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

Report No.: 50-364/78-14

Docket No.: 50-364

License No.: CPPR-86

Category: A2

Licensee: Alabama Power Company
600 North 18th Street
P. O. Box 2641
Birmingham, Alabama 35291

Facility Name: J. M. Farley Unit 2

Inspection at: Ashford, Alabama

Inspection conducted: September 12-15, 1978

Inspectors: M. D. Hunt
D. K. Walters
E. J. Vallish
A. B. Ruff (Inspector in training)

Reviewed by: R M Compton for 10/19/78
J. C. Bryant, Chief Date
Engineering Support Section No. 1
Reactor Construction and Engineering
Support Branch

Inspection Summary

Inspection on September 12-15, 1978 (Report No. 50-364/78-14)
Areas Inspected: Reactor pressure vessel installation and records, emergency diesel fuel return line replacement, pipe snubber installation on pressurizer relief valve piping and on steam generator upper lateral supports, containment building vendor weather covers, reactor in-core neutron monitoring system mechanical installation and records, electrical penetration assembly installation, electrical motor operated valves, 125V DC inverter and distribution panel. This inspection consisted of 81 hours on site by three NRC inspectors.
Results: Of the ten areas inspected, no apparent items of noncompliance or deviation were identified in eight areas. Two apparent items of noncompliance were identified in two areas.

(Infraction - Failure to follow QC procedures, Details I, para. 4, (364/78-14-01)

(Infraction - Failure to follow procedures, Details II, para. 5, (364/78-14-02).)

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DETAILS I

Prepared by: E. J. Vallish 10-12-78
Date

E. J. Vallish, Mechanical Engineer
Engineering Support Section No. 1
Reactor Construction and Engineering
Support Branch

Dates of Inspection: September 12-15, 1978

Reviewed by: R. N. Conyton Jr 10/19/78
Date

J. C. Bryant, Chief
Engineering Support Section No. 1
Reactor Construction and Engineerig
Support Branch

1. Persons Contacted

a. Alabama Power Company (APCO)

*R. E. Hollands, QA Supervisory Engineer
*J. C. Payson, QA Staff Engineer
*R. S. Fucich, QA Engineer
D. Morey, Maintenance Superintendent (Operations)

b. Daniel Construction Company (DCC)

*D. L. Garrison, QA Manager
H. Cooper, Senior Hanger Engineer
L. C. Easterwood, QC Manager

*Denotes those present at the exit interview.

2. Licensee Actions on Previous Inspection Findings

Licensee actions on previous inspection findings were not reviewed during this inspection.

3. Unresolved Items

No unresolved items were identified during this inspection.

4. Independent Inspection Effort

This inspection effort included observation of installation of two mechanical snubbers on the pressurizer relief valve piping and inspection of those which were already installed in that area. Under the snubber work area on the pressurizer vessel, two root valves were

observed to have unprotected openings to the valve internals and which were oriented in the upward position. The work of installing snubbers over these valves included concrete chipping, welding and grinding. Criterion V, "Instructions, Procedure, and Drawings", of Appendix B to 10 CFR 50 requires that activities affecting quality be prescribed and accomplished by documented procedures. Farley Nuclear Plant QC Procedure 5.4.2.1 paragraph 5.7.6.4 implements this requirement by requiring the plugs or caps in openings be sealed to prevent "dirt, weld sptater, grinding dust, etc," from entering.

This observed condition is an apparent noncompliance with Criterion V of the infraction severity level (364/78-14-01, Failure to Follow QC Procedure). The licensee took immediate action to have the two valves protected, and to prevent reoccurence, the piping manager issued an inter-office communication, dated September 14, 1978, to the piping superintendents to address this serious problem thru the general formen, the formen and the craftsman levels. Since these two valves were the only openings observed during this inspection, that should have been closed that were not closed and since the licensee took timely corrective action and adequate action to prevent reoccurrence, a reply to this noncompliance is not required.

This item is closed.

Also inspected was the progress of installation of the hydraulic snubbers on the steam generator upper lateral supports, the reactor in-core neutron monitoring system mechanical hardware the containment building's tendon weather covers and the ultimate heat sink pond area.

Other than the one stated above no other items of noncompliance were identified.

5. Reactor Vessel Installation - Work Observation

The FSAR Section 4 and 6.2 were reviewed prior to this inspection to determine licensee commitments in this area. The following items were selected and inspected in detail to assure that the installation and inspections were performed in accordance with the specifications and drawings. These items were located on the reactor pressure vessel's 205° and 325° nozzle legs.

a. Support shoe
b. Guide pin
c. Hold down pin
e. Hold down nut
f. Bottom shim
g. Bulkhead (nozzle restraint)

d. Side shim h. Cavity liner plate floor

The following drawings were reviewed and used to verify orientation, configuration, location and installation requirements:

a. "Reactor Vessel Supports", W drawing 1182F56.

b. "Reactor Vessel Support Hardware Details and Ass'y", W drawing 1095E74.

c. "Reactor Cavity Liner Plate Floor and Miscl. Steel Plate Additions", Bechtel drawings D-206279R4 and D-206277R5.

The reactor vessel opening was observed to be completely covered with a special steel plate cover. The personnel access doors to the inside were padlocked. The licensee's representative stated that there would be no more scaffolding or platforms installed in the vessel. All hot and cold legs were welded into the primary loop hence the vessel nozzles are protected from damage.

No items of noncompliance were identified.

6. Reactor Vessel Installation - Quality Record Review

QC inspection records of the installed reactor vessel were reviewed covering the time period from January 24, 1978, thru August 28, 1978. These inspections were preformed in accordance with QCP 5.2.4 which includes provisions for access control and cleanliness.

APCO QA audits of January 27, 1978, titled, "Installation of Mechanical Equipment" and of April 7, 1978, titled, "Storage and Handling" (Housekeeping) were reviewed. Dispositions were adequate and timely accomplished.

No items of noncompliance were identified.

7. Part 21 Report Followup(Closed)(78-14-03):Emergency Diesel Fuel Returns Lines

A possible generic condition concerning the Unit 2 emergency diesel generator's fuel return line was inspected. This condition cause fuel leakage at another site because of cracking of the fuel line material induced by a poorly made flare in the connection fitting. The following documents were reviewed and used to determine the status of the work performed:

a. Colt Industries - Fairbanks Morse Engine Divison drawing P12610262, "Fuel Pipe Inspection".

b. "Inspection of Colt Model 12PC-2V Diesel Engine Skid Mounted Fuel Piping Flares FNP-78-0963".

The Unit 2 diesel was inspected and the newly installed fuel lines were observed. The flares which were removed, were inspected and only surface irregularties were observed. All flared fuel line ends were replaced to assure quality.

This Part 21 has an identification number of 78-058-000 and was reported orignally to another IE Region.

There are no further questions on this item for this licensee.

7. Exit Interview

A meeting was held at the end of this inspection with the licensee's representatives identified in paragraph 1 and others, to discuss the results of this inspection. Items discussed included the reactor vessel installation and records, progress of installation of snubbers, reactor in-core neutron monitoring system mechancial hardware, the tendon weather covers, the apparent noncompliance regarding Criterion V and the open root valve parts on the pressurizer., the ultimate heat sink pond area and the fuel return line change on the emergency diesel. The licensee acknowledged these findings.

DETAILS II

Prepared by: R. M. Compton Jr. 10/19/78
M. D. Hunt, Electrical Engineer Date
Engineering Support Section No. 1
Reactor Construction and Engineering
Support Branch

D K Walters 10/17/78
D. K. Walters, Electrical Engineer Date
Engineering Support Section No. 1
Reactor Construction and Engineering
Support Branch

Dates of Inspection: September 12-15, 1978

Reviewed by: R. M. Compton Jr. 10/19/78
J. C. Bryant, Chief Date
Engineering Support Section
Reactor Construction and Engineering
Support Branch

1. Persons Contacted

a. Alabama Power Company (APCO)

*R. E. Hollands, Jr., QA Supervisor
*C. R. Kualheim, QA Engineer
*A. W. Hankins, QA Engineer
*J. C. Payson, QA Engineer

b. Contractor Organizations

(1) Daniel Construction Company of Alabama (DCCA)

*C. C. Wagoner, Project Manager

(2) Diversified Electrical Contractors (DELCON)

*J. C. Weaver, Project Engineer

*Denotes those present at exit interview.

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item 364/78-11-01, Installation of metallic tape as a separation barrier. The inspector reviewed an instruction sheet issued to supplement DCCA QC Procedure 5.4.3.1, "Cable Terminations".

The inspector was advised that all metallic tape installed would be inspected to verify that the aluminum tape is a minimum of 1" from the barrel of the lug and wrapped with glass tape.

3. Unresolved Items

No new unresolved items were identified during this inspection.

4. Independent Inspection

The inspector selected four electrical penetration assemblies (EPA) which were installed for inspection. The EPA's are identified as B028, B024, B026 and B030. All were pressurized as verified by an attached pressure guage. The storage inspection records for the last eight months were reviewed. The rigging report, which described the method and inspection required for moving the EPA's from the warehouse to the installation location, was reviewed. This report is a requirement of DCCA QA Procedure 5.2.4.

5. Electrical (Cables and Terminations I) Observation of Work and Work Activities

The inspector selected the nine 4160V power cables listed below for physical examination.

2VBDG04P	Component Cooling Water (CCW) Pump 2A
2VBDG09P	Residual Heat Removal (RHR) Pump 2B
2VBDG11P	Containment Spray (CS) Pump 2B
2VADF11P	CS Pump 2A
2VADF09P	RHR Pump 2A
2VADF07P	Alternate Feed from Bus 2F to Key Lock Switch for swing High Head Safety Injection (HHSI) Pump
2VBDG07P	Alternate Feed from Bus 2G to Key Lock Switch for swing HHSI Pump
2VADF05P	Alternate Feed from Bus 2F to Key Lock Switch for swing CCW pump
2VBDG05P	Alternate Feed from Bus 2G to Key lock switch for swing CCW Pump

The routing of these cables was verified from the components and breaker panels to the cable trays. The air space between cables in the cable trays appeared adequate. The terminations for all ends of these cables could not be examined due to status of tests in progress. The pulling and termination records had been completed in accordance with DCCA FQC Procedures 5.4.3.1, "Cable Pulling," and 5.4.3.1A, "Cable Terminations". The inspector found evidence that the cable trays had been used to support personnel in the cable spreading room elevation 139' Auxiliary Building. In cable tray AIE-45, the bottom

of the cable tray was damaged due to it being stepped in. The cables in this tray were conformed to the same distortion. The cables installed in cable tray AHK 27C were sagging below the rungs of the tray giving evidence of being used as a step to higher elevation. Field QC Procedure 5.2.4, Appendix 1, states "Personnel shall not walk or stand in tray."

The inspector also noted that the power feed (cable 2VBDG06P) for HHSI pump motor 2C was not properly installed in the raceway above the 4160V breaker DG06. The cable was suspended above the raceway for a length of approximately 10 feet. The "Notes and Details" referenced in FQC Procedure 5.2.4 permits only six feet horizontal and four feet vertical unsupported lengths.

The above listed cable tray discrepancy and the inproperly installed cable are identified as infraction 364/78-14-02, failure to follow procedures.

6. Electrical (Cables and Terminations I) Review of Quality Records

The records for receipt and storage, terminations, installation and testing were reviewed for the cables listed in paragraph 5. The vendor certifications were compared to the specifications. All cable records were traceable to the vendor certifications.

The inspector reviewed the following closed nonconforming reports (NCR) related to cable installation and testing: Q2E-293, 289, 284, 282, 281, 273, 264, 260, 259, 256, 254, 252 and 239. All NCR's reviewed indicated disposition and reinspection after corrective action had been completed.

Within the areas examined, no items of noncompliance or deviation were identified.

7. Electrical (Components and Systems II) Observation of Work and Work Activities

The installation and in-place storage of 7.5 KVA Inverter 2A, Vital AC Distribution Panel 2D and nine safety-related cables associated with inverter 2A input and output power were inspected. Cabling to the components had been terminated and equipment grounds had been installed. Using the cable pull and termination cards, termination, routing and separation of the selected cables were checked from the 600 volt load center 2D to 7.5 KVA inverter 2A via battery charger 2C and 125 VDC bus 2A. Due to the 600 volt equipment being energized and tagged, terminations for cable 2VCED09Q only to battery charger 2C were examined.

The installation and in-place storage of the listed safety-related electric valve operators were inspected:

Number	Valve Operated
Q2E11MOV8809A(V027A)	RHR Suction
Q2E11MOV8809B(V027B)	RHR Suction
Q2E11MOV8888A(V023B)	RHR Discharge
Q2E11MOV8888B(V023A)	RHR Discharge
Q2E21LCV115B(V336A)	HHSI Suction
Q2E21LCV115B(V336B)	HHSI Discharge

Cabling to the valve operators had been terminated and grounds had been installed.

Within the areas inspected, no items of noncompliance or deviations were identified.

8. Electrical (Components and Systems II) Review of Quality Records

Records for the components listed in paragraph 7 were reviewed. Identification was traceable through all records. Installation records were reviewed for compliance to FQCP 5.4.3.2, "Installation and Inspection of Electrical Equipment." The manufacturer's certifications or quality control releases were examined. Receiving records required by FQCP 5.2.3, "Receiving QC Inspection" were examined. Selected nonconformance reports identified on the receiving reports were also reviewed.

Within the areas examined, no items or nonconformance or deviations were identified.

9. Exit Interview

The inspectors met with the licensee representatives and others denoted in paragraph 1, at the conclusion of the inspection. The scope and findings of the inspection of electrical penetration assemblies, power cable installation and records, and electrical component installation and records were discussed.

The infraction 364/78-14-02, failure to follow procedures, was discussed in detail.