

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

Report No.: 50-348/84-16 and 50-364/84-16

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

Docket No.: 50-348 and 50-364

License No.: NPF-2 and NPF-8

Facility Name: Farley 1 and 2

Inspection Dates: May 11 - June 10, 1984

Inspection at Farley site near Dothan, Alabama

Inspectors: Mulul Anna Inspector W. H. Bradford, Senior Resident Inspector

W. H. Ruland, Resident Inspector

Approved by: 5 Cantrell, Section Chief Division of Reactor Projects

6/22/84 Date Signed

c/22/84 Date Signed

4/22/84 Date Signed

# SUMMARY

Scope: This routine inspection involved 174 inspector-hours on site in the areas of monthly surveillance observation, monthly maintenance observation, operational safety verification, independent inspection effort, engineered safety features system inspection, 2-B diesel generator and auxiliary feedwater check valves.

Results: A violation was identified - Procedure No. FNP-1/2-SOP-9.0, Containment Spray System was inadequate.

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# REPORT DETAILS

# 1. Persons Contacted

#### Licensee Employees

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

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

2. Exit Interview (30703)

The inspection scope and findings were summarized during management interviews throught the report period and on June 11, 1984, with the plant manager and selected members of his staff. The violation described in paragraph 8 was discussed in detail. The licensee acknowledged the findings.

3. Licensee Action on Previous Enforcement Matters (92702)

(Closed) Violation (348/82-13-01) Based on the licensee's letter of response to the violation which described the corrective action and an inspection of the corrective action, this item is closed.

## Unresolved Items

Unresolved items were not identified during this inspection.

## 5. Monthly Surveillance Observation (61725)

The inspector observed and reviewed Technical Specification 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 reviewd 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-STP-5	-	Control Rod Movement Verification.
FNP-1&2-STP-109.0	-	Power Range Neutron Flux Channel Calibration.
FNP-1&2-STP-1.0	-	Operations Daily and Shift Surveillance Require- ments, Modes 1, 2, 3 and 4.
FNP-2-STP-27.1	-	AC Source Verification.
FNP-2-STP-4.6	-	Charging Pump 2C Annual Inservice Test.
FNP-1-STP-80.1	-	Diesel Generator 1-2A Operability Test.
FNP-1-STP-80.1	-	Diesel Generator 1-C Operability Test.
FNP-1-STP-11.10	-	RHR Pump 1B Monthly Operability Test.
FNP-1-STP-16.5	-	Containment Spray System Flow Path 'erification.

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

#### 6. Monthly Maintenance Observation (62703)

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 Technical Specifications.

The following items were considered during the review: limiting conditions for operations 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 maintenance activities were coserved/reviewed:

- a. Unit 1 charging valve #122.
- b. Unit 2 waste gas compressor discharge vlave.
- c. 2B diesel generator electrical control circuit.
- d. 2A motor driven AFWP room cooler.

Within the areas inspected no violations or deviations were identified.

7. Operational Safety Verification (71707)

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 inspectors verified compliance with selected Limited Condition for Operation (LCO) and results of selected surveillance tests. The verifications were accomplished by direct observation of monitoring instrumentation, valve positions, switch positions and review of completed logs, records, and chemistry results. The licensee's compliance with LCO action statements were reviewed as they happened.

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.
- Accessible portions of service water and component cooling water systems.
- d. Units 1 and 2 suction and discharging piping and valves on auxiliary feed water system.
- e. Diesel generators and support systems.
- Certain accessible portions of CVCS piping and valves to and from the charging/high head safety injection pumps.
- g. Portions of various other systems (safety-related and nonsafety-related) were observed for proper alignment and operation.

Within the areas inspected no violations or deviations were identified.

## 8. Engineered Safety Features System Inspection (71710)

The inspector verified the operability of the containment spray system by performing a complete inspection 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 compared the licensee's valve line-up checklist with the system drawings. System operating procedure, FNP-1/2-SOP-9-0, Containment Spray System Rev. 10/3, was reviewed. The following discrepancies were found:

- a. Spray add tank recirculation pump suction valves, Q1, Q2 and 13 V026, were open and required to be open by SOP-9.0. However, drawings D-175038 Rev. 7, sh 3/3 and D-205038 Rev. 9, sh 3/3, indicated that V026 should be normally shut. V026 must be normally shut to separate the ANS class 23, seismic piping from the non-safety non-seismic piping.
- b. Valve N2E13 V011, recirculation stop valve, was not on the valve checklist (SOP-9.CA).

System operating procedure SOP-9.0 was inadequate due to the errors listed above. This is a violation (348/364/84-16-01).

The inspector also noted the following:

- a. Spray additive tank pressure for Unit 2 was 5 psig. Precaution 3/3 of SOP-9.0 requires a nitrogen pressure of 1-2 psig. to prevent sodium carbonate precipitate formation. Tank design pressure was 10 psig. The tank was protected by a relief valve. The licensee has reduced the pressure and required the systems operator to check spray additive tank pressure on a regular basis.
- b. Several minor editorial errors existed in SOP-9.0 and the system diagram. The licensee agreed to correct the errors.
- c. A nus was missing from a blank Flange for the containment 1B spray pump drain. The licensee has replaced the nut.

The licensee has begun a complete review of system checklists and drawings. This is an Inspector Follow-up Item (348/364/84-16-02).

9. Independent Inspection Effort (92706)

The inspectors routinely attended meetings with certain licensee management and observed various shift turnovers between shift supervisors, shift foremen and 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. During the inspection period the inspectors observed the following:

- a. 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.
- b. On May 24, 1984 the inspectors observed licensed operator training on the plant simulator. The training was conducted using the new emergency event procedures which had been developed from Westinghouse emergency response guidelines. The procedure in use at the time was emergency event procedure FNP-1-EEP-0 - "Reactor Trip of Safety Injection". These procedures have not been placed in the control rooms yet but are undergoing further development and refinement by the licensees operating staff. Training will continue until all licensed personnel have been trained using these new procedures.
- 10. 2-B Diesel Generator

On May 19, 1984 at 8:29 p.m. 2B diesel generator was started per STP-80.1 for return to service following an annual maintenance outage. The diesel started in 9.1 seconds on number 2 air start header and was loaded to 1 MW. The diesel was locally monitored by the manufacturer's technical representative, a maintenance foreman, the shift foreman and a system operator. At that time the jacket water temperature was 140°F. The jacket water temperature increased to the alarm point of 160°F at 8:42 p.m. At this time the diesel tripped mechanically on a nonessential trip signal. The control room operator noted generator high amperage with electrical load and VARS decreased to zero. The generator breaker had not opened and the generator was back feeding from the bus and was motoring. The operator manually opered the generator output breaker.

The licensee conducted an investigation of the incident and found the following problems:

- a. The (94) HFA relay, which is responsible for tripping the output breaker was dropping out of the circuit too quickly and was not allowing the breaker to trip.
- b. The auxiliary stop relay (5XX) did not have a time delay function which did not allow the 94 relay to completely actuate.

The licensee inspected the circuits for the other diesel generators and found that there was a difference in control circuit wiring. The (5XX) relay was not installed in the trip circuit and the (94) relay was powered from another point in the trip circuit.

The 2B diesel generator circuit was modified to conform to the other diesel generator circuits under PCN B-84-22697. The circuit was functionally tested satisfactorily and the diesel generator was returned to service.

The control circuit for 2B diesel generator was designed by Bechtel Corporation. The other diesel generator control circuits were designed by Southern Company. The licensee determined that the Bechtel design created a "contact race" where the Southern Company design did not. The licensee chose to use the Southern Company design for consistency.

The inspector has no further questions.

#### 11. Auxiliary Feedwater Check Valve

In a letter dated April 30, 1984, the licensee stated what actions have been taken to alleviate the steam binding of the Auxiliary Feedwater Pumps (AFPs) experienced at the Farley Nuclear Plant. The inspector verified that the licensee was continuing to monitor the Auxiliary Feedwater Systems (AFWSs) to detect backleakage which might occur. An addendum 1 has been added to the roving watch logs which requires hourly readings of the temperature just upstream of the first check valve downstream of the feed pumps. This temperature is then compared to previous readings and if the temperature reaches or exceeds 170°F., or if the temperature increase is 20°F. or more from the previous readings, the shift supervisor is to take appropriate action. The inspectors review of the log on 5/21/84 showed the recorded temperatures were approximately equal to the AFP room ambient temperature. The licensee has modified units 1 and 2 AFWS check valves to ensure proper seating of the discs against the back pressure in the system. The modification appears to have stopped the back leakage.

The licensee has a design change in progress to install temperature monitoring with annunciators locally and in the control room on the AFWS. This design has not been completed to date. The licensee has scheduled implementation of the monitoring system for the next refueling outage for each unit. The roving watch will continue to read and record the temperatures downstream of the AFPs; although the time interval may be modified if the readings remain consistant. This will be inspector followup item 50-348/364/84-16-03.