UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report No. 50-395/80-26

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

Facility Name: Summer

Docket No. 50-395

License No. CPPR-94

Inspection at Summer Site near Winnsboro, SC.

Inspector: H. L. Whitener 10/23/80
H. L. Whitener Date Signed

Approved by: D. R. Quick 10/24/80
D. R. Quick, Section Chief, NS Section Date Signed

SUMMARY

Inspection on August 27-29, 1980

Areas Inspected

This routine, announced inspection involved 22 inspector-hours on site in the areas of inspection of certain safety-related piping support and restraint systems at a primary system temperature of 550 degrees Fahrenheit; review of certain thermal expansion data, and observation of selected test measurements.

Results

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

DETAILS

1. Persons Contacted

Licensee Employees

*O. S. Bradham, Station Manager
*J. G. Connelly, Startup Supervisor

Other Organizations

GAI

*D. A. Boward, Lead Startup Engineer
*H. Bamburger, Resident Engineer
L. Klingaman, Pipe Support Group
P. Patel, Stress Engineer

DCC

C. Turkette, Mechanical QC Supervisor

NRC Resident Inspector

*J. Skolds, Senior Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on August 29, 1980 with those persons indicated in Paragraph 1 above.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Thermal Expansion Testing

a. General

The inspector reviewed portions of data obtained during the initial plant heatup, observed a licensee team taking expansion measurements and performed an independent walk down of selected supports and restraints at the hot condition (550 degrees Fahrenheit). Pertinent aspects of this review are discussed below.

b. Procedure

The inspectors confirmed that an approved test procedure (TE-1) was in use and maintained at the test control station. Procedure changes, sign off of procedural steps and the test log were reviewed.

No problems were identified in this review with the exception that QC had not signed off on final acceptance for a number of supports and restraints. Further investigation of this matter showed the following:

(1) About 300 support and restraint deficiencies were identified through QC inspection.

(2) Engineering reviewed these deficiencies for conditions which would affect hot functional testing (HFT) and identified those conditions to be corrected prior to HFT.

(3) System walkdowns by Engineering verified that all support and restraint deficiencies that would affect HFT were acceptable prior to initial plant heatup.

(4) Final QC acceptance sign off in the procedure will be performed after all deficiencies are corrected and the design, fabrication and installation paperwork is filed in the record vault.

The inspector concluded that this condition was acceptable for the HFT and had no further questions at this time.

c. Data Review

The inspector reviewed a sample of test measurements and observed two conditions which were reviewed with test personnel as follows:

(1) Based on a linear extrapolation to 550 degrees certain data taken at the 450 degree plateau were not within the acceptance criteria of $\pm$ 10% of the predicted value at 550 degrees. Piping and stress engineers stated that the predicted pipe movement was based on a preliminary analysis which was based on the original design drawings. A final analysis based on as built systems will be performed and predicted movement compared with the recorded data. Any movment not within the acceptance criteria will be evaluated to ensure that no undue stress exists.

(2) Certain systems such as bypass steam to the condenser, steam generator blowdown, and pressurizer spray are not at the plateau temperature. Actual temperature of these systems will vary according to the operating mode. Piping and stress engineers stated that a system temperature was estimated and predicted expansion calculated for the hottest operating condition. Actual system temperature will be measured and a linear extrapolation used to compare measured expansion with predicted movement.

The inspector had no further questions at this time and identified review of final test results as inspection followup item (395/80-26-01).

6. Vibration Test

During a previous inspection the licensee had agreed to review the auxiliary steam system and containment ventilation systems to determine if these systems should be incorporated into the vibration test program. Followup showed that the licensee has included the auxiliary steam system in the vibration test program (VB-1, Revision 1). Ventilation systems are tested under separate procedures which incorporate vibration test requirements.

The licensee has also revised VB-1, "Vibration Analysis Functional Test," to require that, any vibration observed by a non-qualified observer shall be observed by a qualified observer, who will make the judgement for acceptability or further measurement.

The inspector had no further questions on vibration testing at this time.

7. Plant Tour

The inspector accompanied a licensee team to observe the performance of selected thermal expansion measurements and also performed an independent inspection of selected supports and restraints at the hot condition (550 degrees Fahrenheit). No problems were identified on this tour.