



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W.
 ATLANTA, GEORGIA 30303

Report Nos.: 50-348/84-10 and 50-364/84-10

Licensee: Alabama Power Company
 600 North 18th Street
 Birmingham, AL 35291

Docket Nos.: 50-348 and 50-364

License Nos.: NPF-2 and NPF-8

Facility Name: Farley 1 and 2

Inspection at Farley site near Dothan, Alabama

Inspectors:	<u><i>W. H. Bradford</i></u>	<u>4/30/84</u>
	W. H. Bradford, Senior Resident Inspector	Date Signed
	<u><i>W. H. Ruland</i></u>	<u>4/30/84</u>
	W. H. Ruland, Resident Inspector	Date Signed
Approved by:	<u><i>F. S. Cantrell</i></u>	<u>4/30/84</u>
	F. S. Cantrell, Section Chief Division of Reactor Projects	Date Signed

SUMMARY

Inspection on March 17 - April 10, 1984

Areas Inspected

This routine inspection involved 160 inspector-hours on site in the areas of plant status, monthly surveillance observation, monthly maintenance observation, operational safety verification, independent inspection effort, physical protection, engineered safety feature system walkdown, Unit 2 trips, Unit 1 containment building inspections, and licensee event reports.

Results

In the areas inspected, no violations or deviations were identified.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

W. G. Hairston, Plant Manager
J. D. Woodard, Assistant Plant Manager
D. Morey, Operations Superintendent
R. S. Hill, Operations Supervisor
W. D. Shipman, Maintenance Superintendent
C. Nesbitt, Technical Superintendent
L. Williams, Training Superintendent
R. G. Berryhill, Systems Performance and Planning Superintendent
L. A. Ward, I&C Supervisor
M. W. Mitchell, Health Physics Supervisor
R. D. Rogers, Technical Supervisor
J. Odom, Operations Section Supervisor
T. Esteve, Planning Supervisor
R. Bayne, Chemistry Supervisor
J. Hudspeth, Document Control Supervisor
K. Jones, Material Supervisor
R. i. Graham, Security Supervisor
L. W. Enfinger, Administrative Superintendent
W. G. Ware, Supervisor, Safety Audit Engineering Review

Other licensee employees contacted included technicians, operation personnel, maintenance and I&C personnel, security force members, and office personnel.

2. Exit Interview

The inspection scope and findings were summarized during management interviews held throughout the reporting period on a weekly basis with the plant manager and selected members of his staff. The licensee acknowledged the inspection findings.

3. Licensee Action on Previous Enforcement Matters

(Closed) Violation (348/83-20-01) Failure to properly control the battery hydrometer standard. Licensee response dated September 9, 1983. A new procedure was written to control and prepare the sulfuric acid standard. The standards are now stored in the calibration lab.

(Closed) Violation (364/83-24-02) Failure to incorporate TCN in MSIV partial stroke test procedure. Licensee response dated December 7, 1983. FNP-2-STP 21.1 was revised.

(Closed) Violation (364/84-03-01) Failure to document as found condition of RHR relief valve on maintenance work request. The documentation was corrected.

(Closed) Deviation (348/81-06-01) Substandard fire damper installation. The exhaust damper for the hot laundry dryer was reinstalled in the plane of the fire wall. The work was done under MWR 71010 and PCN B-81-1110-123-16. The damper was tested by plant modification group on September 9, 1983.

The inspectors consider the above corrective actions to be appropriate and have no further questions.

4. Unresolved Items

There were no unresolved items identified during this inspection.

5. Plant Status

Unit 1 was shut down for a maintenance and refueling outage. Unit 2 operated at full power with two trips. The trips are discussed in paragraph 12.

6. Monthly Surveillance Observation

The inspector observed and reviewed Technical Specification (TS) required surveillance testing and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated; that limiting conditions for operation were met; that test results met acceptance criteria requirements and were reviewed by personnel other than the individual directing the test; that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel; and that personnel conducting the tests were qualified.

The inspector witnessed/reviewed portions of the following test activities:

- FNP-1/2-STP-1.0 - Operations daily and shift surveillance requirements.
- FNP-2-STP-33.1 - Safeguards test cabinet train A functional test.
- FNP-2-STP-70.0 - Containment sump surveillance.
- FNP-2-STP-24.5 - Service water system flow path verification test.
- FNP-2-STP-22.16 - Turbine driven auxiliary feedwater pump IST (Tavg >547°F).
- FNP-2-STP-80.16 - Degraded grid voltage and loss of voltage protection relay operational test.
- FNP-2-STP-33.0 - SSPS train A operability test.
- FNP-1-STP-41.1 - Source range functional check (N-32).
- FNP-0-STP-53.0 - Fire protection CO2 low pressure system operability test.
- FNP-0-STP-52.0 - Fire pumps operability test.
- FNP-2-STP-256.11 - Reactor trip and ESFAS logic response time test.
- FNP-2-STP-29.1 - Cycle 3 shutdown margin calculation (Tavg).
- FNP-2-STP-38.0 - Manual reactor trip verification.

Within the areas inspected, no violations or deviations were identified.

7. Monthly Maintenance Observation

Station maintenance activities of safety-related systems and components were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides, industry codes and standards, and were in conformance with TS.

The following items were considered during the review: limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials were properly certified; radiological controls were implemented; and fire prevention controls were implemented.

Work requests were reviewed to determine the status of outstanding jobs to assure that priority was assigned to safety-related equipment maintenance which may affect system performance. The following activities were observed/reviewed:

- a. Unit 1 feedwater reducer replacement.
- b. 2C charging pump lube oil change.
- c. 1A charging pump.
- d. Hydraulic snubber reinstallation.
- e. Unit 1 wet-layup recirculation modification (PCN 82-1252).
- f. Reactor trip breakers (PCN-83-1421).
- g. Seal table fitting replacement.

Within areas inspected, no violations or deviations were identified.

8. Operational Safety Verification

The inspectors observed control room operations, reviewed applicable logs, and conducted discussions with control room operators during the report period. The inspectors verified the operability of selected emergency systems, reviewed tagout records, and verified proper return to service of affected components. Tours of the auxiliary, diesel, and turbine buildings were conducted to observe plant equipment conditions, including fluid leaks and excessive vibrations.

The following systems and components were observed/verified operational:

- a. Station electrical boards in the control room and various electrical boards throughout the plant for proper electrical alignment.
- b. Certain accessible hydraulic snubbers.

- c. BIT inlet and outlet valves.
- d. Unit 2 auxiliary building batteries.
- e. Unit 2 auxiliary feedwater pumps and piping.
- f. Unit 2 containment spray pump rooms.
- g. Diesel generators.
- h. Unit 2 containment cooler service water valves.
- i. Main and mini-purge dampers and fans.
- j. Certain containment penetrations.
- k. Unit 1 RWST.
- l. Portions of other systems were observed for proper alignment and operation.

Within the areas inspected, no violations or deviations were identified.

9. Independent Inspection Effort

The inspectors routinely attended meetings with certain licensee management and observed various shift turnovers between shift supervisors, shift foremen and licensed operators. These meetings and discussions provided a daily status of plant operating and testing activities in progress as well as discussion of significant problems or incidents.

The inspectors reverified that the licensee had adequate operating and emergency procedures to recognize and respond to a feedwater line break accident. IE Bulletin 79-13, Cracking in Feedwater System Piping, required the licensee to review the above procedures.

Within the areas inspected, no violations or deviations were identified.

10. Physical Protection

The inspector verified by observation and interviews during the reporting interval that measures taken to assure the physical protection of the facility met current requirements. Areas inspected included the organization of the security force, the establishment and maintenance of gates, doors, and isolation zones, that access control and badging were proper, and procedures were followed.

No violations or deviations were identified.

11. Engineered Safety Features System Walkdown

The inspector verified the operability of the Residual Heat Removal (RHR)/Low Head Safety Injection (LHSI) system by performing a complete walkdown of the accessible portions of the system. The inspector verified the positions of all accessible valves, operability of local and remote instrumentation where possible, examined applicable pipe hangers and mechanical snubbers, and verified that the licensee's valve line-up checklist matched the system drawings. The system operating procedure, FNP-1/2-SOP-7.0, Rev. 14/9 Residual Heat Removal System, was reviewed.

Within the areas inspected, no violations or deviations were identified.

12. Unit 2 Trips

On March 27 at 12:45 p.m., the unit tripped from full power. Lightning was observed in the switchyard at the time of the trip. All systems operated normally and no safety injection occurred.

On April 9 at 11:10 a.m., the unit tripped from full power. During the conduct of FNP-2-STP-33.1, Safeguards Test Cabinet Train A Functional Test, an operator returned a test switch to normal without having the proper indicating light on. This actuated the Steam Generator (SG) 2A feedwater isolation. The reactor tripped on 2A SG low level with steam flow greater than feed flow. All systems operated normally with no safety injection.

No violations or deviations were identified.

13. Unit 1 Containment Building Inspections

The inspectors conducted various inspections inside the Unit 1 containment building during the refueling outage. These inspections were conducted in the following areas:

a. Refueling Operations

The inspectors observed refueling operations and verified that refueling was conducted by an approved procedure; a senior licensed operator was present and directed the refueling operation; communication was established between the control room, refueling floor and spent full storage area; an inverse count rate calculation was made and plotted; reactor coolant system boron concentration was in accordance with the TS; and that the status boards were maintained current.

b. Split Pin Modification

The inspectors observed various portions of the split pin modification work which consisted of removal of the welded, stress-relieved split pin used to limit lateral movement of the lower guide tubes at the upper core support plate. The new design utilizes a machined pin which is not welded. The work was done under contract by Westinghouse

Corporation. Westinghouse Corporation supplied all tooling, personnel and quality assurance inspectors to complete the job. The licensee monitored this work closely.

c. Feedwater Piping

The licensee performed ISI and radiographic testing of the generator inlet nozzles. Pipe-to-nozzle weld cracks were found on all three steam generators. This has been attributed to thermal fatigue cracking caused by injecting cold auxiliary feedwater into the steam generator feed ring while the plant is in Mode 3. High thermal stresses are created in the feedwater pipe reducer and steam generator nozzle by stratification of the cold auxiliary feedwater. The licensee is considering future design changes which include installing thermal sleeves or a separate auxiliary feedwater penetration into each steam generator.

The feedwater piping at the steam generators was cut at the steam generator and at the reducer. All work was performed by sub-contractors. "A" and "B" piping stayed in alignment but the "C" feedwater line moved out of alignment. This necessitated five additional cuts in "C" feedwater line in order to bring the line back into alignment at the steam generator nozzle. The inspectors observed this work to verify that a fire watch had been established and that adequate cleanliness control was exercised.

Prior to cutting the feedwater piping, the insulation was removed. The inspectors observed that some of the insulation had been placed in adjacent cable trays for storage. The inspectors informed the licensee of this and the insulation was promptly removed.

The licensee stated in an exit interview on April 10, 1984 that training on protection of cable trays would be incorporated into the annual radiation worker retraining program. The licensee also stated that protection of cable trays and other subjects would be incorporated into subcontractor training sessions. This is an open item (348/84-10-01).

14. Review of Nonroutine Events Reported by the Licensee

The following Licensee Event Reports (LERs) were reviewed for potential generic problems to determine trends, to determine whether information included in the report meets the NRC reporting requirements, and to consider whether the corrective action discussed in the report appears appropriate. Licensee action, with respect to selected reports, were reviewed to verify that the event had been reviewed and evaluated by the licensee as required by the TS, that corrective action was taken by the licensee, and that safety

limits, limiting safety settings, and limiting conditions of operation were not exceeded. The inspector examined selected incident reports, logs and records, and interviewed selected personnel. The following reports are considered closed:

Unit 1 LERs

- 84-02 - Reactor Trip
- 84-03 - Improper Mode Change
- 84-04 - MSIV Shaft Indications
- 84-06 - Both Containment Airlock Doors Open at the Same Time
- 84-08 - Fire Barrier Penetration Not Properly Sealed
- 84-09 - Fire Barrier Penetrations Open for Longer than Allowed

Unit 2 LERs

- 83-27 - Inoperability of Reactor Trip Bypass Breaker B