



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

Report No.: 50-395/85-44

Licensee: South Carolina Electric and Gas Company
Columbia, SC 29218

Docket No.: 50-395

License No.: NPF-12

Facility Name: Summer

Inspection Conducted: November 19-22, 1985

Inspector: *G. A. Taylor* 12-10-85
J. J. Lenahan Date Signed

Approved by: *G. A. Taylor* 12-10-85
for F. Jape, Section Chief Date Signed
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection entailed 27 inspector-hours at the site during normal duty hours, in the areas of licensee action on previous inspection findings, the snubber surveillance program, and the reactor building tendon surveillance program.

Results: No violations or deviations were identified.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *O. S. Bradham, Director, Nuclear Plant Operations
- *J. Connelly, Deputy Director, Nuclear Plant Operations
- *H. I. Donnelly, Senior Nuclear Licensing Engineer
- *D. Moore, Group Manager, Quality Services
- *M. D. Quinton, Manager, Maintenance Service
- *J. K. Todd, Structural Engineer
- J. Turkett, Maintenance Engineer

Other licensee employees contacted included three engineers, and two technicians.

NRC Resident Inspectors

- *P. C. Hopkins
- *R. Prevatte

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on November 22, 1985, with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection findings. No dissenting comments were received from the licensee.

The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during this inspection.

3. Licensee Action on Previous Enforcement Matters

(Closed) Unresolved Item (395/84-14-01) Functional Testing of Mechanical Snubbers. The inspector reviewed an South Carolina Electric and Gas (SCE&G) memorandum dated February 13, 1985, Subject: Snubber Functional Testing Review. This memo documents discussions with the snubber manufacturer's representative concerning the adequacy of the licensee's test methods to verify mechanical snubber activation. The snubber manufacturer stated that the licensee's test method is acceptable for verifying activation. The licensee's Technical Specification (TS) does not require measurement of a specific value for activation. The TS only requires verification that activation takes place. The inspector reviewed procedure number STP-403.003, Mechanical Snubber Basic Operator Test and verified that the procedure meets the TS requirement. This item is closed.

4. Unresolved Items

Unresolved Items were not identified during the inspection.

5. Snubber Surveillance Program (61729)

The inspector reviewed procedure and quality record related to surveillance of hydraulic snubbers. The inspector also inspected selected snubbers on the main steam line. Acceptance criteria utilized by the inspector appears in Technical Specification 3/4.7.7.

a. Review of Snubber Surveillance Procedures

The inspector examined procedure number STP-403.004, Hydraulic Snubbers, which controls surveillance of hydraulic snubbers.

b. Review of Quality Records

The inspector reviewed quality records documenting inspection of hydraulic snubbers. Records reviewed were as follows:

- (1) Result of visual inspection of the 15 hydraulic snubbers installed on the three steam generators (five installed on each steam generator)
- (2) Results of functional testing performed on two hydraulic steam generator snubbers, serial numbers 1603 and 1604.

c. Inspection of Snubbers

The inspector examined mechanical snubbers installed on portions of the main steam lines, inboard of the main steam isolation valves, in the intermediate building. The inspector verified that the snubbers were not damaged and that attachments to the supporting structure and piping were secure.

6. Containment Building Tendon Surveillance (61701)

The inspector examined procedures, work activities, and quality records relating to the containment building tendon surveillance program. Acceptance criteria utilized by the inspector appear in Technical Specification 3/4.6.1.6. Details of the inspection are as follows:

a. Review of Tendon Surveillance Procedure

The inspector examined procedure number STP-160.001, Containment Tendon Test. This procedure specifies the requirement for inspection, testing, analysis, and data reporting for the containment building post-tensioning system.

b. Observation of Tendon Surveillance Work Activities

The inspector witnessed stressing operation for determination of the lift off forces in horizontal tendon numbers 17BA and 8CB. Since the lift off forces were below 95% of the base value in both of these tendons, it was necessary to restress the tendons to restore the prestress to the base value stated in the Technical Specifications. The inspector witnessed restressing of tendon 17BA. The inspector examined the anchorage assemblies on tendon numbers 17BA and 8CB and verified that the inspection of the anchorage assemblies was conducted and documented in accordance with procedure STP-160.001. The inspector witnessed sampling of the tendon void filler material (grease) from the ends of tendon numbers 17BA and 8CB. The grease sample will be tested for compliance with TS Section 4.6.1.6.c by an independent offsite laboratory.

c. Review of Quality Records Relating to Tendon Surveillance Activities

The inspector examined the following records relating to tendon surveillance activities:

- (1) Records for prestress force confirmation tests (lift off) for horizontal tendon number 17BA, 18BA, 19BA, 32BA, 33BA, 34BA, 37CB, 38CB, and 39CB
- (2) Records for anchorage assembly surveillance inspections for horizontal tendons listed in (1) above
- (3) Records for anchorage assembly surveillance inspections for field ends of vertical tendon number V-23, V-37, V-60, and V-106.
- (4) Records for tendon anchorage concrete crack inspection for tendon numbers 17BA, 18BA, 19BA, 37CB, 38CB and 39CB

Review of the records for lift off forces present in the horizontal tendons and discussions with licensee engineers disclosed that the normalized lift off force was less than the minimum average value of 1181 Kips specified in T.S. 4.6.1.6.1.b for the horizontal tendons. When the licensee became aware of the problem after the lift off forces had been measured in seven tendons (average normalized lift off of 1168 Kips) Action Statement a. of T.S. Section 3.6.1.6 was invoked. The action statement requires an engineering evaluation be performed to demonstrate structural acceptance of the containment structure. The inspector examined the engineering evaluation which was documented in a memorandum dated November 20, 1985. Based on an analysis performed by the licensee's Architect-Engineer, Gilbert Associates, Inc., the licensee concluded that a minimum value of 1078 Kips is the required lift off force to maintain containment structural integrity. Therefore, the lift off values measured during the current surveillance

are acceptable. The licensee plans to submit an amendment to the Technical Specification to correct the minimum average lift off valves stated in the T. S.

Within the area inspected, no violation or deviations were identified.