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

Report Nos.: 50-280/84-15 and 50-281/84-15

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 Date: April 1 - May 5, 1984

Inspection at Surry site near Williamsburg, Virginia

Inspectors: _____ 19 June 84
D. J. Burke, Senior Resident Inspector — Date Signed

_____ 19 June 84
M. J. Davis, Resident Inspector — Date Signed

_____ 19 Sep 84
D. O. Myers, Inspector — Date Signed

Approved by: _____ 19 June 84
S. Elrod, Section Chief 2C — Date Signed
Division of Reactor Projects

SUMMARY

Areas Inspected

This inspection involved 177 inspector-hours on site in the areas of plant operations and operating records, plant maintenance and surveillance, Fire Protection systems, plant operability and surveillance, security, followup of events and open items.

Results

In the areas inspected, two violations were identified; (procedures for testing certain components were not adequate - paragraph 6; fire protection program implementing procedures were not properly followed - paragraph 7).

REPORT DETAILS

1. Persons Contacted

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

Other licensee employees contacted included control room operators, 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

None

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Operations

Unit 1 and 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 console and in the plant.

b. Unit 1 began reducing power late in the day on April 5, 1984, in preparation for a two week snubber inspection outage. During the shutdown the unit experienced a reactor trip from low in the intermediate range when source range instrument channel N-31 failed high during automatic re-energization. A pre-amplifier failure caused the high flux source range trip, and was replaced allowing the channel to

be returned to service. Following completion of the two week snubber inspection outage the unit was restarted on April 23, 1984, and operated at power for the remainder of the reporting period.

c. Unit 2 began the reporting period in a maintenance/snubber inspection outage. The unit was restarted on April 12, 1984. On April 19th at 1640, Unit 2 experienced a turbine trip/reactor trip from 85 percent power due to a high high level condition in the 6A feedwater heater. The unit had been operating at reduced power due to feedwater heater level control problems. The operators had commenced ramping the turbine down several minutes prior to the trip due to increasing level in the feedwater heater. Since Unit 1 was shut down at the time, automatic load shedding occurred to reduce loads on the reserve station service transformers.

d. Prior to Unit 2 restart on April 20, the shutdown banks were tripped due to a spike on source range channel, N-32 caused by maintenance on the instrument electrical supply. Unit 2 was restarted and operated at power for the remainder of the reporting period.

6. Inspections, Surveillances, and Maintenance Review

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. Inspection areas included the following:

a. Walkdown inspection of the auxiliary building, subsurface drain systems, cable penetration areas, battery rooms, switchgear and cable rooms, outside areas, and the turbine building were conducted. No additional violations were identified in the areas inspected.

b. The inspectors reviewed the control room logs, operations, and the Reactor Coolant system leak rates on a daily basis. 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 SROs was in the reactor control room at all times.

c. The inspector reviewed maintenance and testing on the Unit 2 Westinghouse DB-50 reactor bypass trip breaker A, following a failure of the undervoltage (UV) attachment to trip during testing. The failure could not be repeated during subsequent testing, and the UV attachment was replaced with a new assembly. Examination of the UV attachment that experienced the failure revealed that a tiny spring clamp was missing from the grooved end of one of the rotating pivot pins in the attachment; no other problems were identified. The pivot pins are inspected using maintenance procedure (PM) PC-DB-E/R1 to ensure that the spacers and lock springs were in place and secure. The licensee is reviewing the procedures to determine what additional measures may be necessary.

While reviewing the procedure and observing the post-maintenance testing, concerns arose. The procedure does not address the shunt trip coil and UV testing during shutdown conditions, when the RPS and UV coil (attachment) are tripped. This results in deviations to the procedure (N/A steps) which are reviewed and approved by the electrical foreman.

The lack of appropriate instructions in the procedure is a violation of TS 6.4.A.2 (280, 281/84-15-02).

d. The inspectors reviewed the periodic testing (PT) program to ensure that the fire detection instruments are tested as required by TS 3.21 (Table 3.21-1) and 4.18.A. The licensee has recently identified several items in the fire protection Technical Specifications (TS) issued January 17, 1984, which are not adequately surveilled or tested; corrective action is being taken on these items. However, the inspectors identified additional weaknesses in the Units 1 and 2 Fire Protection systems PT procedures. Review of the PT schedules, the specific equipment tested, and the testing techniques is required to ensure an adequate testing program is being implemented. The lack of detail and appropriate instructions in the test procedures is another example of the TS 6.4.A.2 violation discussed above (280, 281/84-15-02).

7. Fire Protection/Prevention Program Implementation

The inspection was to verify that administrative controls for combustible material control, control of ignition sources, maintenance of fire protection systems, and TS surveillance requirements were addressed in procedures. Facility tours were conducted to verify the effectiveness of combustible material control; the condition of fire pumps and piping; the condition of breathing apparatus. The following procedures were reviewed relative to this fire protection inspection:

ADM - 24 Fire Detection Instruments
ADM - 40 Station Housekeeping
ADM - 56 Special Processes Involving Ignition Sources
ADM - 63 Hydrostatic Testing of Fire Hose
ADM - 91 Fire Protection

The inspection revealed one violation for failure to implement procedures established by the fire protection program as required by TS 6.4.J. The details of the inspection are as follows:

During facility tours, it was noted that the housekeeping of transient combustibles was well controlled. The equipment in the fire pump building was well maintained and generally well labeled as were other areas where fire equipment was located. In the fire pump building, the otherwise superior appearance of equipment was overshadowed by a recurring significant check valve closure slam induced by the cycling of the system jockey pump.

The condition was brought to the attention of the Loss Prevention Supervisor, who stated that the existing condition was deemed acceptable but that further evaluation of possible design changes to prevent long term waterhammer induced problems may be warranted.

While reviewing procedures and work associated with control of ignition sources (Flame Permits), the inspector identified several examples where fire protection program requirements were not implemented.

The fire protection program requires that "Flame Permits" be issued daily. However, ADM-56 uses forms which authorize permits to be good for up to ten days if daily inspections were performed. it was noted on three active permits that location inspection prior to work was not documented on the permit as required by the permit. The qualifications of individuals allowed to authorize "Flame Permits" is not clearly defined in either the fire protection program or ADM-56. Currently, the permit requires review by the foreman, supervisor, or responsible person. this would allow an individual with as little training as general employee training, to control ignition source activities anywhere on the site. No overall control is exercised on the amount or location of welding and burning beyond that of the person issuing the permit.

Posted burn permits are supposed to have copies placed in the control room in an effort to control locations and provide other information. However, of the six outstanding permits reviewed, none had copies in the control room as specified in paragraph 3.2 of ADM-56.

During the reinspection at lunch of three locations where work was on-going prior to lunch, the inspector did not see fire watches at the work locations. These tours, made within one-half hour of each other, should have revealed fire watches posted at the sites, as required on the permit itself and in paragraph 3.8 of ADM-56. This posting of watches is to detect and extinguish any smoldering fires. The inspector notified the Loss Prevention Supervisor, who then contacted the affected craft supervisors regarding the incident.

Paragraph 3.12 of ADM-56, requires original copies of "Flame Permits" to be removed from the work location and attached to the MR after work is completed. During a tour of the auxiliary building, three permits were still posted that were several months old.

These examples of failing to follow ADM-56 constitute a violation of TS 6.4.J, which states that procedures for the fire protection program shall be implemented (280 and 281/84-15-01).

The inspector pointed out to the plant management that the violation, in conjunction with a steadily increasing Fire Protection staff work load caused by procedure changes and requirement changes indicate a need for increase management attention to ensure against degradation of the program.

8. Review of Open Items

(Closed) Item 280, 281/78-31-03. A licensee commitment to send a revised LER 280/78-22 was completed. This item is closed for Surry Units 1 and 2.

(Closed) Item 280, 281/79-02-02. Licensee commitments to revise two fire protection periodic tests are complete. This open item is closed for Surry Units 1 and 2.

(Closed) Item 280/79-22-01; 281/79-34-01. The licensee has completed the action items required by bulletin 78-06A. NRR review of the licensee's submittal (May 28, 1980 signed by S. Varga) has also determined that appropriate actions had been taken to meet the requirements of the bulletin. This open item is closed for Surry Units 1 and 2.

(Closed) Item 280/79-63-01 and 281/79-83-01. This item concerned the replacement of a component on the diesel driven fire pump engine without a design change submittal or design review. The starting circuit was proved operable by testing. Design Change 79-85 was subsequently submitted and concluded that the replacement of the Type 118848 magnetic switch with the Type 199573 DC relay recommended by the manufacturer results in an improved starting circuit. This open item is closed for Surry Units 1 and 2.

(Closed) Item 281/79-81-01. This item concerned improper rigging techniques and item 281/79-81-02 concerned improper maintenance of cleanliness techniques. Additional procedures and measures have been implemented over the past few years to control these conditions and to prevent recurrence of these items. These items are considered closed.

(Closed) Item 280, 281/78-31-02. This item concerned copies of maintenance reports for safety related maintenance not being sent to the Quality Control staff for notification purposes as required by the QA Topical Report. The Topical Report was subsequently revised. QC inspection of safety related maintenance is now covered in paragraph 17.2.10 (Inspection). Safety related maintenance procedures are reviewed by the QC staff to determine the need for QC hold points and QC verification signoffs. This item is closed for Surry Units 1 and 2.

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.

No violations were identified.