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

Report No. 50-395/81-08

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

Facility Name: V. C. Summer Nuclear Station

Docket No. 50-395

License No. CPPR-94

Inspection at V. C. Summer

Inspector: Virgil h Brownlee for 6/15/81
J. L. Skolds Date Signed

Approved by: _____
P. J. Kellogg, Section Chief, Division of Resident and Reactor Project Inspection Date Signed

SUMMARY

Inspection on May 1-31, 1981

Areas Inspected

This routine announced inspection involved 180 inspector-hours on site in the areas of Emergency Exercise, Preoperational Test Procedure Review, Preoperational Test Results Review, Safety Evaluation Report Review, Plant Tour, Open Item Review Preoperational Test Observation, 50.55(e) Review.

Results

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

DETAILS

1. Persons Contacted

Licensee Employees

*O. S. Bradham, Station Manager
*J. G. Connelly, Assistant Station Manager
*S. Smith, Maintenance Supervisor
*B. G. Croley, Technical Support Supervisor
*C. Ligon, Administrative Supervisor
*A. R. Koon, Technical Services Coordinator
*A. A. Smith, Director Surveillance Systems
*K Woodward, Assistant Operations Supervisor
*R. M. Fowlkes, Shift Technical Advisor

Other licensee employees contacted included technicians, operators, mechanics, and office personnel.

Other Organizations

C. Bowman, Westinghouse Startup Supervisor
J. Ritzo, Westinghouse Lead System Supervisor
F. Stultz, Westinghouse Sytems Test Supervisor

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on May 7, 1981 and May 29, 1981 with those persons indicated in Paragraph 1 above. The inspector also attended the exit interview of N. Economos on May 15,1981, J. Troup on May 22, 1981 and W. Miller on May 29, 1981.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Emergency Exercise

The inspector participated in the emergency exercise and critique held on May 1-2, 1981. The results of the inspection are documented in inspection report 81-09.

6. Preoperational Test Procedure Review

The inspector reviewed the following preoperational test procedures:

SG-4 Safeguards Test Without Blackout
SG-5 Loss of Offsite Power
SG-6 Containment Isolation
SG-7 Safeguards Test with Blackout

The tests were reviewed for technical adequacy, compliance with Regulatory Guides 1.68 and 1.79 as well as commitments made in the FSAR. Findings were acceptable with the following exceptions:

a. SG-4

The Service Water Travelling Screen response was omitted from the test.

The response of Component Cooling water Booster Pump 'C' was omitted from the test.

Step 3.5.4.4 should read "open XDP-113B" instead of XDP-113A. This step should also read "close XDP-103A" instead of XDP-103B.

The procedure indicates in steps 3.5.22.1 and 3.5.22.2, that fans XFN82A and B respond to the initiating signal. XFN82A and B do not exist.

Step 3.5.23 indicates that valves 2802A and B, 2813 and 2030 will open in response to the initiating signal. They are not designed to open unless a blackout exists.

Valves 8107, 8108, 8149 A, B and C and 8112 were omitted from the safeguards valve lineup.

Dampers XDP-21A and B, XDP133A and B and XDP234A and B were listed as responding to a single train when in fact they respond to both trains.

Dampers XDP-233A and B, XDP106 and XDP-45 were omitted from the component response portion of the test.

Attachment VII indicates that valves XVB1B and 2B, 9356B 9364B and C failed closed when in fact they should indicate closed due to the initiating signal.

All of the auxiliary trips and lockout were omitted from the test.

-Attachment VIII lists an incorrect response for the feedwater isolation valves, 1611A, B and C.

-The incorrect response is listed for dampers XDP-71A and B, XDP72A and B &. XDP73A and B in Attachment VII.

These items will remain open (81-08-01) pending future inspector review.

b. SG-7

Component Cooling water Booster Pump 'C' wa omitted from the test.

Step 63.5.28 omitted fans XFN132 and XFN133 from the response.

XFN82A and B are mentioned in the procedure as responding to the initiating signal but do not exist in the plant.

The safeguards lineup for Service Water is incorrect in that a number of valves that should be initially open are listed as closed and vice versa.

Valves 3112A and B, 3106A and B, 3107A and B, 3109A and B, C, and D and 3103A and B are omitted from step 3.5.1

Numerous dampers are listed in the Safeguards Valve lineup as being in the "modulate" position. While in the modulate position the dampers can be anywhere from full open to full closed. A method must be developed to ensure the dampers have moved to the correct position due to the initiating signal instead of the modulating signal.

These items will remain open (81-08-02) pending future inspector review.

c. SG-5

One of the purposes of SG-5 was to fulfill the requirements in Regulatory Guide 1.108, "Periodic Testing of Diesel Generator Units used as Onsite Electric Power Systems at Nuclear Power Plants". Section C.2 of Regulatory Guide 1.108 states that after the diesel generator has been run for 22 continuous hours at the continuous rating and 2 hours at the 2 hour rating, a simulated loss of a.c. voltage should take place to ensure the diesel can start automatically and demonstrate proper operation for design accident loading sequence to design load requirements. However as SG-5 was written, the diesel generator were not run for 2 hours at the 2 hour rating and not all loads were loaded on the diesel. Until this test is successfully run, this item will remain open (81-08-03).

7. Preoperational Test Results Review

The inspector reviewed the results of the following tests:

SI-3 Accumulator Blowdown
SP-2 Reactor Building Spray Pump

SP-3 Caustic Addition Drawdown
EV-02 BOP Electrical Distribution
CS-3 RCP Standpipe Flow Verification
CS-7 Boric Acid Flow Transfer Test

The results were reviewed to ensure the tests were performed in accordance with procedures and the commitments in the FSAR. The results were also reviewed to ensure the indicated results were within the acceptance criteria. Findings were acceptable with the following exceptions:

a. SI-3

The stripcharts on this test plotted accumulator level (l) during the blowdown into the reactor vessel. The chart was set up from 0 to 100 inches. The L/D values were calculated assuming that 100 inches on the stripchart corresponded to 100 inches above the lower level tap of the accumulator. Actually, 100 inches on the stripchart corresponded to whatever the accumulator was originally filed up to at the start of the test. In all cases this level was approximately 72 inches above the lower level tap. In other words, the values of (l) used to calculate L/D were approximately 28 inches higher than the actual level. Until the correct L/D values have been calculated and evaluated, this item will remain open (81-08-04).

b. SP-3

1. The data collected during the drawdown test does not match the data displayed in Section 6.2 of the FSAR (Figures 6.2-51cc, dd, ee. ff). When the data taken from the test is plotted on graphs like those in the FSAR, the plot results in a graph lower than those in the FSAR, but with approximately the same slope.

2. It is not clear how the reviewers determined that the data was acceptable. Once the test was complete, the data was sent to the A-F, Gilbert Associates, for review. When the test was returned, Section 8 of the test was signed off but no additional documentation existed to justify why the test was determined successful. The test was then reviewed and signed off as acceptable. Without any objective acceptance criteria stated in the test, it is not clear how the reviewers determined that the test was satisfactory.

3. There was no documentation in the test package to indicate that the RWST or SHST level transmitters were calibrated.

4. The delta pressure transmitters used to measure flow in the SHST lines were not identified by any number. Also, two calibration data sheets were present in the test package but there was no indication on them as to which transmitters they corresponded to .

This item will remain open (81-08-05) until future inspector review.

c. CS-7

The acceptance criteria states that the data is to be reviewed to ensure the boric acid transfer pumps operate with ± 10 percent of the pump curve. Without the pump curve available in the test package, it is not apparent how the reviewers determined that the data was acceptable. This item will remain open (81-08-06) until the pump curves can be reviewed.

d. SP-2

The required flow for the friction loss calculation portion of the test required 3000 pgm. The friction loss was calculated using 2750 gpm and 2950 gpm. No documentation existed indicating that this condition was acceptable. Until it has been determined whether the data is acceptable, this item will remain open (81-08-07).

8. Safety Evaluation Report (SER) Review

The inspector reviewed the SER to determine what commitments had been made by the applicant as well as to familiarize himself with the content of the SER. Findings were acceptable, however the following commitements were made and will be tracked for future review.

a. On page 2-48, the applicant indicates that monitoring the settlement and piezometric levels of the Service Water Pump house will be made every six months as well as visual inspection of the pipelines every six months. This item will be inspected after plant startup to ensure the readings are being taken.

b. The applicant agreed on page 4-8, to inspect all fuel rods residing adjacent to baffle plate joints on the periphery of the core at first refueling outage.

c. On page 5-18, it is indicated that NRR requires steam generator inspection ports be installed prior to startup after the first refueling. Also, it is still not determined whether the first row of tubes will be plugged prior to issuance of a full power license.

d. On page 5-24, it indicates that a modification to the four RHR inlet valves must be completed by the end of the first refueling.

e. On page 6-12, it indicates that Technical Specifications will require the 36 inch Reactor Building purge and exhaust valves be locked closed during modes 1 through 4. At present, the Technical Specifications do not require this.

f. On page 7-8, the applicant committed to modify the component cooling water booster pump and discharge valve to prevent operation of the pump with a closed discharge valve. Also, the letdown orifice isolation

valves will be modified with a seal in circuit to prevent reopening on reset of a safety injection.

g. On page 7-21, the description of the emergency feedwater system indicates that a number of modifications will be made on the emergency feedwater control valves, the control circuitry, and system.

h. On page 7-22, the SER indicates that the atmospheric relief valves will be modified such that a loss of electrical power will not block the relief operability.

i. On page 7-23, the SER indicates that modifications will be made to the emergency feedwater control valves to permit a reset of the automatic initiation from the remote shutdown panel.

j. On page 9-33, the SER indicates that an alarm will be installed which will indicate that the rocker arm lube oil pump has failed. This is to be accomplished by the first refueling.

k. On page 9-29, the SER indicates that the applicant will either provide test results on vibration testing done on the skid mounted control panels and mounted equipment on the diesel generators or floor mount the control panels. This is to be implemented prior to the first refueling.

These items will remain open (81-08-08) until all commitments have been accomplished and the results inspected.

9. Open Item Review

The following Open Item numbers duplicated numbers originally assigned to open items:

80-37-14	Grease on circuit breakers (same as 80-40-07)
81-05-04	Unauthorized hanger work (same as 80-39-01)
81-05-06	Separation Criteria for Speed Switches (same as 79-36-01)

Items 80-37-14, 81-05-04 and 81-05-06 are considered closed.

10. Preoperational Test Procedure Observation

The inspector observed portions of the following tests:

RH-1	Residual Heat Removal
SI-6	Safety Injection Flow Balance
SG-5	Loss of Offsite Power

The tests were observed to ensure they were being performed in accordance with the procedures and to independently verify the acceptability of the results. Findings were acceptable.

11. Plant Tour

The inspector toured the plant at various times to observe construction activities, housekeeping, maintenance, equipment preservation and log books. Findings were acceptable.

12. 50.55(e) Review

a. (Open) (81-08-09) Emergency Feedwater Pump Lube Oil Cooler. On April 22, 1981 the applicant reported a potential Substantial Safety Hazard involving the Turbine Driven Emergency Feedwater Pump lube oil cooler. The potential hazard involved whether or not the lube oil cooler was the correct type for the pump. In a letter dated May 22, 1981 the applicant indicated that the review of this matter had not been completed. This item will remain open until the final report is reviewed.