



UNITED STATES
NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA ST., N.W.
 ATLANTA, GEORGIA 30323

Report No.: 50-395/88-17

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

Docket No.: 50-395

License No.: NPF-12

Facility Name: V. C. Summer

Inspection Conducted: August 1 - 31, 1988

Inspectors:	<u>S. VIAS</u>	<u>9/15/88</u>
	for Richard L. Prevatte	Date Signed
	<u>S. VIAS</u>	<u>9/15/88</u>
	for Perry C. Hopkins	Date Signed

Accompanying Personnel: Steven J. Vias (August 22 - 26, 1988)

Approved by:	<u>Hugh C. Dance</u>	<u>9/15/88</u>
	Hugh C. Dance, Section Chief	Date Signed
	Division of Reactor Projects	

SUMMARY

Scope: This routine, announced inspection was conducted by the resident inspectors onsite, in the areas of unresolved items, monthly surveillance observations, monthly maintenance observation, operational safety verification, engineered safety features system walkdown, onsite followup of events and subsequent written reports, action on previous inspection findings, design, design changes and modifications, and other areas.

Results: The licensee's periodic performance of STP's has resulted in some temporary procedure changes and procedure revisions. Review by procedure writing groups appears to satisfy procedure review requirements. Too many changes to a procedure without reprint and study by those who perform STP's could lead to confusion and/or errors by personnel who perform test procedures. With the upcoming outage scheduled for September 16, 1988, there appears to have been considerable cooperative efforts by the several discipline groups to produce an outage schedule of significant detail.

Within the areas inspected, the following violation was identified:

- Failure to follow procedures, paragraph 8.

One unresolved item was identified involving steam path yielding potential for postulated steam breaks, paragraph 7a.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *W. Baehr, Manager, Chemistry and Health Physics
- K. Beale, Manager, Nuclear Protection Services
- *O. Bradham, Vice President, Nuclear Operations
- C. Bowman, Manager, Scheduling and Modifications
- M. Browne, General Manager, Station Support
- W. Higgins, Supervisor, Regulatory Compliance
- S. Hunt, Manager, Quality Systems
- *A. Koon, Manager, Nuclear Licensing
- *G. Moffatt, Manager, Maintenance Services
- D. Moore, General Manager, Engineering Services
- *K. Nettles, General Manager, Nuclear Safety
- C. Price, Manager, Technical Oversight
- J. Shepp, Associate Manager, Operations
- *J. Skolds, General Manager, Nuclear Plant Operations
- *G. Soult, General Manager, Operations and Maintenance
- G. Taylor, Manager, Operations
- D. Warner, Manager, Core Engineering and Nuclear Computer Services
- *M. Williams, General Manager, Nuclear Services
- K. Woodward, Manager, Nuclear Operations Education and Training

NRC Resident Inspectors

- *P. Hopkins, Resident Inspector
- R. Prevatte, Senior Resident Inspector
- S. Vias, Project Manager

Other licensee employees contacted included engineers, technicians, operators, mechanics, security force members, and office personnel.

*Attended exit interview

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

2. Unresolved Item**

See paragraph 7a for a unresolved item identified in this report.

** Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations.

3. Monthly Surveillance Observation (61726)

The inspectors observed surveillance activities of safety related systems and components to ascertain that these activities were conducted in accordance with license requirements. The inspectors observed portions of 13 selected surveillance tests including all aspects of the Steam Generator "A" Steam Pressure (PT 474) Operability Test, (STP 303.005). The inspectors also verified that required administrative approvals were obtained prior to initiating the test, testing was accomplished by qualified personnel, required test instrumentation was properly calibrated, data met TS requirements, test discrepancies were rectified, and the systems were properly returned to service.

During this inspection period, personnel in general, who performed the surveillance procedures were knowledgeable and appeared to have familiarized themselves with the procedures prior to the performance of a particular surveillance procedure. Coordination and communications between the several disciplines required to perform STP's were adequate.

Parts, components, test equipment or materials used by test personnel during scheduled surveillance testing activities were found to be properly documented on the associated implementing work requests and the STP's.

No violations or deviations were identified.

4. Monthly Maintenance Observation (62703)

The inspectors observed maintenance activities of safety related systems and components to ascertain that these activities were conducted in accordance with approved procedures, TS and appropriate industry codes and standards. The inspectors also determined that the procedures used were adequate to control the activity, and that these activities were accomplished by qualified personnel. The inspectors independently verified that equipment was properly tested before being returned to service. Additionally, the inspectors reviewed several outstanding job orders to determine that the licensee was giving priority to safety related maintenance and a backlog which might affect its performance was not developing on a given system. The following specific maintenance activities were observed in whole or in part:

MWR 8801084	Investigate and repair steam generator "A" feedwater regulator valve
PMTS P0109921	SWS "B" train flow operational testing
MWR 8801026	Repair switch on MCB for the high pressure turbine to the main steam drain valve
PMTS 98203	Repair auxiliary building motor control center switchgear room cooling fan motor (XFN0132-M0)

PMTS 102296 Repair relief damper equipment in room 435 (XDP0234A)

PMTS 102276 Inspect and repair control room vent. control damper (XDP0021A)

PMTS 102292 Repair equipment area relief air damper (XDP0133A)

PMTS 105581 Repair and calibrate circuit breaker feeder for heat tracing (XPC2009)

PMTS 108702 Inspect and replace spare feeder breaker (XSW1DA2)

MWR 8810218 Repair flat washers on intermediate range instrument drawer

MWR 8700053 Repair spool piece above support SFH0044 by replacing with new gaskets

PMTS 103912 Check and repair spent fuel pit bridge crane

PMTS 103961 Lubricate spend fuel pit bridge crane

PMTS 103963 Inspect spent fuel pit bridge crane for operation

MWR 8801249 Investigate and repair feedwater regulator valve (IFV0047B)

MWR 88W0037 Install RUSKA gauges on feedwater system to test for moisture carry-over

MWR 20797005 Perform circuit termination for plant surveillance system

MWR 8800836 Repair faulty limit switch on loop "A" component cooling pump "C"

Through observation and research conducted during this inspection it has been determined that maintenance activities have been performed per work request instructions and applicable procedures.

No violations or deviations were identified.

5. Operational Safety Verification (71707)

The inspectors toured the control room, reviewed plant logs, records and held discussions with plant staff personnel to verify that the plant was being operated safely and in conformance with applicable requirements. Specific items inspected in the control room included: adequacy of staffing and attentiveness of control room personnel, TS and procedural adherence, operability of equipment and indicated control room status, control room logs, tayout books, operating orders, jumper/bypass controls, computer printouts and annunciators. Tours of other plant areas were conducted to verify equipment operability, control of ignition sources and combustible materials, the condition of fire detection and extinguishing

equipment, the control of maintenance and surveillance activities in progress, the implementation of radiation protective controls and the physical security plan. Tours were conducted during normal and random off hour periods.

In general, the operating crews were observed to be making good use of their time, when not occupied with the normal operating routine. They were observed making needed procedure changes, reviewing procedures, and conducting on-the-job training for those standing watch under instruction. Operations watch standing activities and the composition of control room logs was being accomplished in accordance with the requirements of the controlling procedures and directives.

No violations or deviations were identified.

6. ESF System Walkdown (71710)

The inspectors verified the operability of an engineered safety features (ESF) system by performing a walkdown of the accessible portions of the Component Cooling Water System. The inspectors confirmed that the licensee's system lineup procedures matched plant drawings and the as-built configuration. The inspectors looked for equipment conditions and items that might degrade performance (hangers and supports were operable, housekeeping, etc.) and inspected the interiors of electrical and instrumentation cabinets for debris, loose material, jumpers, evidence of rodents, etc. The inspectors verified that valves, including instrumentation isolation valves, were in proper position, power was available, and valves were locked as appropriate. The inspectors compared both local and remote position indications.

Several deficiencies were identified, such as equipment tags missing, oil leaking from limitorques and valves needing some type of preservation. Responsiveness by operations to these items was prompt and positive.

No violations or deviations were identified.

7. Onsite Followup of Events and Subsequent Written Reports (92700, 93702)

- a. On June 7, 1988, with the plant in mode 3, the licensee was notified by the architect engineer for V. C. Summer Nuclear Station that a design defect may yield the potential for steam propagation, which could affect the safe shutdown of the plant under certain postulated steam events. Direct steam paths through floor penetrations and more tortuous propagational paths were identified. Upon verification of the potential problem the licensee changed operational modes from mode 3 to mode 4. The licensee opened several interior plant doors to allow for the relief of pressure build-ups. One door was sealed to prevent moisture intrusion in the event of the postulated steam break.

The licensee is performing further evaluations of this potential problem to insure that adequate corrective actions are in place for short and long term operations. For further information see LER 88-008, dated July 7, 1988. This is an unresolved item, steam line rupture with potential to affect safe shutdown, 88-17-02.

- b. The inspectors reviewed the following, LER's and SPR's to ascertain whether the licensee's review, corrective action and report of the identified event or deficiency was in conformance with regulatory requirements, TS, license conditions, and licensee procedures and controls. Based upon this review the following items are closed.

LER 87-11 Loss of 7.2 kV switchgear due to degraded voltage

SPR 88-006 Failure of diesel fire pump to start on valid test signal

SPR 86-011 Reoperability of the meteorological instrumentation

No violations or deviations were identified.

8. Action on Previous Inspection Findings (92701, 92702)

The inspectors further reviewed the July 26, 1988 reactor trip from 100% power, while SPS was being tested. Subsequent to the June 1, 1988 reactor trip, while performing an SPS logic test, the licensee made changes to STP 345.074, SPS actuations logic and master relay test, for train "B", to insure that the breaker would be closed locally instead of from the MCB. Personnel failed to follow the procedure in that the breaker was closed from the MCB instead of locally at the RTB as specified. The solid state protection system actuation logic and master relay test for train B, STP 345.074, was initiated and channel "B" was placed in test at approximately 9:00 a.m., on July 26, 1988. A reactor trip occurred at 9:24 a.m. At approximately 4:30 p.m., a relief shift supervisor entered the control room and discovered that SPS train "B" was still in test. The channel was returned to normal at approximately 5:30 p.m. STP 345.074, precaution step 3.9 limits the time that a channel may be bypassed for testing to two hours. The procedure was not followed in that operations allowed the SPS train "B" to remain in bypass for over eight hours. During the time "B" train was in test no protection signal could have been generated by that channel. Step 3.10 of the above procedure also requires that if the test was terminated prior to completion it must be returned to normal. This is an additional example of the above violation for failure to follow procedures, 88-17-01. See Report No. 50-395/88-14 and LER 88-009 for further information.

9. Design, Design Changes and Modifications (37700)

The inspectors reviewed four design changes, listed below, not previously approved by NRR, to assure that the changes had been reviewed and approved

in accordance with the Technical Specifications (TS) and 10 CFR 50.59. During the review, the inspectors verified (1) that the design changes were reviewed and approved in accordance with TS and established QA/QC controls, (2) that design changes were controlled by established procedures, (3) that the licensee conducted a review and evaluation of test results and that these test results were within previously established acceptance criteria and that any test deviations were resolved and necessary retesting was accomplished as appropriate, (4) that operating procedure modifications were made and approved in accordance with TS, and (5) that as-built drawings were changed to reflect the modifications. The inspectors observed (1) that change activities were conducted in accordance with the appropriate specifications, drawings, and other requirements, (2) that acceptance and startup testing of modifications were conducted in accordance with technically adequate and approved procedures, and (3) that appropriate controls were implemented, (e.g., firewatch, portable fire fighting equipment, welding and cutting permit, etc.). Additionally, the inspectors reviewed the outstanding facility change requests (FCR's) and determined that an excessive backlog was not developing. Design changes reviewed were:

MRF 21097 Installed spare pump concept for swing systems

No violations or deviations were identified.

10. Other Areas

Other activities related to the inspection program are noted:

- a. The Assistant Director for Region II Reactor Projects, the Director, Reactor Projects Directorate II-1 and the Region II Deputy Director for Reactor Projects, visited and toured the plant NTC and EOF on August 3, 1988.
- b. The Senior Resident Inspector assisted Region II in conducting an OPA of the Vogtle Nuclear Plant during the week of August 8 and 22, 1988.
- c. The Regional Project Engineer for V. C. Summer assisted the Resident Inspectors during the week of August 22, 1988.

11. Exit Interview (30703)

The inspection scope and findings were summarized on August 31, 1988, with those persons indicated in paragraph 1 above. The inspectors described the areas inspected and discussed the inspection findings. No dissenting

comments were received from the licensee. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during the inspection.

<u>Item Number</u>	<u>Description and Reference</u>
88-17-01	Violation - Failure to Follow Procedures, paragraph 8.
88-17-02	URI - Steam Line Rupture with Potential to Affect Safe Shutdown, paragraph 7.

12. Acronyms and Initialisms

EOF	Emergency Operating Facility
ESF	Engineered Safety Feature
LER	Licensee Event Report
MCB	Main Control Board
MWR	Maintenance Work Request
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
NTC	Nuclear Training Center
OPA	Operational Performance Assessment
PMTS	Preventative Maintenance Task Sheet
QA	Quality Assurance
RTB	Reactor Trip Breaker
SPR	Special Procedures Report
SSPS	Solid State Protection System
STP	Surveillance Test Procedures
SWS	Service Water System
TS	Technical Specifications
URI	Unresolved Item