



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
101 MARIETTA STREET, N.W.  
ATLANTA, GEORGIA 30303

Report Nos.: 50-280/84-26 and 50-281/84-26

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: September 1-28, 1984

Inspector: *D. J. Burke* 10/5/84  
D. J. Burke, Senior Resident Inspector Date Signed

*D. J. Burke* 10/5/84  
M. J. Davis, Resident Inspector Date Signed

Approved by: *D. J. Burke* 10/5/84  
for S. Elrod, Section Chief Date Signed  
Division of Reactor Projects

SUMMARY

Scope: This inspection involved 204 inspector-hours on site in the areas of plant operations and operating records, plant maintenance and surveillance, plant security, followup of events, and licensee event reports.

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

8411130713 841011  
PDR ADOCK 05000280  
G PDR

## REPORT DETAILS

### 1. Licensee Employees Contacted

R. F. Saunders, Station Manager  
D. L. Benson, Assistant Station Manager  
H. L. Miller, Assistant Station Manager  
D. A. Christian, Superintendent of Operations  
M. R. Kansler, Superintendent of Technical Services  
H. W. Kibler, Superintendent of Maintenance  
D. Rickeard, Supervisor, Safety Engineering Staff  
S. Sarver, Superintendent of Health Physics  
R. Johnson, Operations Supervisor  
R. Driscoll, Director, QA, Nuclear Operations

Other licensee employees contacted included control room operations, shift technical advisors (STAs), shift supervisors, chemistry, health physics, plant maintenance, security, engineering, administrative, records, and contractor personnel and supervisors.

### 2. Exit Interview

The inspection scope and findings were summarized on a biweekly basis with certain individuals in paragraph 1 above.

### 3. Licensee Action on Previous Enforcement Matters

(Closed) Violation 280/84-04-01, Failure to Properly Monitor a Radioactive Gaseous Waste Release. Operating Procedure OP-23.2, was revised to verify the flow rate on the radiation monitor air sampling pump prior to waste gas decay tank releases to the process vent. Routine checks and operability tests continue on a daily basis.

### 4. Unresolved Items

Unresolved items were not identified during this inspection.

### 5. Operations

Unit 1 and Unit 2 operations 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. Within the areas inspected, no violations were identified. Specific areas of inspection and review included the following:

- a. Review was made of annunciated alarms in the control room and inspection of safety-related valve, pump, and equipment alignments on the consoles and in the plant.
- b. Unit 1 began the reporting period at 80 percent power. Maximum power is limited to 80 percent due to immovable control rod B-6 (see previous inspection reporting period.) On September 26, 1984, a reactor trip occurred when one of the 'C' reactor coolant pump motor leads developed an electrical fault, which tripped the pump. The licensee will examine the electrical leads during this outage, entering the maintenance and refueling outage which was planned for September 30, 1984. The reactor trip breakers and other equipment operated as required; the source range detectors were manually re-energized.
- c. Unit 2 began the reporting period operating at full power. On September 18, 1984, a leak was discovered at a piping elbow on a six inch drain line from the 'A' moisture separator reheater to the high pressure heater drain tank. An orderly rampdown in power to hot shutdown conditions was initiated for inspection and repairs of the secondary drain piping. Several elbows and piping runs were replaced in the secondary systems due to observed pipe wall thinning. The unit was restarted on September 20, 1984, and operated at power for the remainder of the reporting period.
- d. The annual Emergency Exercise was conducted at Surry on September 20, 1984. The inspectors participated in the exercise and evaluated portions of the exercise. No violations were identified in the areas inspected.

#### 6. Surveillance and Maintenance Activities

During the reporting period, the inspectors reviewed various surveillance and maintenance activities to assure compliance with the appropriate procedures and TS, and verified the operability of major plant systems. No violations were identified. Inspection areas included the following:

- a. Walkdown inspections of the subsurface drain system, cable penetration areas, vital batteries, diesel generator air start and associated systems, breaker alignment in the switchgear and cable rooms, the conditions of outside tanks and valve alignments, containment spray and AFW systems in the steam safeguards buildings, and service water systems in the turbine building were conducted.
- b. The inspectors reviewed the control room logs and operations daily and reviewed the RCS leak rates on a regular schedule.

Several LCOs in Section 3 of the TS were also verified on a periodic basis to insure compliance with the requirements. The inspectors also verified that at least two Senior Reactor Operators (SRO) were on duty at all times during reactor operations, and at least one of the SRO's was in the reactor control room at all times.

- c. The inspectors reviewed certain procedures and observed portions of the reactor trip (bypass) breaker testing to verify that the licensee's responses and actions to NRC Generic Letter 83-28; "Required Actions Based on Generic Implications of Salem ATWS Events," had been met. Details of the inspection are documented in Inspection Report 50-280, 281/84-25.

#### 7. Design Changes

Several Design Change packages were reviewed to ensure that design changes are being reviewed and approved in accordance with 10 CFR 50.59, Technical Specifications and QA/QC procedures, and are controlled by established procedures; that station drawings and procedures are modified to reflect design changes; and that post-modification test results meet established acceptance criteria. Within the areas inspected, no violations were identified. The following design changes were reviewed:

- a. 83-25, Unit 2 Steam Generator "J" Tube replacement.
- b. 83-26, IEB 83-01 Reactor Trip Breaker Modification for Unit 1 and 2.
- c. 83-15, Unit 2 Service Water Expansion Joint Misalignment.
- d. 83-11, Replacement of Diesel Generator Battery Racks and Batteries (Unit 1 and 2)

#### 8. LER Review

The inspectors reviewed the Licensee Event Reports (LERs) listed below to ascertain that NRC reporting requirements were being met and to determine the appropriateness of corrective action taken and planned. Certain LERs were reviewed in greater detail to verify corrective action and determine compliance with TS and other regulatory requirements. The review included examination of logbooks, internal correspondence and records review of SNSOC meeting minutes, and discussions with various staff members. Within the areas inspected, no violations were identified.

(CLOSED) LER 280/83-16 concerned undervoltage relay setpoints on the 4KV 'A' bus and 'C' bus being below TS requirements due to instrument drift. The periodic test minimum "AS LEFT" setting was the actual TS limit and did not allow for instrument drift. The undervoltage relays were reset and the periodic test acceptance criteria revised to allow for slight instrument drift.

(CLOSED) LER 280/84-18 concerned an air hose preventing a fire door from closing. The hose was removed and contractor personnel were reinstructed concerning fire doors and fire watches.

(CLOSED) LER 280/84-02 concerned a manual reactor trip from full power on January 18, 1984, when spiking in a semi-vital bus caused certain plant control systems and instruments to become erratic, including a runback and control rod position indication oscillations. Due to these anomalous indications, the operator manually tripped the reactor. The cause of the alarms and indications was apparently a loose cable termination lug which allowed a cable to come loose from its semi-vital bus breaker in the Unit 1 emergency switchgear room. Cable pulling was in progress adjacent to the termination lug and breaker, and probably resulted in the removal of the cable from its loose lug. Repairs were made, other lugs were inspected, and the unit was restarted.

9. Plant Physical Protection

The inspectors verified the following by observations:

- 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.