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

July 18, 2000

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 NO. 50-416/2000-05

Dear Mr. Eaton:

On June 5 to 23, 2000, the NRC completed a safety inspection at your Grand Gulf Nuclear Station facility. The enclosed report presents the results of that inspection. The results were discussed on June 23, 2000, with Mr. J. Venable and others of your facility.

This inspection was an examination of activities conducted under your license as they relate to the design adequacy and performance capability of the high pressure core spray system and its support systems. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel. Within the scope of the inspection, no findings were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be 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***/

Jeffrey L. Shackelford, Chief
Engineering and Maintenance Branch
Division of Reactor Safety

Docket No.: 50-416
License No.: NPF-29

Enclosure:
NRC Inspection Report No.
50-416/2000-05

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	50-416
License No.:	NPF-29
Report No.:	50-416/2000-05
Licensee:	Entergy Operations, Inc.
Facility:	Grand Gulf Nuclear Station
Location:	Waterloo Road Port Gibson, Mississippi
Dates:	June 5 to 23, 2000
Team Leader	M. F. Runyan, Senior Reactor Inspector Engineering and Maintenance Branch
Inspectors:	J. Dixon-Herrity, Senior Resident Inspector Projects Branch A
	C. E. Johnson, Senior Reactor Inspector Engineering and Maintenance Branch
	C. J. Paulk, Senior Reactor Inspector Engineering and Maintenance Branch
	J. E. Whittemore, Senior Reactor Inspector Engineering and Maintenance Branch
Accompanying Personnel	F. Baxter, Contractor Beckman & Associates, Inc.
Approved By:	Jeffrey L. Shackelford, Chief Engineering and Maintenance Branch Division of Reactor Safety

ATTACHMENTS:

Attachment 1: Supplemental Information

Attachment 2: NRC's Revised Reactor Oversight Process

SUMMARY OF FINDINGS

Grand Gulf Nuclear Station
NRC Inspection Report No. 50-416/00-05

This report covers a 2-week onsite inspection by a team of five Region IV inspectors and one contractor. The report includes the results of a safety system design and performance capability team inspection of the high pressure core spray system and supporting systems. No issues were identified during the inspection.

Cornerstone: Mitigating Systems

- No findings were identified.

Report Details

Summary of Plant Status

During both weeks of onsite inspection, Grand Gulf Nuclear Station operated at or near full power.

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

1R21 Safety System Design and Performance Capability

.1 System Requirements

a. Inspection Scope

The team reviewed operator actions and procedures associated with the HPCS system, the Division III (HPCS) emergency diesel generator, and Train C of the standby service water system. This review consisted of system walkdowns; review of normal operating, annunciator response, off-normal, and emergency operating procedures; and review of the UFSAR, the technical specifications, the system design criteria, and the plant drawings. The purpose of this review was to verify that the HPCS and appropriate support systems would perform the functions that were assumed to be available in the safety analysis.

The team reviewed the process media required for the operation of the HPCS system. These media included the water and air supply for the HPCS pump, Loop C standby service water, and the room atmosphere for the Division III emergency diesel generator. The review included piping and instrumentation diagrams, operating procedures, calculations, the UFSAR, system descriptions, and design bases documents. This review was performed to verify that the process media will be available and unimpeded during accident or event conditions.

The team verified that the system needs for the HPCS emergency diesel generator were met. The required amount of clean and tested diesel fuel and lubricating oil required by the technical specifications was verified through a review of the design of the HPCS emergency diesel generator fuel oil storage and transfer system, lubricating oil storage system, the licensee's fuel oil testing program, and a sample of recent new and stored fuel analysis results.

The team performed reviews to determine that the system cooling needs for the HPCS pump room and emergency diesel generator were met. The team reviewed the licensee's program for chemical analysis and treatment of the standby service water system, including the cooling tower and basin. The existence of corrosion control and testing programs identified in the licensee's response to Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment," was reviewed on a

sampling basis. Applicable condition reports and maintenance action items were reviewed to verify that problems with system needs were being identified and addressed.

The team reviewed the availability of the ac and dc power supply systems; minimum voltage requirements; system grounding requirements; the design requirements of the HPCS pump motor; equipment cables; circuit breakers and protective devices; emergency diesel generator and its fuel storage and starting air; and the ventilation and cooling systems supplying the HPCS system and supporting components.

b. Issues and Findings

No findings were identified.

.2 System Condition and Capability

a. Inspection Scope

The team reviewed system operation for the HPCS and the required support systems. This review consisted of system walkdowns; review of normal operating, annunciator response, off-normal, and emergency operating procedures; review of the UFSAR; the technical specifications; the system design criteria; and plant drawings.
The team reviewed the environment and environmental qualification of equipment in the HPCS pump room to verify that the equipment was qualified to perform its intended function when required, subject to the assumed accident environment.

The team performed a walkdown of the HPCS system; HPCS pump room, battery room, and essential switchgear ventilation and cooling (including standby service water, Loop C); and HPCS emergency diesel generator system to verify that the changes and modifications to the initial design had not affected or changed the system design bases or required functional performance. The team used design drawings, piping, isometric and diagram drawings to assist in the as-built verification walkdown.

The team verified that required inputs to components, such as coolant flow, and pressure and temperature parameters were consistent with design basis analyses for the HPCS and its support systems.

The team verified that a modification to the HPCS spray diesel air start system was installed in accordance with the engineering request design change.

Through a review of historical and current maintenance records including performance tests, the team evaluated for signs of degradation of the HPCS and support system components.

The team reviewed the capability of the HPCS motor cables to carry the required current under maximum HPCS room temperature and worst-case cable routing; the capability of the HPCS medium and low-voltage cables to operate on a high resistance grounded system; the ability of operators to detect a failed engine during a loss-of-coolant

accident with loss-of-offsite power; the availability of offsite power sources; the sizing of the emergency safety features transformer and diesel generator ground resistor; the control of switchgear and motor control center space heaters; the minimum battery room temperature including needed operator corrective actions; and the coordination of protective devices.

b. Issues and Findings

No findings were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The team reviewed a sample of HPCS and support system design-related problems identified by the licensee's corrective action program. The team also reviewed Procedure LI-102, "Corrective Action Process," Revision 0.

The team reviewed the actions the licensee has taken in response to industry-identified problems with the HPCS system and support equipment. This review included the status of corrective actions taken for 4.16 kV General Electric Magnablast circuit breakers.

b. Issues and Findings

No findings were identified.

.4 System Walkdowns

b. Inspection Scope

The team performed walkdowns of the accessible portions of the HPCS piping and emergency diesel systems, as well as the required support systems. The walkdowns focused on the installation and configuration of piping, components, and instruments; the placement of protective barriers and systems; the susceptibility to flooding, fire, or other environmental concerns; the physical separation; the provisions for seismic concerns; accessibility for operator action; and the conformance of the currently installed configuration of the systems with the design and licensing bases.

c. Issues and Findings

No findings were identified.

.5 Design Review

a. Inspection Scope

The team reviewed the design criteria for the HPCS and HPCS emergency diesel generator systems and then selected specific design criteria that assured the performance of safety functions during accident conditions. These criteria were reviewed to determine whether the design bases of the systems were met by the currently installed and tested configurations. Document reviews included drawings, procedures, calculations, vendor specifications, condition reports, and maintenance action items identified in the attachment, as well as the facility technical specifications and the UFSAR. These reviews further addressed the validity of design assumptions and calculations.

The team also assumed specific failures of individual safety- and nonsafety-related components to determine the potential effects of such failures on the capability of the systems to perform their safety functions. Instrumentation was reviewed to verify the appropriateness of setpoints with regard to the parameters that were monitored or measured and the function that was affected by or related to the monitored parameter. Additionally, the team performed analyses in several areas to verify that design values were correct and appropriate.

The team reviewed the system design criteria documents for the diesel generator and the Division III power distribution system; one-line diagrams; ac and dc voltage drop and short-circuit calculations; breaker coordination plots; and schematic diagrams for HPCS equipment control and protection. The team also determined the capability of the batteries and cables in both low and high ambient temperatures.

b. Issues and Findings

No findings were identified.

.6 Safety System Testing

a. Inspection Scope

The team reviewed the program, procedures, and records associated with testing, cleaning, and inspecting the HPCS pump room cooler and the HPCS emergency diesel generator jacket water coolers.

The team also verified that procedures, policies, and appropriate program requirements were in place to perform all technical specification-required surveillance testing or monitoring for the HPCS pump and system; HPCS emergency diesel generator and

support systems; and the HPCS pump room temperature. This included a review of required inservice testing of pumps and the NRC-granted exemptions for cases where ASME Section XI code requirements for testing were not met. Additional review was performed to verify that installed or test instrument uncertainties and system conditions that degrade safety system performance (e.g., heat exchanger fouling factors) were appropriately accounted for within the testing and analysis methodologies.

b. Issues and Findings

No findings were identified.

4 OTHER ACTIVITIES (OA)

4OA6 Management Meetings

.1 Exit Meeting Summary

The inspectors presented the inspection results to Mr. J. Venable and other members of licensee management at the conclusion of the onsite inspection on June 23, 2000. The licensee's management acknowledged the findings presented.

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

ATTACHMENT 1

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

A. Barfield, Manager, Design Engineering
T. Barnett, Design Engineer
B. Blanche, Shift Supervisor
C. Bottemiller, Manager, Licensing
T. Dykes, Senior Engineer
D. Franklin, Senior Lead Engineer
C. Holifield, Senior Licensing Engineer
E. Hyster, Electrical Section
C. Lambert, Director, Engineering
G. Lantz, Senior Staff Engineer
J. Roberts, Director, NSA
J. Robertson, Quality Assurance Manager
R. Sorrels, System Engineer
T. Thurman, System Engineer
J. Venable, General Manager
W. White, Engineering Supervisor
D. Wilson, Senior Lead Engineer

NRC

P. Alter, Resident Inspector

DOCUMENTS REVIEWED

Procedures

06-OP-1000-D-0001, “Data Sheet II, Daily Operating Logs, 12 hr Requirement," Revision 108

305, “Engineering Calculations,” Revision 16

ES-P-001-01, “Design Engineering Manual,” October 14, 1997

ES-G-004-00, “Engineering Calculation Process,” August 17, 1998

04-1-01-E22-1, “High Pressure Core Spray System,” Revision 103

04-1-01-P41-1, “Standby Service Water System,” Revision 112

04-1-02-1H13-P601, “Alarm Response Instruction Panel No. 1H13-P601,” Revision 109

04-1-02-1H22-P118, “Alarm Response Instruction Panel No. 1H22-P118,” Revision 19

05-1-02-I-4, “Loss of AC Power,” Revision 26

05-1-02-VI-1, “Flooding,” Revision 101

05-1-02-VI-2, “Hurricanes, Tornados, and Severe Weather,” Revision 103

05-1-02-V-7, “Loss of Feedwater Flow,” Revision 19

05-S-01-EP-2, “RPV Control,” Revision 29

05-S-01-SAP-1, “Severe Accident,” Revision 1

05-S-02-VI-3, “Earthquake,” Revision 100

06-OP-1E22-C-0003, “HPCS Testable Check Valve Test,” Revision 104

06-OP-1E22-M-0001, “HPCS Monthly Functional Test,” Revision 101

06-OP-1E22-Q-0002, “HPCS Quarterly Valve Test,” Revision 104

06-OP-1E22-Q-0005, "HPCS Quarterly Functional Test," Revision 106

06-OP-1P41-M-0001, “HPCS Service Water Operability Test,” Revision 100

06-OP-1P41-Q-0006, “HPCS Service Water System Valve and Pump Operability Test,” Revision 105

06-OP-1P81-M-0002, “HPCS Diesel Generator 13 Functional Test,” Revision 106

06-OP-1P81-R-0001, “HPCS Diesel Generator 18-Month Functional Test,” Revision 105

LI-102, “Corrective Action Process,” Revision 0

01-S-17-5, “Administrative Procedure Engineering Request Safety Related,” Revision 7

06-IC-1B21-R-2010, "Reactor Vessel Water Level (HPCS) Functional Test," Revision 102

06-IC-1B21-R-2011, "Drywell High Pressure (HPCS) Functional Test," Revision 100

06-IC-1E22-R-0003, "Suppression Pool High Water Level Calibration (HPCS)," Revision 101

06-IC-1E22-Q-0004, "HPCS System Flow Rate Low (Bypass) Functional Test," Revision 101

06-IC-1E22-R-0005,"HPCS Pump Discharge Pressure High (Bypass) Functional Test," Revision 101

07-S-12-39, "Cleaning and Inspection of Non-Rotating Electrical Equipment," Revision 6

07-S-14–52, "ESF Electrical Switchgear Room Cooler Inspection," Revision 5

07-S-14–373, "Fuel Pool Cooling and Cleanup Room Cooler Inspection," Revision 1

17-S-06-24, "SSW “C” Performance," Revision 2

Calculations

1.53-Q, "ECCS Pumps NPSH Calculation," Revision 0 and Supplement 1

1.2.14, "Condensate Storage Tank Minimum Water Level for HPCS Pump Operation," Revision 0

1.2.2.A-Q, "HPCS - Line Sizing Calculations," Revision A

1.2.3.B-Q, "HPCS - SFD Calculations," Revision B

1.2.5.Q-A, "HPCS System - Pumping Time & Water Inventory (Unit 1)," Revision A

7.6.18, "HPCS Diesel Generator System," Revision A

EC-N1111-88014, "Determination of HPCS Line Break Alarm Setpoint Based on Normal Operating ΔP," Revision 0

EC-Q1111-90005, "Qualified Life of the ECCS Pump Motors (GGCR1997-0309-00)," Revision 2

EC-Q1111-90015, "Equipment Operability at High Ambient in the HPCS Room (MNCR 0072-90)," Revision 0

EC-Q1111-93003, “Diesel Generator Building Electrical Heat Load Calculation,” Revision 0

J-E22-3, "E-22 HPCS Pump Suction Pressure," Revision 0

JC-Q1E22-R603-2, "Worst Case Uncertainty of Safety Related Control Room Indication of HPCS Flow for Indicator Q1E22-R603 to Satisfy Reg. Guide 1.97 Rev. 2 Requirements," Revision 0

MC-Q1E22-91124, "NPSH Calculation - HPCS Pump (Q1E22C001)," Revision 1

MC-Q1T51-90137, "Temperature in the HPCS Pump Room (1A109) Following a LOCA with 20 gpm of 90°F SSW Being Supplied to Room Cooler Q1T51B001C," Revision 0

MC-Q1111-84016, "ECCS Pump Surveillance Criteria," Revision 2

EC-Q1P81-93011, “Sizing of Ground Resistors for ESF Bus 17AC Emergency Diesel Generator,” Revision 1

EC-Q1111-90028, “AC Electrical Power Systems Calculation,” Revision 2

EC-Q1L21-90023, “Division III 125 V DC Class 1E Voltage Drop Study,” Revision 2

EC-Q1L21-90018, “125 V DC Division III Battery Short Circuit Evaluation,” Revision 3

EC-Q1L21-90020, “Sizing of 125 V DC Battery C and Associated Battery Charger,” Revision 1

MC-Q1Z77-92001, “Safeguard Switchgear & Battery Room Cooling & Heating Requirements,” Revision 1

MC-Q1T51-90137, “Temperature in the HPCS Pump Room (1A109) Following a LOCA with 20 gpm of 90ºF SSW Being Supplied to Room Cooler Q1T51B001C,” Revision 0

MC-Q1P81-90118, “Diesel Fuel Storage Requirements for the Division 3 Diesel Generator,” Revision 2

Drawings

J-1248-001, "Logic Diagram HPCS Initiation Logic," Revision 2

J-1248-002, "Logic Diagram HPCS Pump," Revision 2

J-1248-003, "Logic Diagram HPCS Jockey Pump," Revision 2

J-1248-004, "Logic Diagram HPCS Pump Suction from Suppression Pool Valve F015-C," Revision 1

J-1248-005, "Logic Diagram HPCS Pump Suction from Condensate Storage Tank Valve F001-C," Revision 1

J-1248-006, "Logic Diagram HPCS Injection Shutoff Valve F004-C and Manual Isolation Valve F036," Revision 3

J-1248-007, "Logic Diagram HPCS Test Return to Suppression Pool Valve F023-C," Revision 2

J-1248-008, "Logic Diagram HPCS Test Bypass to CST Valve F010-C and Test Return to CST Valve F011-C," Revision 1

J-1248-009, "Logic Diagram HPCS Testable Check Valve Test Logic," Revision 1

J-1248-010, "Logic Diagram HPCS Minimum Flow to Suppression Pool Valve F012-C," Revision 2

J-1248-012, "Logic Diagram HPCS Out of Service Annunciator," Revision 2

J-1248-013, "Logic Diagram Miscellaneous HPCS Annunciators," Revision 1

J-1248-014, "Logic Diagram HPCS Out of Service Annunciator," Revision 0

J-1248-L-001, "Setpoint Control Loop Diagram HPCS Jockey Pump Discharge Pressure Low Alarm," Revision 0

J-1248-L-002, "Setpoint Control Loop Diagram HPCS Pump Discharge Pressure Low Control Trip," Revision 0

J-1248-L-003, "Setpoint Control Loop Diagram HPCS Pump Discharge Flow High Initiation and Trip," Revision 0

J-1248-L-004, "Setpoint Control Loop Diagram HPCS Pump Suction Pressure High/Low Alarm," Revision 0

J-1248-L-005C, "Setpoint Control Loop Diagram Condensate Storage Tank Low Water Level (LT-N054C) Control Trip," Revision 0

J-1248-L-005G, "Setpoint Control Loop Diagram Condensate Storage Tank Low Water Level (LT-N054G) Control Trip," Revision 0

J-1248-L-006C, "Setpoint Control Loop Diagram Suppression Pool High Water Level (LT-N055C) Control Trip," Revision 0

J-1248-L-006G, "Setpoint Control Loop Diagram Suppression Pool High Water Level (LT-N055G) Control Trip," Revision 0

M-1065, "P&I Diagram Condensate & Refueling Water Storage & Transfer System Unit 1," Revision 32

M-1086, "P&I Diagram High Pressure Core Spray System Unit 1," Revision 28

M-KA1026, "Equipment Location Diesel Generator Building," Revision B

E-1183, “High Pressure Core Spray System,” Revision 26

EP-2, “RPV Control,” December 17, 1998

M-0192, “H.V. & A.C. Control Building Elevation 111'-00" Area 25 B Units 1 & 2,” Revision 25

M-0193, “H.V. & A.C. Control Building Elevation 133'-00" Area 25 A Units 1 & 2,” Revision 34

M-0194, “H.V. & A.C. Control Building Elevation 111'-00" Area 25 A Units 1 & 2,” Revision 38

M-0191, “H.V. & A.C. Control Building Elevation 111'-00" Area 25 A Units 1 & 2,” Revision 27

M-7207A, "M.I.C. Inspection Locations," Revision 2

M-7207B, "M.I.C. Inspection Locations," Revision 4

E-0001, “Main One Line Diagram,” Revision 30

E-1023, “One Line Meter & Relay Dgm. 125 V DC Buses 11DA, 11DB & 11DC,” Revision 33

762E2988A-2&3, “One Line Diagram HPCS,” Revision 9

762E298A-001, “High Pressure Core Spray System,” Revision 6

762E298A-002, “High Pressure Core Spray System,” Revision 4

E-1112-01, “Schematic Dgm. HPCS Diesel Generator Fuel Oil Transfer Pump C001-C,” Revision 5

E-1188-02, “Schematic Dgm. E22 HPCS Power Supply System Air Compressor,” Revision 4

E-1188-016, “HPCS Power Supply System No. Breaker 4,” Revision 9

E-1188-018, “HPCS Power Supply System No. Breaker 1,” Revision 11

E-1188-019, “HPCS Power Supply System No. Breaker 2,” Revision 11

E-1188-020, “HPCS Power Supply System No. Breaker 3,” Revision 11

E-1188-021, “HPCS Power Supply System No. Breaker 5,” Revision 11

E-1188-022, “HPCS Power Supply System No. Breaker 6,” Revision 10

E-1091, “MCC Tabulation 480 V MCC 17B01 Control Building,” Revision 19

E-1051, “MCC Tabulation 480 V MCC 17B11 Control Building,” Revision 16

E-1008, “One Line Meter & Relay Dgm. 4.16 kV ESF System Buses 15AA & 16AB,” Revision 20

E-0121-05, “R25 Summary of Relay Settings (ESF) 4.16 kV Bus 17AC and Diesel Generator 13,” Revision 7

E-1188-003,”HPCS Power Supply System Generator Space Heater,” Revision 4

E-1188-001, “HPCS Power Supply System Immersion Heater Engine A & B,” Revision 7

E-1188-07, “HPCS Power Supply System Space Heater of HPCS Pump Motor,” Revision 2

<u>Piping and Instrumentation Diagrams</u>

M-1061A, “P&ID Diagram Standby Service Water System Unit 1,” Revision 50

M-1061B, “P&ID Diagram Standby Service Water System Unit 1,” Revision 42

M-1086, “P&ID Diagram High Pressure Core Spray System Unit 1,” Revision 28

M-1093B, “P&ID Diagram HPCS Diesel Generator System,” Revision 21

M-1108A, “P&ID Diagram Safeguard Switchgear & Battery Rooms Ventilation System - Unit 1,” Revision 9

M-1108B, “P&ID Diagram Safeguard Switchgear & Battery Rooms Ventilation System - Unit 1,” Revision 9

M-1349A, “System Piping Isometric HPCS From HPCS PP. Discharge to Containment Auxiliary Building & Containment - Unit 1,” Revision 19

M-KB1349A, “System Piping Isometric HPCS From HPCS PP. Discharge to Containment Auxiliary Building & Containment - Unit 1,” Revision A

M-KB1349B, “System Piping Isometric HPCS to Containment to Reactor Pressure Vessel - Unit 1,” Revision 18

M-KD1358H, “System Piping Isometric Standby Service Water - Loop 'C' Diesel Generator Building Unit 1,” Revision A

M-1358H, “System Piping Isometric Standby Service Water - Loop 'C' Diesel Generator Building Unit 1,” Revision 10

M-1358K, “System Piping Isometric Standby Service Water Basin 'A' Pump House and Associate Piping Unit 1,” Revision 15

M-KC1358K, “System Piping Isometric Standby Service Water Basin 'A' Pump House and Associate Piping Unit 1,” Revision C

M-1358L, “System Piping Isometric Standby Service Water Basin 'A' Valve Room,” Revision 18

M-KD1358L, “System Piping Isometric Standby Service Water Basin 'A' Valve Room,” Revision B

M-KT106IA, “P&ID Diagram Standby Service Water System Unit 1,” Revision CA

M-KT106IB, “P&ID Diagram Standby Service Water System Unit 1,” Revision BA

M-106IC, “P&ID Diagram Standby Service Water System Unit 1,” Revision 33

M-106ID, “P&ID Diagram Standby Service Water System Unit 1,” Revision 34

M-1086, "P&ID High pressure Core System," Revision 28

M-1103A, "P&ID Auxiliary Building Ventilation System," Revision 11

M-1106B, "P&ID Gen. ECCS ESF Elec. Swgr. SSW and Circ. Wtr. Pp. Hse. Vent. Sys.," Revision 10

M-1108A, "P&ID Safeguard Swgr. & Battery Rooms Ventilation System-Unit 1," Revision 9

M-1108B, "P&ID Safeguard Swgr. & Battery Rooms Ventilation System," Revision 9

Engineering Requests

ER-1996-1018-00
ER-1997-0269-00
ER-1999-0311-00
GGNS-92-0002, Revision 0

Condition Reports

CR-GGN-1997-0794	CR-GGN-1999-0433	CR-GGN-1999-1099
CR-GGN-1998-0613	CR-GGN-1999-0460	CR-GGN-1999-1174
CR-GGN-1998-0848	CR-GGN-1999-0481	CR-GGN-1999-1392
CR-GGN-1998-0896	CR-GGN-1999-0697	CR-GGN-1999-1425
CR-GGN-1999-0256	CR-GGN-1999-0718	CR-GGN-2000-0067
CR-GGN-1999-0261	CR-GGN-1999-0792	CR-GGN-2000-0106
CR-GGN-1999-0279	CR-GGN-1999-0802	CR-GGN-2000-0252
CR-GGN-1999-0317	CR-GGN-1999-0988	CR-GGN-2000-0816
CR-GGN-1999-0319	CR-GGN-1999-1038	CR-GGN-2000-0828
CR-GGN-1999-0325	CR-GGN-1999-1054	CR-GGN-2000-0854
CR-GGN-1999-0331	CR-GGN-1999-1065	

Maintenance Action Items:

200910	260148	260716	273290
207858	260149	261624	275346
255939	260151	265005	275700
256862	260715	267918	

Miscellaneous Documents

System Description E22, "High Pressure Core Spray (HPCS) System," Revision 5

GGNS-SDC-E22, "System Design Criteria High Pressure Core Spray System," Revision 1

SERI-SDC-P81, "System Design Criteria HPCS Diesel Generator System," Revision 0

Maintenance Rule Failure Database

Work Management System Database

List of Inoperable Control Room Annunciators

System Engineer's Logs for P81 and E22

Vendor Manual 460000154 and 155, "High Pressure Core Spray Diesel Generator"

Vendor Manual 460000159, "Instruction for High Pressure Core Spray Pump Motor," December 1, 1997

Vendor Manual 460000156, "Technical Manual for Vertical High Pressure Core Spray Pump," March 31, 1994

Operating Experience Database Sort on High Pressure Core Spray

ASME OMa Part 6, "Inservice Testing of Pumps in Light-Water Reactor Plants," June 11, 1988

AECM-90/0007, "Licensee Response to Generic Letter 89-13," January 29, 1990

Standard MS-39.0, "Shell Tube Heat Exchanger Rating Program," January 1, 1990

Standard MS-51, "Plan for Monitoring and Controlling Microbiologically Induced Corrosion," January 29, 1998

Design Criteria, "HPCS Diesel Generator System," Revision 0

Design Criteria, "High Pressure Core Spray System," Revision 1

PRR-E22-1, "IST Relief Request, High Pressure Core Spray Pump," February 18, 1999

GNRI-99/00047, "NRC Response to Grand Gulf Nuclear Station Relief Requests for Second 10-Year Interval Pump and Valve Inservice Testing Program," July 1, 1999

Specifications

9645-E-001.1, "Transformer Neutral Grounding Devices," Revision 7

9645-E-029.0, "9,000 Volt Power Cable," Revision 8

9645-E-030.1, "1,000 Volt Power Cable," Revision 7

GE Specification 21A9236, "Engine-Generator for HPCS," Revision 5

GE Specification 21A9301, "Motor Control Centers," Revision 0

GE Specification 21A9300AJ, "Switchgear Electrical, Metal Enclosed," Revision 5

GE NEDO-10905, “High Pressure Core Spray System Power Supply Unit,” May 1973

System Design Criteria
SDC-P81, “HPCS Diesel Generator System (P81),” Revision 0

SDC-9, “4.16 kV ESF Division I & II Distribution System,” Revision 0

SDC-10, “ESF Division III Power Distribution System,” Revision 0

SDC-277, “Safeguard Switchgear and Battery Rooms Ventilation Systems,” Revision 0

ATTACHMENT 2

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection Findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN Findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE Findings indicate issues that are of low to moderate safety significance. YELLOW Findings are issues that are of substantial safety significance. RED Findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin, but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner, which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.