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

Report Nos.: 50-348/88-15 and 50-364/88-15

Licensee: Alabama Power Company
600 North 18th Street
Birmingham, AL 36291

Docket Nos.: 50-348 and 50-364 License Nos.: NPF-2 and NPF-8

Facility Name: Farley 1 and 2

Inspection Conducted: April 11 - May 10, 1988

Inspection at Farley site near Dothan, Alabama

Inspectors: for W. H. Bradford — Date Signed 5/25/88

for W. H. Miller — Date Signed 5/25/88

Approved by: H. C. Dance, Section Chief, Division of Reactor Projects — Date Signed 5/25/88

SUMMARY

Scope: This routine onsite inspection involved a review of previous enforcement matters, monthly surveillance observation, monthly maintenance observation, operational safety verification, engineered safety system inspection, radiological protection program and physical security program, licensee event reports, multi-plant action items A-15 and B-03, preliminary startup activities from Unit 1 refueling, local public document room, and Unit 1 digital electro-hydraulic control system.

Results: No violations or deviations were identified.

REPORT DETAILS

1. Licensee Employees Contacted

J. D. Woodard, General Plant Manager
D. N. Morey, Assistant General Plant Manager
W. D. Shipman, Assistant General Plant Manager
R. D. Hill, Operations Manager
C. D. Nesbitt, Technical Manager
R. G. Berryhill, Systems Performance and Planning Manager
J. J. Thomas, Maintenance Manager
J. K. Osterholtz, Unit Supervisor, Administrative
L. W. Enfinger, Administrative Manager
J. E. Odom, Operations Unit Supervisor
B. W. Vanlandingham, Operations Unit Supervisor
T. H. Esteve, Planning Supervisor
J. B. Hudspeth, Document Control Supervisor
L. K. Jones, Material Supervisor
R. H. Marlow, Technical Supervisor
L. M. Stinson, Plant Modification Manager
Scott Fulmer, Supervisor, Safety Audit Engineering Review

Other licensee employees contacted included, technicians, operations 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 throughout the report period and on May 10, 1988, with the plant manager and selected members of his staff. The inspection findings were discussed in detail. The licensee acknowledged the inspection findings and did not identify as proprietary any material reviewed by the inspection during this inspection.

3. Licensee Action on Previous Enforcement Matters (92702)

a. (Closed) Violation 348, 364/86-13-01, Failure to follow procedures in updating procedures and drawings after modifications. Alabama Power Company's letters of response dated August 21, 1986, and February 23, 1987, indicates the licensee's corrective actions. The 120V AC single line drawings have been reviewed and identified discrepancies have been corrected. The inspectors verified that drawing Nos. D-177082 (Reported as 117082), D-207082 and D-207083 and Procedures FNP-1-SOP-37.1 had been revised to correct the previously identified discrepancies.

b. (Closed) Inspector Followup Item 348, 364/87-05-01, Auxiliary feedwater check valve modification. The check valves in the auxiliary feedwater system to the main feedwater system were not

seating properly and allowed leakage of high temperature water into the discharge piping of the auxiliary feedwater pumps. To correct this problem the licensee replaced each original check valve with an Anchor/Darling lift check globe valve provided with resilient seat and equalizer piping. These check valves were installed in Unit 2 during the October-December 1987 refueling outage and the Unit 1 refueling outage which began on March 26, 1988. Based on the Unit 2 operational experience following the 1987 outage the installation of these check valves appear to have corrected this backflow leaking problem.

c. (Closed) Unresolved Item 348/87-10-02, RHR 1B room cooler service water valves out of position. This item was reported to the NRC by LER 1-87-09. Also, this item was changed to a violation and identified as violation 348, 364/87-13-01 which was closed by Report No. 348, 364/87-24.

d. (Closed) Violation 364/87-29-01, Failure to follow cleanliness procedures for open piping of auxiliary feedwater system. The licensee's letter of January 27, 1988, detailed the corrective action taken on this violation. The licensee discussed this incident with mechanical maintenance personnel during weekly safety meetings. The inspectors reviewed this corrective action and noted that mechanical maintenance personnel have given increased attention toward protecting open piping to assure that system cleanliness is maintained.

e. (Closed) Violation 364/87-29-02, Failure to maintain adequate records of radiation hazard surveys made of Unit 2 fuel storage pool area while radiation monitor R-5 was out of service. The licensee's corrective action to this violation is indicated in response dated March 29, 1988. The licensee has revised procedures, where required, to assure that documentation of compliance with Technical Specification action requirements involving radiation monitors are provided. The inspectors verified that this corrective action was completed.

f. (Closed) Violation 348/88-03-01, Fire protection system inoperative and required fire watch with backup fire suppression equipment not provided. The licensee's response of March 21, 1988, indicated the corrective actions taken on this violation. This included repairs to a master override switch and counseling of the involved system operator. The inspectors reviewed these actions and have no further questions.

g. (Closed) Violation 348, 364/88-03-02, Failure to maintain four breakers in the required closed position and to include the service water lubrication and cooling water valves in the monthly valve flow path verification alignment procedure. The licensee response to this

violation dated March 21, 1988, indicated that a formal memorandum is being sent to operations and maintenance personnel to reinstruct them in the need to not reposition breakers without proper documentation. Also, the required service water valves have been included in the valve alignment verification procedures. The inspectors verified that this corrective action had been completed.

4. Monthly Surveillance Observation (61726)

The inspectors observed and reviewed Technical Specification (TS) required surveillance testing and verified that testing was performed in accordance with adequate procedures, test instrumentation was calibrated, limiting conditions for operation (LCO) were met, test results met acceptance criteria and were reviewed by personnel other than the individual directing the test, deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel, and personnel conducting the test were qualified. Portions of the following test activities were observed or reviewed by the inspectors:

1-STP-80.1	Diesel Generator 1B Operability Test
0-STP-80.1	Diesel Generator 1-2A Operability Test
1-STP-80.2	Diesel Generator 1C Operability Test
2-STP-80.2	Diesel Generator 2C Operability Test
2-STP-131.01	Smoke Detector - Semi-Annual Test
1-STP-160.8	CVCS Letdown Line 600 psi Pipe Inservice Hydro Test
0-STP-423	Diesel Fuel Oil Sample
1-STP-627	Local Leak Rate Test of Containment Penetrations (Valve 3134)
1-STP-633.2	ESFA Loss of Power 4160V Emergency Power Supply Breaker Response Time Test Verification

No violations or deviations were identified.

5. 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 TS. Items considered during the review included: verification that limiting conditions for operations were met while components or systems were removed from service; approvals were obtained prior to initiating the work; approved procedures were used; completed work was 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; and, radiological and fire prevention controls were implemented. Work requests were also 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 observed/reviewed:

MWR 130075	Replace jumper wires made of Houston wire or Therma-Link with qualified SIS wire in terminal box Q1T52G052B-A.
MWR 146541	Inspect and clean condensate storage tank.
MWR 157484	Replace 2" and smaller carbon steel pipe to and from Train B" battery charger room cooler unit with stainless steel pipe.
MWR 163351	Inspect and clean seating surface of 1 C MSIV.
MWR 163518	Unit 1 AMSAC cable installation.
MWR 163527	Inspect pole shaft welds and cam alignment per MP-28.112.
MWR 163595	Disassemble, inspect and overhaul motor driven auxiliary feedwater pump 1B (0-MP-7.1).
MWR 164782	Installation of high energy pipe break pressure switch in Unit 1 auxiliary feedwater pump rooms.
MWR 165331	Replace door No. 1 3.
MWR 170691	Replace charcoal filters in penetration room filter unit 2A.
MWR 171425	Replace valve packing to MOV 3764A.
MWR 173715	Replace Ray Chem/Chico Seal on EQ NAMCO limit switch with NAMCO connector.
MWR 173796	Installation of loop seal and vent valve in suction line of charging pump 1A.
MWR 173798	Installation of vent valve in suction line to charging pump 1B.
MWR 175329	Disassemble and inspect and reinstall MOV 3210A (0-MP-91.1).
0-MP-28.112	Westinghouse 600V DS 206 and DS 416 circuit breakers Amptestor type LI and LS (Breakers EK-03 and ED-09).
0-MP-28.194	GE 4.16 KV circuit breakers inspection and maintenance (Breaker DA-04).

During the current Unit 1 refueling outage which began on March 26, 1988, the licensee has been heavily involved with electrical maintenance and environmental qualification (EQ) modifications. This included the inspection of 71 Westinghouse Type DS and DSL circuit breakers for compliance to NRC Bulletin No. 88-01. Inspection of 67 breakers has been completed. The pole shaft on 65 of these breakers did not meet the manufacturer's requirements and were replaced. The remaining breakers are to be inspected and required modifications are to be completed prior to restart. An inspection was made of 641 electrical items to identify any deficiencies between the as-found and the as-designed conditions. Identified deficiencies were repaired. Two major EQ design changes were performed. Thirty five valves in containment on the licensee's EQ list (32 air operated and 3 motor operated valves) had NAMCO limit switches in which the Raychem-Chico seal was changed to the EC-210 type connector. The other design change modified solenoid valve junction box/conduit arrangement to ensure that condensation will drain away from the solenoid valve in the event of a design basis steam line break in the main steam valve room.

The inspectors observed selected work sequence and reviewed certain completed work packages of these electrical items and verified that the work was accomplished in accordance with procedures and that post maintenance testing was accomplished and acceptable.

No violations or deviations were identified.

6. Operational Safety Verification (71707)

The inspectors observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the report period. Also, the operability of selected emergency systems was verified, tagout records were reviewed and proper return to service of affected components was verified. Tours of the auxiliary building, diesel building, turbine building and service water structure were conducted to observe plant equipment conditions, including fluid leaks and excessive vibrations and general housekeeping efforts. The inspectors verified compliance with selected limiting condition for operation (LCO) and results of selected surveillance tests. The verifications were accomplished by direct observation of monitoring instrumentation, valve positions, switch positions, accessible hydraulic snubbers, and review of completed logs, records, and chemistry results. The licensee's compliance with LCO action statements was reviewed as events occurred.

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

During a tour of the Unit 1 containment building the inspectors noted that the vertical cable trays inside the containment structure did not contain fire breaks. FSAR Section 9B.4.1.26 states that fire breaks have been provided in all cases where vertical cable trays run for more than 20 feet with no penetration seals. The licensee's design engineering group states that fire breaks are not applicable for the vertical cable trays inside containment since the containment building is a single fire area. Therefore, this item is being referred to the NRC Region II fire protection staff for further review and is identified as Unresolved Item 348/88-15-01 pending completion of this review.

No violations or deviations were identified.

7. Radiological Protection Program (71709)

Selected activities of the licensee's Radiological Protection Program were reviewed by the inspectors to verify conformance with plant procedures and NRC regulatory requirements. The areas reviewed included: organization

*An unresolved item is a matter about which more information is required to determine whether it is acceptable or may involve a violation or deviation.

and management of the plant's health physics staff, "ALARA" implementation, Radiation Work Permits (RWP's) for compliance to plant procedures, personnel exposure records, observation of work and personnel in radiation areas to verify compliance to radiation protection procedures, and control of radioactive materials.

On May 1, 1988, the licensee declared a notification of an Unusual Event (NOUE) when a contract employee passed out in Unit 1 containment building apparently from heat exhaustion while decontaminating the Unit 1 reactor cavity. The employee was removed from containment, his protective clothing was removed and he was transported to a local hospital in the licensee's emergency vehicle. Contamination was found and removed from his left knee while enroute to the hospital. Upon arrival at the hospital's radiation casualty center, contamination was also found on the employee's right arm, inside his elbow. This contamination was removed and no other contamination was found. Medical examinations indicated the employee apparently experienced heat exhaustion but no major injury. The employee was released from the hospital on May 1 and returned to work on May 3. The inspectors reviewed this event and verified that the licensee followed appropriate notification and emergency procedures.

No violations or deviations were identified.

8. Physical Security Program (71881)

Licensee's compliance to the approved security plan was reviewed by the inspectors. The inspectors verified by observation and interviews with security force members that measures taken to assure the physical protection of the facility met current requirements. Areas inspected included: organization of the security force, establishment and maintenance of gates, doors, and isolation zones, access control, and badging procedures.

No violations or deviations were identified.

9. Licensee Event Reports (92700)

The following Licensee Event Reports (LER) 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. The Licensee's action was reviewed to verify that the event had been reviewed and evaluated by the licensee as required by the Technical Specifications; that corrective action was taken by the licensee; and that safety limits, limiting safety setting and LCOs were not exceeded. The inspector examined selected the incident reports, logs and records, and interviewed selected personnel. The following report are considered closed:

Unit 1

LER-88-01 Unauthorized individual entered the main control room

LER-88-02 Technical Specification action statement requirement not met for inoperative fire protection system

LER-88-03 Personnel errors result in special report not being submitted for an inoperable fire door

LER-88-04 Personnel error results in required fire watch patrol not being established within the required time

LER-88-05 Fire door 453 inoperative for more than seven days

LER-88-07 Technical specification 3.0.3 entered while switching the alignment of the battery charger from one train to the other

LER-88-08 Steam generator tube plugging

LER-88-09 Fire dampers inoperative due to failure to close with air flow

Unit 2

LER-88-04 Personnel error results in required fire watch patrol not being established

No violations or deviations were identified.

10. Engineered Safety Systems Inspections (71710)

The inspectors performed various system inspections during the inspection period. Overall plant conditions were assessed with particular attention to equipment condition, radiological controls, security, safety, adherence to technical specification requirements, systems valve alignment, and locked valve verification. Major components were checked for leakage and any general conditions that would degrade performance or prevent fulfillment of functional requirements. The inspectors verified that approved procedures and up-to-date drawings were used. The systems were assessed to be operable in accordance with technical specifications, appropriate drawings, procedures, and the Final Safety Analysis Report.

Portions of the following systems were observed for proper operations, valve alignment and valve verification:

Auxiliary Feedwater Systems
Chemical Volume Control Systems
Service Water Systems
Boric Acid Transfer Systems
Containment Spray System Including Chemical Additive System
Residual Heat Removal System

No violations or deviations were identified.

11. Verification of Quality Assurance Request Regarding Diesel Generator Fuel Oil, Muti-Plant Action Item A-15 (TI 2515/93)

Temporary Inspection Procedure 2515/93 requires verification that plants utilizing diesel generators as backup power sources have included the diesel generator fuel oil in their QA program.

Farley's FSAR Section 17.3.6 states that administrative procedures have been established for expendable and consumable items (such as diesel fuel) to ensure applicable NRC and other QA requirements are included or referenced in procurement documents. Technical Specification Section 4.8.1.1.3.b requires a sample of diesel fuel to be taken at least once per 92 days from each tank to verify fuel is within acceptable limits.

The licensee has written procedures to implement these requirement: The inspectors reviewed the following procedures to verify that sufficient administrative controls were available to implement appropriate controls over the receipt and storage of diesel fuel for the emergency diesel driven generators:

O-CCP-201	Schedule Chemistry and Water Treatment Plant Activities - Table 46, Diesel Fuel Oil.
O-CCP-202	Water Chemistry Specification O Table 51, Diesel Fuel Oil.
O-CCP-208	Chemistry Group Forms - Form 283, Analysis of Diesel Fuel.
O-CCP-614	Sampling of Process Streams for Chemistry Analysis - Section 4.3 Sampling Diesel Fuel Oil Tanks and Tankers.
O-STP-423	Analysis of Diesel Fuel Storage Tank Contents.

The inspectors noted that the analysis of the diesel fuels is performed by Pittsburgh Testing Laboratories with analysis results promptly reported to the licensee.

The licensee's QA program for diesel fuel appears to meet the intent of multi-plant action item A-15. Therefore, this action item is closed.

12. Verification of Licensee Changes Made To Comply With PWR Moderator Dilution Requirements, Multi-Plant Action Item B-03 (TI 2515/94)

Temporary Inspection Procedure 2515/94 requires verification that licensees' have completed the req. ed administrative controls or plant modifications needed to resolve the moderator dilution issue.

As stated in the licensee's letter of December 14, 1977, the 1977 re-evaluation of potential for boron dilution accidents confirmed that the analysis presented in FSAR Section 15.2.4 represents the worst possible assumptions for a dilution incident. The annunciators, alarms and other indications available to the control room operators are sufficient to

assist the operators in the assessment of actions necessary to terminate a boron dilution incident prior to reactor criticality. The licensee's re-evaluation was reviewed and approved by the NRC as noted in letter to the licensee of February 21, 1979. Therefore, it appears that this TI is not applicable to Farley.

However, to further reduce the potential of a moderator dilution incident the licensee has revised procedure 1/2-UOP-2.2, Shutdown of Unit from Hot Standby to Cold Shutdown, Section 5.32 to tag out one reactor make up pump when reactor coolant system is less than 180F.

This meets the intent of item B-03 and no further inspection of this item is required.

13. Unit 1 Startup From Refueling (71711)

The inspectors verified that the licensee had adequate administrative controls and checklists for returning the plant to an operable status following the refueling outage. These include:

1-SOP-1.3 Reactor coolant system filling and venting (Mode 6)

1-STP-1.0 Operations daily and shift surveillance requirements (Modes 5 and 6)

1-UOP-1.1 Startup of unit from cold shutdown to hot standby (Modes 3 and 4)

1-UOP-1.2 Startup of unit from hot standby to minimum load (Modes 1 and 2)

1-STP-35.1 Unit startup technical specification verification check lists (Modes 1 and 2)

These procedures should assure that all safety-related systems, including those systems and components which underwent maintenance or were disturbed during the refueling outage, are returned to operable status as required.

No violation deviations were identified.

14. Farley Local Public Document Room

On April 19, the Farley Local Public Document Room (LPDR), located at the Houston-Love Memorial Library in Dothan, Alabama, was visited and a review was made of the available documents and filing system. The documents appeared to be organized and filed in accordance with instructions from the LPDR Branch. However, several of the reviewed documents were not up to date and the revisions to the documents did not appear to be easily retrievable. This item has been referred to the NRC Farley Plant LPDR Coordinator and NRC Region II staff for further review.

No violations or deviations are identified on this item since the licensee has no control over the LPDR.

15. Unit 1 Turbine Digital Electro Hydraulic Control Installation.

The inspectors observed and reviewed portions of the installation of the new Westinghouse turbine control system. This review was conducted of PCN 585-1-3351 and MWR 175126 which implements the installation of cables at turbine instrument panel (NGPs 2504H-N). The inspectors noted that there were 9 thermocouple cables identified as 1UYTBD07B, 1UYTBE01A, 1UYTBF01B, 1UYTBL02D, 1UYTTB01A, 1UYT1B02A, 1UYT2A02B, 1UYT2B02A, and 1UYT1A02A which had been pulled and modified with a new junction box. A QC inspection and sign off was required for this operation. The revision was necessary because turbine instrumentation had been relocated and the cables were not long enough. The new cables from the junction box were then pulled [illegible] without QC observers and sign off. This fact was recorded on the "installation of electrical cable" in the MWR and dated April 26, 1988. The licensee discovered this during their review. On May 2, 1988, the licensee conducted a continuity test for the 9 cables. This is documented on page 60 of the MWR. Further documentation of QC observation and verification is shown on page 11 through 20 of the MWR. Terminations will be completed and verified by instrumentation and control craftsmen as each termination is completed. This is not a safety related system.

No violations or deviations were identified.