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

January 19, 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 05000416/2004005

Dear Mr. Williams:

On December 31, 2004, 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 January 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 one NRC identified finding and one self revealing finding 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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RIV:SRI:DRP/A	SRI:DRP/A	PE: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:	05000416/2004005
Licensee:	Entergy Operations, Inc.
Facility:	Grand Gulf Nuclear Station (GGNS)
Location:	Waterloo Road Port Gibson, Mississippi 39150
Dates:	October 1 through December 31, 2004
Inspectors:	T. L. Hoeg, Senior Resident Inspector G. B. Miller, Senior Resident Inspector A. J. Barrett, Project Engineer G. Replogle, Senior Reactor Inspector
Approved By:	W. D. Johnson, Chief Project Branch A Division of Reactor Projects
Attachment:	Supplemental Information

Enclosure

SUMMARY OF FINDINGS

IR 05000416/2004005; 10/1/04 - 12/31/04; Grand Gulf Nuclear Station; routine integrated report; Equipment Alignment, Problem Identification and Resolution.

The report covered a 13-week period of inspection by resident inspectors and an announced inspection by a regional senior reactor inspector. 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 50.71, “Maintenance of Records, Making of Reports,” for failure of the licensee to retain safety related records relating to the periodic testing of the high pressure core spray emergency diesel generator starting air storage tank relief valves. The licensee initiated condition reports CR-GGN-2004-3899 and CR-GGN-2004-3922 to evaluate the operability and possible corrective actions.

  This finding is more than minor because it is analogous to example 1.b of Appendix E of IMC 0612, “Power Reactor Inspection Reports,” in that the safety related records were irretrievably lost. The finding was more than minor since it affected the design control attribute of the mitigating systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. Using the Significance Determination Process Phase 1 worksheet, the inspectors determined the finding affected the mitigating systems cornerstone and was of very low safety significance because it did not represent an actual loss of system function (Section 1R04).

Cornerstone: Occupational Radiation Safety

- Green. The inspectors reviewed a self-revealing noncited violation of Technical Specification 5.4.1(a) for a worker who failed to follow a source calibration procedure and removed a lead attenuator while the radioactive source was in the up (exposed) position. As a result, the worker unintentionally exposed himself to a dose rate of approximately 330 millirem/hour, received an unplanned dose of one millirem and had the potential to receive additional unnecessary dose.

  This finding is greater than minor since it involves a worker’s unplanned, unintended dose resulting from actions contrary to licensee procedures, which is associated with the Program and Process attribute of the Occupational Radiation Safety cornerstone and directly affects the cornerstone objective to ensure adequate protection of the worker's

health and safety from exposure to radiation. The inspectors evaluated the finding using the Occupational Radiation Safety Significance Determination Process and determined it 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 4OA2.3).

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

During the onset of cold weather conditions on December 2, 2004, 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 diesel generator building and 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 October 26, 2004, an inspector walked down the Division III emergency diesel generator during planned switchyard maintenance activities.

- On October 28, 2004, an inspector walked down the 500 kV electrical distribution system while the Franklin 500 kV line was out of service for maintenance.

- On December 2, 2004, an inspector walked down the control rod drive system following a Division II system outage for planned pump maintenance.

Complete System Walkdown. The inspectors conducted a detailed review of the alignment and condition of the standby liquid control 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-C41-1, "Standby Liquid Control System," Revision 116, 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

Failure to Retain Records

Introduction. A Green noncited violation of 10 CFR Part 50.71, “Maintenance of Records, Making of Reports,” was identified by the inspectors for failure of the licensee to retain safety related records relating to the periodic testing of the high pressure core spray emergency diesel generator starting air storage tank relief valves.

Description. On October 26, 2004, during a partial walkdown of the high pressure core spray system, the inspectors noticed relief valve label plate information which was difficult to read. Some of the manufacturer data on the label plates was obscured due to recent painting. The inspectors requested copies of the last work order documentation used for periodic maintenance on the valves to confirm component identification and completion of required testing. GGNS was unable to produce the records for periodic testing of two out of the four high pressure core spray emergency diesel generator starting air tank relief valves identified as 1P81F048A and 1P81FO49B. The irretrievable documents were maintenance action items (MAI) 282029 and 215938 respectively.

The licensee’s investigation determined that although the documentation used to perform the periodic “as-found” testing and certification of the relief valves was not retained, other records were available in the form of surveillance verification forms which accompanied the relief valves when they were removed from storage for installation in the plant. The licensee concluded that although the actual test documentation was not retrievable, the surveillance verification documents confirmed that the required testing was satisfactorily performed as required and the relief valves were able to perform their design function.

Analysis. The inspectors determined that a performance deficiency existed in that the licensee failed to retain periodic test records for safety related components. The inspectors compared this finding to the examples found in Appendix E of IMC 0612, “Power Reactor Inspection Reports,” and determined it was more than minor since it was analogous to example 1.b in that required safety related records were irretrievably

lost. The finding was more than minor since it affected the design control attribute of the mitigating systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events.

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 mitigating systems cornerstone. The finding did not represent an actual loss of system function and therefore was determined to be of very low safety significance.

This finding had crosscutting aspects associated with human performance. The failure of records management personnel to properly file and retain required documentation contributed to this finding.

Enforcement. 10 CFR 50.71(c) states, in part, that records required by technical specifications must be retained for a specified period of time. In this case the period of time specified is the life of the plant (termination of the license). GGNS personnel failed to retain periodic test documents for safety related relief valves used on the high pressure core spray diesel generator starting air storage tanks. Since this violation is of very low safety significance and has been entered into the licensee's corrective action program as condition reports CR-GGN-2004-3899 and CR-GGN-2004-3922, this violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000416/2004005-01, Failure to Retain Safety Related Records.

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 III emergency diesel generator room 1D306
- Emergency diesel generator building breezeway 1D301
- Low pressure core spray pump room 1A119
- Division II switchgear room OC215
- Control rod drive hydraulic control unit area 1A311
- Containment building 119' personnel airlock 1A110

Annual Drill Observation. On November 10, 2004, the inspectors observed a fire brigade drill staged in the parking lot of the administrative services building, to evaluate the readiness of the fire brigade to fight fires. The inspectors observed the fire brigade members: (1) donning protective clothing, (2) selecting turnout gear, (3) entering the fire zone, and (4) communicating with the control room staff. The inspectors observed the fire fighting equipment brought to the fire scene to evaluate whether sufficient equipment was available for the simulated fire. The inspectors also observed fire fighting directions and radio communications between the brigade leader, brigade members, and the control room.

b. Findings

No findings of significance were identified.

1R07 Biennial Heat Sink Performance (71111.07B)

a. Inspection Scope

The inspector selected three safety-related heat exchangers for this inspection, specifically the Division I control room air conditioning, the Division II electrical switchgear room cooler, and the Division II emergency diesel generator jacket water cooler. For the selected heat exchangers and the ultimate heat sink, the inspector reviewed the surveillance results, design calculations, chemical controls, vendor recommendations, Updated Safety Analysis Report specifications, Technical Requirements Manual and Technical Specifications. The inspector verified that the heat exchangers could adequately perform their safety functions under design basis conditions. The inspector also verified that the licensee took appropriate actions to identify and correct heat exchanger related conditions adverse to quality.

b. Findings

Introduction. The inspector opened an unresolved item concerning the licensee's Division I control room air conditioning Technical Specification Surveillance Requirement 3.7.4.1 activities. Since 1999, Grand Gulf engineers were aware that the Division I control room emergency air conditioning could not remove the required heat load under design basis conditions but failed to take prompt and effective corrective measures to address the problem. The inspector also identified that the licensee failed to properly address system operability on two occasions, as operability justifications were based on incomplete or nonapplicable information

Discussion. In 1999, as documented in Condition Report 1999-0742, the licensee identified that the Division I control room air conditioning unit could not remove the required heat load under design basis conditions. Specifically, the unit could not maintain the control room at less than or equal to 90 EF assuming a postaccident heat load. More recent surveillances, conducted on March 19, 2001; August 5, 2002; and

February 5, 2004 identified the same problem. The Updated Safety Analysis Report, Section 9.4.1.1.2, the Technical Requirements Manual, Section 6.7.3, "Temperature Monitoring," and the Technical Specifications 3.7.4 Bases, Sections 3.7.4.C.1 and C.2, identified 90 EF as the maximum unconditionally approved temperature for the control room equipment. In addition, Calculation MC-QSZ51-01001, "Determination of Control Room Heat Load at 90 EF," Revision 0, and numerous control room equipment design documents identified 90 EF as the maximum control room temperature.

The inspector identified that the surveillance instruction (Work Order 00026789) contained no acceptance criteria. Instead, as documented in a Justification for Continued Operations, dated February 5, 2004, engineers inappropriately reasoned that the operability limit for control room equipment was 120 EF (similar justification was contained in CR 1999-0742, dated July 20, 1999). This reasoning was based on a partial statement contained in the Technical Requirements Manual, Section 6.7.3, which required that the equipment be declared inoperable at 120 EF. The engineers failed to properly consider another statement, in the same section, that required an operability assessment if the control room temperature exceeded 90 EF. No such operability assessment was performed. Operators considered Technical Specification Surveillance Requirement 3.7.4.1 satisfied based on the engineers' signatures alone.

In response to the inspector's concerns, the licensee performed an operability assessment, documented in Condition Report 2004-4443. The inspector determined that the assessment was inadequate, as it was based on inapplicable information. The licensee based operability, in part, on a passage from the original NRC Safety Evaluation Report, Supplement 6. The passage stated: "...The NRC staff commented that surveillance requirements should include a requirement to verify that the control room air temperature is < 120 EF every 12 hours." The licensee inferred from the passage that control room equipment remained operable at ambient temperatures less than 120 EF. The inspector identified that the passage did not apply to general control room equipment qualification or to the control room emergency air conditioning system itself. The passage concerned the control room emergency filtration system, a different system. Due to lower wintertime site temperatures, the inspector agreed that operability was not a current concern. However, the inspector still questioned operability in the summer months.

Technical Specification Surveillance Requirement 3.7.4.1 requires the licensee to test the control room air conditioning system every 18 months to verify that the system can remove the required heat load. The inspector required additional guidance from the NRC's office of Nuclear Reactor Regulation (NRR) to determine if the licensee had technically satisfied the requirement. This issue is unresolved pending receipt of the NRR guidance and the completion of further NRC inspection with respect to equipment operability at temperatures exceeding 90 EF (URI 05000416/2004005-002).

Analysis. No significance determination is warranted at this time.

Enforcement. Consideration of enforcement will be made when closing the unresolved item.

1R11 Licensed Operator Requalification (71111.11)

Quarterly Inspection

a. Inspection Scope

On December 6, 2004, 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-WEX03, Revision 107, "Recirculation Pump Trip with a Loss of Condenser Vacuum and Scram Discharge Volume Blockage (Anticipated Transient Without Scram)." The inspector also observed the posttraining 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 one selected in-scope structure, system, or component (SSC) 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 system was reviewed:

- Residual Heat Removal System E12

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

Throughout the inspection period, the inspectors reviewed weekly and daily work schedules to determine when risk-significant activities were scheduled. The inspectors discussed three 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 50977450, Division III Emergency Diesel Generator Prelube
- WO 39207, Division II Control Room Air Conditioning Maintenance
- WO 56027, Division II Motor Generator Set Output Breakers Maintenance

b. Findings

No findings of significance were identified.

1R14 Nonroutine Events (71111.14)

a. Inspection Scope

On December 13, 2004, the inspectors observed control room personnel performance while both trains of spent fuel pool cooling were out of service for planned maintenance. During this time period the spent fuel pool had a slight heat up rate of about one degree Fahrenheit per hour, and the operators were closely monitoring spent fuel temperature to ensure it remained below technical specification requirements. The inspectors observed operators controlling this evolution in accordance with Off Normal Event Procedure 05-1-02-111-1, "Inadequate Decay Heat Removal," Revision 26.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors selected five 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-2004-3550, Secondary containment isolation valve (Valve P41-F067)
- CR-GGN-2004-3859, Control room fresh air system
- CR-GGN-2004-3899, Division III emergency diesel generator relief valve
- CR-GGN-2004-4000, Low pressure core spray system (Valve E21-F012)
- CR-GGN-2004-4143, Fire water supply header isolation valve (Valve P64-F282A)

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

The inspectors evaluated one sample of an operator burden associated with operation of the reactor core isolation cooling (RCIC) system as identified in CR-GGN-2004-0318. The RCIC turbine exhaust line isolation Valve E51-F068 does not have an automatic isolation signal to close, and so must be manually shut by an operator upon receipt of a valid isolation signal. 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 subject valves; 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.

The inspectors also performed one sample of 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 four 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 43861, Standby service water cooling tower fan blade maintenance
- WO 54075, Hydraulic control unit 20-61 accumulator maintenance
- WO 55557, Secondary containment isolation valve maintenance (Valve P64-F282A)
- WO 50645, Hydraulic control unit 36-13 scram valve diaphragm replacement

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 four 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-1P75-M-002, "Division II Standby Diesel Generator Functional Test," Revision 121

- 06-OP-1R21-M-002, "Division II Load Shedding and Sequencing Functional Test," Revision 101

- 06-OP-1P75-M-001, "Division I Standby Diesel Generator Functional Test," Revision 124

- 06-RE-1E22-Q-002, "High Pressure Core Spray Valves Functional Test," Revision 106

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed the temporary modification 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 postinstallation testing.

- Temporary Alteration 2004-0021, Liquid Radwaste Effluent Radiation Monitor

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Observation

a. Inspection Scope

The inspectors observed planned licensee emergency preparedness quarterly drills conducted on April 7, 2004, and November 3, 2004. The inspectors also observed a planned simulator based training evolution on December 6, 2004. The inspectors reviewed the drill scenarios to determine if they reflected realistic plant configurations. The inspectors observed GGNS personnel at various locations during the drills 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.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors sampled licensee submittals for the performance indicator (PI) listed below for the period from October 2003 through September 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 PI listed below during the previous four quarters. This number was compared to the number reported for the PI during the current quarter. Also, the inspectors interviewed licensee personnel responsible for compiling the information.

Mitigating Events Cornerstone

- Residual Heat Removal System Unavailability

b. Findings

No findings of significance were identified.

4OA2 Problem Identification and Resolution (71152)

.1 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.

.2 Semi-Annual Trend Review

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," the inspectors performed a review of the licensee's corrective action program (CAP) and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspector's review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in section 4OA2.1 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the six-month period of July through December 2004, although some examples expanded beyond those dates when the scope of the trend warranted. Inspectors also reviewed three specific CAP items associated with human performance errors associated with recent NRC inspection findings. The review also included issues documented outside the normal CAP including repetitive and/or rework maintenance lists, departmental problem lists, system health reports, quality assurance audit/surveillance reports, self assessment reports, and maintenance rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's latest quarterly trend reports. Corrective actions associated with a sample of the issues identified in the licensee's trend report were reviewed for adequacy.

The inspectors also evaluated the report against the requirements of the licensee's corrective action program as specified in administrative Procedure EN-LI-102, "Corrective Action Process," Revision 1, and 10 CFR Part 50, Appendix B. Additional documents reviewed are listed in the attachment.

b. Assessment and Observations

There were no findings of significance identified. The inspectors evaluated the licensee trending methodology and observed that the licensee had performed a detailed review analysis. The licensee routinely performed causal analysis, involved independent review organizations, and performed in depth program reviews to identify potential trends in their CAP data. The inspectors compared the licensee process results with the results of the inspectors' daily screening and did not identify any discrepancies or potential trends in the CAP data that the licensee had failed to identify.

The inspectors performed a specific review of system health reports, condition reports, and maintenance requests and identified the following observations, which were shared with plant management:

- The inspectors conducted an analysis of the increased rate of human performance errors identified during the last review documented in Inspection Report 05000416/2004003. The inspectors noted that although only two additional human performance errors have been significant enough to warrant

documentation in an inspection report, a sufficient number of minor human performance errors still occurred which indicated that the error rate has not decreased.

- The inspectors also reviewed condition reports written for deficiencies identified relating to storage and usage of plant spare parts issued from the Grand Gulf warehouse. The inspectors noted that the number of condition reports written during the six-month period from June to December 2004 was equal to the number written for all of calendar year 2003.

.3 Annual Sample Review

a. Inspection Scope

The inspectors selected one condition report for detailed review (CR-GGN-2004-3800). The condition report was associated with an untended dose received by a radiation protection technician performing work in the site calibration facility. The inspectors reviewed the licensee's causal analysis report to ensure that the full extent of the condition was identified, appropriate evaluations were performed, and appropriate corrective actions were specified and prioritized. The inspectors evaluated the condition report against the requirements of the licensee's corrective action program as delineated in administrative Procedure EN-LI-102, “Corrective Action Process,” Revision 1, and 10 CFR 50, Appendix B.

b. Findings and Observations

Introduction. A Green self-revealing noncited violation of Technical Specification 5.4.1(a) was reviewed for a worker who failed to follow a source calibration procedure and received an unintended dose.

Description. During calibration of a Sheperd Panoramic Source Irradiator on October 19, 2004, a worker unintentionally exposed himself to a peak dose rate of 331 millirem per hour and received an unplanned dose of one mrem when he removed the lead attenuator from the irradiator while the calibration source was in the up (exposed) position. However, when the worker placed the survey instrument down rather than approaching the extended source with the meter as required by the procedure, the worker had the potential to receive additional unplanned exposure. The licensee determined that the worker did not follow the requirements of Radiation Protection Instruction 08-S-10-10, "Operation and Calibration of Source and Laboratory Standard Instruments," Revision 1, to ensure the source was fully retracted before he removed the attenuator.

Analysis. The failure to follow the calibration procedure instructions was a performance deficiency. The inspectors determined there was no applicable example to establish whether or not the finding was more than minor in Appendix E of IMC 0612, “Power

Reactor Inspection Reports." As a result, the inspectors compared this deficiency to the minor questions contained in Section 3, "Minor Questions," to Appendix B of IMC 0612. The inspectors concluded the finding was greater than minor since it involved a worker's unplanned, unintended dose or potential of such a dose resulting from actions contrary to licensee procedures, which is associated with the Program and Process attribute of the Occupational Radiation Safety cornerstone and directly affects the cornerstone objective to ensure adequate protection of the worker's health and safety from exposure to radiation. The inspectors evaluated the finding using the Occupational Radiation Safety Significance Determination Process and determined it 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 crosscutting aspects associated with human performance. The failure of the worker to comply with the calibration procedure directly contributed to the finding.

Enforcement. Technical Specification 5.4.1(a) requires procedures applicable to Regulatory Guide 1.33, Rev. 2, Appendix A, Section 7, "Control of Radioactivity" to limit personnel exposure. Procedure 08-S-10-10, "Operation and Calibration of Source and Laboratory Standard Instruments," Revision 1, Section 6.4.4(h) states "ensure source has fully retracted by observing a dose rate meter before approaching irradiator," the purpose of which is to limit personnel exposure in the use of the panoramic source irradiator. On October 19, 2004, the worker failed to ensure the source was fully retracted prior to approaching the irradiator and received an unplanned unintended dose. Because the failure to follow the source calibration procedure requirement is of very low safety significance and is entered into the licensee's corrective action program as CR-GG-2004-03800, this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000416/2004005-003, Unintended Dose Due to Failure to Follow Calibration Procedure.

4OA4 Crosscutting Aspects of Findings

Section 1R04 describes a human performance error associated with the failure of records management personnel to properly file and retain documentation associated with the Division III diesel generator air starting system. This failure resulted in the permanent loss of test records required to be retained by the Code of Federal Regulations.

Section 4OA2 describes a human performance error associated with a radiation protection technician's failure to follow a calibration procedure at the site calibration facility. This failure resulted in the worker receiving an unplanned, unintended dose.

4OA6 Meetings, including Exit

On December 9, 2004, the inspector presented the results of the biennial heat exchanger inspection to Mr. R. Brian, Plant General Manger, and other members of his staff who acknowledged the findings. Some proprietary information was provided during the inspection, but none of the proprietary information is included in this report.

On January 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
R. Collins, Manager, Operations
R. Bryan, General Manager, Plant Operations
C. Ellsaesser, Manager, Planning and Scheduling
M. Guynn, Manager, Emergency Preparedness
M. Krupa, Director, Nuclear Safety Assurance
M. Larson, Senior Licensing Engineer
C. Roberts, Supervisor, Requalification Training
M. Rohrer, Manager, System Engineering
G. Sparks, Manager, Design Engineering
R. Sumrall, Emergency Planner
J. Watts, Senior Health Physics/Chemistry Specialist
G. Williams, Vice President, Operations
D. Wiles, Director, Engineering
D. Wilson, Supervisor, Design Engineering
R. Wilson, Superintendent, 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
R. Nease, Senior Reactor Inspector, DRS
R. Mullikin, Senior Reactor Inspector, DRS
J. Mateychick, Reactor Inspector, DRS
M. Runyan, Senior Risk Analyst

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000416/2004005-02	URI	Failure to Remove Required Heat Load Under Design Basis Conditions (Section 1RO7)

Opened and Closed

05000416/2004005-01	NCV	Failure to Retain Safety Related Records (Section 1R04)

05000416/2004005-03	NCV	Unintended Dose Due to Failure to Follow Calibration Procedure (Section 4OA2.3)

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 10

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

Off-Normal Event Procedure 05-1-02-III-1, "Inadequate Decay Heat Removal," Revision 26

System Operating Instruction 04-1-01-C41-1, "Standby Liquid Control System," Revision 116

MS-39.0, "Mechanical Standard for Thermal Performance Testing of Safety-Related Standby Service Water Heat Exchangers," Revision 3

Plant Operations Manual 08-S-04-120, "Chemistry Evolutions at Standby Service Water," Revision 10

Radiation Protection Instruction 08-S-10-05, "Calibration of Dosimeters," Revision 2

Radiation Protection Instruction 08-S-10-10, "Operation and Calibration of Source and Laboratory Standard Instruments," Revision 1

Work Orders / Maintenance Action Items

26527	43861	56027	310775	50306762
26789	50645	274997	325509	50322665
36395	54075	304478	50977450	50477450
39207	55557	305062		

Condition Reports

CR-GGN-2004-4443	CR-GGN-2004-4419	CR-GGN-2004-4394
CR-GGN-2004-4427	CR-GGN-2004-4409	CR-GGN-2004-4388
CR-GGN-2004-4424	CR-GGN-2004-4406	CR-GGN-2004-4381

CR-GGN-2004-4373	CR-GGN-2004-4083	CR-GGN-2004-3965
CR-GGN-2004-4370	CR-GGN-2004-4074	CR-GGN-2004-3953
CR-GGN-2004-4362	CR-GGN-2004-4072	CR-GGN-2004-3941
CR-GGN-2004-4295	CR-GGN-2004-4062	CR-GGN-2004-3924
CR-GGN-2004-4273	CR-GGN-2004-4060	CR-GGN-2004-3922
CR-GGN-2004-4264	CR-GGN-2004-4057	CR-GGN-2004-3906
CR-GGN-2004-4253	CR-GGN-2004-4056	CR-GGN-2004-3899
CR-GGN-2004-4252	CR-GGN-2004-4054	CR-GGN-2004-3800
CR-GGN-2004-4190	CR-GGN-2004-4052	CR-GGN-2004-3793
CR-GGN-2004-4185	CR-GGN-2004-4042	CR-GGN-2204-3160
CR-GGN-2004-4173	CR-GGN-2004-4037	CR-GGN-2004-2892
CR-GGN-2004-4167	CR-GGN-2004-4033	CR-GGN-2004-1923
CR-GGN-2004-4166	CR-GGN-2004-4000	CR-GGN-2004-0318
CR-GGN-2004-4159	CR-GGN-2004-3989	CR-GGN-2003-2987
CR-GGN-2004-4158	CR-GGN-2004-3986	CR-GGN-2003-1315
CR-GGN-2004-4137	CR-GGN-2004-3985	CR-GGN-2002-2573

Calculations

CC-Q1E21-04002, "Evaluation of Valve 1E21F012 Overthrust Condition for Operability," Revision 4

CC-Q1E21-04003, "Evaluation of Valve 1E21F012 for Overthrust Condition," Revision 3

CC-Q1E21-04005, "Evaluation of Locking Stem Nut for Valve 1E21F012," Revision 2

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

Test spread sheets for the Division I control room air conditioning unit for tests on July 15, 1997; March 19, 2001; August 5, 2002; and February 5, 2004

Miscellaneous Documents

Training Scenario GSMS-LOR-WEX03, "Recirculation Pump Trip with a Loss of Condenser Vacuum and Scram Discharge Volume Blockage (Anticipated Transient Without Scram)," Revision 107

Radiation Work Permit 2004-1013, "Radiation Protection Calibrations and Repair Activities at the Central Calibration Facility," Revision 0

Radiation Work Permit 2004-1017, "Routine Locked High Radiation Area Entries for Surveillances and Calibrations," Revision 0

White Paper concerning control room air conditioning operability and interpretation of Technical Specification 3.7.4.1 requirements. No official date or title. Approximate date December 13, 2004.

Historical changes made to Technical Specification 3.7.4, "Control Room Air Conditioning System"

"Justification for Operability of Control Room A/C Unit A," dated February 5, 2004

Vendor Information for: 1) Transformer Type IP; 2) Trip/Calibration System Model 710DU; 3) Summer and Rack Unit; and 4) GE 180 meters.

LO-GLO-2004-0175, "Heat Exchanger & Heat Sink Performance Testing Assessment," dated October 5, 2004