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

Report No. 50-395/80-13

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

Facility Name: V. C. Summer

Docket No. 50-395

License No. CPPR-94

Inspection at: V. C. Summer site near Winnsboro, South Carolina

Inspector: _____ 5/16/80
J. L. Skolds Date Signed

Approved by: _____ 5/16/80
P. J. Kellogg, Section Chief, RONS Branch Date Signed

SUMMARY

Inspection on March 1, 1980 - April 30, 1980

Areas Inspected

This routine inspection by the Resident Inspector involved 232 inspector-hours on site in the areas of preoperational test procedure review, preoperational quality assurance, preoperational administrative controls, Technical Specification review, independent inspection effort, maintenance, preoperational test results review, open item followup and TI 2515/22.

Results

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

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DETAILS

1. Persons Contacted

*O. S. Bradham, Plant Manager
*J. G. Connelly, Assistant Plant Manager
S. Smith, Maintenance Supervisor
*K. Woodward, Operations Supervisor
D. Hembree, Assistant Startup Supervisor
*A. A. Smith. QA Site Coordinator
C. L. Ligon, Administrative Supervisor
*A. Koon, Technical Staff Engineer
B. Croley, Technical Support Supervisor
*D. Nauman, Group Manager QA and Security
*D. Moore, Manager QA

Other licensee employees contacted inlcuded construction craftsmen, technicians, operators, mechanics and office personnel.

Other Organizations

C. W. Bowan - Westinghouse

*Attended exit interview.

2. Exit Interview

The inspection scope and findings were summarized on April 11, 1980 and April 28, 1980 with those persons indicated in Paragraph 1 above. The Resident Inspector also attended the exit interviews of C. McFarland and E. Girard on March 6, 1980, T. Burdette on April 17, 1980 and E. Girard and L. Zajac on April 25, 1980.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Proposed Technical Specification Review

The inspector reviewed the proposed Technical Specifications for enforceability and clarity. Findings were acceptable with the following exceptions.

a. The inspector noted that many Technical Specification Surveillance requirements are performed by the plant computer. The plant computer is not safety-related and if the computer is not available for use, the licensee needs to have procedures for the operators to use in order to perform the surveillance requirements.

b. Section 3.1.2.5 requires a minimum of 200 gallons in the BAST. The control room meter reads out in percent level.

c. Section 3.1.2.5 requires a minimum solution temperature of 65 degrees Fahrenheit in the BAST. At present there is no temperature indication on the BAST.

d. Table 3.3-2 lists OTdeltaT response time as 2.0 seconds. The FSAR lists the response time as 6.0 seconds.

Table 3.3-2 lists the response time on the underfrequency trip on the RCP as 0.9 seconds. The FSAR lists the response time as 0.6 seconds.

e. Table 3.3-8 lists no units for wind speed and air temperature (i.e., mph, knots, degrees Celcius, etc.)

f. Section 3.5.1 requires a borated water volume 7368 to 7594 gallons in each reactor coolant accumulator. The meter in the control room reads out in percent.

g. Section 3.5.1 requires a nitrogen cover pressure of 600 to 656 psig on the accumulators. The meter in the control room is marked off in 20 psig increments. The ability to distinguish 656 psig is questionable.

h. Section 3.5.5 requires a borated water volume of 350K to 480K gallons in the RWST. The meter in the control room reads out in percent.

i. Section 3.6.22 requires a volume of between 3050 and 3140 gallons in the Sodium Hydroxide tank. The meter in the control room reads out in feet.

j. Section 4.6.2.3 requires a verification of the cooling water flow to each group of cooling units of greater than or equal to 2000 gpm. It is only possible to measure flow to each group of cooling units. Each unit requires 2000 gpm. Therefore the flow must be verified to be equal to or greater than 4000 gpm.

k. Section 4.6.3.c requires a verification that the HEPA Filter system starts on a Reactor Building Pressure High Test Signal. The system is not presently designated to start on this signal.

l. Table 3.6-1 (Containment isolation valves) omits valve 6051 C, a Hydrogen analyzer isolation valve.

m. Section 3.7.1.3 requires a Condensate Storage Tank volume of 50,000 gallons. The meter in the control room reads out in feet.

n. Section 3.7.5 requires a minimum water level of 415 mean Sea Level. The meter in the control room reads out from zero to sixteen feet.

o. Section 3/4 7.7 (Control Room Emergency Air Cleanup System), does not address operability of the Control Room normal supply fans, which would have to be operable for the Control Room Emergency Air Cleanup System to function. This section also omits the surveillance requirement to maintain a positive pressure in the control room during system operation. These comments have been brought to the attention of NRR.

p. The proposed Technical Specification have significantly modified Section 6.0, Administrative Controls. These modifications will be resolved by NRR.

q. The proposed Technical Specifications omit any reference to the chilled water system. The chilled water system is a safety-related system required to maintain temperature in various areas of the plant as well as the component cooling pump motor cooler and the charging/SI pump gear and oil cooler. This issue has been brought to the attention of NRR.

r. Table 2.2.-1 of the proposed Technical Specfications has the equation for Overpower delta T. The proposed Technical Specifications equation has a lead-lag compensator on measured delta T factor in it whereas the "draft" copy copy supplied by NRR does not have this factor.

s. Table 3.3-11 (Fire Detection Instruments) lists instrument locations according to zones. However, these zones differed from the zone designation in the Fire Protection Evaluation.

The above items will remain open (80-13-01) pending further review by the inspector.

6. Preoperational Quality Assurance

The inspector reviewed the applicant's QA program to ensure it provides controls over the conduct of properational testing and that the QA program has been developed consistent with the FSAR and Regulatory requirements.

The following documents were used in the reveiw: Section 17.2 of the FSAR, ANSI 18.7-1976, V. C. Summer Operational Quality Assurance Plan (OQAP) and QA Procedures.

Findings were acceptable with the following exceptions:

a. Criterion XVIII, 10 CFR 50, Appendix B requires a system of planned and periodic audits be carried out to verify compliance with all aspects of the quality assurance program. At present, the applicants proposed Operational QA Plan allows the substitution of Type I and II surveillances for audits. This substitution would appear to be acceptable as long as each Surveillance that was substituted for an audit met all due requirements of an audit and the findings were reviewed by the same individuals required to review audit findings. Also, personnel performing the surveillances would need to be qualified auditors.

b. Criterion XVIII, 10 CFR 50, Appendix B requires that the audits be perofrmed by appropriately trained personnel. The applicant qualifies auditors in a subjective method with no minimum qualification requirement indicated. The inspector felt that the auditor qualification program needs to establish some minimum qualification requirement for QA auditors.

The operational QA plan refers to the Nuclear Safety Review Committee (NSRC) in various portions of the plan. However, the composition of the NSRC in the OQAP is not the same as the composition in the proposed STS.

Section 4.5 of ANSI 18.7-1976 states that periodic review of the audit program shall be performed by the independent review body or by a management representative at least semi annually to assure that audits are being accomplished in accordance with requirements of technical specifications and of the standard. It was not apparent to the inspector how this requirement was going to be fulfilled. In speaking with the NRR QA reviewer the inspector found that NRR believes the applicant has committed to ANSI N45.2.12 Draft 4, Revision 2 by committing to ANSI N18.7-1976. The applicant does not agree with this interpretation and at present does not commit to ANSI N 45.2.12.

These items will remain open (80-13-02) pending further inspector review.

7. QC Personnel Qualifications

The inspector reviewed the training and qualifications records of QC personnel.

Administrative Procedure 1202, Regulatory Guide 1.58 and ANSI N45.2.6 were used as reference documents. It is recognized that the applicant is not committed to Reg. Guide 1.58 until after the Operating license is granted. Findings were acceptable with the exception of the following:

a. A waiver of certain requirements was granted to a QC inspector based on 8 years of related work with a firm. However, the Certificate of Qualification indicated the invididual only worked for the firm for 6 years 11 months. The personnel training and qualification folder on this individual indicated 5 years and 8 months of experience with the firm. This discrepancy was resolved by changing the records and waiver statement to reflect 6 years of experience.

b. One individual's training record did not reflect whether or not examinations taken were passed or failed. This was corrected on the spot.

8. Maintenance

The inspector reviewed the following work requests to ensure the records indicated use of approved procedures and that qualified personnel were

performing the maintenance.

050116 - Repack XVG 961
050119 - Repack XVG 967
050687 - Disassemble FCV 605 A
050680 - Check setting XVR 87
050707 - Battery check
050704 - Cross connect battery charges

Finding were acceptable.

9. Preoperational Test Procedure Review

The following Preoperational tests were reviewed:

DG-2	Rev. 1	- D/G A Fuel Oil Transfer
DG-3	Rev. 1	- D/G B Fuel Oil Transfer
CR-4		- Base Line Resistance Data on CRDM Coils
MD-1		- Miscellaneous Plant Drains
CW-1		Circulating Water
LR-4		Local Leak Rate Type B and C Test
CR-1		Rod Drive MG Set
AH-P1		Reactor Building Ventilation

The procedures were reviewed to ensure they were technically adequate and to ensure they were consistent with the commitments made in Chapter 14 of the FSAR with Regulatory Guide 1.68. The inspector had the following comments concerning the tests:

a. DG-2 Rev. 1

DG-3 Rev. 1

The calibration procedure for the level switches on the D/G Fuel Oil Day Tank does not correspond with the setoints provided by Gilbert Associates. For instance, the high level alarm, standby pump pickup and other actuation points differ between the procedure and the instrument list. This item will remain open (80-13-03) pending resolution of the discrepancy.

b. CR-4

Step 6.3.15.1 should read TB 2-1 to ground vice TB 2-2 to ground

Step 6.3.12.1 should read TB 6-5 to ground vice TB 6-6 to ground.

These items have been corrected.

c. CR-1

Various portions of the procedure refer to placing the voltmeter switch in the A-B, B-C or A-C position. The positions on the voltmeter switch one 1-2, 2-3 and 3-1.

Step 6.2.7 should read 3 fuses vice 2 fuses.

This item will remain open pending inspector review (80-13-04).

d. AH-P1

The vibration switches were not listed as requiring recalibration after the test as required by the startup manual for installed instrumentation. This problem was corrected.

e. MD-01

The procedure indicates that on a flooding signal from the Intermediate Building, the Feed Pump suction valves will close along with the Feed pump tripping, pump discharge valve and feed line isolation valves closing. The FSAR, Section 7.6.5.1.2 states that when two out of three redundant high sump level switches are energized the B channel trips the feedwater pumps and permits the operator to close the feedwater pump suction valves. This discrepancy will remain open (80-13-04) pending review by the inspector.

f. CW-1

Section 6.1.1 concerning Jockey Pump interlocks contained so many errors it was difficult for the inspector to make any sense out of this section. This section referred numerous times to a switch that did not exist.

Section 6.1.2 attemps to open the circulating water pump discharge valves with the pump off and the valves completely closed. According to the elementary referenced in the procedure, this cannot be done until the valve is 30% open.

Step 6.1.2.5.28 indicates that a flooding signal closes the circulating water discharge valve, then the pump trips. The elementary indicates the pump will trip immediately.

Section 6.1.2.4.5 attempts to verify a breaker going from 5 to 30 percent open.

The procedure calls for the Lube water supply to be lined up according to the SOP. Subsequent steps in the procedure assumes the lube water system is not lined up in accordance with the SOP.

The procedure refers to the travelling screen high differential pressure alarm. The alarm does not exist.

Step 6.1.2.7.8 omits travelling screen 5E.

All of the control switches for cirulating water pumps B and C designated in the procedure are incorrect.

g. LR-4

The inspector noted that the electrical penetration have two designations, a penetration number and a nozzle number and the numbers don't match. This could lead to confusion as to which penetration or nozzle is being tested.

Page 6.2-111 of the FSAR indicates the Fuel Transfer Tube will not require a Type B test. It does require a Type B test.

Page 6.2-111 of the FSAR indicates that penetrations 327, 328, 329 and 425 do not need a Type B test. They do require a Type B test.

Penetration 704, 802, 803 and 804 were omitted from the procedure.

Technical Specifcations (proposed) list closure times different than the FSAR.

Table 6.2-54 of the FSAR indicates that the isolation valve for penetration 227 is 9999B. It should be 8888B.

Penetration 302 is listed as a spare in the FSAR. It is not a spare.

There were 18 instances of typographical errors in the procedure, most of which listed the incorrect valve either on the data sheet or penetration diagram.

Penetrations, 221, 229 and 408 have drain valves between the containment and isolation valves 8102 A, B and C which do not show up in the procedure and which can affect the results of the test.

Penetration 409 has a drain valve between the containment and isolation valve 8107 which does not show up in the procedure and can affect the results of the test.

Penetration 222 calls for valves 8994A, B and C to be closed. These valves are locked in the throttle position by tack welding the cap.

Penetration 421 has a drain valve between the containment and valve 6697 which could affect the results of the test.

The drawings for Penetrations 222 and 316 did not indicate a vent path for the low pressure side of valves 8701 A and B.

The drawings for penetration 405 do not indicate a vent path for valves 9356A and B.

The drawing for penetration 407A and B does not indicate where the vent path will be for valves 9311 A, B and 9312 A, B.

The drawing for penetration 419 indicates no test connection or vent path.

The procedure indicates that the first check valves on the high head and low head safety injection lines inside containment were not going to be leak tested. Appendix J to 10 CFR 50 requires these valves to be leak tested. The valves in question are: 8995A,B,C; 8974A,B; 8990A,B,C; 8992A,B,C; 8997A,B,C; and 8988A,B. This matter needs to be resolved by the applicant and NRR.

The FSAR page 6.2-115 state, that containment isolation valves are leak tested from the inside of containment to the outside. Some valves cannot be tested this way. It will be necessary to state in procedure which valves will be tested in the reverse direction and the basis for revers testing the valve. The basis should include why the reverse method will provide equivalent or more conservative results as required by 10 CFR 50, Appendix J. These items will remain open (80-13-05) pending further review by the inspector.

10. Preoperational Test Procedure Administrative Controls

The following test procedures were reviewed to ensure the procedures were administratively reviewed in accordance with the FSAR and the Start Up Manual.

RC-7	HFT Data for RCP's
CC-1	Component Cooling Water
CS-7	Boric Acid Flow
SI-3	Accumulator Blowdown
CW-1	Circulating Water

Findings were acceptable.

Training and qualification records of personnel reviewing the above procedures were also reviewed.

Findings were acceptable.

11. Preoperational Test Results

The following procedure results were reviewed to ensure the results were within the acceaptance criteria and that the records indicated the procedure was carried out in accordance with the FSAR and the Start Up Manual.

SI-3 Accumulator Blowdown

Findings were acceptable with the following exceptions:

The results of SI-3 indicate an equivalent length (L/D) values of 329, 276, and 298 for the three accumulator lines. Westinghouse has reviewed the data and performed peak clad temperature analyses for the break size and

location most severely affected. Westinghouse indicated the results of the analyzers are satisfactory. This item will remain open pending future review of the results by the NRC. (80-13-06)

11. Independent Inspection Effort

a. The inspector reviewed the Boron Recycle System and had the following comments:

The latest drawing of the system indicates that the Recycle Holdup Tank (RHT) level indicators will be visible at the Recycle Feed Pump local control station. Both RHT level indicators are not visible from the local control station.

The Recycle Feed Pump discharge pressure gages are located in areas not visible from the local control station for the pumps.

These items will remain open (80-13-07) pending future inspection.

b. Section 17.2 of the FSAR has recently been amended by Amendment 18.

Review of this change indicates that the change on page 17.2-15a makes no sense and there is a discontinuity between pages 17.2-50a and 51. This item will remain open (80-13-08) pending future review.

c. The vent recorder on the HVAC control board is scaled in gpm.

The main plant vent flow instrument is labeled 9287 on the HVAC control board. It should read 9697.

These items will remain open (80-13-09) pending future inspector review.

12. Plant Tour

The inspector toured the plant at various times to observe construction activities, housekeeping, maintenance, equipment preservation and logbooks. Findings were acceptable with the following exceptions:

The strip chart in the control room for rod position and rod insertion limit is scaled from 0 to 100 percent with 100 percent equal to 248 steps. The inspector felt this would be confusing since all other rod position indication on the main control board is in steps and full out (100 percent) is 228 steps. This item will remain open pending future review by the inspector. (80-13-10).

13. Open Item Followup

The inspector reviewed the following open items:

79-37-04	Part Length Rods
79-41-05	Reg Guide 1.137

79-41-08	FSAR Discontinuity
79-41-09	Figure 10.4-8 of FSAR
80-06-02	Sampling procedure
80-06-03	Heat Tracing Procedure
80-06-05	Chemical Addition Procedure
80-01-06	FSAR Page 14.1-7a.

All items have been corrected and are closed.

14. TI 2515/22

The inspector performed TI 2512/22 and found that the applicant was not aware of the problem with the Terry Turbine govenor. The applicant is in the process of accumulating the required information on the Terry turbine in order change due applicable procedures. This item will remain open (80-13-11) pending inspector review of the operating procedures.