was more than minor. As a result, the inspector compared this deficiency to the minor questions contained in Section 3, "Minor Questions," to Appendix B of IMC 0612. The inspector concluded the finding is greater than minor because it is associated with the Program and Process attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective, which is to ensure adequate protection of the worker health and safety from exposure to radiation. Since this occurrence involves a worker's unplanned, unintended dose or potential of such a dose which could have been significantly greater as a result of a single minor, reasonable alteration of circumstances, this finding was evaluated with the Occupational Radiation Safety Significance Determination Process. 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 ALARA planning and controls, an overexposure, a substantial potential for overexposure, or an impaired ability to assess dose.

This finding had cross-cutting aspects associated with human performance. The failure of the worker to comply with the radiation work permit directly contributed to the finding.

Enforcement. Technical Specification 5.4.1.a requires procedures applicable to Regulatory Guide 1.33, Revision 2, Appendix A, Section 7(e) for Access Control to Radiation Areas including a Radiation Work Permit System. Procedure 01-S-08-2, "Exposure and Contamination Control, Revision 113," Section 6.9.3 states, in part, that the radiation worker is responsible for reviewing and understanding the RWP and other relative material before starting work. However, the worker commenced grinding activities without obtaining radiation protection's approval. Because the failure to follow a radiation work permit requirement is of very low safety significance and is entered into the licensee's corrective action program CR-GGN-2004-1354, this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000416/2004003-01, Failure to Follow a Radiation Work Permit Requirement.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors sampled licensee submittals for the performance indicators (PIs) listed below for the period from July 2003 through June 2004. 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.

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 PIs 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.

Mitigating Events Cornerstone

- Safety System Functional Failures

Barrier Integrity Cornerstone

- Reactor Coolant System Activity

The emergency preparedness inspector sampled submittals for the performance indicators listed below for the period July 1, 2003, through March 31, 2004. The definitions and guidance of Nuclear Engineering Institute 99-02, “Regulatory Assessment Indicator Guideline,” were used 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 inspector 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 inspector reviewed the qualification, training, and drill participation records for a sample of 10 emergency responders. The inspector reviewed alert and notification system maintenance records and procedures, and a 100 percent sample of siren test results. The inspector also interviewed licensee personnel that were responsible for collecting and evaluating the performance indicator data.

b. Findings

No findings of significance were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Annual Sample Review

a. Inspection Scope

The inspectors selected two condition reports for detailed review CRs 2003-2853 and 2004-1477. The condition reports were associated with an inadvertent high pressure core spray system initiation and a control rod misalignment event. The inspectors reviewed the licensee's causal analysis report to ensure that the full extent of each condition was identified, appropriate evaluations were performed, and appropriate corrective actions were specified and prioritized. The inspectors evaluated the condition reports against the requirements of the licensee's corrective action program as delineated in administrative Procedure LI-102, "Corrective Action Process," Revision 2, and 10 CFR Part 50, Appendix B.

b. Findings and Observations

Inadvertent Initiation of the High Pressure Core Spray (HPCS) System

Introduction. A Green self-revealing noncited violation of TS 5.4.1.a was reviewed by the inspectors as a result of GGNS maintenance technicians failing to comply with a surveillance procedure while performing maintenance on the reactor vessel water level control system. This failure resulted in the HPCS system inadvertently initiating and injecting into the reactor vessel.

Description. On September 27, 2003, with the reactor operating at 100% power, GGNS maintenance technicians began planned maintenance per surveillance Procedure 06-IC-1B21-Q-2010, Revision 103, Attachment 3, "Reactor Vessel Water Level Functional Test; Channel L." The technicians placed test leads across the wrong set of test jack pins while measuring the continuity of a reactor water level control circuit. The procedure required the measurement to be made across pins E and F and the technicians in error placed their leads across pins E and D. The technicians heard activation of relays within the HPCS control logic cabinet in which they were working and immediately removed the leads from the test jacks. Their error completed the circuit for the HPCS system low water level initiation logic (Level 2) causing initiation of the HPCS system.

The HPCS system initiation and injection into the reactor vessel caused a 3 percent reactor power decrease and a reactor water level increase of about 15 inches peaking at 51 inches. Operators responded by closing the HPCS injection valve and shutting down the HPCS pump. The reactor vessel water level scram set point for high water level (53.5 inches) was not reached. Operations took appropriate actions to stabilize the plant. This event was documented in condition report CR-GGN-2003-2853. The licensee performed a root cause analysis of this event concluding it was due to the ineffective use of human error prevention behaviors including self-checking and peer checking.

Analysis. The inspectors determined that a performance deficiency existed when the licensee failed to properly implement a surveillance test procedure which resulted in the inadvertent initiation of the HPCS system. The inspectors compared this finding to the examples found in Appendix E of IMC 0612, "Power Reactor Inspection Reports," and determined there was no applicable example to establish whether or not the finding was more than minor. As a result, the inspectors compared this deficiency to the minor questions contained in Section 3 of Appendix B of IMC 0612. The inspectors concluded the finding was more than minor because it involved the human performance attribute (human error) of the initiating events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations.

The inspectors reviewed this finding in accordance with IMC 0609, "Significance Determination Process SDP," Appendix A, "SDP Phase 1 Screening Worksheet," and determined the finding affected the Initiating Events cornerstone; however, the finding did not contribute to the likelihood of a primary or secondary LOCA initiator, did not contribute to both the likelihood of a reactor trip and the likelihood that the mitigation equipment or functions would not be available, nor did it increase the likelihood of a fire or internal/external flooding. As a result, this finding was determined to be of very low safety significance.

This finding had cross-cutting aspects associated with human performance. The failure of the maintenance technicians to comply with the surveillance procedure directly contributed to the finding.

Enforcement. Technical Specification 5.4.1.a requires written procedures be established, implemented, and maintained covering the activities specified in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, Item 8.b requires procedures for control of surveillance testing. Procedure 06-IC-1B21-Q-2010, Revision 103, Attachment 3, "Reactor Vessel Water Level Functional Test; Channel L," step 5.14.10c required continuity to be measured between test pin E and test pin F on E22A-J1. On September 27, 2003, maintenance technicians in error measured between test pin E and test pin D resulting in the HPCS system inadvertently initiating and injecting into the reactor vessel. Since this violation is of very low safety significance and has been entered into the licensee's corrective action program as condition report CR-GGN-2003-2853, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000416/2004003-02, Failure to Implement Surveillance Procedure Resulting in the Inadvertent Initiation of HPCS System.

Control Rod Misalignment Event

Introduction. A Green self-revealing noncited violation of TS 5.4.1.a was reviewed by the inspectors as a result of GGNS reactor operators failing to comply with an operating procedure used to establish a required rod pattern configuration during a reactor startup. This failure resulted in the reactor operators inadvertently withdrawing a control rod out of sequence.

Description. On March 22, 2004, with the reactor critical and below the point of adding heat in the startup mode, GGNS reactor operators were performing procedure 03-1-01-1, Revision 127, "Cold Shutdown to Generator Carrying Minimum Load." The reactor operator was in the process of withdrawing control rods per the reactor engineering control rod movement sequence instructions when he inadvertently skipped the last control rod of procedure step number 40 requiring control rod number 20-49 to be withdrawn from position 36 to position 48. Instead, the reactor operator selected and withdrew the first control rod of step number 41 of the sequence instruction which required control rod number 12-09 to be withdrawn from position 36 to position 48. The reactor operator withdrew control rod 12-09 to position 40 before realizing his mistake. He then corrected his mistake by reinserting control rod 12-09 to position 36 and reestablished the proper rod pattern control.

The two reactor operators involved in the control rod mis-positioning included the individual operating the panel pushbuttons and an individual assigned for peer checking. The two reactor operators were subsequently relieved of their rod control assignments and replaced by two other reactor operators who continued with the startup for that shift. This event was documented in condition report CR-GGN-2004-1477. The licensee performed a root cause analysis of this event concluding it was due to the ineffective use of human error prevention behaviors including self-checking and peer checking.

Analysis. The inspectors determined that a performance deficiency existed when the licensee failed to properly implement a reactor startup procedure which resulted in the inadvertent misalignment of the reactor control rod pattern. The inspectors compared this finding to the examples found in Appendix E of IMC 0612, “Power Reactor Inspection Reports,” and determined there was no applicable example to establish whether or not the finding was more than minor. As a result, the inspectors compared this deficiency to the minor questions contained in Section 3 of Appendix B of IMC 0612. The inspectors concluded the finding was more than minor because it involved the configuration control attribute (reactivity control) of the barrier integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events.

The inspector reviewed this finding in accordance with IMC 0609, "Significance Determination Process (SDP)," Appendix A, "SDP Phase 1 Screening Worksheet” and determined the finding affected the barrier integrity cornerstone. The finding only affected the fuel barrier and not the reactor coolant system barrier and therefore was determined to be of very low safety significance.

This finding had cross-cutting aspects associated with human performance. The failure of the reactor operator to comply with the startup procedure directly contributed to the finding.

Enforcement. Technical Specification 5.4.1.a requires written procedures be established, implemented, and maintained covering the activities specified in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, Item 2.b requires procedures for control of nuclear power plant startup evolutions. Procedure 03-1-01-1, Revision 127, "Cold Shutdown to Generator Carrying Minimum Load," step 5.9 requires a reactor engineering rod withdrawal sequence to be followed in order to maintain proper rod pattern control. On March 22, 2004, GGNS reactor operators performed a reactor startup rod withdrawal sequence out of order resulting in an improper rod pattern. Since this violation is of very low safety significance and has been entered into the licensee's corrective action program as condition report CR-GGN-2004-1477, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000416/2004003-03, Failure to Implement Reactor Startup Procedure Resulting in the Inadvertent Misalignment of the Control Rod Pattern.

.2 Semi-Annual Sample Review

a. Inspection Scope

On June 24, 2004, the inspectors completed a semiannual review of licensee internal documents, reports, and performance indicators to identify trends that might indicate the existence of more significant safety issues. The inspectors' review included:

- System Performance Indicators
- Open Temporary Alterations
- Selected Condition Report Summaries for the 1st and 2nd Quarters of 2004
- Selected Work Orders from 1st and 2nd Quarters of 2004
- GGNS Internal Performance Summary Reports

b. Findings and Observations

No findings of significance were identified. However, the inspectors did make the following observations which were shared with plant management.

- The inspectors noted a number of significant human performance errors during the first half of 2004.

- In some cases work orders were written to make minor repairs without the generation of a condition report when a condition report may have been warranted.

.3 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 follow-up, 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.

.4 Emergency Preparedness

a. Inspection Scope

The inspector reviewed performance and facility problems documented in calendar years 2003 and 2004 in the licensee’s corrective action program. The inspector selected 14 condition reports for detailed review based on their impact on the risk significant planning standards, emergency worker protection, and the ability to staff and maintain emergency response facilities. The selected condition reports were reviewed to ensure that the full extent of the issues was identified, an appropriate evaluation was performed, appropriate corrective actions were identified and prioritized, and that effective corrective actions were completed. The inspector evaluated the action requests against the requirements of Procedure LI-102, "Corrective Action Process," Revision 4.

b. Findings and Observations

No findings of significance were identified.

.5 Occupational Radiation Safety

a. Inspection Scope

Section 2OS2 evaluated the effectiveness of the licensee's problem identification andresolution 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.

b. Findings and Observations

No findings of significance were identified.

4OA3 Event Followup

.1 (Closed) LER 05000416/2004001-00, Unplanned Loss of Alternate Decay Heat Removal System Operability

On February 24, 2004, the licensee deliberately deenergized the Division II vital Bus 16AB for refueling outage maintenance activities. Deenergizing the bus removed electrical power from motor operated Valves E12-F004C and E12-F064C which are required to be repositioned closed when the Alternate Decay Heat Removal (ADHR) System is placed in service. A Green NCV for an inadequate procedure associated with this event is documented in Inspection Report 05000416/2004002 dated April 20, 2004. No new findings of significance were identified. The licensee entered the event and the NCV in their corrective action program as CR-GGN-2004-0651 and CR-GGN-2004-0657, respectively. This LER is closed.

.2 (Closed) LER 05000416/2004002-00, Loss of RHR Operability Due to Misaligned Minimum Flow Valve

a. Inspection Scope

The inspectors reviewed the LER and CR-GGN-2004-1644, which documented this event in the licensee's corrective action program. The inspectors reviewed the licensee staff's operability determination, reportability determination, causal analysis report, and corrective actions taken to ensure adequate actions for the valve misalignment event were taken. The cause of the event was a failure of operators to comply with written system operating instructions.

b. Findings

Introduction. A Green self-revealing noncited violation of Technical Specification 5.4.1.a was reviewed by the inspectors as a result of GGNS operators failing to comply with a valve lineup procedure prior to restoring the residual heat removal (RHR) system to operation following Refueling Outage 13. This failure resulted in the isolation of the minimum flow line for the RHR Train 'B' pump, rendering one low pressure emergency core cooling system inoperable for greater than the time allowed by Technical Specification 3.5.1.

Description. On April 5, 2004, while performing a quarterly functional surveillance of the RHR 'B' system, operators identified that the discharge pressure of the pump was greater than expected. Operators secured the pump and subsequently determined that the RHR minimum flow line manual isolation Valve 1E12-F018B was shut. This valve was required to be locked open to provide minimum flow protection for the RHR 'B' pump. Licensee personnel determined the valve had been left shut following maintenance on the minimum flow line performed during the previous refueling outage. The licensee determined through conversations with the vendor and examination of inservice testing results that the RHR 'B' pump had not been damaged as a result of operation with Valve 1E12-F018B shut.

The inspectors determined that with Valve 1E12-F018B shut, the minimum flow line would not function to protect the RHR 'B' pump during pump startup with the reactor pressurized. Thus, System Operating Instruction 04-1-01-E12-1, "Residual Heat Removal System," Revision 123, required the low pressure coolant injection and containment spray modes of RHR to be declared inoperable when the associated minimum flow line was not available. Technical Specification 3.5.1 allowed one train of RHR to be inoperable for no more than seven days in plant operating Modes 1 and 2. Grand Gulf entered Mode 2 at 3:56 a.m. on March 22, 2004, 14 days prior to discovering the misaligned valve.

Analysis. The performance deficiency associated with this event was a failure of GGNS to properly implement a valve lineup procedure which resulted in the isolation of the RHR minimum flow line during power operation. The inspectors compared this finding to the examples found in Appendix E of IMC 0612, "Power Reactor Inspection Reports," and determined there was no applicable example to establish whether or not the finding was more than minor. As a result, the inspectors compared this deficiency to the minor questions contained in Section 3 of Appendix B of IMC 0612. The inspectors determined the finding to be greater than minor because it affected the configuration control and human performance attributes of the mitigating system cornerstone and affected the cornerstone objective to ensure the availability of systems that respond to initiating events. Manual Chapter 0609 Significance Determination Process Phase 1 screening worksheet required a Phase 2 evaluation since it resulted in the actual loss of a single train for longer than its Technical Specification Allowed Outage Time. The Phase 2 evaluation and a confirmatory Phase 3 analysis determined this finding to have a change in Core Damage Frequency of less than 1.0E-6 and a change in Large Early Release Fraction of less than 1.0E-7. Therefore, the finding was considered to be of very low safety significance (Green).

This finding had cross-cutting aspects associated with human performance. The failure of the operators to comply with the system valve lineup procedure directly contributed to the finding.

Enforcement. Technical Specification 5.4.1.a requires written procedures be established, implemented, and maintained covering the activities specified in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, Item 1.c requires procedures for equipment control. Attachment 1B of System Operating Instruction 04-1-01-E12-1, "Residual Heat Removal System," Revision 123, requires Valve 1E12-F018B to be locked open to restore RHR 'B' to service. In March 2004, operators restored RHR train 'B' to service with Valve 1E12-F018B shut. As a result of this failure, the plant operated for 14 days in a condition where the minimum flow line would not function to protect the RHR pump during pump startup with the reactor pressurized. Thus, one train of low pressure coolant injection inoperable for 14 days, which violated the requirement of Action Statement A.1 of Technical Specification 3.5.1 which prohibits operation in Operating Modes 1 through 3 with one low pressure emergency core cooling system out of service for greater than seven days. Since this violation is of very low safety significance and has been entered into the licensee's corrective action program as condition report CR-GGN-2004-1644, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000416/2004003-04, Improper Valve Lineup Results in Isolation of RHR Pump Minimum Flow Line.

4OA4 Crosscutting Aspects of Findings

Section 2OS2 describes a human performance error associated with a failure of a worker to follow a radiation work permit requirement to contact radiation protection prior to commencing cutting activities. This failure resulted in contamination of the worker.

Section 4OA2 describes a human performance error associated with the failure of maintenance technicians to comply with a surveillance procedure for performing maintenance on the reactor vessel water level control system. This failure resulted in the high pressure core spray system inadvertently initiating and injecting into the reactor vessel.

Section 4OA2 describes a human performance error associated with the reactor operators failing to comply with an operating procedure used to establish a required rod pattern configuration during a reactor startup. This failure resulted in the reactor operators inadvertently withdrawing a control rod out of sequence.

Section 4OA3 describes a human performance error associated with the failure of the operators to comply with a system operating instruction used to establish the RHR system valve line up for operation. This resulted in the isolation of the minimum flow line for the RHR Train 'B' pump, rendering one low pressure ECCS inoperable for greater than the allowed outage time of Technical Specification 3.5.1.

4OA5 Other (TI 2515/156, “Offsite Power System Operational Readiness.”)

a. Inspection Scope

The inspectors collected data from licensee maintenance records, event reports, corrective action documents and procedures and through interviews of station engineering, maintenance, and operations staff, as required by Temporary Instruction (TI) 2515/156. The data was gathered to assess the operational readiness of the offsite power systems in accordance with NRC requirements such as Appendix A to 10 CFR Part 50, General Design Criterion (GDC) 17; Criterion XVI of Appendix B to 10 CFR Part 50, Plant Technical Specifications (TS) for offsite power systems; 10 CFR 50.63; 10 CFR 50.65 (a)(4), and licensee procedures. Documents reviewed for this TI are listed in attachment.

b. Findings

No findings of significance were identified. Based on the inspection, no immediate operability issues were identified. In accordance with TI 2515/156 reporting requirements, the inspectors provided the required data to the headquarters staff for further analysis.

4OA6 Meetings, including Exit

On May 27, 2004, the inspectors presented the results of the emergency preparedness and health physics inspections to Mr. J. Edwards, Plant General Manager, and members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

On July 1, 2004, the resident inspector presented the inspection results to Mr. G. Williams, Vice President, Operations and members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspections.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

C. Abbott, Supervisor, Quality Assurance
B. Abraham, Licensing Engineer
D. Barfield, Manager, Outage
C. Bottemiller, Manager, Plant Licensing
C. Buford, Senior Operations Instructor
R. Collins, Manager, Operations (Acting)
D. Cotton, Supervisor, Radiation Protection
D. Coulter, Senior Licensing Specialist
J. Edwards, General Manager, Plant Operations
C. Ellsaesser, Manager, Planning and Scheduling
G. Green, Sr. Emergency Planner
M. Guynn, Manager, Emergency Preparedness
M. Krupa, Director, Nuclear Safety Assurance
M. Larson, Senior Licensing Engineer
M. McAdory, Shift Manager
J. Owens, Sr. Licensing Specialist
M. Rohrer, Manager, System Engineering
F. Rossier, Supervisor, Radiation Protection
S. Scott, Corporate Engineering - ISI
G. Sparks, Manager, Design Engineering
R. Sumrall, Emergency Planner
D. Townsend, Sr. Emergency Planner
W. Trichell, Supervisor, Radiation Protection
R. VanDenAkker, Sr. Emergency Planner
G. Williams, Vice President, Operations
D. Wiles, Director, Engineering
R. Wilson, Superintendent, Radiation Protection
E. Wright, Specialist, Radiation Protection
H. Yeldell, Manager, Maintenance

NRC personnel

T. Farnholtz, Senior Project Engineer, Reactor Project Branch A
A. Barrett, Project Engineer, Reactor Project Branch A

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000416/2004003-01	NCV	Failure to Follow a Radiation Work Permit Requirement
05000416/2004003-02	NCV	Failure to Implement Surveillance Procedure Resulting in the Inadvertent Initiation of HPCS System
05000416/2004003-03	NCV	Failure to Implement Reactor Startup Procedure Resulting in the Inadvertent Misalignment of the Control Rod Pattern
05000416/2004003-04	NCV	Improper Valve Lineup Results in Isolation of RHR Pump Minimum Flow Line

Closed

05000416/2004001-00	LER	Unplanned Loss of Alternate Decay Heat Removal System Operability
05000416/2004002-00	LER	Loss of RHR Operability Due to Misaligned Minimum Flow Valve

LIST OF DOCUMENTS REVIEWED

Procedures

Administrative Procedure LI-102, "Corrective Action Process," Revision 2

Administrative Procedure 01-S-06-5, "Reportable Events," Revision 105

Administrative Procedure 01-S-06-44, "Operability Assessment," Revision 105

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

Administrative Procedure 01-S-10-6, "Emergency Response Organization," Revision 16

Administrative Procedure 01-S-08-2, "Exposure and Contamination Control," Revision 113

Administrative Procedure 01-S-18-6, "Risk Assessment of Maintenance Activities," Revision 1

Administrative Procedure, 14-S-01-4, "GGNS Training Examinations," Revision 27

Off-Normal Event Procedure 05-1-02-VI-2, "Hurricanes, Tornadoes, and Severe Weather," Revision 105

Off-Normal Event Procedure 05-1-02-VI-1, "Flooding," Revision 102

Surveillance Procedure 06-OP-1E12-Q-0024, "LPCI/RHR Subsystem B Quarterly Functional Test," Revision 108

System Operating Instruction 04-1-01-E12-1, "Residual Heat Removal System," Revision 123

System Operating Instruction 04-1-01-E21-1, "Low Pressure Core Spray System," Revision 35

System Operating Instruction 04-1-01-R21-12, "BOP Bus 12HE," Revision 20

System Operating Instruction 04-1-01-R21-13, "BOP Bus 13AD," Revision 14

System Operating Instruction 04-1-01-R21-15TCN14, "ESF Bus 15AA," Revision 13

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 On-call Personnel," Revision 38

Emergency Preparedness Procedure 10-S-01-12, "Radiological Assessment and Protective Action Recommendations," Revision 30

Emergency Preparedness Procedure 10-S-04-4, "Performance Indicators," Revision 4

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

RP-103, "Access Control," Revision 2

RP-105, "Radiation Work Permits," Revision 5

RP-110, "ALARA Program," Revision 2

RP-205, "Prenatal Monitoring," Revision 2

NS-102, "Fitness for Duty Program," Revision 1

TQ-110, "Emergency Preparedness Training Program," Revision 3

EP-201, "Emergency Preparedness Performance Indicators," Revision 0

EP-301, "Emergency Preparedness Confirmation of Offsite Emergency Response Capability following a Natural Disaster," Revision 0

EP-302, "Severe Weather Response," Revision 2

EP-305, "10 CFR 50.54(q) Review Program," Revision 1

EP-401, "Public Use of Emergency Preparedness Owner Controlled Area," Revision 0

Work Orders

00027679	00034599	00043617	50322368	50684783
00028049	00037773	00043617	50337352	50748405
00030073	00043051	50319141	50617894	
00030113	00043052	50319434	50684783	

Condition Reports

CR-GGN-2003-1438	CR-GGN-2004-0614	CR-GGN-2004-2002
CR-GGN-2003-1899	CR-GGN-2004-0651	CR-GGN-2004-2060
CR-GGN-2003-1900	CR-GGN-2004-0657	CR-GGN-2004-2166
CR-GGN-2003-1910	CR-GGN-2004-0678	CR-GGN-2004-2213
CR-GGN-2003-2079	CR-GGN-2004-0832	CR-GGN-2004-2218
CR-GGN-2003-2084	CR-GGN-2004-0902	CR-GGN-2004-2285
CR-GGN-2003-2211	CR-GGN-2004-1002	CR-GGN-2004-2345
CR-GGN-2003-2527	CR-GGN-2004-1219	CR-GGN-2004-2361
CR-GGN-2003-2564	CR-GGN-2004-1348	CR-GGN-2004-2414
CR-GGN-2003-2724	CR-GGN-2004-1477	CR-GGN-2004-2420
CR-GGN-2003-2773	CR-GGN-2004-1580	CR-GGN-2004-2427
CR-GGN-2003-2798	CR-GGN-2004-1583	CR-GGN-2004-2451
CR-GGN-2003-2853	CR-GGN-2004-1587	CR-GGN-2004-2500
CR-GGN-2003-2900	CR-GGN-2004-1626	CR-GGN-2004-2562
CR-GGN-2003-2987	CR-GGN-2004-1644	CR-GGN-2004-2571
CR-GGN-2003-3287	CR-GGN-2004-1766	CR-GGN-2004-2573
CR-GGN-2003-3305	CR-GGN-2004-1872	CR-GGN-2004-2575
CR-GGN-2003-3460	CR-GGN-2004-1882	CR-GGN-2004-2618
CR-GGN-2003-3461	CR-GGN-2004-1886	CR-GGN-2004-2619
CR-GGN-2004-1701	CR-GGN-2004-1889	CR-GGN-2004-2620
CR-GGN-2004-0318	CR-GGN-2004-1891	CR-GGN-2004-2625
CR-GGN-2004-0474	CR-GGN-2004-1917	CR-GGN-2004-2853
CR-GGN-2004-0569	CR-GGN-2004-1953	CR-GGN-2004-2854
CR-GGN-2004-0571	CR-GGN-2004-1955	CR-GGN-2004-3086
CR-GGN-2004-0603	CR-GGN-2004-1978	

Radiation Work Permits (RWP) and Packages

2003-1011, Revision 1	2004-1403, Revision 0	2004-1512, Revision 1
2004-1005, Revision 0	2004-1505, Revision 0	2004-1604, Revision 2
2004-1400, Revision 1	2004-1508, Revision 1	
2004-1402, Revision 2	2004-1510, Revision 1	

Self Assessment Reports

Remote Emergency News Media Center Benchmarking Summary Report, December 2003
Drill and Exercise Objective Assessment, LO-GLO-2003-00147

Quality Assurance Audits and Surveillances:

QA-7-2003-GGNS-1, May 27, 2003
QS-2003-GGNS-010, "Respirator Storage in Emergency Response Facility"

GLO-2003-150-CA-62/2004-015-CA-1
LO-GLO-2004-00004

Emergency Preparedness Drill Reports

Tabletop Drills: 2002 Backup OSC, 5/14/2002; 2002 Backup EOF, 6/15/2002; 2003 Backup OSC, 4/29/2003; 2003 Backup ENMC, 4/15/2003; 2003 Backup TSC, 5/28/2003

Training Drills: Fourth Quarter 2002, 5/14/2003; First Quarter 2003, 8/7/2003; Second Quarter 2003, 7/18/2003; First Quarter 2004, 5/6/2004; Second Quarter 2004, 4/7/2004

Exercises: 2003 Dress Rehearsal, 8/22/2003; 2003 Biennial Exercise, 10/17/2003

Training Scenarios

GSMS-RO-0N022, "Bomb Threat in the Control Room and Reactor Shutdown from the Remote Shutdown Panel," Revision 3

GSMS-LOR-0O208, "Loss of BOP Transformer 23 and Loss of Primary Service Water," Revision 0

Other Miscellaneous Documents
Grand Gulf Fire Pre-plans, Revision 11
Vendor Manual 460000137, "Technical Manual for Vertical RHR Pump," Revision 0
ALARA Committee Minutes dated August 15, 2003, through April 21, 2004
Refueling Outage Twelve Critique, September 13, 2002 through October 6, 2002
Refueling Outage Thirteen Outage Report, February 22, 2003 through March 24, 2003
"GGNS Drills and Exercises, Objective and Long-Range Schedule, 2003-2008"
Alert and Notification System Design Report, November, 2003
Siren testing schedules and reports for third quarter 2003 through first quarter 2004
2003 and 2004 Public Alert and Notification System Training for Offsite Agencies
EPTS-6, Attachment 1 to GLP-EP-EPTS 6.02, "Emergency Preparedness Training," Revision 2
2003 Unannounced Off-hours Augmentation Drill Report, December 12, 2003