



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

Report No.: 50-416/91-06

Licensee: Entergy Operations, Inc.
Jackson, MS 39205

Docket No.: 50-416

License No.: NPF-29

Facility Name: Grand Gulf Nuclear Station

Inspection Conducted: February 23 - March 15, 1991

Inspector: J. L. Mathis, Resident Inspector

3/22/91
Date Signed

Approved by: F. S. Cantrell, Section Chief
Reactor Projects Branch 1
Division of Reactor Projects

3/22/91
Date Signed

SUMMARY

Scope:

The resident inspectors conducted a routine inspection in the following areas: operational safety verification; maintenance observation; surveillance observation; action on previous inspection findings; and reportable occurrences. The inspectors conducted backshift inspections on February 25, 28 and March 1, 3-8, 1991.

Results:

During the inspection period no violations or deviations were identified.

In the areas of safety verification, maintenance observation and surveillance observation the licensee met the safety objectives of these areas.

The licensee's response to a HCU problem at another BWR was timely and thorough. The licensee took prompt action to see if familiar problems occurred at GGNS prior to written receipt of the GE recommendations.

REPORT DETAILS

Persons Contacted

Licensee Employees

W. T. Cottle, Vice President, Nuclear Operations
*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
*M. J. Meisner, Director, Nuclear Licensing
L. B. Moulder, Acting Manager, Plant Support
D. L. Pace, Acting Director, NPE
*J. V. Parrish, Manager, Plant Operations
*J. C. Roberts, Manager, Plant & System Engineering
J. E. Reaves, Manager, Quality Services
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:

M. M. Glasman, Project Engineer, Region II, Division of Reactor Safety,
March 4-8, 1991.

*Attended exit interview

2. Plant Status

The plant operated in mode one, power operations, throughout this inspection period. Power was decreased to approximately 70 percent on March 8, 1991 upon request by the dispatcher.

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; verification of annunciator alarms, limiting conditions for operation, and 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: RCIC, SSW "B", and LPCS.

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. Additionally, senior plant management was observed making routine tours of the plant.

The inspectors reviewed safety related tagouts, 910484 (CTMT CLR FAN C), 910482 (TBCW PUMP A) and 910481 (A DIESEL FIRE PUMP) 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 February 27, 1991, during the replacement of a drywell fission product iodine cartridge by chemistry personnel it was discovered that the D/W particulate monitor was inoperable due to the "iodine filter" paper running out. Abnormal operation of the D/W particulate monitor is normally brought to the operator's attention by a "Drywell Airborne Rad Monitor Fail" alarm which did not annunciate. Chemistry indicated that there was sufficient paper available, on February 17, 1991, when the iodine cartridge was last replaced. The "iodine filter" paper was immediately replaced to make the particular monitor operable. An evaluation is being performed to determine why the alarm did not annunciate to alert the control room operators of this condition and alternate methods of determining the paper supply.

On Feb. 27, 1991, the NRC Incident Response Center (IRC) duty officer was unable to contact GGNS using the emergency notification system. The Bell Telephone system was operational if needed. The NRC duty officer notified AT&T to correct the problem.

On March 3, 1991, at River Bend, a through-wall circumferential crack was discovered in one of the charging water lines to the HCU's just downstream from the check valve and adjacent to the water flask. Further liquid penetrant inspections at River Bend revealed 16 additional cracks in the same approximate locations. The additional cracks were not through-wall. Associated with the cracks was evidence of pipe movement in the J-clamp, which holds the charging water riser against a backing plate. GGNS in response to this information, conducted a walkdown to determine if any leaks or cracks were evident. The walkdown consisted of a 100 percent visual inspection for leakage and a 10 percent liquid penetrate test of the designated weld joint. No cracks were found. However, the licensee found a number of the J-clamps were missing, or loose. The licensee was waiting for a GE RICSIL to determine if further investigation was recommended.

On March 7, 1991, during an attempt by operations to start the auxiliary lube oil pump to prelube the Division I diesel generator, the pump would not start. The Division III diesel generator was already out of service for preventive maintenance and LCO 91-021 was written. Since the Division III D/G was out of service, TSs required that the remaining D/G be demonstrated operable. The shift superintendent upon being notified that the Division I diesel auxiliary lube oil pump would not start immediately declared the diesel inoperable and entered TS 3.0.3. The licensee's investigation of the auxiliary lube oil pump revealed that breaker 52-15B3105 had blown a 15 amps fuse. The fuse was replaced and the LCO-91-296 was cleared. The LCO was cleared within 30 minutes. The licensee did not have to initiate action to place the unit in startup up within one hour as required by TS 3.0.3, since the fuse was replaced and the auxiliary pump started. Reportability per 50.72 b(i)(a) was not necessary because the initiation of plant shutdown had not started, however, a LER will be submitted per 50.73(a)(i)(B).

On March 9, 1991, an operator noticed that the Reactor Protection System (RPS) Division II scram solenoid valve indicating light 1B, was out on panel P680. I&C discovered that fuse C71-F18B in panel P692 had blown. A half scram condition existed on 12.5% (approximately 24) control rods at the time the fuse was blown. The fuse was replaced and the half scram condition was cleared for the affected control rods. An incident report was written for tracking purposes.

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.

<u>MWO</u>	<u>DESCRIPTION</u>
11064	Calibration checks of GE type 4724 VAR transducers.
23546	HPCS diesel generator room vent system louver cleaning and inspection.
35546	Troubleshoot HPCS motor-driven air compressor.
36414	Troubleshoot FCV "A" loop runback.
37495	Inspect and clean battery on HPCS diesel driven air compressor.
37746	HPCS diesel generator "A", replace all rubber hoses on all air-starting motors.

No violations or deviations were identified. The observed activities were conducted in a satisfactory manner and work was properly performed in accordance with approved maintenance work orders.

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.

06-1C-1B21-M-1002-2	Reactor Vessel High/Low Pressure Functional Test.
06-1C-1C71-M-2001	Drywell High Pressure (RPS/PCIS) Functional Test, Att. W, Channel D.
06-1C-1E30-M-0002	Suppression Pool Level Narrow Range Functional Test, Channel B.
06-EL-1B21-M-0001	ADS Timer Functional Test and Calibration, Att. II, Channel B.
06-RE-1C51-O-0001	LPRM Calibration.

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

6. 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.

(Closed) LER 90-28, Automatic scram due to instrument air system piping joint failure. An investigation by the licensee determined that the failed joint had been soldered inadequately. A leaking root valve caused a slight pressure differential across the joint and precluded optimum capillary action during the soldering process. Administrative procedures 01-S-07-05 and 07-S-07-15 were revised to ensure that a suitable vent path is provided, as appropriate, to the affected piping or component to preclude inadequate welding and similar failures. All other soldered joints inspected were acceptable as indicated by UT method. This item is closed.

No violations or deviations were identified.

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

(Closed) Unresolved Item, 90-06-05, Resolve control room emergency filtration system fresh air intake valve status. Initially a proposed TS amendment was submitted to change the TS surveillance requirement for testing of isolation valves associated with the control room emergency filtration system by clarifying that the standby fresh air intake valves (Z51-F007 and F016) are control room boundary valves rather than control isolation valves. Several discussions and meeting were held between Entergy and the NRC staff. The NRC staff concluded that valves Z51-F007 and F016 were not control room isolation valves, but are considered control room boundary valves. Therefore, these valves do not fall under the 4 second criterion of TS. No TS change was necessary and the licensee withdrew the TS change request by letter dated December 7, 1990. This item is closed.

(Closed) Inspector Followup Item 90-11-03, Followup on inspection of E12F048 during refueling outage 4. Examination of the valve components revealed no damages could be attributed to the overthrust condition. Inspection of the actuator did show that damage was incurred by the following parts: worn shaft clutch gear, worn shaft clutch, handwheel clutch pinion assembly and worn shaft splines. All parts showing visible damage were replaced. This item is closed.

8. Exit Interview (30703)

The inspection scope and findings were summarized on March 15, 1991, 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 was informed that the items discussed in paragraphs 6 and 7 were closed.

9. Acronyms and Initialisms

ADHRS	-	Alternate Decay Heat Removal System
ADS	-	Automatic Depressurization System
APRM	-	Average Power Range Monitor
ATWS	-	Anticipated Transient Without Scram
BWR	-	Boiling Water Reactor
CRD	-	Control Rod Drive
CTMT	-	Containment
DCP	-	Design Change Package
DG	-	Diesel Generator
D/W	-	Drywell
ECCS	-	Emergency Core Cooling System
ESF	-	Engineering Safety Feature
FCV	-	Flow Control Valve
HPCS	-	High Pressure Core Spray
HCU	-	Hydraulic Control Unit
I&C	-	Instrumentation and Control
IFI	-	Inspector Followup Item
LCO	-	Limiting Condition for Operation
LER	-	Licensee Event Report
LLRT	-	Local Leak Rate Test
LPCI	-	Low Pressure Core Injection
LPCS	-	Low Pressure Core Spray
LPRM	-	Local Power Range Monitor
MNCR	-	Material Nonconformance Report
MSIV	-	Main Steam Isolation Valve
MWO	-	Maintenance Work Order
NPE	-	Nuclear Plant Engineering
NRC	-	Nuclear Regulatory Commission
PDS	-	Pressure Differential Switch
P&ID	-	Piping and Instrument Diagram
PSW	-	Plant Service Water
QDR	-	Quality Deficiency Report
RCIC	-	Reactor Core Isolation Cooling
RHR	-	Residual Heat Removal
RICSIL	-	Rapid Information Communication Services Information Letter
RPS	-	Reactor Protection System

RWCU	-	Reactor Water Cleanup
RWP	-	Radiation Work Permit
SBLC	-	Standby Liquid Control
SOI	-	System Operating Instruction
SRV	-	Safety Relief Valve
SSW	-	Standby Service Water
TCN	-	Temporary Change Notice
TS	-	Technical Specification
UT	-	Ultrasonic Testing