



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

Report No.: 50-416/91-04

Licensee: Entergy Operations, Inc.
Jackson, MS 39205

Docket No.: 50-416

License No.: NPF-29

Facility Name: Grand Gulf Nuclear Station

Inspection Conducted: February 2, 1991 through February 23, 1991

Inspector: For - R. W. Wright 3/1/91
J. L. Mathis, Resident Inspector Date Signed

Approved by: [Signature] 3/1/91
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; action on previous inspection findings; and reportable occurrences. The inspectors conducted backshift inspections on February 11 thru 14, 18, 21 and 22, 1991.

Results:

During this inspection no violations or deviations were identified.

In the areas inspected the licensee met safety objectives.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

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
M. J. Meisner, Director, Nuclear Licensing
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
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.

Other NRC personnel participated in this inspection as follows: E. Lea, Inspector, Division of Reactor Safety, Region II, February 11-15, 1991. D. Nelson, Resident Inspector (Brunswick), Division of Reactor Projects, February 18-22, 1991.

*Attended exit interview

2. Plant Status

The plant operated in mode one, power operations, throughout this inspection period. Power was decreased to approximately 72 percent on February 20-21, 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: verification of instrument readings, setpoints and recordings; review of operating system status and tagging of equipment;

verification of annunciator alarms, limiting conditions for operation, and temporary alterations; and 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: LPCS, RCIC and HPCS.

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 management's 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, 910281 (119' CTMT Airlock M23V001) and 892630 (Steam condensing mode of RHR) 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.

During review of containment penetrations based on an event at another site (Clinton LER 90-018-00), the licensee identified four penetrations that contain relief valve discharge flanges which are not type B LLRT tested to the requirements of 10 CFR 50, Appendix J. The penetrations 73, 76B, 48, and 77, discharge to suppression pool from relief valves 1E12F036, 1E12F005, and 1E12F055 B and A, respectively. The discharge pipes for penetrations 73 and 76B open into the suppression pool at elevations 108 ft. 8 inches and 108 ft. 1/4 inch, respectively, which is above the minimum pool draw down elevation of 107 ft. 6 inches given in UFSAR Table 6.2.50. The discharge pipes for penetrations 48 and 77 open below the minimum draw down level, however, vacuum relief stop-check valves 1E12F103A (B) and 1E12F104A (B) from RCIC turbine exhaust relief line through penetration 75 also open into these discharge pipes. Therefore, the untested flanges could provide a leak path from primary containment. For penetrations 48 and 77 this assumes a failure of

penetration 75 isolation valve 1E51F078 to close. None of the flanges can be isolated with valves from the open pipe ends in the suppression pool to allow Type B testing. The licensee initiated MNCRs 012-91 for penetrations 73 and 76B and 013-91 for penetrations 48 and 77 on February 11, 1991, to document the problem.

The licensee conducted a re-analysis of the suppression pool minimum draw down level with consideration for feedwater addition. The licensee concluded that the minimum draw down would be 109 ft. 8 inches, which is above penetrations 73 and 76B discharge piping (108 ft 8 inches and 108 ft. 1/4 inches respectively). This was documented in the response to MNCR 012-91 and was reviewed by PSRC on February 20, 1991. The penetrations were deemed OPERABLE. For penetrations 48 and 77 the licensee determined that the stop check valves in the lines from RCIC turbine exhaust relief line may be shut, isolating penetration 75 from the untested relief valve flanges since the steam suppression mode of RHR is not used. This was documented in the response to MNCR 13-91 and also presented to PSRC. These penetrations were also deemed OPERABLE. This determination was based primarily on engineering judgement that the flanges were properly assembled in accordance with maintenance and QA programs following standard industry torque specifications. Based on subsequent questions from the inspector, the licensee chose to shut the 1E12F103A (B) and 1E12F104A (B) valves thereby providing positive assurance of the penetrations operability without reliance on engineering judgement alone. The inspector will conduct further inspection on this issue and is identified as inspector followup item IFI 416/91-04-01, Followup on operability of containment penetrations with regard to untested flanges.

On February 13, 1991 at approximately 11:41 a.m., the recirculation loop flow control valve, 1B33F060, ranback from 50 percent to 16 percent. Power decreased from 100 percent to approximately 86 percent. A recirculation loopflow mismatch occurred between loop A and B. LCO 91-0194 was entered per TS 3.4.1.3 requirement. The operator restored the FCV to its original position. The LCO was cleared within 2 hours. Work order 36414 was written to troubleshoot the runback of the flow control valve F060. I&C technicians replaced relay 1B33K172A and no further runback has occurred since the replacement of the relay. The licensee will continue to monitor for abnormal operation of the flow control valve.

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>
1048	Install new outer seals on lower containment airlock.
34425	Calibrate SGTS B enclosure building atmosphere DP.
36332	RHR C motor bracket inspection.

No violations or deviations were identified. The observed activities were conducted in a satisfactory manner and the 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.

TSTI 1E51-91-001-05,	Locate RCIC Steam Leak.
06-OP-1C41-Q-0001,	Standby Liquid Control Functional Test.
06-IC-1E22-M-0001,	HPCS Discharge Line Pressure Low Functional Test.
06-IC-1B21-M-2006,	Main Condenser Low Vacuum Functional Test.
06-IC-1B21-M-1009,	Reactor Vessel Water Level (ADS L3) & (RCIC L8) Functional Test, Channel A.

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

6. Engineered Safety Features System Walkdown (71710)

The inspectors conducted a complete walkdown on the accessible portions of the high pressure core spray. 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 (SOI) 04-01-E22-1 and piping and instrument diagram (P&ID) M-1086 and M-1349A. Additionally, the inspector reviewed the outstanding work orders and none appear to effect the operability of the high pressure core spray system.

No violations or deviations were identified. The results of the inspection in this area indicate that the high pressure core spray system was operable.

7. 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 90-08, Fire doors not surveilled due to inadequate procedure. Surveillance procedures 06-OP-SP64-D-0004 and 06-OP-SP64-W-0045 were revised to incorporate the excluded fire doors as TS required fire doors. This item is closed.

(Closed) LER 90-28, Automatic scram due to instrument air system piping joint failure. All soldered piping joints which were part of the recent modification associated with instrument air particulate filters were reinspected as a result of the failed joint. Ultrasonic testing (UT) was performed on these soldered copper piping joints. Satisfactory repairs were made on defective joints with the piping system vented. Plant administrative procedures 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 failure. This item is closed.

No violations or deviations were identified.

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

(Closed) Violation 90-15-02, Failure to take adequate corrective action on the MSIV leakage control system. The inspector reviewed the licensee corrective action associated with this violation and concurred that actions

taken would preclude reoccurrence. Procedure 02-S-01-5, Shift Logs and Records, was revised to require control power fuses and fuse replacements be recorded in the control room operator log book.

9. Exit Interview (30703)

The inspection scope and findings were summarized on February 22, 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 had no comment on the following inspection findings:

<u>Item Number</u>	<u>Description and Reference</u>
IFI 416/91-04-01	Followup on operability of containment penetrations with regard to untested flanges.

10. Acronyms and Initialisms

CTMT	-	Containment
DG	-	Diesel Generator
ESF	-	Engineering Safety Feature
HPCS	-	High Pressure Core Spray
I&C	-	Instrumentation and Control
IFI	-	Inspector Followup Item
LER	-	Licensee Event Report
LLRT	-	Local Leak Rate Test
LPCI	-	Low Pressure Core Injection
LPCS	-	Low Pressure Core Spray
MNCR	-	Material Nonconformance Report
MSIV	-	Main Steam Isolation Valve
MWO	-	Maintenance Work Order
NPE	-	Nuclear Plant Engineering
NRC	-	Nuclear Regulatory Commission
P&ID	-	Piping and Instrument Diagram
PSRC	-	Plant Safety Review Committee
RCIC	-	Reactor Core Isolation Cooling
RHR	-	Residual Heat Removal
RWCU	-	Reactor Water Cleanup
SBLC	-	Standby Liquid Control
SOI	-	System Operating Instruction
SRV	-	Safety Relief Valve
SSW	-	Standby Service Water
TS	-	Technical Specification
UT	-	Ultrasonic Testing
UFSAR	-	Updated Final Safety Analysis Report
VIO	-	Violation