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

July 19, 2002

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 INSPECTION REPORT 50-416/02-02

Dear Mr. Eaton:

On June 29, 2002, the NRC completed an inspection at your Grand Gulf Nuclear Station. The enclosed report documents the inspection findings which were discussed on July 3, 2002, with you 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.

There were three findings of very low safety significance (Green) identified in the report.

The NRC has increased security requirements at Grand Gulf Nuclear Station in response to terrorist acts on September 11, 2001. Although the NRC is not aware of any specific threat against nuclear facilities, the NRC issued an Order and several threat advisories to commercial power reactors to strengthen licensees' capabilities and readiness to respond to a potential attack. The NRC continues to monitor overall security controls and will issue temporary instructions in the near future to verify by inspection the licensee's compliance with the Order and current security regulations.

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/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
NRC Inspection Report
50-416/02-02

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket:	50-416
License:	NPF-29
Report No:	50-416/02-02
Licensee:	Entergy Operations, Inc.
Facility:	Grand Gulf Nuclear Station
Location:	Waterloo Road Port Gibson, Mississippi 39150
Dates:	March 31 through June 29, 2002
Inspectors:	T. L. Hoeg, Senior Resident Inspector R. W. Deese, Acting Senior Resident Inspector C. J. Paulk, Senior Project Engineer
Approved By:	W. D. Johnson, Chief, Project Branch A Division of Reactor Projects
Attachment:	Supplemental Information

SUMMARY OF FINDINGS

IR 05000416-02-02, on 3/31/02 - 06/29/02; Entergy Operations, Inc., Grand Gulf Nuclear Station. Maintenance risk assessments and emergent work evaluation, permanent plant modifications, identification and resolution of problems.

The inspection was conducted by resident inspectors and a senior project engineer. The inspectors identified three Green findings. The significance of any findings are indicated by their color (Green, White, Yellow, or Red) using IMC 0609 "Significance Determination Process." Findings for which the Significant Determination Process 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: Initiating Events

- Green. Grand Gulf Nuclear Station engineers failed to perform an adequate technical evaluation for Engineering Request 1997-0615-0000 to address the removal of lubricating water flow from upper internals of circulating water Pump A, which had a zero leakage packing installed on the pump shaft. This failure resulted in an unanticipated rise in pump vibrations after commencing maintenance, and placed the plant in a condition where, for 4 minutes, alarm response procedures directed reducing power and securing circulating water Pump A. Condition Report GGNS 2002-0768 was written to document this finding.

  This finding is more than minor because it was a precursor to a significant event and could have increased the frequency of an initiating event. However, the safety significance was very low (Green) because although an emergency down-power was called for by procedure, increased licensee oversight allowed the operators to restore lubrication and cooling water quickly enough to mitigate the rise in pump vibration eliminating the need for the emergency down-power necessitated by securing the circulating water pump (Section 1R17).

Cornerstone: Mitigating Systems

- Green. Work control center personnel failed to assess and manage the increase in risk for scheduled main steam line flow transmitter maintenance with control rod drive system maintenance already in progress. Concurrent performance of these maintenance jobs would have resulted in the licensee unknowingly placing the plant in a much higher risk condition. Condition Report GGNS 2002-0684 was written to document this inspector finding.

  This finding is more than minor because it had a potential to create a higher risk condition than was anticipated by the work control center personnel. However, the safety significance was very low (Green) because, upon recognition of the potential for a higher risk condition, work control center personnel canceled the main steam line flow transmitter maintenance and the two maintenance activities were never performed concurrently (Section 1R13).

Cornerstone: Barrier Criteria

- Green. Nondestructive examination personnel failed to perform periodic inspections of a residual heat removal system non-Code repair location, preventing them from determining the rate or extent of future degradation to the elbow location, contrary to the non-Code repair commitment made to the NRC. Condition Report GGNS 2002-0597 was written to document this finding.

  The finding is more than minor because, following the non-Code piping repair, the nondestructive examination personnel did not have the required ultrasonic test information to diagnose further piping degradation, and may not have taken the appropriate action prior to the development of another residual heat removal system piping through-wall leak. The safety significance of this finding was very low (Green) because, although the elbow wall thickness was not inspected, the subject train was not relied upon for extended operation and the final ultrasonic test results showed no measurable elbow wall thinning (Section 4OA2).

B. Licensee Identified Findings

None

Report Details

Summary of Plant Status: The plant was operated at or near 100 percent rated thermal power except for periodic planned power reductions for monthly control rod exercising and periodic control rod pattern adjustments until June 1, 2002, when a partial loss of feedwater heating necessitated a down-power to 60 percent of rated power for 10 hours. Following the recovery of feedwater heating, the plant returned to 100 percent power and remained there until an automatic scram was received on June 22, 2002. The plant was restarted on June 25, 2002, and returned to full power on June 27, 2002, where it remained for the remainder of this inspection period.

1. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

The inspectors reviewed one sample of the Grand Gulf Nuclear Station (GGNS) personnel's preparations for hot weather conditions for the standby service water and fire protection water systems before the onset of summer. This review included walkdowns of the systems focusing on hot weather susceptibilities, reviews of the systems' designed ventilation and cooling features, and a review of the licensee's actions to ensure these systems remain operable in hot weather.

The inspectors reviewed the site's readiness for potential tornado strikes during the spring when these weather events were more likely. Specifically, the inspectors reviewed Engineering Report GGNS-93-0048, "Grand Gulf Nuclear Station Engineering Report for High Wind and Tornado Assessment for Individual Plant Examination for External Events," Revision 0, and Calculation CC-Q1111-94004, "Probabilistic Evaluation of Tornado Missile Strike for Individual Plant Examination for External Events Study," Revision 1, to determine if GGNS personnel's assumptions were still valid for the site's vulnerability to tornado damage in light of an increased number of potential tornado missiles generated on site by recent auxiliary cooling tower construction and the tear down and removal of the site's Bechtel building.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

The inspectors performed partial system walkdown inspections and reviews of a train in each of three systems important to reactor safety in order to verify the operability of the systems. The inspectors reviewed system operating instructions, system valve and breaker lineups, operator logs, and system control room indications. The inspectors also verified valves, breakers, and control circuits were in their required positions for operability. The following systems were inspected:

- Control rod drive system, Train B
- Residual heat removal (RHR) system, Train B
- Suppression pool makeup system, Train A

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q)

a. Inspection Scope

The inspectors reviewed area fire plans and performed walkdowns of nine plant areas to assess the materiel condition and operational status of fire detection, suppression systems and equipment; the materiel condition of fire barriers; and the control of transient combustibles. Specific risk-significant plant areas included:

- Auxiliary building corridor - elevation 139 feet, Corridor 1A301
- Auxiliary building corridor - elevation 185 feet, Corridor 1A401
- Central alarm station, Room OC604
- Control building remote shutdown panel room, Room OC208
- Control building stairwell, Stair OC01
- Piping penetration room, Room 1A220
- Standby service water Train A basin house, Room 1M110
- Unit 2 switchgear room, Room OC214
- Upper cable penetration room, Room OC702

b. Findings

No findings of significance were identified.

1R06 Flood Protection (71111.06)

a. Inspection Scope

The inspectors reviewed one sample of the GGNS's internal flooding protection features dealing with the potential flooding of the circulating water pump area and its likelihood of initiating a unplanned down-power event. The inspectors performed a walkdown of the area, reviewing internal flooding vulnerabilities and the protective features installed to mitigate the impact of any flooding.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07A)

a. Inspection Scope

The inspectors reviewed a video of the GGNS personnel's inspection of spent fuel pool Pump A room Cooler T51B007A, to assess the cleanliness of the heat exchanger. The inspectors also reviewed the trend data for the standby service water system chemistry analyses to assess the effectiveness of the GGNS's biological fouling controls for the standby service water system.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11Q)

a. Inspection Scope

On April 25, 2002, the inspectors observed operator requalification training activities in the simulator to assess GGNS personnel's effectiveness in evaluating the requalification program and to ensure that licensed individuals received the appropriate level of training required to maintain their licenses. The observed training consisted of a loss of the Class 1E electrical Bus 21, followed by a steam leak in the drywell, in accordance with GGNS's licensed operator training scenario Procedure GSMS-LOR-AEX22, "Loss of Service Transformer 21 With a Steam Leak in the Drywell," Revision 0.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12Q)

a. Inspection Scope

The inspectors reviewed performance-based problems involving six 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 2 years. The following SSCs were reviewed:

- Control room heating, ventilation, and air conditioning system
- Engineered safety features electrical switchgear rooms cooling system
- Process radiation monitoring system
- Standby liquid control system, Train B

- Standby service water pumphouse ventilation system
- Standby service water system, Train B

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

Throughout the inspection period, the inspectors reviewed weekly and daily work-schedules to determine when risk-significant activities were scheduled. The inspectors discussed six selected activities with operations and work control personnel regarding risk evaluations and overall plant configuration control. The inspectors discussed emergent work issues with work control center personnel and reviewed the prioritization of scheduled activities. The inspectors verified the performance of plant risk assessments related to planned and emergent maintenance activities as required by 10 CFR 50.65(a)(4) and plant Procedure 01-S-18-6, "Risk Assessment of Maintenance Activities," Revision 1.

Specific maintenance items reviewed during this period included:

- MAI 283091, Main steam Line B flow transmitter
- MAI 283823, Main steam Line C flow transmitter
- MAI 310601, Train A control rod drive Pump A
- MAI 312878, Train B RHR system
- MAI 313014, Train A standby service water system
- MAI 313967, Division II engineered safety features diesel generator

b. Findings

The inspectors identified a green finding when the work control center personnel failed to assess and manage the added risk associated with performing maintenance on main steam line flow instrumentation.

On April 16, 2002, the GGNS personnel were performing maintenance on control rod drive system Pump A which had been tagged out of service and appropriately assessed for risk. The inspectors noticed the work control center personnel had scheduled maintenance on the Main Steam Line B Channel 2C high flow transmitter for later that day without calculating its contribution to risk to plant safety.

Prior to these maintenance activities, work control center personnel had performed a risk assessment which only included the control rod drive pump maintenance. This risk assessment evaluated the plant as being in an acceptable risk condition. The work control center personnel did not assess the effect of the addition of the main steam line flow transmitter maintenance on plant risk. Prior to the work control center personnel authorizing work on the flow transmitter, the inspectors questioned the adequacy of the

risk assessment. The inspectors concluded that the work control center personnel had not assessed the risk of concurrently performing both the control rod drive and main steam line maintenance activities. The work control center personnel confirmed the inspectors' observation that the combination of the two maintenance activities would have placed the plant in a higher risk condition, requiring additional guidance and contingency planning to perform the work. The work control center personnel subsequently canceled the main steam line flow transmitter maintenance because, as a practice, they do not voluntarily enter higher risk conditions and had not met their procedural requirements for managing maintenance activities in that higher risk configuration.

The inspectors determined that the failure to assess the risk more than minor because it had a potential to create a higher risk condition than was anticipated by the work control center personnel. However, the safety significance was very low (Green) because, upon recognition of the potential for a higher risk condition, work control center personnel canceled the main steam line flow transmitter maintenance and the two maintenance activities were never performed concurrently. The finding affected the mitigating systems cornerstone and did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event and therefore is considered a Green finding.

GGNS personnel entered this deficiency into their corrective action program as Condition Report GGNS 2002-0684. No violation of regulatory requirements occurred.

1R14 Personnel Performance During Nonroutine Events (71111.14)

a. Inspection Scope

On June 22, 2002, GGNS received an automatic reactor scram signal and shutdown. A raccoon climbed on the grounding transformer on the 34.5 kV side of Service Transformer 21, one of the two 500 kV dedicated offsite feeder transformers for the site, and created a phase-to-ground current path which actuated protective relays for the transformer that removed the offsite feeder from service. As a result, the main turbine electro-hydraulic control system experienced a dip in pressure which acted to fast close the turbine control valves and scram the reactor. The inspectors responded to the plant and observed plant operations personnel placing the reactor plant in a shutdown condition and reviewed nuclear steam supply system responses to the scram. The inspectors reviewed Procedures 03-1-01-4, "Scram Recovery," Revision 106, and 03-1-01-3, "Plant Shutdown," Revision 110, and observed operator actions for procedural compliance.

The inspectors reviewed unexpected system responses, including the failure of the emergency operations facility emergency diesel generator to start, the failure of control room air conditioning system Train B to automatically load on the Division II emergency diesel generator, and the failure of the reactor protection system Channel C high pressure scram alarm to annunciate. The inspectors also reviewed operator actions with regard to 10 CFR 50.72 and 10 CFR 50.73 reporting requirements. GGNS personnel actions were documented in Condition Report GGNS 2002-1105.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors selected four operability evaluations conducted by GGNS personnel 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 GGNS personnel considered all other pre-existing conditions, as applicable. Additionally, the inspectors evaluated the adequacy of GGNS's problem identification and resolution program as it applied to operability evaluations. Specific operability evaluations reviewed are listed below.

- CR-GGN-2002-0597, Train A RHR system
- CR-GGN-2002-0803, Emergency diesel generator jacket water heat exchangers
- CR-GGN-2002-0924, Standby service water system
- CR-GGN-2002-1011, Diesel driven fire pumps

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

.1 Review of Selected Operator Workarounds

a. Inspection Scope

The inspectors evaluated significant operator workarounds to determine if the functional capability of the system or human reliability in responding to an initiating event was affected. The inspectors evaluated the effect of operator workarounds on the operator's ability to implement applicable abnormal and emergency operating procedures. The following workaround was reviewed:

- Significant Operator Workaround No. 3, dated 3/30/99. Ladders must be used to operate RHR Valves E12-FO24 A and B.

b. Findings

No findings of significance were identified.

.2 Review of the Cumulative Effects of Operator Workarounds

a. Inspection Scope

The inspectors evaluated the cumulative effects of all the plant's significant operator workarounds for the following attributes: (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) the potential for increasing an initiating event frequency or affecting multiple mitigating systems.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17A)

a. Inspection Scope

The inspectors reviewed the modification to remove a flow indicator from the lubricating water line to the circulating water pumps as described in Engineering Request (ER) 1997-0615-0000, "Evaluate trip function of the Circ Water pump," Revision 0. The inspectors verified that: (1) the design bases, licensing bases, and performance capability of the component would not be 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

Initiation of an unanticipated down-power event nearly occurred when GGNS personnel attempted to complete a modification to the circulating water pump lubricating water system. The inspectors considered the incomplete technical evaluation for implementation of the modification a Green finding.

On April 30, 2002, GGNS personnel were performing a design change as documented in ER 1997-0615-0000, "Evaluate Trip Function of the Circ Water Pump," Revision 0, to remove an old flow indicator from the lube water system supply to circulating water Pump A. The lubricating water system provides clean water to the upper circulating water pump bearing for lubrication and to the pump stuffing box for cooling. In order to remove the flow indicator, GGNS personnel had to align the lubricating water system such that the circulating water Pump A would have no lubrication or cooling water flow.

The GGNS engineers justified the removal of all lubrication and cooling water flow through conversations with the pump vendor and incorrectly concluded that packing leakage from the circulating water pump packing would be sufficient to lubricate, cool, and vent the pump internals, even though this packing was designed to be a zero-leakage packing. Additionally, the GGNS engineers had not quantified the actual packing leakage.

Attention was given to the pump stuffing box temperature which was specially instrumented during the maintenance to check for any unforseen temperature rises. The GGNS engineers did not expect any effect on pump bearing vibrations because they did not analyze the effects of removal of lubricating water flow to the pump internals with a zero-leakage packing installed. Specifically, the GGNS engineers did not fully consider the magnitude of any increase in temperature or the effect on bearing vibration.

Shortly after removal of the lubricating water flow and a period of monitoring temperature, the maintenance began for the implementation of the modification. The GGNS personnel then observed a significant rise in stuffing box temperature from 91 to 165°F and pump upper bearing vibrations increased from 10.5 mils to 19.45 mils (which is above the alarm setpoint of 14 mils). GGNS personnel concurrently restored lubricating water flow and entered Alarm Response Instruction 04-1-02-1H13-P680-10A-E12, "Circulating Water Pump A Vibration High," Revision 121, which instructs operators to reduce reactor power and secure the circulating water pump at 18 mils. Pump vibration was above 18 mils for approximately 4 minutes while the operators were preparing to reduce reactor power. The bearing vibration returned to an allowable level and alarm response was no longer required.

The maintenance activity was being treated as an infrequently-performed-evolution and was being closely monitored by licensee personnel. This allowed the operators to quickly back out of the maintenance lineup and restore lube water flow upon the escalation of troubling indications. Temperatures and vibrations lowered to levels acceptable for continued circulating water pump operation after operator action. This alert action averted initiating a plant transient event.

The inspectors determined that this lack of technical justification was a precursor to a significant event that could have increased the frequency of an initiating event, therefore impacting the initiating events cornerstone. The inspectors determined that the finding did not increase the likelihood of fire or flooding and, therefore, considered this a Green finding.

GGNS personnel immediately backed out of the maintenance and canceled similar maintenance planned for Train B of the lubricating water system. GGNS personnel documented this discrepancy in Condition Report GGNS 2002-0824. Maintenance personnel later performed the maintenance during a forced outage which allowed the circulating water pumps to be secured while performing the maintenance. No violation of regulatory requirements occurred.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed postmaintenance test procedures and associated testing activities for six selected risk-significant mitigating systems. In each case, the associated work orders and test procedures were reviewed against the attributes in Inspection Procedure 71111, Attachment 19, to determine the scope of the maintenance

activity and determine if the testing was adequate to verify equipment operability. The reviewed activities were:

- MAI 307430, Division II engineered safety features switchgear fan
- MAI 313014, Division I standby service water flow indicator
- MAI 313885, Reactor recirculation pump hydraulic power Unit A, Subloop 2 oil pump
- MAI 313967, Division II emergency diesel generator temperature switch
- MAI 314390, Drywell chiller skid Unit A
- MAI 314765, Division II standby service water system basin level

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 five selected risk-significant SSCs to assess whether the SSCs satisfied the Technical Specifications, the Updated Final Safety Analysis Report, the Technical Requirements Manual, and licensee procedural requirements; and, to determine if the testing appropriately demonstrated that the SSCs were operationally ready and capable of performing their intended safety functions. The following tests were inspected:

- 06-OP-1E12-Q-0023, "Residual Heat Removal Subsystem A Quarterly Functional Test," Revision 108
- 06-OP-E22-M-0001, "High Pressure Core Spray Monthly Functional Test," Revision 101
- 06-RE-SB13-V-0017, "Reactivity Anomalies," Revision 102
- 06-OP-E32-M-0001, "Main Steam Isolation Valve Leakage Control System Blower Test," Revision 102
- 06-OP-1C41-M-0001, "Standby Liquid Control Operability," Revision 108

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed the temporary alterations 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.

- No. 2002-004, Division II emergency diesel generator tubing restraint
- No. 2002-003, Division II emergency diesel generator jacket water cooling temperature switch

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors verified the accuracy and completeness of the data used to calculate and report performance indicator information for two indicators from the second calendar quarter 2001 through the first calendar quarter 2002. The inspectors used Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 2, as guidance and interviewed licensee personnel responsible for compiling the information.

- Unplanned power changes per 7,000 critical hours
- Reactor coolant system specific activity

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

a. Inspection Scope

The inspectors reviewed corrective actions associated with the recent American Society of Mechanical Engineers (ASME) non-Code repair case of a piping elbow in Train A of the RHR system minimum flow line to the suppression pool.

b. Findings

The inspectors identified a Green finding resulting from the failure of nondestructive examination personnel to implement a schedule of ultrasonic testing that was committed to as part of obtaining NRC approval of an ASME non-Code repair on RHR system Train A.

On May 9, 2001, GGNS personnel identified a pin hole leak in the Train A of the RHR system minimum flow line at a piping elbow location in the auxiliary building. The leak resulted from flow accelerated corrosion which was not previously monitored in this elbow area. The pin hole leak created a potential open pathway from the containment suppression pool to the auxiliary building. On May 11, 2001, a GGNS representative requested NRC authorization to use ASME Non-Code Repair Case N-561-1 to repair the leak using a weld overlay on the pipe elbow.

On May 12, 2001, following a verbal authorization from the NRC's Office of Nuclear Reactor Regulation, GGNS maintenance personnel performed the weld repair to the piping and returned the system to service. The weld repair was authorized by the NRC with an understanding that it was a temporary repair method for the identified leak and that the elbow containing the leak would be replaced prior to startup from the next refueling outage. Additionally, the NRC understood that GGNS personnel would perform periodic followup inspections of the repaired area with nondestructive examination ultrasonic testing to determine the rate or extent of future degradation.

On April 2, 2002, the inspectors met with GGNS personnel to discuss flow accelerated corrosion of RHR system piping and existing compensatory actions associated with the recent non-Code repair. The inspectors understood that GGNS Standing Night Order 2001-18 directed shift personnel to log all Train A RHR pump starts and to initiate a maintenance activity to perform nondestructive examination following every three pump starts in order to comply with the non-Code repair case. The inspectors determined that eight pump starts had been recorded by the licensee since August 2, 2001, without performing the required nondestructive examination. GGNS personnel initiated Condition Report GGNS 2002-0597 to document this condition.

The failure of the nondestructive examination personnel to perform periodic inspections of the RHR system non-Code repair location prevented nondestructive examination personnel from determining the rate or extent of future degradation to the elbow location which was contrary to the NRC's understanding, as identified in the June 21, 2001, letter approving the use of the non-Code repair case. The inspectors determined this failure to meet the subject examinations to be a finding.

The finding was more than minor because, following the RHR non-Code piping repair, GGNS personnel did not have the required nondestructive examination information, nor the ability to diagnose further piping degradation, and may not have taken the appropriate action prior to the development of another RHR piping through-wall leak. The safety significance of this finding was very low (Green) because, although the elbow wall thickness was not inspected, the subject train was not relied upon for extended

operation and the final nondestructive examination results showed no measurable elbow wall thinning. No violation of regulatory requirements occurred.

4OA3 Event Followup (71153)

(Closed) Unresolved Item 05000416/2001-007-01, "Notice of Enforcement Discretion from Technical Specification 3.8.1 Required Action B.4 for Division II Emergency Diesel Generator"

(Closed) Licensee Event Report 50-416/02-001-00, "Follow-up to Division II Diesel Generator Notice of Enforcement Discretion"

The inspectors reviewed: the apparent cause, as identified by GGNS personnel; the corrective actions identified in Condition Report 2002-0555; the safety assessment; and the reporting requirements associated with Licensee Event Report 50-416/02-001-00 and Notice of Enforcement Discretion 02-4-001. The inspectors did not identify any findings of significance. This licensee event report is closed. Also, Unresolved Item 05000416/2001-007-01, associated with the Notice of Enforcement Discretion 02-4-001, is closed.

4OA6 Meetings, including Exit

On July 3, 2002, the acting senior resident inspector presented the inspection results to Mr. W. Eaton, Vice President of Operations, and members of his staff.

The inspector asked if any materials examined during the inspections should be considered proprietary. No proprietary information was identified by the licensee.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

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M. Guynn, Manager, Emergency Preparedness
R. Moomaw, Manager, Outage Planning and Scheduling
J. Roberts, Director, Nuclear Safety Assurance
J. Robertson, Manager, Quality Assurance
E. Rogers, Manager, Site Support
M. Rohrer, Manager, Maintenance
G. Sparks, Manager, Operations
D. Wiles, Director, Engineering
R. Wilson, Superintendent, Radiation Protection
H. Yeldell, Manager, Design Engineering

NRC

T. Hoeg, Senior Resident Inspector
R. Deese, Resident Inspector
C. Paulk, Senior Project Engineer

ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

05000416/2001-007-01	URI	Notice of Enforcement Discretion from Technical Specification 3.8.1 Required Action B.4 (Section 4OA3)
05000416/2002-001-00	LER	Voluntary LER for NOED 02-4-001 (Section 4OA3)
02-4-001	NOED	Division II Emergency Diesel Generator

LIST OF DOCUMENTS REVIEWED

Procedures:

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

01-S-07-43, "Control of Loose Items, Temporary Electrical Power and Access to Equipment," Revision 3

04-1-01-E12-1, "Residual Heat Removal System Operating Instruction," Revision14

04-1-01-N71-1, "Circulating Water System Operating Instruction," Revision 60

04-1-02-1H13-P680-10A-B12, "Circulating Water Pump A Lube Water Trouble," Revision 134

06-RE-SB13-V-0017, "Reactivity Anomalies," Revision 102

08-S-03-10, "Chemistry Sampling Program," Revision 32

MP-AD-SR-01, "Material Issues and Returns," Revision 3

10-S-04-4, "Performance Indicators," Revision 2

Condition Reports:

1999-0232	2002-0552	2002-0620	2002-0725
2001-0285	2002-0553	2002-0622	2002-0726
2001-0303	2002-0555	2002-0624	2002-0755
2001-0393	2002-0587	2002-0644	2002-0768
2002-0044	2002-0588	2002-0658	2002-0803
2002-0081	2002-0589	2002-0661	2002-0826
2002-0540	2002-0600	2002-0679	2002-0857
2002-0543	2002-0604	2002-0680	2002-1003
2002-0544	2002-0618	2002-0684	2002-1011
2002-0551	2002-0619	2002-0724	

Maintenance Action Items:

275413	300302	303672	309299	313702
295851	301703	305035	311966	
298634	302589	306211	313022	
299185	302684	308068	313461	

Maintenance Work Orders

00079761
00117030
00127585
00217453

Other Miscellaneous Documents:

Drawing C-1500, "Unit 1 Diesel Generator Building 12 Reinforced Concrete Plan Foundation Mat at Elevation 133'-0"," Revision 15

Engineering Request 2000-0792-000, "Auxiliary Cooling Tower Modification," Revision 0

Engineering Request 96-0731, "Circulating Water Pump Stuffing Box Refurbishment," Revision 0

Grand Gulf Maintenance Rule Desktop Guide and Scoping Documents

Material Tracking Report for Stock Code GG82152005, dated June 11, 2002

Purchase Order MP416712

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