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

Report No.: 50-416/90-17

Licensee: Entergy Operations, Inc.
Jackson, MS 39205

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

Facility Name: Grand Gulf Nuclear Station

Inspection Conducted: August 18, 1990 through September 14, 1990

Inspectors: _____ 9/21/90
H. O. Christensen, Senior Resident Inspector Date Signed

_____ 9/21/90
J. L. Mathis, Resident Inspector Date Signed

Approved by: _____ 9/21/90
F. S. Cantrell, Section Chief Date Signed
Reactor Projects Branch 1
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 features (ESF) system walkdown; preparation for refueling; loss of decay heat removal; and reportable occurrences. The inspectors conducted backshift inspections on August 29 and September 4, 1990.

Results:

During this inspection no violations or deviations were identified.

In the inspection areas of safety verification, maintenance observation, ESF system walkdown, and surveillance observation, paragraph 3, 4, 5 and 6, the licensee met the safety objectives of these areas. The licensees fuel receipt inspection process was thorough and identified two fuel assembly problems, paragraph 7. In outage planning, the licensee has addressed the potential for loss of decay heat removal.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*M. Meisner, Director, Nuclear Licensing
W. T. Cottle, Vice President, Nuclear Operations
D. G. Cupstid, Manager, Plant Projects
L. F. Daughtery, Compliance Supervisor
M. A. Dietrich, Director, Quality Programs
*J. P. Dimmette, Manager, Plant Maintenance
C. W. Ellsaesser, Operations Superintendent
*C. R. Hutchinson, GGNS General Manager
F. K. Mangan, Director, Plant Projects and Support
L. B. Moulder, Acting Manager, Plant Support
*J. V. Parrish, Manager, Plant Operations
*J. C. Roberts, Manager, Plant & System Engineering
*J. E. Reaves, Manager, Quality Services
F. W. Titus, Director, Nuclear Plant Engineering
G. W. Vining, Manager, Plant Modification and Construction
*G. Zinke, Superintendent, Plant Licensing

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

NRC Personnel

*N. Casas, Inspector Trainee
*D. Verrelli, Branch Chief, Division of Reactor Projects

*Attended exit interview

On August 28, 1990, S. D. Ebneter, Region II Administrator; D. M. Crutchfield, NRR Director of Projects-III,IV and V; and T.R. Quay, NRR Directorate IV; were on site to conduct a plant tour and meet with plant management.

On August 28 through 30, 1990, F. Cantrell, Section Chief, Division of Reactor Projects, was on site to meet with the Resident Inspectors and conduct a plant tour.

On September 13 and 14, 1990, D. Verrelli, Branch Chief, Division of Reactor Projects, was on site to conduct a plant tour and meet with the resident inspectors and plant management.

2. Plant Status

The plant began the inspection period in mode one, power operations. On August 26, 1990, the plant began its end of cycle coast down with all control rods out.

3. Operational Safety, (71707, 93702)

The inspectors were aware of the overall plant status, and of any significant safety matters related to plant operations. Daily discussions were held with plant management and various members of the plant operating staff. The inspectors made frequent visits to the control room. Observations included: the verification of instrument readings, setpoints and recordings; the review of operating system status and the tagging of equipment; the verification of annunciator alarms, the limiting conditions for operation, and the temporary alterations; and the review of daily journals, data sheet entries, control room manning, and access controls.

Weekly selected engineered safety feature (ESF) systems were confirmed operable. The inspectors verified that accessible valve flow path alignment was correct, power supply breaker and fuse status was correct and instrumentation was operational. The inspectors verified the following systems operable: SSW A, B and C and SPMU.

The inspectors conducted plant tours weekly. Portions of the control building, turbine building, auxiliary building and outside areas were visited. The 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.

The inspectors observed health physics managements involvement and awareness of significant plant activities, and observed plant radiation controls. Periodically the inspectors verified the adequacy of physical security control. On September 4, 1990, the inspector observed a visitor/escort control deficiency. This issue will be followup at a later date by a regional base security inspector. Additionally, senior plant management was observed making routine tours of the plant.

The inspectors reviewed safety related tagouts, 901485 (Isolate P75-F001B); 901493 (D/W Purge Compressor Isolation Valve P41F160B); 901491 (D/W Pruge Compressor Cooler Outlet Isolation Valve 1P41F168B); to ensure that the tagouts were properly prepared, and performed. Additionally, the inspectors verified that the tagged components were in the required position.

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

On August 29, 1990, the site had its annual emergency exercise. The results of the drill will be documented in NRC inspection report 90-16.

On September 12, 1990, with Drywell purge system A inoperable due to planned maintenance, MOVATS testing SSW return valve M41-F168A, the plant attempted to open M41-168B, SSW return valve for drywell purge system B, to take a chemistry sample. The valve failed to fully open, which resulted in both trains of drywell purge being inoperable. This placed the plant in TS 3.0.3, a six hour plant shutdown. Valve M41-F168B was successfully closed and restroked open. Drywell purge system B was declared operable and TS 3.0.3 was cleared. However, the valve is a containment isolation valve and its ability to close was in question. The licensee entered TS 3.6.4 which requires the inoperable containment isolation valve to be isolated within 4 hours or be in hot shutdown within 12 hours. At approximately 8:45 a.m. the licensee entered the 12 hours action statement. At 1:00 p.m. the licensee returned drywell purge system A to operable condition and shut vavle M41-F168B, clearing the 12 hour shutdown requirement. The licensee is investigating the initial valve binding problem and plans to issue a 10 CFR 50.73 report.

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 procedure, proper tagouts, technical specifications, quality controls, and radiological controls; observation of work and/or retesting; and specified retest requirements.

MWO	DESCRIPTION
20425	Inspect slip rings on Diesel Generator, Division 1.
20426	Clean Division 1 Diesel Generator.
18570	Megger LPCS Pump tor.
17767	Check LPCS Jockey Pump Coupling Wear.
23358	Blowdown/clean Bubbler Tube System for SLC Storage Tank Level.
17389	Inspect and Megger MOV limit switch compartment for PSW Isol. to TBCW Hxs.

No violations or deviations were identified. The results of the inspection in this area indicate that the maintenance program was effective. The observed activities were conducted in a satisfactory

manner and the work was properly performed in accordance with approved maintenance work orders. First line supervisers were more noticeable in the field.

5. Surveillance Observation (61726)

The inspectors observed the performance of portions of the surveillances listed below. The observation 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 surveillances; removal and return to service of the system or component; and review of the data for acceptability based upon the acceptance criteria.

06-EL-1L51-R-0001	125 Volt Battery 1A5 Charger Capability Test.
06-IC-1C51-W-0006	APRM Calibration.
06-OP-1E61-M-0001	Post LOCA Drywell Vacuum Breaker Operability.
06-CH-1000-Q-0056	Standby Diesel Generator Fuel Oil Tank A003B Viscosity, Insolubles, Water and Sediment.

No violations or deviations were identified. The surveillance tests were performed in a satisfactory manner and mets the requirements of TS.

6. Engineered Safety Features System Walkdown (71710)

The inspectors conducted a complete walkdown on the accessible portions of the Standby Diesel Generator 12. The walkdown consisted of the following: confirm that the system lineup procedure matches the plant drawing and the as-built configuration; identify equipment condition and items that might degrade plant performance; verify that valves in the flow path are in correct positions as required by procedure and that local and remote position indications are functional; verify the proper breaker position at local electrical boards and indications on control boards; and verify that instrument calibration dates are current.

The inspectors walked down the system using system operating instruction 04-1-01-P75-1, Standby Diesel Generator System, and piping and instrument diagram (P&ID) M-1070B & D. Additionally, the inspector reviewed the outstanding workorders and none appear to effect the operability of the diesel generator. The licensee was given a list of labels missing from components during system walkdown. Materiel condition appeared satisfactorily, however housekeeping conditions were in need of improvement. A large amount of oil was observed around the pedestal and lube oil sump tank. Additionally loose debris and rags

were observed in the area. The correction of these discrepancies will be identified as inspector followup item (90-17-01).

No violations or deviations were identified. The results of the inspection in this area indicate that the standby diesel generator is operable. The licensee is maintaining it in a ready condition.

7. Preparation for Refueling (60705)

The inspectors observed portions of the receipt of new fuel on August 30, 1990. A total of 284 Advance Nuclear Fuel (ANF) assemblies were received on site. New fuel processing was controlled by procedure 17-S-02-110. This instruction was used for receipt, inspection, handling, storage and shipment of new fuel. Prior to receipt of new fuel the inspectors verified that the fuel handling platform interlock checks were performed in accordance with procedure 04-1-03-F11-1, Fuel Handling Platform Interlock Check.

During the new fuel reciept inspection, fuel bundle AND-257 was observed to have a fuel rod mispositioned in the upper tie plate. Discrepant Material Report (DMR) 142-90 was written to evaluate this discrepancy. The recommended disposition was to remove and replace the upper tie plate using the applicable ANF instructions on site. The inspectors witnessed bundle AND-257 rework; verified that the assembly was inspected for damage; and that rod-to-rod and rod-to-channel distance was per the requirements of the fuel assembly drawing and fuel assembly product specification.

No violations or deviations were identified. The fuel receipt process was performed in accordance with procedure and the licensees inspection process was thorough.

8. Loss of Decay Heat Removal

The inspectors reviewed the licensee's refueling outage preparation in the area of loss of decay heat removal. The outage schedule, training, and procedures were reviewed. Additionally, the inspectors discussed loss of decay heat removal issues with selected operators.

Each operations shift received loss of decay heat removal training. The training consisted of simulator requalification training and systems training on the alternate decay heat removal system. The licensee has procedure, 05-1-02-III-1, in place covering the loss of decay heat removal. Additionally, the conduct of operations procedure, 01-S-06-2, contains guidance on potential vessel drain down events and containment isolation problems during refueling activities. Discussions with operators indicated that they were aware of potential loss of decay heat removal issues and of recent industry events. The outage schedule provided for at least two means of shutdown cooling and one automatic

ECCS system. The licensee appears to have adequately addressed the potential for loss of decay heat removal during the scheduled refueling outage.

9. Reportable Occurrences (90712 & 92700)

The event reports listed below were reviewed to determine if the information provided met the NRC reporting requirements. The determination included adequacy of event description, the corrective action taken or planned, the existence of potential generic problems and the relative safety significance of each event. The inspectors used the NRC enforcement guidance to determine if the event met the criterion for licensee identified violations.

On September 4, 1990, the licensee made a one hour reportable on the failure of the emergency notification system. The NRC duty officer could not ring Grand Gulf, but Grand Gulf could ring the NRC. The system was repaired within a few hours.

(Closed) LER 90-11, Reactor Scram on High Reactor Water Level. This event was documented in NRC inspection report 90-15. The reactor trip was caused by a malfunction of the B RFPT controller. The controllers linear variable differential transformer and associated circuit board was replaced. This item is closed.

(Open) LER 90-12, Deficiencies in HPCS 125 VDC System. This event was documented in NRC inspection report 90-15. During a division III 125 VDC system review, calculations could not demonstrate that all loads would receive the manufacturer's minimum voltage requirements following the loss of the class 1E battery charger. Additionally, calculation did not demonstrate that the division III load profile, as stated in TS, was greater than the actual emergency loads for all time periods. The licensee modified the distribution circuits and performed a new load profile test. This LER will be closed after the FSAR and TS are revised to reflect the correct load profile and the review of division I and II are complete.

(Closed) LER 90-13, Neutron Monitoring System Causes Scram Due to Personnel Error. This event was documented in inspection report 90-15. The corrective actions will be closed under violation 90-15-01. This item is closed.

(Open) LER 90-14, Failure to Retest Secondary Containment Isolation Valves Following Maintenance. This event was documented in NRC inspection report 90-15. A licensee identified violation (90-15-03) was cited. This LER will be closed upon the review of the licensees corrective actions, which is scheduled to be completed March 31,1990.

10. Exit Interview (30703)

The inspection scope and findings were summarized on September 12, 1990, 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
IFI 90-17-01	Inspector Followup Item - Correction of Division II diesel generator walkdown items, paragraph 7.

11. Acronyms and Initialisms

ADHRS- Alternate Decay Heat Removal System
ATWS - Anticipated Transient Without Scram
BWR - Boiling Water Reactor
DCP - Design Change Package
DG - Diesel Generator
ECCS - Emergency Core Cooling System
ESF - Engineering Safety Feature
HPCS - High Pressure Core Spray
I&C - Instrumentation and Control
IFI - Inspector Followup Item
LCO - Limiting Condition for Operation
LER - Licensee Event Report
NRC - Nuclear Regulatory Commission
P&ID - Piping and Instrument Diagram
QDR - Quality Deficiency Report
RCIC - Reactor Core Isolation Cooling
RHR - Residual Heat Removal
SOI - System Operating Instruction
SSW - Standby Service Water
TS - Technical Specification