ENCLOSURE 1

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	50-416
License No.:	NPF-29
Report No.:	50-416/96-21
Licensee:	Entergy Operations, Inc.
Facility:	Grand Gulf Nuclear Station
Location:	Waterloo Road Port Gibson, Mississippi
Dates:	December 21, 1996 through February 8, 1997
Inspectors:	J. Tedrow, Senior Resident Inspector K. Weaver, Resident Inspector
Approved By:	P. Harrell, Chief, Projects Branch D Division of Reactor Projects

ATTACHMENT: Supplemental Information

EXECUTIVE SUMMARY

Grand Gulf Nuclear Station
NRC Inspection Report 50-416/96-21

The inspectors evaluated aspects of licensee operations, maintenance, surveillance, engineering, and plant support activities. This report covers a 6-week period of resident inspections.

Operations

- Control room personnel were knowledgeable of the conditions associated with the plant and alarming control board annunciators. Conduct in the control room was professional and access control and housekeeping were excellent (Section O1.1).

- Failure to document a Technical Specification (TS) limiting condition of operation (LCO) was considered poor attention to detail by operations personnel and was identified as a noncited violation (Section O1.2).

- Licensee personnel involved with the operator workarounds were appropriately assessing, prioritizing, and tracking the plant deficiencies associated with the workarounds (Section O1.3).

Maintenance

- Performance of observed maintenance work activities was satisfactory and conducted in accordance with the instructions and procedures provided in the work packages (Section M1.1).

- The inspectors found discrepancies with component labeling during the observed maintenance activities. Component noun descriptions listed in the component database, which were used to generate work orders and component tagout clearances differed from the control room component labels, actual components in the field and system operating procedures and provided the potential for clearance errors and maintenance work errors (Section M1.1).

- Housekeeping in the plant was good and items were properly stored and secured (Section M2).

- Incident Review Board members were assertive and provided in-depth detailed questions to the maintenance personnel involved with the inadvertent Halon discharge in the control room (Section M7).

Engineering

- Engineering evaluations reviewed were thorough, appropriate, and technically sound (Section E1.1).

Plant Support

- Locked high radiation doors were properly secured and radiological areas were properly posted (Section R1.1).

- Improvement was noted in personnel access to plant radiological areas. The Residual Heat Removal (RHR) A and B pump rooms were decontaminated, which allowed unhindered access to the pumps without the previously required protective clothing (Section R1.1).

- Access to the RHR C pump room was improved by reducing radiation area dose rates. Lead shielding was applied to alternate decay heat removal system components to reduce radiation dose rates from locked high radiation area values to radiation area values thereby removing the requirement for the room access door to be locked (Section R1.1)

- Security equipment operated satisfactory and the guard force was cognizant of environmental conditions and the status of their security monitoring equipment (Section S1.1).

- All personnel involved with the fire/hazardous material training drill provided open and candid discussions during the critique concerning all areas of weaknesses that were identified during the drill (Section F5).

Report Details

Summary of Plant Status

The plant operated at or near 100 percent power throughout this inspection period.

I. Operations

O1 Conduct of Operations

O1.1 General Comments (71707)

Using Inspection Procedure 71707, the inspectors conducted frequent observations of ongoing plant operations. In general, control room personnel were found to be knowledgeable of the conditions associated with the plant and alarming control board annunciators. The inspectors found that conduct in the control room was professional and that access control and housekeeping were excellent.

O1.2 Failure to Document TS LCO Report (71707)

The inspectors conducted a review on January 14, 1997, of the TS LCOs for the ongoing maintenance activity for the 1E12F290A RHR jockey pump discharge block valve (Section M1.1). The inspectors found that operations personnel failed to document an LCO report in accordance with Procedure 02-S-01-17, "Control of Limiting Conditions for Operation," Revision 102. Operations personnel documented LCO Report No. 97-0051 for TS 3.6.1.8 for the Feedwater Leakage Control System, which was a 30-day shutdown LCO. The inspectors noted that a second LCO should have been written for TS 3.6.1.3 for an inoperable containment isolation valve. However, the inspectors found that this LCO was not documented in an LCO report in accordance with Procedure 02-S-01-17. The inspectors questioned operations personnel as to why an LCO report was not written for TS 3.6.1.3. Operations personnel immediately initiated Condition Report 1997-0027 and added the TS 3.6.1.3 LCO to LCO Report 97-0051. Operations personnel stated that at all times during the work activities for Valve 1E12F290A, it was communicated verbally that the valve was a primary containment isolation valve LCO; however, it was not documented in an LCO report. This was considered a violation of Procedure 02-S-01-17, Section 6.1, which states that the shift supervisor will fill out an LCO report any time the plant enters the action statements of a TS or Technical Requirements Manual.

The inspectors reviewed the licensee's condition report data base to determine if prior instances occurred in that operations personnel failed to document TS LCOs and no prior instances were found. Based on the fact that operations personnel stated that they were cognizant at all times of the required entry into the containment isolation valve LCO for TS 3.6.1.3 and that no past similar occurrences existed, the inspectors concluded that this concern was of minor safety significance and is not being cited. The inspectors concluded that the failure to document the LCO constituted a violation and is being treated as a noncited violation, consistent with Section IV of the NRC Enforcement Policy.

O1.3 Review of Operator Workarounds (71707)

The inspectors reviewed the operator workaround list and attended the operator workaround meeting conducted on January 10, 1996. During this meeting, the inspectors noted that the licensee personnel involved were appropriately assessing, prioritizing, and tracking the plant deficiencies associated with the workarounds.

O8 Miscellaneous Operations Issues (92901)

O8.1 (Closed) Violation 50-416/95004-01: inadequate corrective actions following reactor scram caused by dc grounds and suppression pool siphoning event. The inspectors verified the corrective actions described in the licensee's response letter, dated May 24, 1995, to be reasonable and complete. No similar problems were subsequently identified.

O8.2 (Closed) Violation 50-416/96011-04: failure to provide adequate instructions for operation of the standby diesel generators (SBDG). The inspectors verified the corrective actions described in the licensee's response letter dated September 11, 1996, to be reasonable and complete. No similar problems were subsequently identified.

O8.3 Survey of TS Interpretations: the inspectors conducted a survey of the licensee's TS interpretations. The licensee did not have interpretations of the TS but relied instead on the TS basis documents to adequately explain the meaning of the TS. The TS basis were improved during the TS improvement process implemented in 1995. The inspectors emphasized to the licensee that any informal reference to NRC review and approval in a TS interpretation is not recognized by the Commission and is not an acceptable practice.

O8.4 Visit to the Local Public Document Room: the inspectors visited the community's local public document room on February 6, 1997. This facility is located at the Judge George W. Armstrong Library in Natchez, MS. The inspectors examined the type of information available, the condition of this information, and the filing system used for access to this information. Selective microfiche and hardcopy files of various documents were reviewed. The inspectors found the public document room orderly and information was accessible.

II. Maintenance

M1 Conduct of Maintenance

M1.1 General Maintenance Comments

a. Inspection Scope (62707)

The inspectors observed portions of maintenance activities, as specified by the following work orders (WOs):

- WO 00177314 High Pressure Core Spray (HPCS) Diesel Generator; Measure Resistance of K2 and K3 Relays in Panel 1H22P118
- WO 00176613 RHR C Pump; Clean Inspect Motor; Change Motor Bearing Oil
- WO 00175700 RHR C Pump; Megger Motor
- WO 00178141 RHR A Jockey Pump Discharge Block Valve 1E12F290A; Inspect Limit Switch Compartment

b. Observations and Findings

The inspectors found the performance of the WOs listed above to be satisfactory. All work observed was conducted in accordance with the instructions and procedures provided in the work packages. However, the inspectors found discrepancies with component labeling during the observed maintenance on the RHR A Jockey Pump Discharge Block Valve 1E12F290A, which was also a primary containment isolation valve. The inspectors found that the component noun descriptions listed in the component database, which was used to generate work orders and component tagout clearances, differed from the control room component labels, actual components in the field, and system operating procedures.

The inspectors questioned operations personnel to determine the appropriate noun description for this valve. Operations personnel responded that Valve 1E12F290A performed several functions but the appropriate noun description for the valve was RHR A jockey Pump Discharge Block Valve.

The inspectors questioned operations personnel concerning Valve 1E12F290B and found that the same discrepancies also existed for the B RHR jockey pump discharge block valve. A previous example of this issue was identified by the inspectors and documented in NRC Inspection Report 50-416/96-15. In addition to the discrepancies found for the valves, the inspectors identified that the noun descriptions for the associated valve Breakers 52-153114 and 52-161113 were incorrectly identified in the component database. Operations personnel initiated Condition Report 1997-0029 to address the discrepancies.

The inspectors were concerned that due to these discrepancies in the component data base there was a potential for clearance errors and maintenance work errors (i.e., working on the wrong component). The inspectors did verify that the component terminology used in system and plant operating procedures was consistent with the component labels. The licensee indicated that operations and maintenance personnel were trained to use the applicable unique component tag number to identify the appropriate components instead of using the noun description. The licensee stated that although numerous errors existed in the component data base, no previous problems due to the errors occurred with hanging clearance tags on wrong components or performing maintenance activities on the wrong components.

The licensee stated that during the clearance tag process personnel responsible would identify the component database discrepancies and initiate corrective actions.

M1.2 General Surveillance Comments

a. Inspection Scope (61726)

The inspectors observed the performance of portions of the surveillance tests listed below:

- Procedure 06-EL-1R21-M-0001, "4.16 KV Degraded Voltage Functional Test and Calibration"

- Procedure 06-OP-1P75-R-0004, "Standby Diesel Generator 12: 18 Month Functional Test; 24 Hour Load Test/Hot Restart Test"

b. Observations and Findings

The inspectors noted that the test procedures provided clear guidance and properly implemented TS requirements. Measuring and test equipment was verified to be within its current calibration cycle. The instrumentation was removed from service, applicable LCOs entered, and properly returned to service. Technicians were knowledgeable of the test method and utilized appropriate self-checking techniques. The inspectors verified that the tests were previously performed at the correct periodicity.

During the Division 2 Standby Diesel Generator (SBDG) 12 surveillance test, megawatt load fluctuations and oscillations were observed independent of operator action. The shift superintendent conservatively directed that the SBDG be shutdown and declared inoperable. The licensee established a Significant Event Response Team to review the event and perform troubleshooting activities, however, no root causes were found for the unexpected load swings. No problems with the SBDG were subsequently identified during the licensee's troubleshooting

efforts. A maintenance run was subsequently performed and the SBDG ran loaded at approximately 4 megawatts for 2 1/2 hours. No load swings were observed during this run.

After the maintenance run, the licensee restarted the 24-hour load test. The licensee stated that no anomalies were observed and the test was declared successful. Subsequently, the licensee evaluated and replaced the motor-operated potentiometer. However, no anomalies was observed during inspection and testing of the motor-operated potentiometer that was removed from the SBDG. At the end of this inspection period, the Division 2 SBDG was being tested on an increased frequency of every 2 weeks and the Significant Event Response Team was still investigating the event and recommended corrective actions would be presented in an upcoming Corrective Action Review board meeting.

M1.3 Conclusions on Conduct of Maintenance

The maintenance and testing activities were performed properly. However, discrepancies were found with component labeling during the observed maintenance activities. Component noun descriptions listed in the component data base, which were used to generate work orders and component tagout clearances differed from the control room component labels, actual components in the field and system operating procedures and provided the potential for clearance errors and maintenance work errors.

M2 Maintenance and Material Condition of Facilities and Equipment (71707)

The inspectors routinely toured the control building, auxiliary building, SBDG buildings, and containment. In general, the inspectors found that housekeeping was good and items in the plant were properly stored and secured. However, three material condition deficiencies were identified by the inspectors that had not been previously identified by the licensee. These deficiencies included packing leaks on Standby Service Water (SSW) to Control Room Air Conditioning Valves P41F066A and P41F074A and a small leak from the RHR Loop C Supply Header Restricting Orifice 1E12D004C. The inspectors notified the licensee and condition identifications were initiated for these deficiencies.

The inspectors noted that the licensee's long-term corrective actions to improve the material condition of steam valves in the reactor core isolation cooling (RCIC) pump room were successful. These valves had habitually exhibited seat leakage which increased room temperature to approximately 110-120°F in the past. The valves were refurbished which has resulted in average room temperatures decreasing to approximately 100°F. The inspectors further noted that housekeeping conditions in this pump room has improved and that the RCIC pump and turbine were painted allowing easier identification of material condition deficiencies.

M7 Quality Assurance in Maintenance Activities

M7.1 Licensee Self-Assessment Activities (40500)

During this inspection period, the inspectors observed the Incident Review Board conducted for Condition Report 1997-0060. This condition report documented an incident that while maintenance craft were performing a surveillance on the Halon system detectors in the control room, an incorrect detector was heated and Halon was discharged from Panel P938 into the cable run spacing in the control room floor.

The inspectors noted the Incident Review Board members were assertive and provided in-depth detailed questions to the maintenance personnel involved concerning the facts surrounding the incident, procedural deficiencies, and possible human performance errors in order to determine the appropriate root cause of the incident.

M8 Miscellaneous Maintenance Issues (92902, 92700)

M8.1 (Closed) Inspection Followup Item 50-416/95009-01: corrective actions following Division III HPCS diesel trip. The licensee's investigation revealed that the loss of excitation relay reed was bent during previous testing due to manual agitation. The licensee revised the test method to install jumpers across the relay contacts instead. The inspectors reviewed Procedure 06-OP-1P81-R-0001, "HPCS Diesel Generator 18-Month Functional Test," Revision 102, to verify that this action was completed. The inspectors also reviewed the procedure for other instances of relay actuation and noted that appropriate jumpers or switches were used. The inspectors were informed by licensee personnel that no other test procedures utilized the mechanical agitation technique. The licensee's corrective action addressed the inspector's concern.

M8.2 (Closed) Violation 50-416/96010-01: RCIC and SSW systems not properly aligned according to procedures. The inspectors verified the corrective actions described in the licensee's response letter, dated July 22, 1996, to be reasonable and complete. No similar problems were subsequently identified.

M8.3 (Closed) Violation 50-416/96011-02: failure to properly construct scaffolds in accordance with guidance and drawings. The inspectors verified the corrective actions described in the licensee's response letter, dated September 5, 1996, to be reasonable and complete. No similar problems were subsequently identified.

M8.4 (Closed) Licensee Event Report (LER) 50-416/94011: reactor scram on November 1, 1994, due to dc system electrical ground. This event was previously discussed in NRC Inspection Report 50-416/94-20, which addressed the related enforcement issues. The inspectors verified that the licensee completed modifications to the Class 1E 125 volt dc systems to install less sensitive ground detection

instrumentation. The inspectors determined that the licensee has completed all of the corrective actions associated with this event and no noncompliance resulted from this event.

M8.5 (Closed) LER 50-416/95005: unplanned engineered safety feature (ESF) actuation while performing breaker overcurrent protection surveillance. This event was previously discussed in NRC Inspection Report 50-416/95-09, which addressed the related enforcement issues. The inspectors determined that the licensee has completed all of the corrective actions associated with this event and no noncompliance resulted from this event.

III. Engineering

E1 Conduct of Engineering

E1.1 General Comments (37551)

Using Inspection Procedure 37551, the inspectors reviewed the engineering evaluations listed below;

- Engineering Evaluation ER 97-0058; Evaluation of the RHR A/Low Pressure Core Spray and HPCS differential pressure shift
- Engineering evaluation of operability resolution for Material Nonconformance Report 0177-94 for identified broken thermometer debris within Division B Battery Cell 9.

In general, the inspectors found the engineering evaluations thorough, appropriate, and technically sound.

E2 Engineering Support of Facilities and Equipment

E2.1 Review of Facility and Equipment Conformance to Updated Finial Safety Analysis Report (UFSAR) Description (71707, 37551)

A recent discovery of a licensee operating a facility in a manner contrary to the UFSAR description highlighted the need for a special focused review that compares plant practices, procedures, and parameters to the UFSAR description. While performing the inspections discussed in this report, the inspectors reviewed the applicable portions of the UFSAR that related to the areas inspected. The inspectors verified that the UFSAR wording was consistent with the observed plant practices, procedures, and parameters. No anomalies between the UFSAR and operation of the facility were identified.

IV. Plant Support

R1 Radiological Protection and Chemistry Controls

R1.1 General Comments (71750)

Using Inspection Procedure 71750, the inspectors made frequent tours of the radiologically controlled area and observed radiological postings. In general, the inspectors found locked high radiation doors locked and secured and radiological areas were properly posted.

The inspectors noted improvement in personnel access to plant radiological areas. Specifically, the licensee decontaminated the RHR A and B pump rooms to allow unhindered access to the pumps without the previously required protective clothing. In addition, access to the RHR C pump room was improved by reducing radiation area dose rates. Lead shielding was applied to alternate decay heat removal system components to reduce radiation dose rates from locked high radiation area values to radiation area values thereby removing the requirement for the room access door to be locked.

S1 Conduct of Security and Safeguards Activities

S1.1 General Comments (71750)

Using Inspection Procedure 71750, the inspectors made periodic plant tours and observed activities in the central alarm station and secondary alarm station. During a morning period of heavy fog, the inspectors visited the central alarm station and checked the clarity of security cameras and questioned the guard force about any compensatory measures in place.

The inspectors found that the security equipment operated satisfactory and the guard force was cognizant of environmental conditions and the status of their security monitoring equipment. On the day of the dense fog, the inspectors were informed that compensatory measures was instituted for the degraded visibility conditions. The inspectors checked the security plan and implementing procedures to verify required action during this type of condition. The inspectors found that the licensee's actions for the degraded visibility conditions were appropriate.

F5 Fire Protection Staff Training and Qualification (71750)

The inspectors observed the fire brigade and hazardous material training drill and critique conducted on January 30, 1997. The drill scenario conducted included exercising techniques in several areas which included human rescue, hazardous material identification and containment, and fire fighting. The inspectors observed during the critique that all personnel involved provided open and candid discussions concerning all areas of weaknesses that were identified during the drill.

V. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on February 13, 1997. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

C. Bottemiller, Superintendent, Nuclear Safety and Regulatory Affairs
C. Brooks, Senior Licensing Specialist, Nuclear Safety and Regulatory Affairs
J. Burton, Manager Mechanical/Civil Engineering, Nuclear Plant Engineering
L. Daughtery, Technical Coordinator, Nuclear Safety and Regulatory Affairs
W. Deck, Security Superintendent
B. Eaton, General Manager, Plant Operations
C. Ellsaesser, Manager, Performance and System Engineering
C. Hayes, Director, Quality Assurance
C. Holifield, Licensing Engineer, Nuclear Safety and Regulatory Affairs
K. Hughey, Director, Nuclear Safety and Regulatory Affairs
M. McDowell, Operations Superintendent, Operations
R. Moomaw, Manager, Plant Maintenance
A. Morgan, Manager, Emergency Preparedness
C. Smith, Manager, Work Control
T. Tankersley, Technical Coordinator, Maintenance

NRC

J. Donahew, NRR Project Manager
P. Harrell, Chief, Branch D

INSPECTION PROCEDURES USED

37551	Onsite Engineering
40500	Effectiveness of Licensee Controls in Identifying, Resolving, and Preventing Problems
61726	Surveillance Observations
62707	Maintenance Observation
71707	Plant Operations
71750	Plant Support Activities
92700	Onsite Follow-up of Written Reports of Nonroutine Events at Power Reactor Facilities
92901	Followup - Plant Operations
92902	Followup - Maintenance

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened		
50-416/96021-01	NCV	Failure to document a TS LCO (Section 01.2)
Closed		
50-416/95004-01	VIO	Inadequate corrective actions following reactor scram caused by dc grounds and suppression pool siphoning event (Section 08.1)
50-416/95009-01	IFI	Corrective actions following Division III HPCS diesel trip (Section M8.1)
50-416/96010-01	VIO	RCIC and SSW Systems not properly aligned according to procedures (Section M8.2)
50-416/96011-02	VIO	Failure to properly construct scaffolds in accordance with guidance and drawings (Section M8.3)
50-416/96011-04	VIO	Failure to provide adequate instructions for operation of the SBDGs (section 08.2)
50-416/96021-01	NCV	Failure to document a TS LCO (Seciton 01.2)
50-416/94011	LER	Reactor scram on November 1, 1994 due to dc system electrical ground (Section M8.4)
50-416/95005	LER	Unplanned ESF actuation while performing breaker overcurrent protection surveillance (Section M8.5)

LIST OF ACRONYMS USED

dc	direct current
ESF	engineered safety feature
HPCS	high pressure core spray
IFI	inspection followup item
LER	licensee event report
NCV	noncited violation
NRC	U. S. Nuclear Regulatory Commission
RCIC	reactor core isolation cooling
RHR	residual heat removal
SBDG	standby diesel generator
SSW	standby service water
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
VIO	violation
WO	work order

E-Mail report to T. Boyce (THB)
E-Mail report to NRR Event Tracking System (IPAS)
E-Mail report to Richard Correia (RPC)
E-Mail report to Don Taylor (DRT)
E-Mail report to Document Control Desk (DOCDESK)

bcc to DMB (IE01)

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DRP Director
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