UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

April 26, 2001

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

SUBJECT: GRAND GULF NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 50-416/01-02

Dear Mr. Eaton:

On March 31, 2001, the NRC completed an inspection at your Grand Gulf Nuclear Station. The enclosed report documents the inspection findings which were discussed on April 11, 2001, with Mr. Joe Venable, and other members of your staff.

This 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. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the inspectors identified two violations of NRC requirements. One of these violations was evaluated under the risk significance determination process as having very low safety significance. Because they have been entered into your corrective action program, the NRC is treating these violations as noncited violations (NCVs), in accordance with Section VI.A of the NRC's Enforcement Policy. If you deny these 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; 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 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response 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/NRC/ADAMS/index.html (the Public Electronic Reading Room).

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

Sincerely,

/RA/

David N. Graves, Chief
Project Branch A
Division of Reactor Projects

Docket: 50-416
License: NPF-29

Enclosure:
NRC Inspection Report
50-416/01-02

cc w/enclosure:
Executive Vice President
and Chief Operating Officer
Entergy Operations, Inc.
P.O. Box 31995
Jackson, Mississippi 39286-1995

Wise, Carter, Child & Caraway
P.O. Box 651
Jackson, Mississippi 39205

Winston & Strawn
1400 L Street, N.W. - 12th Floor
Washington, DC 20005-3502

Sam Mabry, Director
Division of Solid Waste Management
Mississippi Department of Natural
Resources
P.O. Box 10385
Jackson, Mississippi 39209

President, District 1
Claiborne County Board of Supervisors
P.O. Box 339
Port Gibson, Mississippi 39150

General Manager
Grand Gulf Nuclear Station
Entergy Operations, Inc.
P.O. Box 756
Port Gibson, Mississippi 39150

The Honorable Richard Ieyoub
Attorney General
Department of Justice
State of Louisiana
P.O. Box 94005
Baton Rouge, Louisiana 70804-9005

Office of the Governor
State of Mississippi
Jackson, Mississippi 39201

Mike Moore, Attorney General
Frank Spencer, Asst. Attorney General
State of Mississippi
P.O. Box 22947
Jackson, Mississippi 39225

Dr. F. E. Thompson, Jr.
State Health Officer
State Board of Health
P.O. Box 1700
Jackson, Mississippi 39205

Robert W. Goff, Program Director
Division of Radiological Health
Mississippi Dept. of Health
P.O. Box 1700
Jackson, Mississippi 39215-1700

Vice President
Operations Support
Entergy Operations, Inc.
P.O. Box 31995
Jackson, Mississippi 39286-1995

Director, Nuclear Safety
and Regulatory Affairs
Entergy Operations, Inc.
P.O. Box 756
Port Gibson, Mississippi 39150

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

Electronic distribution from ADAMS by RIV:
Regional Administrator **(EWM)**
DRP Director **(KEB)**
DRS Director **(ATH)**
Senior Resident Inspector **(TLH4)**
Branch Chief, DRP/A **(DNG)**
Senior Project Engineer, DRP/A **(DBA)**
Section Chief, DRP/TSS **(PHH)**
RITS Coordinator **(NBH)**

Only inspection reports to the following:
Scott Morris **(SAM1)**
NRR Event Tracking System **(IPAS)**
GG Site Secretary **(MJS)**
Dale Thatcher **(DFT)**

R:_GG\2001\GG2001-02RP-TLH.wpd

RIV:RI:DRP/A	SRI:DRP/A	C:DRS/PSB	C:DRS/EMB	D:ACES
PJAlter	TLHoeg	GMGood	JLShackelford	GFSanborn
T-DNGraves	***T-DNGraves***	***E-DNGraves***	***RPMullikin for***	***/RA/***
04/23/01	04/23/01	04/23/01	04/23/01	04/23/01

D:DRS	D:DRP	C:DRP/A		
ATHowell	KEBrockman	DNGraves		
/RA/	***EECollins for***	***/RA/***		
04/25/01	04/25/01	04/26/01		

OFFICIAL RECORD COPY T=Telephone E=E-mail F=Fax

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No:	50-416
License No:	NPF-29
Report No:	50-416/2001-02
Licensee:	Entergy Operations, Inc.
Facility:	Grand Gulf Nuclear Station
Location:	Waterloo Road Port Gibson, Mississippi 39150
Dates:	January 7 through March 31, 2001
Inspectors :	T. Hoeg, Senior Resident Inspector P. Alter, Resident Inspector M. Shannon, Senior Health Physicist C. Clark, Reactor Inspector
Approved By:	D. Graves, Chief, Project Branch A Division of Reactor Projects

ATTACHMENT: Supplemental Information

SUMMARY OF FINDINGS

IR 05000416-01-02, on 01/07-03/31/2001, Entergy Operations, Inc., Grand Gulf Nuclear Station. Integrated resident & regional inspection report; Identification and Resolution of Problems; ALARA Planning and Controls.

The inspection was conducted by resident inspectors, a regional health physicist, and a regional reactor inspector. The inspection identified one Green finding and one No Color finding, both of which were noncited violations. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using IMC 609 "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by “No Color” or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

A. Inspector Identified Findings

Cornerstone: Mitigating Systems

- Green. The licensee failed to establish adequate instructions to control lube oil replacement and verification of oil level in the pedestal bearing of the Division II standby diesel generator. This resulted in technicians overfilling the bearing oil reservoir which could have resulted in bearing degradation over extended operation. This violation of Technical Specification 5.4.1 is noncited in accordance with Section VI.A of the NRC's Enforcement Policy, and is in the licensee's corrective action program (CR-GGN-2001-318).

  The finding was of very low safety significance because although the pedestal bearing was overfilled, the remaining standby diesel generators and offsite power sources remained operable and the licensee subsequently determined the subject diesel remained capable of performing its design function with the overfilled bearing (Section 4OA2).

Cornerstone: Occupational Radiation Safety

- No color. On January 31, 2001, the inspector noted two examples where jobs performed during Refueling Outage (RFO) 10 were not reviewed in accordance with station as low as reasonably achievable (ALARA) program procedures. Technical Specification 5.4.1 requires procedures for the ALARA program. Section 6.7.2.a. of Procedure 01-S-08-8, “ALARA Program,” Revision 16, states in part, that the ALARA Team must review jobs greater than 1 person-rem but less than 5 person-rem. The first example was “Work Inside the Condensers and Hotwells” (RWP 99-09-073), the second was “Emergency Core Cooling System Valve Work” (RWP 99-09-020). Both jobs were originally budgeted for 0.500 person-rem; however, during the work evolution they both exceeded 1 person-rem (1.2 and 2.9 person-rem respectively). The failure of the ALARA Team to review the above jobs that exceeded 1 person-rem was a violation of Technical Specification 5.4.1. This violation is being treated as a noncited violation and is in the licensee’s corrective action program as Condition Report GGN-2001-0169.

The significance of this violation was determined to be more than minor because the failure to perform an appropriate ALARA level review could cause unnecessary additional worker dose, and result in a credible impact on a worker's radiological safety. However, this issue did not affect the cornerstone since there were no overexposures and monitoring devices remained operable. (Section 2OS2)

B. Licensee Identified Violations

One violation of very low significance was identified by the licensee and has been reviewed by the inspectors. Corrective actions taken or planned by the licensee appear reasonable. This violation is listed in Section 4OA7 of this report.

Report Details

Summary of Plant Status: During this inspection period, the plant operated at 100 percent power except for planned minor power reductions for control valve testing and control rod pattern adjustments.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity [Reactor-R]

1R04 Equipment Alignment (71111.04)

.1 Partial System Walkdowns

a. Inspection Scope

The inspectors performed a partial walkdown inspection of control room standby fresh air Train B to verify the operability of the system while control room standby fresh air Train A was out of service for planned maintenance. The inspectors reviewed System Operating Instruction (SOI) 04-S-01-Z51-1, "Control Room HVAC System," Revision 36.

The inspectors performed a partial walkdown inspection of the reactor core isolation cooling system to verify the operability of the system while the high pressure core spray system was out of service for planned maintenance. The inspectors reviewed SOI 04-S-01-E51-1, "Reactor Core Isolation Cooling System," Revision 114.

The inspectors performed a partial walkdown inspection of standby service water (SSW) Loop B to verify the operability of the system while SSW Loop A was out of service for planned maintenance. The inspectors reviewed Surveillance Procedure 06-OP-1P41-M-006, "SSW Loop B Operability Check," Revision 109.

b. Findings

No findings of significance were identified.

.2 Semi-Annual System Walkdown

a. Inspection Scope

The inspectors performed a complete walkdown of the Division II standby diesel generator (SDG), to identify any discrepancies between the existing equipment lineup and the required lineup. During the walkdown, SOI 04-1-01-P75-1, "Standby Diesel Generator System," Revision 57, and Drawing M-1070B, "Standby Diesel Generator," Revision 30, were used to verify major system components were correctly labeled, lubricated, cooled, and ventilated. The inspectors also reviewed six open condition reports on the system for any deficiency that could affect the ability of the system to perform its 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

The inspectors performed walkdowns to assess the material condition and operational status of fire detection, suppression systems and equipment, the material condition of fire barriers, and control of transient combustibles. Specific risk-significant areas included:

- Engineered Safety Features Switchgear Room 1A208
- Division I Standby Diesel Generator Room 1D302
- Division II Standby Diesel Generator Room 1D303
- Division III Standby Diesel Generator Room 1D304
- Standby Service Water A Pump House Room
- Operations Control Room

The inspectors reviewed the following Fire Preplans associated with the risk-significant areas: A-13 Revision 0, DG-02 Revision 1, DG-03 Revision 1, DG-04 Revision 1, SSW-01 Revision 1, and C-14 Revision 1.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

On February 26, 2001, the inspectors observed operator requalification training activities in the simulator to assess the licensee's effectiveness in evaluating the requalification program and to ensure that licensed individuals received the appropriate level of training required to maintain their licenses.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

.1 Resident Baseline Inspection

a. Inspection Scope

The inspectors reviewed performance-based problems involving 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). The inspectors reviewed the most recent system health reports and system functional failures for the last two years. The following SSCs were reviewed:

- Division I Standby Diesel Generator
- Division II Standby Diesel Generator
- Division III Standby Diesel Generator
- Division II Safeguards Switchgear Room Ventilation System
- Division III 125 VDC Battery
- Reactor Recirculation "Loop A" Flow Control Valve Hydraulic Control Unit
- Residual Heat Removal System

b. Findings

No findings of significance were identified.

.2 Periodic Evaluation Reviews

a. Inspection Scope

The inspectors reviewed the licensee's reports documenting the performance of the last two Maintenance Rule periodic assessments for 1999 and 1998. These periodic assessments covered a 12-month period from January 1 through December 31, 1998, and a 12-month period from January 1 through December 31, 1999. These two periodic assessments were prepared as required by 10 CFR 50.65(a)(3).

The inspectors reviewed the conclusions reached by the licensee with regard to the balance of reliability and unavailability for specific Maintenance Rule functions. This review was conducted by examining the licensee's evaluation of all risk-significant functions that had exceeded performance criteria during the evaluation periods. The inspectors also examined the licensee's evaluation of program activities associated with placement of Maintenance Rule Program risk-significant functions in Categories (a)(1) and/or (a)(2). This review was conducted by the examination of periodic evaluation conclusions reached by the licensee for functions of the nuclear boiler system, suppression pool makeup system, standby service water system (SSWS), 480 V distribution system, 4.16kV system and associated systems.

b. Findings

No findings of significance were identified.

.3 Effectiveness of Maintenance Rule Program

a. Inspection Scope

The inspectors reviewed the 1998, 1999, and 2000 Maintenance Rule Expert Panel Meeting minutes, with an emphasis on issues associated with functions of the nuclear boiler system, suppression pool makeup system, SSWS, 480 V distribution system, 4.16kV system and associated systems. For the identified functions, the inspectors followed up by obtaining the needed documentation and assessing the Maintenance Rule Program performance related to:

- Program adjustments made in response to unbalanced reliability and availability
- Cause determination of degraded performance or failure to meet performance criteria
- Adequacy of corrective action and goal setting
- Monitoring of established goals for functions placed in Category (a)(1)
- Program revisions to scoping and risk significance
- Creation of new risk-significant functions to improve performance monitoring
- Assessment of plant level performance

In order to validate that the licensee was identifying programmatic issues from outside of the Maintenance Rule Program, the inspectors also reviewed Quality Assurance Surveillance Report QS-2000-GGNS-015, “Maintenance Rule 10CFR50.65(a)(4) Implementation Readiness Evaluation,” dated November 16, 2000.

b. Findings

No findings of significance were identified.

.4 Identification and Resolution of Problems

a. Inspection Scope

The inspectors evaluated the use of the corrective action system within the Maintenance Rule Program. This review was accomplished by the examination of the condition reports, maintenance action items (MAI), and a sample of the control room operator logs listed in the attachment. The purpose of this review was to establish that the corrective action program was entered at the appropriate threshold for the purposes of:

- Starting the evaluation and determination of corrective action process when performance criteria was exceeded

- Correction of performance-related issues or conditions identified during the periodic evaluation
- Correction of generic issues or conditions identified during programmatic surveillances, audits, or assessments

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 selected activities with operations and work control personnel regarding risk evaluations and overall plant configuration control. The inspectors discussed emergent work issues with work control center personnel and reviewed the prioritization of scheduled activities when scheduling conflicts occurred.

Specific items reviewed during this period included:

- MAI 277723, Division I suppression pool makeup check valve position verification
- MAI 288648, ESF Room Cooler 1T46B004A acid flush
- MAI 292112, Troubleshoot intermittent ground on Division I 125 DC bus
- MAI 294602, Contingency for interim repairs to Division 2 reactor protection system scram reset switch
- MAI 294615, Low pressure core spray pump discharge pressure transmitter troubleshooting and repair

In addition, 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 0. Specific risk evaluations reviewed were for maintenance activities during planned surveillance testing of the reactor core isolation cooling system and during an unplanned outage of the Division I SDG.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions (71111.14)

.1 Loss of Fuel Pool Cooling and Cleanup and Reactor Water Cleanup

a. Inspection Scope

While observing shift turnover on January 5, 2001, the inspector witnessed an unexpected loss of the fuel pool cooling/cleanup and reactor water cleanup system flow. The inspector observed operator performance in coping with the loss of these systems and operator actions taken to reestablish cooling to the spent fuel storage pool. In addition, the inspectors reviewed Off-Normal Event Procedure 05-1-02-III-1, "Inadequate Decay Heat Removal," Revision 22.

b. Findings

No findings of significance were identified.

.2 Unplanned Increase in Reactor Power

a. Inspection Scope

On January 24, 2001, when operators restored reactor recirculation Loop A flow control hydraulic power unit Subloop 1 to service, reactor power rose to approximately 100.9 percent as the flow control valve unexpectedly opened from 70 to 79 percent. The power excursion was stopped when the valve control circuitry automatically stopped the flow control valve from opening further. The operators then restored Subloop 2 to service and returned power to below 100 percent rated within 8 minutes. The inspectors reviewed operator response to this unplanned increase in reactor power.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed selected operability evaluations affecting risk-significant mitigating systems to assess: (1) technical adequacy of the evaluations; (2) whether continued system operability was warranted; (3) whether other existing degraded conditions were appropriately addressed with respect to their collective impact on continued safe plant operation; and, (4) where compensatory measures were involved, whether the measures were in place, would work as intended, and were appropriately controlled. The following evaluations were reviewed:

- CR-GGN-2001-0070, reactor core isolation cooling system outboard steam supply containment isolation Valve E51-F048 position indication failure

- CR-GGN-2001-0148, Division II standby diesel generator load fluctuations
- CR-GGN-2001-0281, Division III 125 VDC battery bank cell degradation
- CR-GGN-2001-0303, Division I standby diesel generator fuel oil injection pump leak
- CR-GGN-2001-0285, Division I standby diesel generator turbo-charger jacket water pipe leak
- CR-GGN-2001-0318, Division II standby diesel generator high pedestal bearing oil level

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

The inspectors evaluated the cumulative potential effects of six significant operator workarounds on: (1) the reliability, availability, and potential for misoperation of safety related systems; (2) the ability of the operators to respond in a correct and timely manner to plant transients and accidents; and (3) if operator workaround problems were captured in the licensee's corrective action system.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17)

a. Inspection Scope

The inspectors reviewed Engineering Request ER-GG-2000-0763-00, “Division III Diesel Generator Woodward Governor Oil Cooler Modification," Revision 0. The inspectors reviewed the following attributes associated with the modification: (1) that the design bases, licensing bases, and performance capability of the component had not been degraded as a result of the modification; (2) the modification did not place the reactor plant in any unsafe conditions; and (3) adequate postinstallation testing was performed to verify the modification functioned as expected.

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 selected risk-significant mitigating systems to assess whether: (1) the effect of testing on the plant had been adequately addressed by control room and engineering personnel; (2) testing was adequate for the maintenance performed; (3) acceptance criteria was clear and adequately demonstrated operational readiness, consistent with design and licensing basis documents; (4) test instrumentation had current calibrations, ranges, and accuracy for the application; (5) tests were performed, as written, with applicable prerequisites satisfied; and (6) that equipment was returned to the status required to perform its safety function. The following activities were reviewed:

- MAI 290258, standby service water Loop A flow balance following system maintenance
- MAI 291135, drywell atmosphere gaseous monitor calibration following detector replacement
- MAI 285804, Division III standby diesel generator operational test following governor oil cooler installation
- MAI 292988, Division II standby diesel generator monthly surveillance test after troubleshooting governor load fluctuations
- MAI 294185, reactor protection system Bus B alternate feed EPA Breaker 1C71S003H functional test following power supply replacement
- MAI 293332, drywell purge compressor Train B coolers SSW isolation Valve 1P41F169A functional test following internal inspection

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

.1 Planned Periodic Tests

a. Inspection Scope

The inspectors witnessed performance of surveillance test procedures and reviewed test data of 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-ME-1E30-R-0001, "Suppression Pool Makeup Check Valves Safety Position Verification," Revision 102, performed January 10, 2001
- 06-OP-1R20-W-0001, "Plant AC and DC Electrical Power Distribution Weekly Lineup," Revision 102, performed January 31, 2001
- 06-OP-1P75-M-0002, "Standby Diesel Generator 12 Functional Test," Revision 111, performed January 31, 2001
- 06-OP-1P41-M-0004, "Standby Service Water Loop A Operability Check," Revision 106, performed February 6, 2001
- 06-EL-1L11-Q-0001-3, Division III "125-Volt Battery Bank All Cell Check," Revision 103, performed February 16-17, 2001
- 06-OP-1P75-R-0003, Attachment I, "Standby Diesel Generator 11, 18 Month Functional Test - Test 1 - 24 Hour Load Test / Hot Restart Test," Revision 105, performed February 22, 2001

b. Findings

No findings of significance were identified.

.2 Failed Division I Diesel Generator 24-hour Surveillance Tests

a. Inspection Scope

The inspectors observed portions of two unsuccessful surveillance tests performed on the Division I standby diesel generator due to equipment failures which resulted in the licensee exceeding their allowed limiting condition of operation completion time requiring Notice of Enforcement Discretion 01-4-001 from the NRC. The inspectors verified that the licensee had the required compensatory measures in place while the enforcement discretion was in effect. The inspectors reviewed the licensee's common cause failure analysis for both equipment failures. The inspectors reviewed the licensee's corrective actions.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed Temporary Alteration No. 2001-001 associated with the removal of a computer indication data point for the Reactor Core Isolation Cooling

System Outboard Steam Supply Containment Isolation Valve E51F048 due to grounded cable. The inspector assessed the following attributes: (1) the adequacy of the 10 CFR 50.59 evaluation, (2) that the installation was consistent with the modification documentation, (3) that drawings and procedures were updated as applicable, and (4) the adequacy of the postinstallation testing.

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 inspectors interviewed radiation workers and radiation protection personnel throughout the radiologically controlled access area and conducted independent radiation surveys of selected work areas. The following items were reviewed to determine whether the licensee had an adequate program to maintain occupational exposures ALARA:

- ALARA program procedures
- Quality Assurance Surveillance Reports QS-2000-GGNS-016 and -021
- Processes used to estimate and track exposures
- Plant collective exposure history for the past 3 years, current exposure trends, and 3-year rolling average dose information
- Five radiation work permit packages for refueling outage work activities which could result in the highest personnel collective exposures during Refueling Outage (RFO) 11
- Use of engineering controls to achieve dose reductions including temporary shielding
- Individual exposures of selected work groups (mechanical maintenance and operations)
- Hot spot tracking and reduction program
- Radiological work planning

- A summary of ALARA and radiological worker performance related to corrective action reports written since May 1, 2000; nine corrective action reports were reviewed in detail.

- Declared pregnant worker dose monitoring controls

- Job site inspections and ALARA controls. No work was performed in high exposure or high radiation areas during this inspection. Therefore, this aspect of the above procedure could not be evaluated.

b. Findings

On January 31, 2001, during the review of ALARA job planning for Refueling Outage RFO 11, the inspectors noted two examples where jobs performed during Refueling Outage RFO 10 were not reviewed in accordance with station ALARA program procedures.

Technical Specification 5.4.1 requires procedures for the ALARA program. Section 6.7.2.a. of Procedure 01-S-08-8, "ALARA Program," Revision 16, states, in part, that the ALARA Team must review jobs greater than 1 person-rem but less than 5 person-rem. The first example was "Work Inside the Condensers and Hotwells" (RWP 99-09-073), the second was "Emergency Core Cooling System Valve Work" (RWP 99-09-020). Both jobs were originally budgeted for 0.500 person-rem; however, during the work evolution they both exceeded 1 person-rem (1.2 and 2.9 person-rem respectively). From discussions with the ALARA staff, the inspectors determined that the ALARA Team did not monitor the job-in-progress exposure. The failure of the ALARA Team to review the above jobs that exceeded 1 person-rem was a violation of Technical Specification 5.4.1. This violation is being treated as a noncited violation consistent with Section VI. A.1 of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as CR-GGN-2001-0169. (NCV 05000416/2001-002-01).

The significance of this violation was determined to be more than minor because the failure to perform an appropriate ALARA level review could cause unnecessary additional worker dose, resulting in a credible impact on a worker's radiological safety. However, this issue did not affect the Occupational Radiation Safety cornerstone since there were no over exposures and monitoring devices remained operable.

4. OTHER ACTIVITIES [OA]

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors reviewed the Grand Gulf Nuclear Station (GGNS) reactor coolant chemistry sample analyses for maximum dose equivalent Iodine-131. The inspectors verified the accuracy and completeness of the data used to calculate and report the

reactor coolant system activity performance indicator for the last two quarters of 2000. The inspectors used Nuclear Energy Institute (NEI) 99-02, Revision 0, "Regulatory Assessment Performance Indicator Guideline," as guidance and interviewed licensee personnel responsible for compiling the information.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

a. Inspection Scope

The inspectors reviewed corrective actions implemented following the September 9, 1999, failure of the Division III SDG Bearing B due to a lack of lubricating oil (CRs 1999-1889 and 1999-1054) and the recent unavailability of the Division II SDG due to a pedestal bearing being overfilled and out of specification as documented in Condition Report GGN-2001-0318.

b. Findings

Following the failure of the Division III SDG Bearing B due to a lack of lubrication, the licensee revised their safety-related administrative procedure 01-S-17-21, "Oil/Lubricant Program" on August 16, 2000. The purpose of the procedure revision was to include improved guidance on how to verify oil levels in various types of oil sump indicators including those used for SDG pedestal bearings.

On January 30, 2001, the licensee replaced the Division II SDG pedestal bearing oil for preventive maintenance per MAI 298026. The subject MAI made no reference to vendor technical manual lubrication requirements or GGNS's recently revised Safety-Related Procedure 01-S-17-21, Rev 4, "Oil / Lubricant Program", which would have provided specific instructions on verifying required sight glass oil level to the maintenance technicians. The maintenance task to drain and refill the pedestal bearing was completed by "skill of the craft" and the diesel was returned to service that same day.

On February 24, 2001, the licensee identified that the oil level in the Division II SDG pedestal bearing sight glass was out of specification high. The sight glass indicated above the red circle in the oil gauge with no visible meniscus level line. Subsequently, the shift manager declared the diesel operable based on system engineering experience and judgement. On March 1, 2001, the licensee performed MAI 294188 to correct the high lube oil level condition to within specification and returned the diesel to service.

The inspectors determined that the failure to prescribe adequate maintenance instructions to control the replacement and verification of bearing oil level was a violation of Technical Specification 5.4.1 which required written procedures to be established, implemented, and maintained as applicable to Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. However, because of the very low safety significance of

this condition and that the licensee included this condition in their Corrective Action Program (CR-GGN-2001-318), this violation is being treated as a noncited violation (NCV 05000416/2001-002-02). This violation is more than minor because, if left uncorrected, the overfilled condition could have resulted in bearing degradation during extended operation, and thereby threaten the independent source of power to the engineered safety features (ESF). Using the SDP, the inspectors determined that the issue was of very low safety significance and considered a Green finding. Although the pedestal bearing was overfilled, the remaining diesel generators and offsite power sources remained operable and the licensee subsequently determined that the subject diesel remained capable of performing its design function, even with the overfilled bearing.

4OA3 Event Follow-up (71153)

.1 (Open) Licensee Event Report (LER) 05000416/2000-07

a. Inspection Scope

The inspectors reviewed the subject LER and it's impact on reactor safety through direct observation and risk analysis. The inspectors also verified the corrective actions taken by the licensee.

b. Findings

This design issue was discovered by the licensee while performing plant walkdowns as part of a GGNS effort to address Kaowool fire wrap issues in SECY 99-204, "Kaowool and FP-60 Fire Barriers." Kaowool fire wrap is used in various areas of the plant to provide a nominal 1-hour fire barrier to satisfy GGNS license condition for meeting 10 CFR 50, Appendix R, Section III,G.2.c, safe shutdown separation requirements. The licensee discovered that in Fire Zone 1A211, a Division I safe shutdown cable was located outside of the Appendix R fire wrap creating a through path for fire impingement on the Division II cable raceway. These cable trays contain instrumentation and control circuits for multiple safe shutdown components of both Division I and Division II circuits. The nonconforming condition was repaired and a 1-hour fire watch was put in place while the overall qualification of the Kaowool fire wrap system was being performed (CR-GGN-1999-1004). The inspectors reviewed the associated corrective actions and compensatory measures taken by GGNS and considered them acceptable. The licensee determined the apparent cause of the noncompliance to be an inadequate level of detail provided in the Kaowool installation documentation. The licensee took appropriate corrective actions and will continue performing 1-hour fire watches until the condition can be restored to the required design-basis fire ratings as required by their Technical Requirements Manual.

The inspectors determined that failure to include provisions to assure that appropriate quality standards were controlled to prevent deviations from design documentation is a violation of a license condition to meet the requirements of 10 CFR 50, Appendix R, Section III.G. This violation is more than minor because if left uncorrected, it would become a more significant safe shutdown safety system availability concern due to the

potential loss of Division I and Division II ESF switchgear room coolers. The inspectors determined that this finding was risk significant and initiated a Phase 2 SDP review with assistance from the regional senior reactor analyst. At the close of this inspection period, the inspectors had not yet completed the significance determination and considered this finding unresolved (URI 05000416/2001-002-03). The inspectors will document the completion of the significance determination in a future inspection report.

.2 (Open) Licensee Event Report (LER) 05000416/2000-02

a. Inspection Scope

The inspectors reviewed the subject LER and it's impact on reactor safety through direct observation and risk analysis. The inspectors also verified the corrective actions taken by the licensee.

b. Findings

During destructive testing and inspection of Kaowool wrapping, the licensee identified deficiencies in the control building Division II ESF switchgear room (Fire Zone 0C215). Particularly, installation was not consistent between common raceways, installation was not in accordance with installation documentation, and physical damage to Kaowool fibrous material was noted. The licensee documented these deficiencies in CR-GGN-2000-1481. The licensee determined the apparent cause of the noncompliance to be the lack of specific guidance or direction on how to address configurations other than unsupported straight runs of cable tray and conduit during initial installation. Additionally, results of the destructive examinations revealed that some installations were not in accordance with design documentation. The licensee took appropriate corrective actions and will continue performing 1-hour fire watches until the condition is restored to the required design-basis fire ratings as required by their Technical Requirements Manual. The inspectors reviewed the licensee's evaluation and compensatory actions in place and considered them acceptable.

The inspectors determined that the failure to include provisions to assure that appropriate quality standards were controlled to prevent deviations from design documentation is a violation of a license condition to meet the requirements of 10 CFR 50, Appendix R, Section III.G. This violation is more than minor because if left uncorrected, it would become a more significant safe shutdown safety system availability concern due to the potential loss of the Division I and II Standby Service Water Systems. The inspectors determined that this finding was risk significant and initiated a Phase 2 SDP review with assistance from the regional senior reactor analyst. At the close of this inspection period, the inspectors had not yet completed the significance determination and considered this finding unresolved (URI 05000416/2001-002-04). The inspectors will document the completion of the significance determination in a future inspection report.

4OA6 Management Meetings

Exit Meeting Summary

On February 2, 2001, Mr. Mike Shannon presented his findings relating to his ALARA planning and controls inspection to Mr. Joe Venable, General Manager, Plant Operations, and his staff. The licensee acknowledged the findings presented.

On March 22, 2001, Mr. Cliff Clarke presented his inspection findings relating to his Maintenance Rule implementation inspection to Mr. Drew Bottemiller, Licensing Manager, and other licensee staff members. The licensee acknowledged the findings presented.

On April 11, 2001, the resident inspectors conducted a meeting with Mr. Joe Venable, General Manager, Plant Operations and other members of plant management and presented the inspection results. The plant management acknowledged the findings presented.

In each case, licensee management also informed the inspectors that no safeguards or proprietary material was examined during the inspection period.

4OA7 Licensee Identified Violations

The following finding of very low safety significance was identified by the licensee and is a violation of NRC requirements and meets the criteria of Section VI.A of the NRC's Enforcement Policy , NUREG-1600, for being dispositioned as a NCV.

NCV Tracking Number	Requirement Licensee Failed to Meet
50-416/2001-002-05	Technical Specification 5.4.1 requires procedures for the ALARA program. Section 6.6.6.a.(1) of Procedure 01-S-08-8, “ALARA Program,” Revision 16, states, in part, that the ALARA Committee performs re-reviews of jobs previously approved by the Committee, when the jobs are expected to accumulate greater than 25 percent more than the estimate last approved by the Committee. On June 22, 2000, four examples of radiation work permits that exceeded 25 percent more than the last estimate approved by the ALARA Committee were identified, as described in the licensee’s corrective action program as CR-GGN-2000-0895. This issue was more than minor but was of very low safety significance because it did not affect a cornerstone.

ATTACHMENT

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

C. Abbott, Supervisor, Quality Audit
C. Bottemiller, Manager, Plant Licensing
C. Brooks, Senior Licensing Specialist, Plant Licensing
A. Burks, Specialist, Radiation Protection
B. Eaton, Vice President, Operations
N. Edney, Supervisor, Radiation Protection
B. Edwards, Manager, Maintenance
C. Ellsaesser, Manager, Corrective Action and Assessment
F. Guynn, Manager, Emergency Preparedness
T. Holcombe, Assistant Manager, Operations
C. Lambert, Director, Engineering
R. Moomaw, Manager, Outage Planning and Scheduling
J. Roberts, Director, Nuclear Safety Assurance
T. Thurmon, Senior Lead Engineer/Maintenance Rule Coordinator, Engineering
J. Venable, General Manager, Plant Operations
D. Welling, Manager, Technical Support
R. Wilson, Superintendent, Radiation Protection
H. Yeldell, Manager, System Engineering

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened/Closed

05000416/2001-002-01	NCV	Failure to perform ALARA reviews of jobs greater than one person-rem (Section 2OS2)
05000416/2001-002-02	NCV	Failure to establish adequate instructions to control lubricating oil level in the pedestal bearing of the Division II SDG (Section 4OA2)
05000416/2001-002-05	NCV	Failure to perform ALARA re-reviews of jobs which exceeded the approved estimate by more than 25 percent (Section 4OA7)

Opened

05000416/2001-002-03	URI	Division I safe shutdown cable was located outside of the Appendix R fire wrap creating a through path for fire impingement on the Division II cable raceway (Section 4OA3.1)

05000416/2001-002-04	URI	Control Building Division II ESF Switchgear Room (Fire Zone 0C215) fire wrap installation was not in accordance with installation documentation (Section 4OA3.2)

Discussed

05000416/2000-02	LER	Control Building Division II ESF Switchgear Room (Fire Zone 0C215) fire wrap installation was not in accordance with installation documentation (Section 4OA3.2)
05000416/2000-07	LER	Division I safe shutdown cable was located outside of the Appendix R fire wrap creating a through path for fire impingement on the Division II cable raceway. (Section 4OA3.1)

LIST OF ACRONYMS USED

ALARA	as low as reasonably achievable
CFR	Code of Federal Regulations
ESF	engineered safety feature
GGNS	Grand Gulf Nuclear Station
LER	licensee event report
MAI	maintenance action item
NEI	Nuclear Energy Institute
NCV	noncited violation
NRC	Nuclear Regulatory Commission
RFO	Refueling Outage
SDG	standby diesel generator
SDP	significance determination process
SOI	system operating instruction
SSCs	structures, systems, or components
SSW	standby service water
SSWS	standby service water system

LIST OF DOCUMENTS REVIEWED

Procedures:

17-S-06-22, "Standby Service Water A Performance," Revision 6
06-IC-1D23-R-1002, "Drywell Atmosphere Gaseous Monitor Calibration," Revision 101
06-CH-1D23-R-0026, "Drywell Atmosphere Gaseous Monitor Calibration," Revision 101
01-S-01-3, "Plant Safety Review Committee," Revision 105
01-S-17-22, "Maintenance Rule Program," Revision 3
01-S-18-6, "Risk Assessment of Maintenance Activities," Revision 0
DT-03-02, "Engineering Support Desktop Maintenance Rule Guide," Revision 19
LI-102, "Corrective Action Process," Revision 0
EDP-045, "Design Engineering Desktop Procedure," Revision 0
01-S-08-1, "Administration of GGNS Radiation Protection Protection Program," Revision 102
01-S-08-, "Exposure and Contamination Control," Revision 108
01-S-08-8, "ALARA Program," Revisions 16 and 17
01-S-08-27, "Radiological Practices for Controlled Areas," Revision 7
01-S-08-34, "Radiological Work Planning, Performance, and Reviews," Revision 1
08-S-01-28, "Use and Control of Temporary Shielding," Revision 10
08-S-02-109, "Coverage and Control of Diving Operations," Revision 4

Condition Reports:

CR-GGN-2001-0047
CR-GGN-2001-0057
CR-GGN-2001-0062
CR-GGN-2001-0070
CR-GGN-2001-0132
CR-GGN-2001-0136
CR-GGN-2001-0191
CR-GGN-1998-1106
CR-GGN-1998-1154
CR-GGN-1998-1205
CR-GGN-1999-0423
CR-GGN-1999-0518
CR-GGN-1999-0951
CR-GGN-1999-1090
CR-GGN-1999-1496
CR-GGN-1999-1497
CR-GGN-1999-1653
CR-GGN-1999-1714
CR-GGN-2000-0121
CR-GGN-2000-0265
CR-GGN-2000-0689
CR-GGN-2000-0772
CR-GGN-2000-0787
CR-GGN-2000-0809
CR-GGN-2000-0842
CR-GGN-2000-0843
CR-GGN-2000-0874
CR-GGN-2000-0917
CR-GGN-2000-0947
CR-GGN-2000-1121
CR-GGN-2000-1334
CR-GGN-2001-0318