UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report Nos. 50-348/81-09 and 50-364/81-12

Licensee: Alabama Power Company
600 North 18th Street
Birmingham, AL 35202

Facility Name: Farley Nuclear Plant

Docket Nos. 50-348 and 50-364

License Nos. NPF-2 and NPF-8

Inspection at Farley site near Dothan, Alabama

Inspector _____ 5/4/81
W. H. Bradford, Senior Resident Inspector — Date Signed

Approved by _____ 5/4/81
P. J. Kellogg, Section Chief, Division of Resident and Reactor Project Inspection — Date Signed

SUMMARY

Inspection on March 16, 1981 through April 15, 1981

Areas Inspected

This routine inspection involved 130 hours onsite by the resident inspector in the areas of operational safety verification, Unit No. 1 testing prior to plant operation, followup of plant incidents, independent inspection effort, Unit No. 1 plant status, I. E. Bulletins and Circulars, Unit No. 2 witness of precritical testing, open items and service water modifications.

Results

Of the 9 areas inspected no violations or deviations were identified.

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
R. W. McCracken, Technical Superintendent
D. E. Mansfield, Unit 2 Startup Superintendent
Charles Nesbitt, C&HP Supervisor
L. Williams, Training Superintendent
J. A. Mooney, Project Manager Construction
K. Pursell, Systems Completion Verification Supervisor

5 construction craftsmen, 6 technicians, 10 operators, several plant maintenance personnel, security force members and office personnel.

2. Exit Interview

The inspection scope and findings were summarized during management interviews on March 19, April 3, and April 15, 1981, with the Plant Manager and selected members of his staff. The licensee acknowledged the inspection findings.

3. Licensee Action on Previous Inspection Findings

(Closed) 348/79-37-01 Deficiency - This deficiency concerned inadequate review of Surveillance Test Procedures. The licensee's response dated January 4, 1980, was reviewed. The licensee's technical staff review responsibilities have been redistributed which will result in a more detailed review. This subject has been discussed in the licensee retraining program. The inspector had no further questions.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Operational Safety Verification

The inspector toured various areas of Unit 1 and Unit 2 on a routine basis throughout the reporting period. The following activities were reviewed or verified:

a. Adherence to limiting conditions for operation which were directly observable from the control room panels.

b. Control board instrumentation and recorder traces.

c. Proper control room and shift manning.

d. The use of approved operating procedures.

e. Reactor operator, shift foreman, shift supervisor, night order log book, standing orders log book and shift relief turnover logs.

f. General shift operating practices.

g. Housekeeping practices.

h. Fire protection measures for hot work.

i. Posting of hold tags.

j. Measures to exclude foreign materials from entry into open systems.

k. Personnel, package, and vehicle access control for the protected area.

l. General shift security practices on post manning, vital area access control and security force response to alarms.

m. Surveillance testing in progress.

n. Maintenance Activities in Progress

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

6. Unit No. 1 Testing Prior to Power Operation

The inspector observed the performance of various testing in progress for adherence to technical specification requirements and interviewed test supervisors and inspected the following to verify conformance to license and procedural requirement.

a. Procedure of appropriate revision available and in use by all crew members.

b. All test prerequisites and initial conditions are met in accordance with procedure requirements.

c. Special test equipment required by the procedure is calibrated and in service.

d. Test is performed as required by the procedures; changes to the procedure were made in accordance with procedure requirement.

e. A summary analysis was made to assure proper response to the test.

f. Reviewed records of deficiencies and difficulties encountered to assure the adequacy of corrective actions.

g. Reviewed data sheets for legibility, traceability and permanence.

The following tests were obser ed and or reviewed:

FNP-1-UOP-1-1	"Startup of Unit from Cold Shutdown to Hot Standby."
FNP-1-STP-38.0	"Manual Reactor Trip Verification."
FNP-1-STP-35.1	"Unit Startup Technical Specification Verification."
FNP-1-STP-1.0	"Operations Daily and Shift Surveillance Requirements - Modes 1, 2, 3, 4."
FNP-1-STP-112	"Rod Drop Time Measurement".
FNP-1-STP-9.0	"RCS Leakage Test."
FNP-1-STP-35.0	"Reactor Coolant System Pressure and Temperature/Pressurizer Temperature Limits Verification
FNP-1-STP-57.0	"Hose Station and Valve Operability Test."
FNP-1-33.1	"Safeguards Test Cabinet Train A Functional Test."

Within the areas inspected no violations or deviations were identified.

7. Followup of Plant Incidents

During the reporting period, the inspector conducted followup activities on the following incidents at the facility.

a. On March 15, 1981, a plant operator was being lowered into the Unit 2 spent fuel storage pit to install a temporary pump. The operator fell about 25 feet when the cable came off the cable reel. The employee sustained cuts on his face and scalp and suffered lower back injuries. He was transported to the Southeastern Alabama Medical Center for treatment. There was no radiation or contamination involved in the incident.

b. On March 17, 1981, while performing Surveillance Test Procedure (STP) 33.0 "Solid State Protection System Train A/B Operability Test" on Unit 1, an inadvertent safety injection signal was initiated as a result of personnel error. The "A" train input error inhibit switch was returned to the normal position prior to resetting the safety injection signal. The Unit was in Mode 5 at the time of the incident.

The inspector reviewed the circumstances involved in each incident and, where appropriate, the action taken by the licensee management in response to the incident. The licensee's management response appeared to be both timely and adequate in each case.

8. Independent Inspection Effort

The inspector routinely attended meetings with certain licensed management and various shift turnovers between shift supervisors, shift foremen and licensed operators during the reporting period. These meetings and discussions provided a daily status of the construction and testing activities in progress as well as discussion of signif cant problems or incidents.

The inspector noted that the licensee does not employ a crimping tool for connecting electrical leads to connecting lugs when making electrical connections. The tool used by the licensee does not give a uniform connection crimp and could cause bad connections and localized high resistance heating. This has been discussed with the licensee and the inspector pointed out that the correct crimping tools would give a uniform crimp on the connectors. The tool also would require periodic calibration.

The licensee is investigating this tool. This is open item 348/81-01 and 364/81-12-01.

9. Unit No. 1 Plant Status

Unit 1 achieved criticality on March 25, 1981, at 0230 hours with control bank D at 146 steps out and reactor coolant system boron concentration of 1300 to 1335 ppm.

This was very close to predicted critical parameters. The inspector reviewed FNP-1-ETP-80 "Initial Criticality" to verify the following:

a. That Technical Specification requirement had been met.
b. The procedure had been approved in accordance with the licensee's Administrative Procedure FNP-0-AP-1 (Development, Review and Approval of Plant Procedures)."

c. Test prerequisite and intial condition had been met.

d. That precautions and limitations listed in the procedure had been adherred to.

e. That boron and chemistry sampling was in accordance with the requirements of the procedure and technical specifications and that the maximum spread between three successive reactor coolant system boron sample analysis was less than 10 ppm.

Unit 1 was synchronized to the electrical grid on April 3, 1981, at 1830 hours. The Unit is limited to 48% power due to mechanical problems with the 1A main feedwater pump. The licensee is replacing the main feed pump turbine. When the feed pump turbine is repaired that the Unit will be able to achieve full power output.

10. IE Bulletins (IEB) and Circulars (IEC)

(Closed) IE Bulletin 80-08 (Examination of Containment Liner Penetration Welds)." The subject Bulletin is closed based on the review of the licensee response dated July 1, 1980, as well as inspection by Region II documented in inspection Reports Nos. 348/80-37 and 364/80-51.

(Closed) IEC/s 79-8, 79-10, 79-12, 79-15, 79-20, 79-21, 79-22, 79-23, 79-24, 80-01, 80-02, 80-03, 80-04 and 80-05. The inspector reviewed the actions taken by the licensee for the listed IEC/s. The licensee has examined each item listed in these circulars and the actions were satisfactory.

11. Unit No. 2 Witness of Pre-Critical Testing

The inspector witnessed portions of and reviewed the data for the following startup testing:

005-7-502 "Rod Drive Mechanism Timing Test-System Cold."

005-7-504 "Rod Drop Time Measurement (Cold, no flow)."

005-7-505 "Rod Drop Time Measurement (Cold, full flow)."

The inspector interviewed test supervisors and inspected the following to verify conformance to license and procedural requirements for precritical testing.

a. Procedure of appropriate revision available and in use by all crew members.

b. All test prerequisites and initial conditions are met in accordance with procedural requirements.

c. Special test equipment required by the procedure is calibrated and in service.

d. Test is performed as required by the procedures; changes to the procedure were made in accordance with procedure requirements.

e. Quick summary analysis made to assure proper component response to the test.

f. Any difficulties encountered were reviewed, corrective actions were taken and approval actions taken.

g. Reviewed data sheets for legibility, traceability and permanence.

Within the areas inspected no violations or deviations were identified.

12. Open Items

a. (Closed) Open Item 348/79-18-04

This item involved the question of manual over ride of safety system actuation signals from reactor coolant pump undervoltage and underfrequency relays. The licensee has conducted a review of the "test pushbuttons" for underfrequency 2/3 logic on 4160 V emergency buses (F, G, H, and J) to determine if the push buttons were the correct type and if the undervoltage logic could be defeated during underfrequency logic testing. The review concluded that the "test pushbuttons" are the correct type and underfrequency logic testing would not defeat the undervoltage logic. The underfrequency test pushbuttons are key operated and administratively controlled by the shift supervisor.

This is documented by a memo to file dated May 30, 1980. The inspector had no further questions.

b. (Closed) Open Item 348/78-34-02

This item concerned the installation of a interval timer to be used for testing the diesel generators. The licensee has installed the interval timer and the device is functional.

The inspector had no further questions.

c. (Closed) Open Item 348/78-33-02

This involved a design change to pipe fuel oil from the diesel generator fuel oil storage tanks to the auxiliary boiler fuel oil tank t eliminate the formation of sludge in the bottoms of the diesel generator oil storage tanks. The licensee has completed this modification and the system is presently in use.

The inspector had no further questions.

13. Service Water Modifications

The licensee has determined from data collected from Unit No. 2 Test Procedure No. 009-5-003 "River Water Preop" that the operator would have approximately 20 minutes available to take action to balance service water flow with river water flow if both units were operating and the postulated accident condition involving a service water pond dam break coupled with the single most limiting active failure of loss of one train of river water, FSAR section 9.2.1.3 states that there will be at least 30 minutes for the operator to take the above action if both units were operating.

The licensee has implemented a modification to the service water system which will make available an additional source of water to the service water pumps under those conditions. The change will add a service water supply line with necessary valves and control logic from the service water/pond recirculation line to the service water wet pit. This will increase the time available for operator action.

The inspector has reviewed PCN- No. 81-939 dated March 19, 1981 and has periodically inspected the work in progress. At the end of the reporting period the licensee has completed the piping portion of the modification. The electrical portion of the modification has not been completed. The licensee will perform a functional test on this new system when the modification has been completed. The inspector will review the results of this test upon completion. Open item 348/81-09-2.