



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

Report No.: 50-395/84-26

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

Docket No.: 50-395

License No.: NPF-12

Facility Name: Summer

Inspection Conducted: September 11-14, 1984

Inspector: *E. H. Girard*

9/27/84
Date Signed

Approved by: *J. J. Blake*
J. J. Blake, Section Chief
Engineering Branch
Division of Reactor Safety

9/27/84
Date Signed

SUMMARY

Scope: This routine, unannounced inspection involved 28 inspector-hours on site in the areas of licensee action on previous inspection findings, maintenance scheduling and planning, and spent fuel storage racks.

Results: No violations or deviations were identified.

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REPORT DETAILS

1. Licensee Employees Contacted

O. S. Bradham, Director, Nuclear Plant Operations
*B. G. Croley, Group Manager, Technical and Support Services
*G. G. Putt, Manager, Scheduling and Materials Management
*C. J. McKinney, Technical Specialist, Regulatory Compliance
*M. D. Quinton, Manager, Maintenance Services
A. Munroe, Licensing Engineer
J. W. Poston, Maintenance Engineer
A. P. Turbeville, Supervisor, Mechanical Maintenance
L. B. Collier, Welding Supervisor
*J. K. Todd, Structural Engineer, Nuclear Engineering
F. S. McKinnon, Associate Manager, Station Quality Control
J. W. Turkett, Engineer, Maintenance Engineering and Support

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on September 14, 1984, with those persons indicated in paragraph 1 above. The licensee was informed of the inspection findings listed below. The licensee acknowledged the inspection findings with no dissenting comments.

Unresolved Item 395/84-26-01, Welding Procedure Qualification Records for Spent Fuel Rack Adjustable Support Welds, paragraph 6.

Inspector Followup Item 395/84-26-02, Records for Chemistry on Boraflex Used in Spent Fuel Racks and Surveillance Coupons, paragraph 6.

Inspector Followup Item 395/84-26-03, Which Spent Fuel Rack Records Are Considered Permanent Plant Records, paragraph 6.

3. Licensee Action on Previous Enforcement Matters

(Open) Unresolved Item (395/84-21-01): Exercising Emergency Feedwater Discharge Check Valves to Closed Position.

The item was opened to identify the inspector's concerns that the licensee did not appear to have procedural requirements which would verify closure of their Emergency Feedwater discharge check valves. The Code for inservice testing these valves, ASME Section XI (77S78), Subsection IWV-3522, requires that the valves be exercised to the position to fulfill their function. In further describing and clarifying the requirements, the Code states that, for normally open valves, the valve disk must be shown to move promptly to its seat on cessation or reversal of flow; and, for normally closed valves, that the disk must be shown to move promptly away from the seat when closing pressure differential is removed and flow is initiated or when mechanical

opening force is applied to the disk. The manner in which the Code states the exercising requirements can be construed as not requiring verification of proper disk movement to the normal position.

The Emergency Feedwater discharge check valves are normally closed and the licensee tests the valves to verify their opening function. During NRC Inspection 84-21, the licensee indicated they were not certain whether the closing function of the valve was tested.

The NRC inspector questioned the responsible licensee engineer regarding this item during this Inspection (84-26). The engineer, who had not been at the site during Inspection 84-21, indicated that he had no knowledge of the concern and had taken no action in the matter. The inspector discussed the item with the engineer and informed him of IE Information Notice 84-06, which documented pump failures that had resulted from inadequate closing of emergency feedwater discharge check valves.

This unresolved item will remain open pending the following actions:

- a. Licensee and NRC review of the licensee's test program to determine whether the closure function of the subject valves is verified through appropriate testing.
- b. NRC evaluation of the Code requirements to determine whether testing of valve closure was intended.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. A new unresolved item identified during this inspection is discussed in paragraph 6.

5. Maintenance Scheduling and Planning (92706)

The inspector examined the licensee's maintenance scheduling and planning to verify its compliance with NRC regulations. Particular attention was directed to the scheduling and planning of maintenance on pumps and valves and implementation of related post maintenance testing as required by ASME Section XI (77S78). The inspector performed his examination of this area through interviews with the Mechanical Maintenance Supervisor and the Manager of Scheduling and Materials Management, and through verification of the following procedures for control of the activities:

- a. Procedure SAP-143, "Lubrication and Preventive Maintenance Program"
- b. Procedure SAP-301, "Implementation of Maintenance Work Requests, Preventive Maintenance and Surveillance Test Task Sheets and Shop Work Orders"

- c. Procedure SAP-601, "Application, Scheduling, and Handling of Maintenance Activities"
- d. Procedure SAP-620, "Conduct of Scheduling and Outage Management"
- e. Procedure SAP-300, "Conduct of Maintenance Activities"
- f. Procedure GTP-702, "Surveillance Activity Tracking and Triggering"
- g. Procedure SAP-605, "Application of Champs (Computerized History and Maintenance Planning System)"

In addition to the above procedures, the inspector also reviewed an example of the procedure for a specific planned maintenance activity to determine whether it appeared to provide sufficient detail and verifications (including QC) to assure proper completion of the work. This procedure was for charging/safety injection pump overhaul and was identified as MMP-320.012, "Charging/Safety Injection Pump Overhaul."

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

6. Spent Fuel Storage Racks (50095)

The inspector examined the licensee's installation of new high-density spent fuel racks to determine their compliance with NRC regulations and licensee commitments.

a. Licensing Report

The basic document utilized in describing the licensee's high-density spent fuel racks to the NRC was their Licensing Report, "High-Density Spent Fuel Racks," dated December 1983. This report was submitted to the NRC relative to a licensing change required for the racks. As of this inspection, the licensing change was not yet approved.

The inspector reviewed the above report for descriptive information and licensee commitments.

b. Review of Implementing Procedures, Specifications, and Instructions

(1) Procurement Documents

The inspector reviewed the licensee's specification for design and manufacture of the spent fuel racks ("Spent Fuel Storage Racks Specification," dated August 31, 1983) and their purchase order (P.O. No. Q350856) to assure that technical requirements described in the previously referenced Licensing Report had been properly translated into procurement documents.

The following were verified:

- Design parameters adequately described
- Required design and fabrication codes specified
- Critical dimensions specified

(2) Receipt Inspection Procedures/Instructions

The inspector reviewed the licensee receiving inspection instructions contained in procedure R-NQCP-1, Rev. 2, to verify that they required inspections for damage, checks for conformance with the purchase specification, proper identification, and that the proper vendor documentation was provided.

(3) Installation Procedures/Instructions

The inspector reviewed work and QC procedures to verify that they provided adequate instructions for the following:

- Control of rigging and handling
- Removal of existing racks
- Proper location and orientation
- Dimensional checks
- Drag tests

The procedures reviewed were as follows:

- MRF (Modification Request Form) 20337 Disposition
- Procedure JP-2466-22, "Lifting, Handling, and Installation Procedure for High-Density Spent Fuel Racks for Virgil C. Summer Nuclear Station"
- Mechanical Maintenance Procedure MMP-500.012, "Installation of High-Density Spent Fuel Racks"
- Procedure A-NQCP-5, "Nuclear Quality Control Inspection"

c. Observation of Activities

(1) Visual Examination

The inspector visually examined the new spent fuel rack modules A-1 and D-2 (to the extent accessible) before installation to verify requirements were being met in the following areas (in accordance with the previously referenced requirement documents):

- Configuration of spent fuel racks
- Structural welds
- Racks free of obvious defects
- Nonconformance properly identified

(2) Observation of Activities During Installation

The inspector observed activities to verify the following in accordance with the previously referenced requirement documents:

- Use of properly trained personnel and proper equipment
- Approved drawings, specifications, and procedures available
- Proper orientation (verified for module D-1 only)
- No unrepaired damage to modules
- Required shimming being performed (verified for module D-1 only)
- QC inspection coverage adequate

d. Review of Records

The inspector reviewed the following quality records to verify that they indicated that applicable requirements and commitments had been met (for modules A-1, C-2, C-3, C-5, and D-1):

- (1) Vendor fabrication records furnished to licensee
- (2) Receiving inspection records
- (3) Installation records for the following areas:
 - Leveling and alignment (module D-1 only)
 - Drag tests (module B-1 only)
 - Certifications of materials
- (4) Nonconformance reports
- (5) Personnel qualifications
- (6) Licensee reports of surveillances of vendor work as described in letters dated August 16, 1984, August 8, 1984, May 23, 1984, and December 22, 1983 (Vendor Files 300.51, CGSV-3650-QA, 3640-QA, and 3270-QA, respectively).

In reviewing the licensee's records, the inspector found no evidence of proper qualification of a welding procedure for welding the rack adjustable support material to the rack base plate. Licensee personnel indicated that they believed the proper qualification had been received and verified. The inspector informed the licensee that, pending their completion of a search for the qualification, the matter would be considered unresolved item 395/84-26-01, Welding Procedure Qualification Records for Spent Fuel Rack Adjustable Support Welds.

In addition to the unresolved item described above, the inspector identified two matters, of apparent lesser importance, for followup in a future inspection. First, it was not clear whether the licensee had chemistry records for the boraflex material (utilized as a poison in the racks) completely traceable to the spent fuel racks and the licensee did not have chemistry records for this material in their (not yet received) surveillance samples for the racks. The inspector indicated his intention to verify the subject chemistry records in a subsequent inspection and identified this as inspector followup item

395/84-26-02, Records for Chemistry on Boraflex Used in Spent Fuel Racks. The second followup item was identified by the inspector because it was not clear to him what permanent records were required for the spent fuel racks. The inspector indicated followup to determine the permanent record requirements would be identified as inspector followup item 395/84-26-03, Which Spent Fuel Rack Records Are Considered Permanent Plant Records.

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