UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

Report No.: 50-395/94-11

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

Docket No.: 50-395 License No.: NPF-12

Facility Name: Summer

Inspection Conducted: May 9-13, 1994

Inspector: S.R. Wiseman 6/9/94
for M. D. Hunt Date Signed

Accompanying Personnel: H. Whitener
G. Wiseman

Approved by: 6/9/94
Charles Casto, Chief Date Signed
Test Programs Section
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope:

This routine, announced inspection was conducted in the areas of design changes and plant modifications, engineering and technical support activities, and followup on previously identified inspection findings.

Results:

In the areas inspected, violations or deviations were not identified.

- The inspectors found that permanent plant modifications and temporary modifications reviewed were technically adequate with sufficiently detailed 10 CFR 50.59 safety evaluations and adequate post modification test requirements were specified.

- The Modification Request Forms effectively addressed plant problems and nuclear safety issues and were technically adequate and sufficiently documented to verify closure including drawing and procedure revisions, FSAR updates, and vendor manual and computer system equipment database updates.

- The design input review process checklist was found to be a strength, in that, during the performance of reviews, deficiencies had been identified early in the design of modifications.

- The licensee had implemented two levels of management review (The Engineering Review Board and General Manager Priority Review Committee) for screening, prioritizing, and scheduling plant modifications.

- The licensee had adequate controls to ensure that applicable design documents were updated to reflect the as-built plant. Drawing changes reviewed were clear and accurate.

- Organization and staffing levels for the site Engineering Services Group and the Systems/Component Engineering Department appeared to be adequate to perform the assigned duties and responsibilities.

- The licensee's initiative to concentrate only design functions in Design Engineering and assigning plant support functions to System/Component Engineering was viewed as a positive move to improve engineering support of plant activities and operations. An example was the transfer of responsibility to disposition Nonconformance Notices from Design Engineering to Systems Engineering.

- Training for engineering personnel was adequate. The licensee had implemented a 31 week training course for engineers consisting of four phases. On completion of this course the engineers were trained on plant administration, systems, and technical principles of reactor operations to the technical level of a Shift Technical Advisor.

- Engineering Services provided adequate and timely support to maintenance and operations for day-to-day activities and emergent issues. Good engineering support was also demonstrated in the completion of an Open Cycle Cooling Systems Evaluation by Engineering. This study was considered a major engineering effort to address problems known to adversely affect the operation of raw cooling water systems. Communications with interfacing organizations was good.

- Management initiatives had addressed the area of modification backlog. The licensee was meeting their goals for reducing this backlog.

- Engineering responses to Fire Service Nonconformance Notices dispositioned "accept as is" were adequate and included reasonably detailed and descriptive evaluations.

Quality assurance audit and engineering self assessment activities were effective in identifying several areas for improvement in the engineering groups. The Design Engineering Managers "Performance Annunciator Panel" system was a good communications tool for self-assessment of performance.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*R. Brown, Special Projects Coordinator
*M. Browne, Manager, Design Engineering
*S. Carroll, Supervisor, Electrical Design Engineering
*B. Estes, Senior Engineer, Analysis Engineering
*R. Fowlkes, Manager Nuclear Licensing
*S. Hunt, Manager, Quality Systems
*M. Kammer, Supervisor, Configuration Management
*A. Koon, Nuclear Operations Department Project Coordinator
*D. Lavigne, General Manager, Nuclear Safety
*L. Montondo, Nuclear Licensing & Operating Experience Specialist
*M. Quinton, General Manager Engineering Services
*J. Skolds, Senior Vice President, Nuclear Operations
*W. Stuart, Supervisor, Mechanical Design Engineering
*G. Taylor, General Manager, Nuclear Plant Operations
*G. Torres, Supervisor, Quality Assurance
*R. Waselus, Manager, Systems and Component Engineering

Other licensee employees contacted during this inspection included engineers, operators, mechanics, security force members, technicians, and administrative personnel.

Other Organizations

R. White, South Caroling Public Service Authority

NRC Resident Inspector(s)

*R. Haag, Senior Resident Inspector
*T. Farnholtz, Resident Inspector

*Attended exit interview

Acronyms and initialisms used throughout this report are listed in the last paragraph.

2. Design Changes and Modifications (37700)

a. Plant Modifications to Improve Reactor Safety

The inspectors reviewed the initiatives taken by the licensee to identify and implement plant modifications to improve reactor safety and plant operation.

Documents reviewed included but were not necessarily limited to the following:

- SAP-133, Design Control/Implementation And Interface, Revision 7

- ES-416, Design Modification Change Process And Control, Revision 9

- ES-419, Limited Scope Design Changes Request For Engineering Evaluations And Equal To/Better Than Evaluations, Revision 5

- ES-509, Disposition Of Site Nonconformances, Revision 0

- ES-109, Conduct Of Engineering Services, Engineering Review Board, Revision 0

- Eighteen Month MRF Schedule, April 1994

- Cycle 8 MRF Listing (Complete or in progress)

- Five Year MRF Schedule

- MRF Status Report, 1993

- MRFs Completed in Refuel 7

- Active Non-permanent Change MRFs, February 28, 1994

Procedures SAP-133, ES-416,and ES-109 described the methods by which Requests for Engineering Evaluations (REE) and Modification Request Forms (MRF) are processed. Attachment 1 to SAP-133 is the form used to initiate a request for an engineering evaluation and/or a request for a plant modification (REE/MRF). An evaluation or modification request form could be initiated by anyone in the Nuclear Operations Division. The originator of an MRF was responsible for describing the problem and any proposed solution. Subsequent to approval by the originator's management, the form was logged into the data base and forwarded to System Engineering. System Engineering developed a preliminary conceptual design; verified that the problem was correctly stated; the scope was appropriate; and, the design impact on plant systems was adequately addressed. System Engineering also reviewed the system history; performed system walk downs; and concurred with the proposed solution or provided alternate solutions where feasible. The system engineer acted as the sponsor for the project and presented the preliminary evaluation to the Engineering Review Board (ERB). The system engineer was the interface for Operations and Maintenance and usually submitted the MRF for these Groups.

The ERB was a board of manager and senior level personnel from Design, Systems And Component Engineering, Operations, Maintenance Services, and other departments as needed. The board reviewed a proposed MRF along with the preliminary conceptual design and the system engineers input to determine the technical adequacy, the need for the modification, the feasibility of the MRF, possible alternative solutions, and the reason required. When the board determined that an MRF was a valid plant modification, the MRF would be forwarded to design engineering for development of a detailed conceptual design and cost estimate and a category was recommended for the General Managers consideration.

The detailed conceptual design and cost estimates would be routed to the General Managers Priority and Review Committee (GMPRC) where the design changes were evaluated, prioritized, and scheduled considering the need for the design change, budget constraints, and resources available. The GMPRC made the final decision as to the schedule and category of the modification. When scheduled, the MRF was assigned a category A, B, or C. Category A related to regulatory commitments, nuclear safety, and short term plant reliability issues and must be performed as scheduled. Category B related to important issues which are long term impact concerns on plant operability and can be scheduled as long term items in the five year program. Category C related to issues which are desirable but do not impact safety or plant reliability and may be deferred or cancelled if necessary.

Based on discussions with the engineering staff, review of the above documents, review of selected ERB meeting minutes and the MRF flow path the inspectors concluded that the licensee had developed and demonstrated the use of an adequate design change review and prioritization process.

b. Planning, Development, and Implementation of Plant Modifications

The inspectors reviewed the closed, in-process, and planned Modification Review Form (MRF) packages listed below to: (1) determine the adequacy of the safety evaluation screening and the 10 CFR 50.59 safety evaluations; (2) verify that the modifications were reviewed and approved in accordance with Technical Specification (TS) and applicable administrative controls; (3) verify the modifications were installed and had proper sign-offs; (4) verify that applicable design bases were included and design documents (drawings, plant procedures, Final Safety Analysis Report (FSAR), TS, etc.) were revised; (5) verify that the modifications were properly turned over to operations; and (6) verify that both installation testing and Post Modification Test (PMT) requirements were specified and that adequate testing was performed. The following plant modifications were examined:

* MRF NO. 20285, Installation of Flexible Hoses at Connections of Reactor Coolant Pumps Upper and Lower Oil Coolers to Reduce Nozzle Loads

* MRF NO. 20951 (partial), Install a New Fire Detection and Control System Throughout the Site

* MRF NO. 21644, Replacement of ITE/Square D Circuit Breaker/Panel

* MRF NO. 21659A, Replacement of Under Voltage Relays-Part 2

* MRF NO. 22009, Install Two Supplemental Air Cooling Systems for Elevation 448' of the Control Building and Elevation 412' of the Auxiliary Building

* MRF NO. 22074, Pressurizer Heater Switch Gear Breaker Replacement

The inspectors reviewed the modifications in detail and verified that both the design packages, supporting calculations (seismic and floor loading), and installation packages were included in the plant modifications packages. Sample plant documentation associated with each MRF was reviewed to verify that the changes were incorporated into the latest revision of the documents. The inspectors reviewed affected drawings, instrument set point indexes, vendor manuals, the computer system equipment database, and affected FSAR drawings, tables and figures, to determine if the applicable documents had been updated to accurately reflect the modifications. The inspectors performed field inspections for some of the modifications and verified that the MRFs were installed in accordance with technical requirements specified in the applicable MRF packages and procedures.

The inspectors' review of the above MRF packages indicated that the modification packages were complete, contained a design package and safety evaluation screening, contained an appropriate work instruction package, and contained additional information such as a design input review process checklist. The design input review process checklist was found to be a strength, in that, during the performance of reviews, deficiencies had been identified early in the design of modifications.

The MRFs reviewed effectively addressed plant problems and nuclear safety issues and were technically adequate with sufficiently detailed 10 CFR 50.59 safety evaluations. Adequate post modification test requirements were specified. The inspectors identified no findings for the modifications reviewed and concluded the modifications packages were satisfactory.

c. Temporary Modifications (TM)

The inspectors reviewed and assessed the licensee's Non-permanent Change MRF process (TM) to determine its adequacy for controlling and tracking temporary changes to the plant's configuration. Procedure ES-416, provided controls for preparation, review, installation, extension, and removal of TMs.

At the time of this inspection six (1 safety related and 5 non-safety related) active TMs were in place. The safety related MRF NO. 22587, Reactor Building Cooling Unit (RBCU) Motor Replacement, was reviewed in detail to verify and ensure that: (1) an adequate safety evaluation and technical review were performed; (2) testing was specified and performed where applicable; and (3) the operators were aware of the temporary modification and appropriate actions were designated to compensate for any impact that it had on day-to-day plant operation. The following active TM was reviewed:

MRF 22587 RBCU Motor Replacement, This modification covered the temporary installation of an original random wound motor to replace the form wound motor which could not be repaired before completion of RF-7. The licensee had determined early in the operation of the plant that the random wound motors originally furnished had a shorter than 40 years operating life. The service life of the form wound motors is greater and an earlier safety evaluation had been made that supported the motor change-out.

Plant records indicated that all reviews required by ES-416 had been completed. The inspectors discussed the TM with the control room operators and other operations personnel and verified that they were aware of the change in motors and what the limits were regarding the operation of the fans until the form wound motors could be reinstalled. Operations had adjusted the surveillance procedures to compensate for the temporary random wound motors performance to insure that operability of the RBCU fans was maintained.

The licensee had developed a "Work Around" system which alerted the operators to certain conditions where a temporary condition existed that required special attention. The inspectors discussed the methods used to insure that the operators were informed of these "Work Around" conditions when coming on shift. In addition to pre-shift conferences and required log reading, a list was published which identified the condition and listed the engineer responsible for the modification in case additional information was needed.

The inspectors concluded that the licensee's process for control, review, installation, and removal of TMs was adequate and in accordance with established procedures. The TM packages were technically sound and the safety evaluations were technically adequate for determining the safety impact of the TM on plant operations. The inspectors also noted that control of TMs was effective as evidenced by the low number of TMs.

d. Drawing Control

The inspectors reviewed the licensee's program and procedures that were developed and implemented to maintain drawing control. Methods for making plant design changes, including drawing control, were controlled by engineering procedure ES-602, "Drawing Control." The program and procedures were examined to ensure that design control was maintained and drawings were updated in a timely manner to reflect the as-built plant. The inspectors reviewed the following sample drawings associated with selected MRFs to verify and ensure they were updated and controlled in accordance with the procedure.

- D-302-051 Sheet 1, Revision 20, (MRF 21515)
- E-302-164 Sheet 2, Revision 1, (MRF 22142)
- B-208-004 Revision 0, (MRF 21335)
- D-302-612 Revision 18A (MRF 20285)
- D-912-132 Revision 18A (MRF 22009)
- D-912-140 Revision 25A (MRF 22009)

The inspectors concluded that the licensee's controls for updating and maintaining critical drawings were being adequately implemented. Drawing changes reviewed were clear and accurate.

Violations or deviations were not identified in the areas inspected.

3. Engineering And Technical Support Activities

a. Organization, Staffing, And Training

Engineering and technical support are provided on site by the Engineering Services (ES) Group which includes Design Engineering (DE), Systems and Component Engineering (S&CE), and Procurement Departments. There is no corporate engineering organization. The inspectors held discussions with the licensee personnel and reviewed documentation of selected plant activities to evaluate the engineering involvement and support of day-to-day plant maintenance and operations. This support included preparing MRFs and temporary modifications, monitoring equipment performance, trending system data, performing safety evaluations and engineering evaluations, root cause analysis, etc.

The inspectors reviewed staffing levels for the Engineering Services Group. As of November 24, 1993, Engineering Services had 141 engineers including management. Design Engineering had 48 engineers. The licensee stated that about 50% of the design work was performed by contractors. S&CE had 23 System engineers who were supported by 10 Component Engineers and the Predictive Maintenance Team. Based on the various documents reviewed the staffing levels adequate.

The licensee was in the process of realigning some aspects of the Engineering Services Group with the intent of focusing the design modification, configuration control, and engineering analysis functions in the Design Department and making the S&CE Department the focal point of engineering support to other plant organizations. An example of this was the transfer of the responsibility to disposition Nonconformance Notices (NCNs) from the Design Department to the S&CE Department. The inspectors viewed this transfer as a positive move toward improving engineering support of plant activities. The realignment of duties is on-going and could not be evaluated at this time.

Training for engineering personnel adequate. The licensee had in place a 31 week training course consisting of four phases. The course included training on nuclear plant administration and operation; system details; principales of reactor operation, heat transfer and plant controls; and detailed plant operations. It is intended that on completion of the course the engineers are trained to the technical level of a shift technical advisor. The inspectors reviewed a course outline and description of the curriculums. A study of detailed lesson plans was not made at this time.

b. Engineering Support

The inspectors interviewed licensee personnel and reviewed station records to evaluate engineering involvement in support of day-to-day plant operations. The type of records reviewed included but were not limited to the following:

- Procedure ES-157,"System Engineer," Revision 2
- System Engineering Handbook
- Technical Work Records
- Nonconformance Notice Dispositions
- S&CE Qualification Guide
- System Files
- Monthly Engineering Reports

Procedure ES-157 described the responsibilities and duties of the System Engineer in the areas of administrative design, operation performance and, maintenance related activities. The System Engineering Handbook contained greater detail on how to perform certain duties. Technical Work Records are the method used by the engineers to document their activities. The Monthly Engineering Reports provided management overview and documented system performance and current activities.

In the review of the above documents, the inspectors concluded that engineering provided adequate and timely support to maintenance and operations for day-to-day activities and emergent issues. Examples included:

- Seal leak on Reactor Coolant Pump (RCP) "B" - A System Engineer identified a seal leak-off problem from trending data and provided instructions to operations to maintain the leak-off in the allowable range.

- Identification of a problem on Station Air Compressor "A" during a walk down - an evaluation was performed to justify continued operation with "B" Compressor.

- A System Engineer provided a solution for draining CRDM cooling tower coils without requiring costly modification.

- A Design Engineer provided resolution and repair instructions to repair inoperable snubbers in the 72 hour LCO time frame.

- The use of diagnostic testing to support plant operation.

- The completion of a thorough detailed study of open cycle cooling systems to upgrade plant performance and address raw cooling water problems.

The last example above refers to a study of open cycle cooling water systems by a multi-discipline team of five design and system engineers. The team conducted a five month detailed study of the various problems known to adversely affect the operation of raw cooling water systems. The methodology was to evaluate each of the V.C. Summer open cooling water systems for the identified problems, develop potential solutions, develop a conceptual design for the desired solution, and present to management a strategic plan with recommendations for an integrated approach to address the upgrade of the open cooling water systems.

The inspectors considered this study a major engineering effort and a sound engineering approach to address the upgrade of open cooling water systems. Additional examples of engineering resolution of problems are discussed in Paragraph 3.c.

c. Problem Identification and Resolution

The process used by the licensee to identify and track routine plant problems was the Nonconformance Notice (NCN) system. Anyone in the plant could initiate a NCN. The NCN subsequently went to the shift supervisor for determination of immediate reportability and plant operability. Quality Control then routed the NCNs to the Engineering Services (ES) Department for further evaluation and disposition. A part of the ES review was to determine if the problem or condition is a plant deficiency according to procedure SAP-1141, Nonconformance Control Program, and to assign within ES the NCN for disposition and initiation of required actions for resolution. NCNs assigned 50.59 and/or 50.72/73 evaluations were forwarded to the Plant Safety Review Committee (PSRC) for their concurrence with the reportability determination and review of potential hazards to nuclear safety. NCN packages were returned to Quality Control to be reviewed for completeness, entered into the data base and tracked to closure.

The inspectors interviewed engineering personnel and reviewed plant records to evaluate the determination of plant operability, reportability and involvement of engineering in support of day-to-day plant operations. Records reviewed included, but were not limited to the following:

* Procedure No. SAP-1141, Revision 2, Nonconformance Control Program.

  This procedure prescribed the responsibilities for identifying, evaluating, reporting, and dispositioning deficiencies, the distribution path, and time limitations.

* NCN Status Report (January 1992 - May 1994), dated May 10, 1994.

  A computer report by Quality Control staff identifying NCNs by number, originator, and the status (open or closed).

* Engineering Services Procedure No. ES-509, Revision 0, Disposition of Site Nonconformances.

  This procedure provided the methods of dispositioning nonconforming conditions by ES and addressed the requirements to ensure that implemented NCN dispositions resolved the nonconforming conditions.

In addition to the above documents, the inspectors also reviewed the following NCN packages:

NCN No.	Problem Subject
2628	Service Water Piping Leaking at Weld Joint and Expansion Joint.
4868	Over/Under Frequency Relay in Inverter XIT 5909 Defective and No Longer Manufactured.
4879	Specific Gravity Levels for Battery XPP0134-BA1 Below Acceptance Criteria.
4886	Fire Service Piping Friction Loss Higher Than Calculated Causing Low Flow Condition for Preaction Sprinkler System.
4893	Intermediate Building Preaction Sprinkler System Hydraulic Flow Calculations Do Not Include All Installed Sprinklers.
4894	Cable Tray Drop "T" Sprinklers Not Installed As Shown on Control Building Preaction Sprinkler System Drawings.
4911	Fire Service Hydraulic Calculations For Control Building Omitted Sprinklers and Cable Tray Drops As Shown On Drawing 1M5-55-085-12-5.

The inspectors concluded that, in general, the NCN package documentation supported the licensee's evaluation of operability and reportability with an adequate description of the condition. In the NCN packages related to the Fire Service System the inspectors noted several instances where the nonconforming conditions were accepted on a temporary interim basis (i.e. dispositioned "Temporary Accept-As-Is" as noted in procedure SAP-1141). In those cases, the inspectors reviewed in detail the justifications provided to evaluate that the preaction sprinkler systems remained functional. The inspectors determined that the engineering responses to the fire service NCNs dispositioned "temporary accept as is" were adequate and included reasonably detailed and descriptive evaluations. NRC followup of licensee corrective actions for these issues is discussed further in Paragraph 6 of this report.

The inspectors reviewed the NCN Status Report to determine the involvement of Engineering Services (ES), which included the system engineers, in the identification of problems. The originating individual, not the identifying department, was recorded on each NCN, and no composite record of the identifying department was maintained in the Quality Control (QC) data base. However, by identifying the individual originating engineers, it was determined that of the 367 NCNs written in 1993-1994,

approximately 26 were identified by engineering personnel. By procedure all NCNs are assigned to ES (Systems Engineering) for determination of the resolution.

d. Engineering Backlog

The inspectors reviewed the status of engineering MRF backlogs and discussed the status with engineering management to ascertain that the licensee is controlling the modification process. During a previous inspection in May 1993, (NRC Inspection Report 50-395/93-16) the inspectors reported that due to lack of controls the engineering backlog had become excessive. The licensee had recognized the condition and had established two committees to review and reduce about 750 backlog open items. As a result of that review, 150 backlog items were rescheduled and included in the 18 month schedule through refueling outage 8. Another 130 backlog items were scheduled to be implemented in the 5 year schedule for MRF closeout. The remaining backlog items were dispositioned into other plant programs.

The licensee had established a five year work schedule for MRFs broken into operating cycles and refueling outages. A limit of 300 MRFs in the five year schedule was established. Newly approved MRFs were scheduled in the five year window according to their relative importance. If the number of scheduled MRFs exceeded the limit of 300, a MRF of lesser significance would be removed and cancelled. Consequently, by the traditional definition of a backlog as modifications approved but deferred and not scheduled for implementation, the licensee had no MRF backlog. However, the licensee has defined MRFs implemented but not completely closed out as a backlog and tracks these items to completion of the paper work in a Design Engineering Scheduling Weekly Management Report. This report indicated 20 MRFs in some phase of close out prior to Cycle 8. The report also showed that there were 290 planned modifications in the five year schedule.

The inspectors selected three cancelled MRFs numbers 22554, 22620, and 32628 to evaluate the justification for cancellation. The inspectors found adequate documented justification. Review of plant records showed that for these cases the work had actually been performed under other plant processes such as the REE and maintenance programs.

Based on this review and review of the prioritization and categorization process discussed in paragraph 2.a. of this report, the inspectors concluded that the licensee had established adequate controls to prevent the build up of large backlogs in the plant modification process.

Violations or deviations were not identified in the areas inspected.

4. Quality Assurance (QA) Assessment and Oversight

The inspectors reviewed Design Engineering group performance evaluations, and Quality Assurance (QA) audits/surveillance of the V. C. Summer Nuclear Engineering and Systems and Component Engineering's safety related activities. The evaluations and audits were part of the overall SCE&G quality assurance program at Summer. The inspectors reviewed results of the following quality assurance activities that were either completed or in progress:

* QA-AUD-93008-0, October 1993, QA Audit of Station Maintenance Activities

* QA-AUD-93010-0, October 1993, QA Audit of Document Control/Records Activities

* QA-SUR-93032-0, June 1993, QA Surveillance of Station Design Activities

* QA-SUR-94037-0, April 1994, QA Surveillance and Review of the Systems and Component Engineering Trending Activities

In addition to reviewing results of the above activities, the inspectors reviewed several response memorandums to Quality Assurance assessment observations and recommendations. Several Nonconformance Notices were initiated to document corrective actions to the audit findings.

Another aspect of the license's assessment effort was the Design Engineering (DE) performance self-assessments. Several engineering attributes are evaluated by the managers and a "Performance Annunciator Panel" report is issued monthly. The inspectors reviewed a self assessment of DE activities which was conducted April 1994. The report showed that DE was generally meeting management goals and the benchmark established for design engineering performance indicated improvements needed in areas such as addressing engineering open items and tracking industry resource activities. Management had developed a re-engineering effort to address the findings identified in the self assessment. However, due to the recent initiation of program changes, the inspectors could not evaluate the performance effectiveness of these efforts. The NRC will evaluate the effectiveness of this management effort at a future inspection.

Based on these reviews, the inspectors' concluded that the QA organization had been actively involved in assessing engineering activities. QA audits and surveillance have been effective in identifying engineering program areas that need improvement. The Design Engineering Managers "Performance Annunciator Panel" system was considered a good communications tool for self-assessment of performance. The NRC will evaluate the effectiveness of the management re-engineering effort at a future inspection.

Violations or deviations were not identified in the areas inspected.

5. (Open) NRC GENERIC LETTER (GL) 92-08, and GL 86-10, Supplement 1, THERMO-LAG 330-1 FIRE BARRIERS (64704)

NRC issued GL 92-08 on December 17, 1992, and GL 86-10, Supplement 1, on March 25, 1994. This correspondence notified licensees of failures of fire endurance tests associated with Thermo-Lag fire barrier systems and requested licensees to take appropriate corrective actions and compensatory measures. The inspectors reviewed the licensee responses on this issue which indicated that South Carolina Electric and Gas Company (SCE&G) will continue to maintain their identified compensatory measures in accordance with plant procedures and review the guidance and testing being provided through an industry program coordinated by the Nuclear Energy Institute (NEI) (formerly NUMARC) to determine the appropriate actions to resolve the issue.

The inspectors observed and photographed three (of five) Thermo-Lag cable tray, conduit, and junction box enclosure installations. The inspectors considered the compensatory actions established for the inoperable fire barrier installations acceptable; however, the Thermo-Lag generic industry issues remain open and will be reviewed during future NRC inspections.

6. Action on Previous Inspection Findings (92702)

(OPEN) IFI 94-07-05, Correction of Fire Protection Problems. The licensee had proposed a two-phase corrective action Fire Protection Program Schedule to address identified Fire Service (FS) discrepancies noted in NCNs 4886, 4893, 4894, and 4911 (discussed above in Paragraph 3. c). Phase I of the program addresses FS system field walk downs, hydraulic calculation revisions and sprinkler system drawing validation. Phase II is to be directed to a fire protection design reconstitution effort and plant modifications, if required. Licensee sprinkler system field walk downs were in progress. This item remains open pending completion of the licensees corrective action program which is currently scheduled during 1994.

7. Exit Interview

The inspection scope and results were summarized on May 13, 1994, with those persons indicated in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection results listed above. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

8. Acronyms and Initialisms

CFR	Code of Federal Regulations
CRDM	Control Rod Drive Mechanism
DE	Design Engineering
ERB	Engineering Review Board
ES	Engineering Services
FS	Fire Service
FSAR	Final Safety Analysis Report
GL	Generic Letter
GMPRC	General Manager Priority Review Committee
IF	Inspector Followup Item
LCO	Limiting Condition of Operation
MRF	Modification Request Form
NCN	Nonconformance Notice
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NUMARC	Nuclear Management and Resources Council
PMT	Post Modification Test
PSRC	Plant Safety Review Committee
QA	Quality Assurance
QC	Quality Control
RBCU	Reactor Building Cooling Unit
RCP	Reactor Cooling Pump
REE	Request for Engineering Evaluation
RF	Refueling
S&CE	Systems and Component Engineering
SCE&G	South Carolina Electric and Gas Company
TM	Temporary Modification
TS	Technical Specification