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

Report Nos.: 50-280/85-34 and 50-281/85-34

Licensee: Virginia Electric and Power Company
Richmond, VA 23261

Docket Nos.: 50-280 and 50-281 License Nos.: DPR-32 and DPR-37

Facility Name: Surry 1 and 2

Inspection Conducted: October 8 - November 4, 1985

Inspectors: S. Guenther for — Nov 15, 1985
D. J. Burke, Senior Resident Inspector — Date Signed

S. Guenther for — Nov 15 1985
M. J. Davis, Resident Inspector — Date Signed

Approved by: S. Guenther for — Nov 15, 1985
S. Elrod, Section Chief — Date Signed
Division of Reactor Projects

SUMMARY

Scope: This inspection involved 210 inspector-hours in the areas of plant operations and operating records, plant maintenance and surveillance, plant security, follow-up of events, licensee actions on previous enforcement items, and Licensee Event Reports (LER).

Results: In the areas inspected, no violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

R. F. Saunders, Station Manager
D. L. Benson, Assistant Station Manager
H. L. Miller, Assistant Station Manager
D. A. Christian, Superintendent of Operations
E. S. Grecheck, Superintendent of Technical Services
J. W. Patrick, Superintendent of Maintenance
D. Rickeard, Supervisor, Safety Engineering Staff
S. Sarver, Superintendent of Health Physics
R. Johnson, Operations Supervisor
D. Driscoll, Site Quality Assurance Manager

Other licensee employees contacted included control room operators, shift technical advisors, shift supervisors, chemistry, healthy physics, plant maintenance, security, engineering, administrative, records, contractor personnel and supervisors.

2. Exit Interview

The inspection scope and findings were summarized on a biweekly basis with certain individuals identified in paragraph 1. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

3. Licensee Action on Previous Enforcement Matters

This was not inspected during this reporting period.

4. Unresolved Items

Unresolved Items were not identified during this inspection.

5. Operations

a. Units 1 and 2 were inspected and reviewed during the inspection period. The inspectors routinely toured the control room and other plant areas to verify that plant operations, testing and maintenance were being conducted in accordance with the facility Technical Specifications (TS) and procedures. The inspectors verified that monitoring equipment was recording as required, that equipment was properly tagged, and that plant housekeeping efforts were adequate. The inspectors also determined that appropriate radiation controls were properly established, that clean areas were being controlled in accordance with procedures, that excess material or equipment was stored properly, and that

combustible material and debris were disposed of expeditiously. During tours, the inspectors monitored the plant for unusual fluid leaks, piping vibrations, piping hanger and seismic restraint settings, various valve and breaker positions, equipment caution and danger tags, component positions, adequacy of fire fighting equipment and instrument calibration dates.

Certain tours were conducted on backshifts. Inspections included areas in the Units 1 and 2 cable vaults, vital battery rooms, fire pump house, Unit 2 containment, emergency switchgear rooms, diesel generator rooms, control room, auxiliary building, and cable penetration areas to verify certain breaker and equipment conditions and positions for safety-related components. The inspectors routinely conducted partial walkdowns of emergency core cooling systems and engineered safety features systems to verify operability and observe maintenance and testing of certain equipment and components in these systems.

While in the Unit 2 containment, the inspectors observed that solid, threaded plugs were installed in certain motor housings on auxiliary feedwater (AFW) system motor operated valves, MOV-FW-251A through F. The licensee replaced the solid plugs with T-drain plugs, similar to those installed in Unit 1, and is reviewing the impact of the solid plugs on the Limitorque MOV environmental qualifications. This is identified as inspector follow-up item (IFI) (281/85-34-01).

b. Unit 1 operated at power for the duration of the reporting period. No trips or shutdowns occurred.

c. Unit 2 began the reporting period operating at power. On October 18, 1985, operators commenced a normal power rampdown in preparation for a snubber inspection and maintenance outage. The unit was shutdown on October 19, 1985. The unit was returned to hot standby on October 31, 1985, in preparation for startup. Accumulator leakage into the residual heat removal (RHR) system through MOV-RH-2720B, with the unit at hot standby, caused increasing pressure in the RHR system and necessitated a return to cold shutdown for valve seat repairs. The valve disc and seats have been relapped and satisfactorily tested. The maximum pressure in the RHR system due to the leakage was less than 500 psig (design is 1200 psig). The inspectors verified that the requirements of TS 3.1.A.1.d were met; two reactor coolant loops were operable, and one reactor coolant pump and loop were in operation during isolation of the RHR system and repair of the valve. The unit ended the reporting period in a cold shutdown condition with the RHR system isolated and drained for repair of MOV-RH-2720B.

6. Surveillance and Maintenance Inspections

During the reporting period, the inspectors reviewed various surveillance and maintenance activities to assure compliance with the appropriate procedures and TSs. Inspection areas included the following:

a. Maintenance activities concerned with the repacking of the motor-driven fire pump were observed. Work was performed in accordance with Mechanical Maintenance Procedure MMP-C-G-157. No problems were noted.

b. The inspectors observed concrete pouring operations for the Independent Spent Fuel Storage Installation; no discrepancies were observed.

c. The inspectors toured the low level (intake structure) facilities on October 15, 1985, and again on October 18, 1985, when emergency service water pump (ESWP) 1A "smoked" a pump shaft gland packing during performance of its periodic testing following packing replacement. The 7/16 inch packing utilized was too tight for the low discharge pressure pump and blocked water leak-off and lubrication for the seal. The packing was removed and 3/8 inch packing installed; the pump and seal were then satisfactorily tested. The packing leak-off was slightly above normal on ESWP-1B and excessive on ESWP-1C; the licensee stated that the packings will be adjusted and/or replaced. In addition, the ESWP-1C diesel had several seconds of delay between the actuation of the "Start" button and the diesel engine start and run. The relays are being inspected. The inspectors also observed that some anchor bolts which secured the 1B and 1C diesel exhaust manifold piping supports to the ESWP room roof were missing. Licensee analysis of and action on these items is identified as IFI (280/85-34-01).

d. Reactor coolant system leak rates were reviewed to ensure that detected or suspected leakage from the system was recorded, investigated and evaluated and that appropriate actions were taken if required. No abnormal leakage was observed.

e. The surveillance inspection included a review of several Periodic Test (PT) procedures for both units. Snubber visual inspection tests (PT 39A-1, 39A-2, 39B-1 and 39B-2) were reviewed to ensure that inspections were being conducted within the required visual inspection intervals. Installed snubbers and supports were also inspected during plant tours and system inspections. In the areas inspected, no violations were identified.

f. The inspectors observed stroke testing of the Unit 2 recirculation spray (RS) MOVs (255A and B, 256A and B). RS-MOV-255A rotated about 130 degrees at the Limitorque operator and 80 degrees at the tapered plug valve; 255B rotated about 150 degrees at the operator and 100 degrees at the valve. The 50 foot driveshaft between the valve and operator apparently accounts for the difference in rotation. The valves were satisfactorily Type C leak-tested (when closed) and subsequently adjusted to ensure complete and repetitive 90 degree travel. The limit switches were also changed to ensure adequate bypassing of the MOV torque switch during the open cycle, although the valves are open during normal plant operations and accident conditions. The RS-256A and B MOVs tested satisfactorily.

g. The inspectors requested that the licensee operate one motor-driven AFW pump prior to the Unit 2 startup to ensure that the AFW flow rates to the steam generators (SG) exceeded the minimum specified in Westinghouse Technical Bulletin 84-06 (105 gpm per SG). Unit 2 AFW pump 3B delivered about 160 gpm to each SG at 980 psig; this item is closed.

h. The inspectors reviewed NRC Inspection and Enforcement Information Notice 85-82, Emergency Diesel Generator Differential Protection Relay Not Seismically Qualified, and discussed it with licensee engineers. The General Electric relays specified in the Notice are not used at Surry; Westinghouse relays are utilized and are being inspected.

7. Licensee Event Report (LER) Review

The inspectors reviewed the LERs listed below to ascertain whether NRC reporting requirements were being met and to determine the appropriateness of corrective actions taken and planned.

Certain LERs were reviewed in greater detail to verify corrective action and determine compliance with the TS and other regulatory requirements. The review included examination of logbooks, internal correspondence and records, review of Station Nuclear Safety and Operating Committee meeting minutes, and discussions with various staff members.

(Closed) LER 280/85-18 concerned a turbine trip/reactor trip caused by the reactor operator inadvertently closing the condenser inlet valves (MOV-CW-106 A,B,C and D) when attempting to throttle the condenser outlet valves. Covers were subsequently placed on the condenser inlet valve control switches for both units to prevent inadvertent operation. The operator was reinstructed in the proper manipulation of valve control switches, specifically, that only one valve is to be operated at a time.

(Closed) LERs 280/85-16, 85-17, and 85-20 concerned activity spikes of dose equivalent Iodine-131 following unit trips or shutdowns. The activity levels exceeded the TS limit of 1.0 microcuries/cc. The maximum activity was 1.89 microcuries/cc. The activity spike was caused by known, but not specifically located fuel element defects. Post-shutdown conditions enhanced the release of fission products, specifically I-131, thereby causing an increase in reactor coolant specific activity. The level of activity was monitored at least once every four hours until it returned to less than 1.0 microcuries/cc.

(Closed) LER 280/85-19 concerned two events where individual rod position indication (IRPI) deviated more than 12 steps from the bank demand position for two rods in one group. For both events, at least one IRPI was returned to service within two hours. The cause was believed to be instrumentation drift, since the system was tested and no problems could be found. Core data was monitored in accordance with the TS until the indicators were returned to service.

8. Plant Physical Protection

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.