UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report No.: 50-416/93-02

Licensee: Entergy Operations, Inc.
Jackson, MS 39205

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

Facility Name: Grand Gulf Nuclear Station

Inspection Conducted: January 17, 1993, through February 13, 1993

Inspectors: _____ 3/2/93
R. H. Bernhard, Senior Resident Inspector Date Signed

_____ 3/2/93
C. A. Hughey, Resident Inspector Date Signed

Approved by: _____ 3/2/93
F. S. Cantrell, Chief Date Signed
Reactor Projects Section 1B
Division of Reactor Projects

SUMMARY

Scope:

The resident inspectors conducted a routine inspection in the following areas: operational safety verification; maintenance observation; surveillance observation; engineering safety feature system (low pressure core spray) operability; corporate office support; and followup activities. The inspectors conducted backshift inspections on January 23 and 25, and February 1, 8, 10, and 16, 1993.

Results:

One unresolved item was opened concerning spectacle flanges installed in the low pressure core spray, and the A/B trains of the residual heat removal systems (Paragraph 6). Inspections in the area of maintenance and surveillance activities did not identify any concerns (Paragraphs 4 and 5). A reactor downpower observed was well planned with no noted discrepancies (Paragraph 3a). Corporate office support for the Grand Gulf and other Entergy nuclear sites appeared to be "customer" oriented (Paragraph 3b).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

+R. Angelo, Manager, Quality - Nuclear
*W. Cottle, Vice President, Nuclear Operations
*L. Daughtery, Superintendent, Plant Licensing
*M. Dietrich, Manager, Training
J. Dimmette, Manager, Performance and System Engineering
*C. Dugger, Manager, Plant Operations
+W. Edge, Manager, Plant Support and Assessment
+G. Ellis, Manager, Corporate Security
*C. Ellsaesser, Assistant Operations Manager
+E. Ewing, Manager, Maintenance Support
*C. Hayes, Director, Quality Assurance
*C. Hicks, Operations Superintendent
+D. Hintz, President and CEO, Entergy Operations
+J. Holmes, Corporate Chemist
+W. Hughey, Director, Central Licensing
*C. Hutchinson, General Manager, Plant Operations
+R. Jackson, Corporate Environmentalist
+H. Kook, Licensing Coordinator
F. Mangan, Director, Plant Projects and Support
*M. Meisner, Director, Nuclear Safety and Regulatory Affairs
+J. McGaha, Vice President, Nuclear Operations Support
D. Pace, Director, Nuclear Plant Engineering
*J. Roberts, Manager, Plant Maintenance
*R. Ruffin, Plant Licensing Specialist

Other licensee employees contacted included superintendents, supervisors, technicians, operators, security force members, and administrative personnel.

*Attended exit interview
+Interviewed at Corporate Office (Paragraph 3b)

Acronyms and initialisms used throughout this report are listed in the last paragraph.

2. Plant Status

The plant operated in Mode 1, power operations, during the entire reporting period. At the end of the reporting period, the unit had been on-line for 191 consecutive days.

T. M. Novack and C. Hsu of AEOD, Division of Safety Programs, were on site February 10, 1993, to review materials and obtain general information related to the licensee's program per Generic Letter 89-10, Motor Operated Valve.

3. Operational Safety (71707 and 93702)

Daily discussions were held with plant management and various members of the plant operating staff. The inspectors made frequent visits to the control room to review the status of equipment, alarms, effective LCOs, temporary alterations, instrument readings, and staffing. Discussions were held as appropriate to understand the significance of conditions observed. Plant tours were routinely conducted and included portions of the control building, turbine building, auxiliary building, radwaste building and outside areas. These observations included safety related tagout verifications, shift turnovers, sampling programs, housekeeping and general plant conditions. Additionally, the inspectors observed the status of fire protection equipment, the control of activities in progress, the problem identification systems, and the readiness of the onsite emergency response facilities. No deficiencies were identified.

The resident inspector visited the River Bend (Gulf States Utilities) site during the period as part of the yearly visit to the back-up site to update badging, tour the emergency response facilities and discuss general plant status with plant management.

The inspectors reviewed the activities associated with the events listed below:

a. Planned Downpower

The inspectors attended ALARA meetings conducted prior to the reduced power maintenance activities on January 23, 1993. The licensee made use of video equipment to show maintenance workers the areas involved and the nature of the steam leaks to be fixed. Workers were better able to grasp the scope of work required and conditions involved through the use of the videos. The inspectors found this to be a great benefit in enhancement of safety and ALARA.

The inspectors witnessed a planned reduction in power on January 23, 1993, to perform a control rod sequence exchange. Turbine valve testing, scram time testing and valve steam leak maintenance were conducted in conjunction with the downpower. Integrated Operating Instruction 03-1-01-2, Revision 33, Attachment III, "Power Decrease From Full Power to ~60%", was used for the power decrease. Reactor engineering used 17-S-02-400, Revision 3, "Control Rod Sequence and Movement Control" to generate rod pull sheet 1-6-5875-A2-01, Sequence A2, used in the sequence exchange. Scram time testing was performed in conjunction with the sequence exchange using 06-RE-SC11-V-0402, Revision 31, "Control Rod Scram Testing". Procedure 06-OP-IN32-V-001, Revision 27, "Turbine Stop and Control Valve Operability" was performed at approximately 90% power. The inspectors reviewed the procedures and monitored selected parts of the procedures being performed during the downpower. The activities were well planned and performance discrepancies were not identified.

b. Visit to Corporate Office

On February 11, 1993, the inspectors conducted interviews at the Jackson Corporate offices with the persons indicated in Paragraph 1. Questions on organization, function, relationship with the Grand Gulf site, and Quality Audit responsibilities were discussed. Individuals interviewed indicated that the corporate organizations considered the plants as their "customers". When requested, the organization would supply experts to provide assistance. The corporate staff was about 200 persons and supported Waterford 3, Arkansas Nuclear One, and Grand Gulf. Vendor audits were conducted by the corporate quality group for all three sites.

The inspectors determined there are corporate organizations that perform activities which are used as inputs for safety-related work onsite. These organizations receive an annual audit conducted by the onsite Quality Programs Group to ensure that the programs controlling these activities are adequate.

The onsite perceptions of corporate functions and those functions the inspectors reviewed at the corporate headquarters were consistent. There was a perception of "value added" by corporate staff by both the providers and users of the services.

No violations or deviations were identified.

4. Maintenance Observation (62703)

During the report period, the inspectors observed portions of the maintenance activities listed below. The observations included a review of the MWOs and other related documents for adequacy; adherence to procedures, proper tagouts, technical specifications, quality controls, and radiological controls; observation of work and/or retesting; and specified retest requirements.

MWO	DESCRIPTION
89311	Install diagnostic test equipment (MOVATS/VOTES)and perform static test for 1E21F003A.
89779	Inspect bearings and bushings for Division II standby diesel starting air compressor.
89783	Demister cleaning on SBGT "B" filter housing.

No violations or deviations were identified. The results of the inspections in this area indicated that maintenance activities were well planned and effective.

5. Surveillance Observation (61726)

The inspectors observed the performance of portions of the surveillances listed below. The observations included a review of the procedures for technical adequacy, conformance to technical specifications and LCOs; verification of test instrument calibration; observation of all or part of the actual surveillance; removal and return to service of the system or component; and review of the data for acceptability based upon the acceptance criteria.

06-IC-1C71-R-2000, Rev. 22	Drywell High Pressure Calibration, Channel D.
06-IC-1C11-R-0003, Rev. 24	Scram Hydraulic Control Unit Calibration (Rods 48-09 and 44-09).

No violations or deviations were identified. The observed surveillance tests were performed in a satisfactory manner and met the requirements of the Technical Specifications.

6. Engineered Safety Features System Walkdown (71710)

The inspectors conducted a complete walkdown of the accessible portions of the LPCS system. The walkdown consisted of the following: confirmation that the system lineup procedure matched the plant drawing and the as-built configuration; identification of equipment condition and items that might degrade plant performance; verification that valves in the flow path were positioned as required by procedure and that local and remote position indications were functional; verification of proper breaker positions at local electrical boards and indications on control boards; and verification that associated instrument calibration dates were current.

The inspectors walked down the system using System Operating Instruction (SOI) 04-1-01-E21-1, Low Pressure Core Spray System, Revision 26, and piping and instrumentation diagram (P&ID) M-1087, Revision 26. The system was found to be aligned in accordance with the SOI. Housekeeping was satisfactory. Minor drawing discrepancies noted by the inspectors were passed on to the licensee for resolution. Mismatch was noted in actual labeling of electrical panel switch position designations and the positions as written in the SOI. The field labels indicated the position as "On" or "Off" and the procedure designated the position as "Open" or "Closed."

The inspectors additionally compared selected design requirements specified in the Grand Gulf Nuclear Station System Design criteria for LPCS (E21), dated December 31, 1991, against actual as-built configuration. Paragraph 4.2.4 of this document stated that the LPCS pump shall be provided with a seal leak-off line to drain seal leakage and that this line shall permit measurement and inspection of any leakage. During the walkdown the inspectors observed that the leak-off line was piped directly to the drain hub with no apparent capability for

visual leakage inspection and measurement. When questioned, the licensee indicated that visual inspection and measurement of seal leakage could be accomplished by removing the threaded pipe cap from the drain hub. The inspectors noted that RHR pump seal leak-off had accomodations for direct measurement of leak-off outside the drain hub. The drain hub for LPCS leak-off has several other pipes from other sources piped into roughly the same location. Measurement would involve placing a catch device into the hub. The inspectors will observe future pump surveillances to determine if visual observation of the seal leak-off can be observed and quantified.

During the walkdown, the inspectors noted a spectacle flange (part no. Q1E21-D007) installed near the LPCS pump discharge. Note 15 of P&ID M-1087 indicated, in part, that the spectacle flange should have been removed and replaced with a ring spacer (part no. Q1E21-G503) after hydrostatic testing and prior to system operation. Further investigations by the inspectors revealed a similar configuration for RHR A and RHR B. RHR C had the proper ring spacer installed. Although an engineering evaluation completed in 1985 (MNCR 0661-85) concluded that "no nonconformance exists", the inspectors expressed concerns with the effect of the additional mass of the blank portion of spectacle flanges on nozzle loading, seismic considerations, and material compatibility. An initial evaluation performed by the licensee prior to the end of the inspection period indicated that margin most likely existed within the current design basis. This item will remain unresolved (50-416/93-02-01) pending the licensee's completion of the final calculations and evaluations.

One unresolved item was identified.

7. Action on Previous Inspection Findings (92701 and 92702)

(Closed) Violation 92-02-01, Failure to follow procedure for securing SSW pump. The SSW A pump ran for approximately 30 minutes without discharge flow. Inservice testing of the pump was satisfactorily performed prior to declaring the pump operable. The licensed operator involved in the event was disciplined according to company policy. The licensee reviewed the system operating instruction for the SSW pump and determined that procedural changes were not necessary. This item is considered closed.

(Closed) Violation 92-02-02, Failure to follow procedure for recognizing, entering and documenting a LCO for work being performed. The personnel involved with this incident were removed from shift and given additional training in proper verbal communications and work practices. Following the training the personnel were placed back on shift. Other operations personnel were made aware of this incident. The shift supervisor involved was given additional counseling. This item is considered closed.

(Closed) Violation 92-02-03, Entry into a transient very high radiation area on the wrong RWP and inadequate survey prior to entry. To help

preclude a recurrence of this incident a separate Practical Factor was added to the Senior Health Physics Technician qualification card addressing access controls to transient very high radiation areas. Additional training was presented to all Health Physics personnel on the operation, design and radiological hazards associated with the TIP system. Training was also provided for Health Physics supervisors on the importance of considering experience and qualifications prior to assigning tasks. The inspectors reviewed the additional training requirements and considered them acceptable. Training attendance sheets were reviewed to verify attendance. This item is considered closed.

(Closed) P2191-08, Potential problem with intake/exhaust valve retainers for EDG cylinder heads. The defective intake and exhaust retainers (80 each) shipped to Grand Gulf as replacement parts were identified by the licensee, removed from inventory and returned to Cooper Industries as required. Additionally, 63 shield oil washers no longer in use were removed from inventory and destroyed. A licensee review of documentation revealed that none of the materials received at Grand Gulf had been installed. This item is considered closed.

8. Exit Interview (30703)

The inspection scope and findings were summarized on February 12, 1993, with those persons indicated in paragraph 1 above. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection. The licensee had no comment on the following inspection findings:

Item Number	Description and Reference
50-416/93-02-01, URI	Spectacle flange installation in LPCS, RHR A and RHR B pump discharges

9. Acronyms and Initialisms

AEOD - Office for Analysis & Evaluation of Operational Data
ALARA - As Low As Reasonably Achievable
BWR - Boiling Water Reactor
EDG - Emergency Diesel Generator
ECCS - Emergency Core Cooling System
ESF - Engineering Safety Feature
LCO - Limiting Condition for Operation
LPCS - Low Pressure Core Spray
MNCR - Material Nonconformance Report
MWO - Maintenance Work Order
NPE - Nuclear Plant Engineering
NRC - Nuclear Regulatory Commission
P&ID - Piping and Instrument Diagram
RHR - Residual Heat Removal
RO - Reactor Operator
RWP - Radiation Work Permit

SBGT - Standby Gas Treatment
SOI - System Operating Instruction
SRO - Senior Reactor Operator
SSW - Standby Service Water
TIP - Traversing In-core Probe