



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

Report No. 50-395/79-28

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

Facility Name: Summer Nuclear Station

Docket No. 50-395

License No. CPPR-94

Inspected at V. C. Summer near Parr, South Carolina

Inspected by: J. L. Skolds *J. L. Skolds for* 10/12/79  
Date Signed

Approved by: P. J. Kellogg *Thomas J. McKenny* 10/2/79  
P. J. Kellogg, Acting Section Chief, RONS Branch Date Signed

SUMMARY

Inspected on August 13 through September 14, 1979

Areas Inspected

This routine inspection by the resident inspector involved 148 inspector-hours onsite in the areas of fire protection, followup of 50.55(e) reports, Phase II procedure review and test witnessing, and independent inspection effort.

Results

Of the 4 areas inspected no apparent items of noncompliance or deviations were identified in three areas; one apparent deviation was found in one area [Improper personnel approving procedures according to an FSAR Commitment-paragraph 8(b)].

1399 347

7911270 049

## DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*H. T. Babb - General Manager of Nuclear Operations and System Planning
- \*O. S. Bradham, Plant Manager
  - J. G. Connelly, Assistant Plant Manager
  - S. Smith, Maintenance Supervisor
  - A. B. Harrison, Operations Supervisor
  - R. W. Campbell, Technical Support Supervisor
  - K. Beale, Health Physics Supervisor
  - D. Hembree, Assistant Startup Supervisor
- \*A. A. Smith, QA Site Coordinator
  - D. A. Nauman, Manager QA and Security
  - C. L. Ligon, Administrative Supervisor
- \*A. Koon, Technical Staff Engineer
- \*P. Fant, QC Coordinator

Other licensee employees contacted included operators, mechanics and security force members.

#### Other Organizations

C. W. Bowman - Westinghouse Startup Group Supervisor

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on September 7, 1979, and September 14, 1979 with those persons indicated in Paragraph 1 above. The deviation (395/79-28-05) was discussed at the exit interview on September 14, 1979.

### 3. Licensee Action on Previous Inspection Findings

Not inspected.

### 4. Unresolved Items

Unresolved items were not identified during this inspection.

### 5. Fire Protection

The inspector assisted in the Fire Protection visit from NRR. An exit interview was held on August 29, 1979 to discuss the findings of the visit.

The comments made by NRR will be documented in a separate set of questions to be answered by the licensee.

6. 50.55(e) Reports

The inspector received the following 50.55(e) reports:

- a. Cable Tray Splice Plates - The licensee reported that incorrect splice plates were discovered on safety-related cable trays. Horizontal cable trays call for a "lipped" splice plate and vertical trays call for flat splice plates. It was found that flat plates were used in horizontal cable trays and subsequent analysis indicated that if not corrected, these flat plates would not provide adequate support under seismic conditions. All cable trays with this deficiency were corrected by either installing the correct type of plate or installing a second flat plate on top of the original plate. The architect-engineer (AE), Gilbert Associates, performed an analysis which indicated that two plates would be sufficient provided proper thread engagement was obtained. Upon inspecting cable tray splices that had been fixed by installing a second plate, the inspector noted that not all bolts had the required thread engagement. The licensee noted this and generated a deficiency notice to go back and look at the repaired splice plates to ensure proper thread engagement. This item will remain open (395/79-28-01) pending inspector review of the corrective action.
- b. Lightning Arrestors - The licensee reported that low resistance readings were found on the lightning arrestors on the input side of safety related transformers. The lightning arrestors are the ITE-McGraw Edison type, manufactured in 1974. All deficient lightning arrestors on safety related transformers have been replaced with a newer model. The old lightning arrestors have been shipped back to the vendor for evaluation.
- c. Westinghouse 7300 Process Cards - Westinghouse informed the licensee that deficient 7300 Process Cards had been identified by other licensees and that the potential existed for the same type of cards to exist on site. The deficient cards were designated NAL, NND, NCB, NVP, NLL. A review of all types of process cards indicated that no deficient cards existed.
- d. ASCO NP-1 Solenoid Valves - The licensee reported that an oil base lubricant, FELPRO N-1000 was used in air systems that contained ASCO NP-1 Solenoid Valves. These valves have ethylene propylene internals which swell up when they come in contact with oil. This swelling could cause the valve to bind up and not function. The valve had a caution on the installation tag to keep the valve free from oil. The FELPRO N-1000 was used in the initial lubrication of various joints within the systems. The licensee has not yet decided on a solution to this problem.

1399 349

- e. Hilti Bolts - In reviewing IE Bulletin 79-02, the licensee decided to check the Hilti bolt installation on non-code cable tray supports. An initial sample of 100 bolts indicated that 6 bolts were tack welded to the support plate. The licensee has committed to look at all (approximately 600) bolt installations of this type. Of the six (6) unacceptable bolts found, no more than one tack welded bolt was found on a single plate. Of the six unacceptable bolts found, an engineering analysis indicated that proper support existed even with this deficient condition. Bolts that are inaccessible and cannot be checked will be evaluated for proper support.
- f. Feedwater Transients - The licensee performed an evaluation on the feedwater system in response to a Westinghouse letter dated December, 1978. The letter concerned the possible unacceptable pressure transient resulting from a feedwater break between the steam generator and the main check valve in the feedwater line. Westinghouse indicated that this break would cause an unacceptably high pressure transient on the other feed lines due to the other check valves slamming. The analysis done by the licensee indicated that the worst transient would be a break 2 feet away from the check valve towards the main feed pump. This would cause the check valve in the break affected line to slam and cause a pressure surge between the steam generator and the check valve higher than was previously analyzed. An analysis to modify the feedwater support system is being done as well as an analysis to analyze the check valve performance under these conditions.

7. On Site Safety Committee

The inspector noted that the proposed Technical Specifications did not mention the existence of an on site safety committee. The licensee is planning to implement standard Technical Specification requirements for this area at a future date. The inspector encouraged the licensee to rapidly form the safety committee in order to review the required procedures which are presently being generated. Administrative Procedure 101 (AP-101), Rev 6, Development of Safety and Non Safety Related Procedures was reviewed by the inspector. However, the implementation of Standard Technical Specification requires AP-101 to be revised. Until this revision is complete the review of this procedure will remain an open item (395/79-28-02).

8. Phase II Procedure Review

The inspector reviewed FH-01, Fuel Handling Building Pool Liner Leak Test. The inspector verified the acceptance criteria with Table 14.1-95 of the FSAR. The procedure and test results were acceptable with the following exceptions:

- a. The test results indicated that the inflatable seals on the Spent Fuel Pool Gate were unacceptable due to the presence of visible bubbles

when checked for leaks. The seals were repaired and locally tested with a soap solution. However, the Spent Fuel Pool Gate was not retested for leaks with the seals inflated due to the presence of new fuel in the spent fuel pit. These seals will be retested after fuel loading when the Spent Fuel Pool can be reflooded. This item will remain open (395/79-28-03) until a retest has been performed.

- b. The procedure lists acceptance criteria for leakage as the following:

Total leakage for Liners	< 1 gpm
Fuel Transfer Tube Isolation Valve	
Valve	< 1 gpm
Stem	< 1 gpm
Isolation Gates	
Inflatable Seals on Gates	No visible bubbles
Spent Fuel Pit Gate	< 5 gpm
Cask Loading Pit Gate	< 5 gpm

The reference given for these acceptance criteria is Specification SP-204-4461-000. However, these numbers do not appear in this Specification. Since all leakage detected during the performance of this test was (zero), the acceptance criteria is not critical. However before the Spent Fuel Gate is retested, as described in (a) above, the basis for the acceptance criteria must be determined. This item will remain open (395/79-28-04) pending the determination of the basis for the acceptance criteria.

In reviewing the administrative controls of the Phase II Test Procedures, it was noted that the Startup Supervisor approved some Phase II procedures for the Plant Manager. Section 14.1.1.1 of the FSAR states that the Phase II procedure is transmitted to the Plant Manager for his approval. The FSAR does not make allowances for an alternate to the Plant Manager to approve the Phase II procedures. The following procedures were signed by the Startup Supervisor:

SI-6 SI Flow Balancing Test CS-2 Charging Pump Flow Test RH-1 RHR Pump Flow Test CS-1 VCT Auto Makeup And Level Control

This is considered a deviation from a commitment in the FSAR (395/79-28-05).

9. 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 exception of the following:

- a. The inspector noted that there was no separate first out panel on the control board. Instead, a sequence of alarms lights is intended to

alert due operator as to what was the first parameter to trip the plant. Upon reviewing the design of the first out sequence the following design exists:

Operator Lamps

Condition	Operator Action	Lamps	
		First Out	Subsequent
Normal		Off	Off
Abnormal		Intermittent Flash	Slow Flash
Abnormal	Acknowledge	Fast Flash	Steady
Abnormal	Reset	Steady	Steady
Normal		Fast Flash	Fast Flash
Normal	Reset	Off	Off

It was not apparent to the inspector nor the licensee that this design would adequately alert the operator enough to identify the first out parameter. The licensee indicated that this issue will be reviewed for possible design change. This item will remain open (395/79-28-06) until a resolution has been made.

b. The inspector noted that there is no indication on the control board to alert the operators that one of the doors to the Reactor Building is in the open position. FSAR section 3.8.1.2.3 states that "Limit switches are provided on the doors to annunciate, in the control room, the following door positions:

- (1) Two limit switches on each door are actuated whenever the door dogs are not in the fully closed position.
- (2) Two limit switches on each lock mechanism are actuated when the interlock is defeated.

Neither of these indications is available on the control board at this time. The licensee has committed to review this issue for possible design change. This item will remain open until a resolution is made. (395/79-28-07)

c. The inspector noted that two cable tray splice plates were missing bolts. The cable tray (No. 5221) was located in a cable chase room next to the RWST. One plate was missing 1 bolt, the other plate was missing 2 bolts. The licensee investigated this condition and discovered that the required number of bolts was originally installed but were subsequently removed during other construction activities. The QC documentation indicates the proper number of bolts installed and the plate itself has marks on it to indicate a bolt was installed at one time. The licensee generated a deficiency notice to correct this condition. The item will remain open pending inspector review of the corrective action. (395/79-28-08)

10. Site Tour of Workshop fo Reactor Decommissioning

The inspector assisted in the NRC sponsored tour of the site for personnel participating in the Workshop on Reactor Decommissioning. The inspector answered questions concerning the Resident Inspector Program.

1399 353