



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

SEP 18 1984

Report No.: 50-395/84-24

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

Docket No.: 50-395

License No.: NPF-12

Facility Name: V. C. Summer

Inspection Conducted: August 21-22, 1984

Inspector: A. L. Cunningham
 A. L. Cunningham, Senior Radiation Specialist

09/17/84
 Date Signed

Approved by: W. E. Cline
 W. E. Cline, Section Chief
 Division of Radiation Safety and Safeguards

9/18/84
 Date Signed

SUMMARY

Scope: This special, unannounced inspection involved 11 inspector-hours on site in the emergency preparedness area of prompt notification system. The inspection scope was limited to a detailed review of the current operational status of the early warning siren system (EWSS), review of EWSS operational and maintenance procedures, EWSS test procedures and the implementation thereof during the period April 4, 1984, to late August 1984.

Results: Of the areas inspected, no violations or deviations were identified; however, management attention is directed toward ensuring that reliability of the EWSS continues to meet current federal criteria (see paragraph 5).

REPORT DETAILS

1. Licensee Employees Contacted

- *R. G. Croley, Group Manager, Technical and Support Services
- *M. Counts, Site Emergency Coordinator
- *O. S. Bradham, Director of Nuclear Operations
- *H. C. Fields, Regulatory Compliance Engineer
- *T. G. Connelly, Director, Operations and Maintenance
- *A. R. Koon, Associate Manager, Regulatory Compliance
- *D. A. Lauigne, Associate Manager, Quality Assurance
- *R. Marchant, Licensing Engineer
- *M. D. Irwin, Nuclear Licensing Specialist
- *L. A. Blue, Manager, Support Services
- D. Crapps, Radio Engineer
- *R. M. Campbell, Engineer

NRC Resident Inspector

*C. W. Hehl

*Attended exit interview

2. Exit Interview (30703)

The inspection scope and findings were summarized on August 23, 1984, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters (92702)

(Closed) Violation 50-395/84-05-01: Failure of control room foreman to implement delineated notifications and initiate equipment restoration as per procedure EPP-021 when an occurrence which disabled the entire EWSS was identified. The licensee's letter of responses, dated April 11, 1984, was reviewed and determined to be acceptable by Region II. The inspector confirmed that the licensee identified a faulty radio control module as the cause of the EWSS inoperability. The corrective action identified in the licensee's letter was implemented as defined.

(Closed) Violation 50-395/84-05-02: Failure to establish, implement, and maintain adequate procedures controlling surveillance testing of the EWSS because identification of a degraded system condition on February 19, 1984, was not documented on the preventative maintenance task sheet (PMTS). The licensee's procedures, viz, EPP-021 and EPP-022 were revised as stated in the licensee's response letter referenced above.

4. Unresolved Items (92703)

Unresolved items were not identified during this inspection.

5. Alert and Notification (82203)

- a. 10 CFR 50.47(b)(5) requires, in part, provision for prompt notification of the public residing within the plume exposure pathway Emergency Planning Zone. In response to this requirement, the licensee provided an early warning siren system (EWSS) as part of the emergency preparedness prompt notification system (PNS). To assure operation of the EWSS, Appendix 3 of NUREG 0654 (Rev. 1) provides guidance for surveillance testing of the EWSS which includes silent, growl and full-scale testing at a biweekly, quarterly, and annual frequency, respectively. Section E.6.21 of FEMA-43/September 1983 (Standard Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants) also provides guidance for EWSS test and maintenance programs. The test program in FEMA-43 includes silent, growl and full-scale tests conducted at the frequencies defined in NUREG-0654 and maintenance of records of tests and repairs performed. FEMA-43 guidance further provides an operability standard for the EWSS, viz: that the system will be considered acceptable when an average of 90% of the sirens can be shown to be functional over a 12 month period, as determined by an average of all tests conducted.
- b. The inspection included a detailed review and discussion with licensee representatives of all test data compiled during the period April 4, 1984, to late August. The following findings were disclosed, viz: (1) the annual full-scale or integrated EWSS test conducted on April 4, 1984, indicated 92% system reliability; (2) quarterly growl test confirmed 90% system operability; (3) weekly silent test, however, consistently indicated an average EWSS reliability of approximately 80%. The low EWSS reliability characterized by silent tests was traceable to frequent individual siren components malfunction and/or maintenance problems. For the referenced period considered, the average of all tests conducted was less than the 90% reliability defined in the above cited guidance.
- c. These findings indicated that subsequent to the annual EWSS full-scale test conducted in April 1984, the licensee possessed no systematic method for evaluating the reliability of the system. As a result, the licensee was unable to demonstrate the ability of the system to meet the acceptable reliability criteria of 90%. The inspector also noted that no attempt was made by the licensee to critically review the silent tests conducted and to correlate these data with growl test conducted during the subject period. A licensee representative informed the inspectors that growl tests using an improved technique were conducted during the second and third week of August 1984 using a mobile encoder. This improved test method actuates each siren via the electronic pathway utilized by the full-scale and weekly silent tests. The subject growl test should provide a more acceptable basis for comparison and correlation of all test data and results.

- d. Licensee representatives informed the inspectors that the actions defined below would be taken in an effort to achieve and maintain 90% system reliability.
- (1) Conduct a detailed review of silent test data compiled during the above cited period and correlate such findings with growl tests conducted during the subject period.
 - (2) Evaluation of the revised growl test, employing the mobile encoder, would be continued to determine and improve its efficiency, and correlate the data compiled with silent tests results.
 - (3) Preliminary results of a critical review of currently compiled silent test data and comparison and/or correlation of same with growl tests would be completed and discussed with NRC Region II within ten days.
 - (4) Proposed long term corrective action employing a silent test method having a capability to interrogate siren circuits and components, and identify the source or cause of failure. Licensee representative stated that a cost/benefit review of such a system and test method would be implemented.
- e. In a telephone conversation, on August 31, 1984, licensee representatives reported to cognizant Regional Staff the results of their preliminary review and analysis of individual siren silent and growl tests. The data was compiled during April 1984, to late August 1984. According to licensee representatives, the results of the statistical analysis for each of the system's 106 sirens indicated an average reliability of 90%.

The licensee representatives expressed confidence in the EWSS as installed. Licensee representatives further stated that they believed the system would perform adequately and acceptable results would be achieved on the FEMA sponsored full scale siren system test.