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

Report Nos. 50-280/81-12 and 50-281/81-12

Licensee: Virginia Electric and Power Company
Richmond, VA 23261

Facility Name: Surry Units 1 and 2

Docket Nos. 50-280 and 50-281

License Nos. DPR-32 and DPR-37

Inspection at Surry site near Surry, Virginia

Inspector H C Dance /for 4/27/81
D. J. Burke Date Signed

Approved by H C Dance 4/27/81
H. C. Dance, Section Chief, Division of Resident and Reactor Project Inspection Date Signed

SUMMARY

Inspection on March 2-31, 1981

Areas Inspected

This inspection involved 90 resident inspector-hours on site in the areas of plant operations and operating records, plant maintenance, calibrations and testing, followup on previous findings, and plant security.

Results

Within the five areas inspected, no violations were identified.

DETAILS

1. Persons Contacted

Licensee Employees

*J. L. Wilson, Station Manager
*G. Kane, Superintendent, Operations
*R. F. Saunders, Acting Superintendent of Technical Services
*J. Patrick, Acting Superintendent, Maintenance
S. P. Sarver, Health Physics Supervisor
*F. L. Rentz, Resident QC Engineer

Other licensee employees contacted during this inspection included control room operators, shift supervisors, QC, HP, plant maintenance, security, engineering, chemistry, administrative, records and contractor personnel.

*Attended exit interview

2. Management Interviews

The inspection scope and findings were summarized on a biweekly basis with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Findings

a. (Closed) Violation (281/80-47-01): Identification and corrective actions not taken on conditions adverse to quality. Proper corrective actions were taken on the Unit 2 Safeguards Building roof leaks, the RHR piping support, and the deficient supports on the Charging Pump SW and CCW systems piping. The importance of prompt identification and corrective action on safety-related deficiencies has been emphasized to station personnel.

b. (Closed) Violation (281/80-47-02) Failure to follow maintenance procedures for reinsulating borated water lines. The piping has been properly insulated; increased frequency of inspections should assure that the heat-traced lines are properly insulated.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Unit 1

Unit 1 remains shutdown for the Steam Generator Replacement Project. The licensee is preparing to hydrotest the secondary side of the steam generators; about half of the primary loop welds are complete. During the reporting period, the inspector routinely toured the Unit 1 control room and other plant areas to verify that the plant testing, maintenance and repairs

were being conducted in accordance with the technical specifications and facility procedures.

Within the areas inspected, no violations or deviations were identified. Specific areas of inspection included:

a. Followup on the silt deposits in the six inch service water lines to the charging pump and control room chiller cooling systems. The pipelines with silt deposits were horizontal runs of piping near the strainers and have been replaced with analyzed and qualified new piping, eliminating the silt. Open item 280/81-08-01 is closed.

b. Inspection of the flooded Service Water (SW) valve pit in the Unit 1 turbine building basement. The pit contains parellel SW valves MOV-SW-102A and -102B which supply cooling water to the Component Cooling Water (CCW) heat exchangers for Unit 1 and 2. The motor operated valves automatically isolate under certain accident and canal level conditions to conserve the high level intake canal water inventory. The motor and limitorque controls on MOV-SW-102B was found wet and inoperable, and was manually closed and electrically isolated until repairs were completed under Maintenance Report 1103091020.

   The inspector observed the stroke testing of MOV-SW-102A from the control room, which verified operability. The licensee is inspecting and testing pit flood (high water level) detectors to assure proper operability.

c. Observation of testing of the Unit 1 RWST high/low annunciated alarms instrumentation in the upper manway atop the RWST. The floating ball level instrumentation switches did not appear operable, but will be repaired prior to Unit 1 startup. The licensee is evaluating the narrow range RWST level instrumenation to determine if more suitable level setpoints or instrumentation are required. Recent technical specification revisions increased the required minimum RWST level to 95.8%; yet, the RWST stress limits prohibit filling the RWST above 97.6%. Thus, the licensee controls the RWST level at (approx.) 96.5% ± 1%. However, the wide range RWST level instrumentation used to control and assure proper RWST levels (LI-CS-100A thru D and LI-CS-200A thru D) is only accurate to ± 2%. This item remains open pending completion of the licensee's review of the RWST wide and narrow range instrumentation (280/81-12-01). The inspector also noted that Periodic Test 2.19A to calibrate RWST level instruments CS-100 and 200 A thru D refers to the 100% level as being equivalent to 551 inches of pure water, thus the 1.25% solution of borated water would actually be slightly below 551 inches when the level instrumentation indicated 100%. The actual level would be some 0.5 inches less or 550.5 inches based on chemistry lab density determinations; the difference is negligible. However, the RWST curve of level vs. tank volume indicates 551 inches of 1.25% solution of borated water is equivalent to 554.8 inches of pure water

at the 100% RWST level. The licensee is reviewing this apprent discrepancy.

6. Unit 2 Operations

Unit 2 operated at power during March 1981, except for the reactor trip discussed below. During this time, the inspector routinely toured the Unit 2 control room and other plant areas to verify that the plant operations, testing and maintenance were being conducted in accordance with the facility technical specifications and procedures. Within the areas inspected, no violations were identified. Specific areas of inspection and review included the following:

a. Review of annunciated alarms in the control room and inspection of safety-related valve and pump alignments on the consoles and in the plant.

b. Followup on the Unit 2 reactor trip which occurred at 1821 hours on March 21, 1981. The B main feedwater pump developed a slight shaft seal leak which led to steam wetting of the pump suction pressure instrumentation adjacent to the FW pump. A momentary short apparently (not repeatable) led to the momentary loss of the FW pump suction pressure indication which tripped the pump on low suction pressure protection. Although the turbine was runback, the steam generator levels decreased until A S/G reached the low-low level setpoint which tripped the reactor. A normal reactor trip and recovery ensued while the FW pump seals were replaced. The reactor was critical again within some 2.5 hours, and the FW pump repaired and restarted a few hours later. The inspector examined the post trip review data to determine why the reactor tripped on low-low SG level (17%) versus steam-flow/feedflow mismatch in coincidence with low SG level (23%). The reactor was at 95% power and operating with reduced SG levels for the moisture carryover tests when the FW pump tripped. The turbine was apparently runback to reduce the FF/SF mismatch before the SG low level coincidence occurred; however, after the FF/SF mismatch cleared, the shrinking SG levels resulted in the low-low SG level trip. The inspector had no further questions at this time.

c. The inspector reviewed the circumstances with regard to the isolation of the Unit 2 containment air gaseous and particulate radiation monitors (RM-259 and -260). At 2100 on March 25, 1981, technicians sampled the Unit 2 containment atmosphere; the results were typical. At 0210 on 3/26/81, the operating staff found no flow through RM-259 and -260 and implemented the Abnormal Procedure (AP-5.18); valves 2RM-7 and -13 were found closed, which isolate the flow path to radiation monitors RM-259 and -260. The licensee could not determine who closed 2RM-7 and -13, or why they were closed, although proper flow through the valves had been verified on 3/25/81 by the daily RM PT. The inspector noted that the HP containment atmosphere sampling procedure

2-PT-38.23 did not have the proper RM valve nomenclature in Appendix A (e.g. - RM-2-2 is actually 2-RM-12, RM-2-1 is 2-RM-13, etc.), although HP personnel stated that the proper valve was manipulated for sampling. The licensee stated that 2-PT-38.23 would be revised to correct the RM valve numbers and to verify that 2-RM-7 and 13 are open. (Item 281/81-12-01).

d. The licensee recently requested and received a one time 30 day extension on the snubber inspection outage from the NRC. The 6 month shock suppressor or snubber inspection was due on March 17, 1981, in accordance with Technical Specification 4.17; however, another Unit 2 shutdown would be required in April to install NRC required equipment which is being delivered to the site. The 30 day extension combines the outages. A reactor shutdown is normally required to conduct inspections on the inaccessible snubbers. The licensee conducted the inspection of the accessible snubbers in accordance with 2-PT-39B.1 on March 5, 1981, with satisfactory results.

   Following review of the completed PT and inspection of certain snubbers, the inspector identified specific sections of 2-PT-39.B.1 which need clarification (e.g. - specify floor levels in SG Valve pit for snubber locations) and several snubbers which need ID tags. The licensee is reviewing the PT and implementing appropriate actions. (Item 281/81-12-02)

e. The inspector observed certain periodic testing on Unit 2 during March, including 2-PT-2.9, Main Steam Flow Instrumentation, and 2-PT-2.26, RCS Pressure. During conduct of 2-PT-2.26, the pressurizer PORV's opened and closed as required, however, the PORV isolation valves MOV-2535 and -2536 would not open (torqued out). The MOV's were declared inoperable and left closed; the valves will be inspected and repaired during the April 1981 outage.

   The inspector also observed maintenance activities on radiation monitor RM-220 in the Unit 2 discharge tunnel; the RM has been alarming occasionally (erratically) in recent weeks. Samples indicate no detectable activity in the Unit 2 discharge water effluent.

f. The inspector verified that the licensee has a strike contingency plan in the event of an IBEW personnel walk-out. The VEPCO-IBEW contract expires on March 31, 1981.

7. The inspector verified the following observation:

   a. Gates and doors in protected and vital area barriers were closed and locked when not attended.

   b. Isolation zones described in the physical security plans were not compromised or obstructed.

c. Personnel were properly identified, searched, authorized, badged and escorted as necessary for plant access control.