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

Report Nos. 50-280/80-19 and 50-281/80-19

Licensee: Virginia Electric and Power Company
Richmond, Virginia 23261

Facility: 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: D. J. Burke — Date Signed 5/27/80

Approved by: P. J. Kellogg, Section Chief, RONS Branch — Date Signed 5/27/80

SUMMARY

Inspection on April 7-May 2, 1980

Areas Inspected

This routine inspection by the resident inspector involved 100 inspector-hours on site in the areas of plant operations and operating records, plant modifications, maintenance and testing, followup on previously identified items, and plant security.

Results

Of the four areas inspected, no items of noncompliance or deviations were found in two areas; two apparent items of noncompliance were found in two areas (Infraction - inadequate procedures for radiation monitoring equipment malfunctions - paragraph 6.g; Infraction-failure to follow test procedure for DC 77-9 - paragraph 6.c).

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DETAILS

1. Persons Contacted

Licensee Employees

*J. L. Wilson, Station Manager
G. Kane, Superintendent, Operations
*T. A. Peebles, Superintendent, Technical Services
*R. F. Saunders, Superintendent, Maintenance
R. M. Smith, Supervisor, Health Physics
*F. L. Rentz, Resident QC Engineer
M. R. Kansler, Acting Engineering Supervisor

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

*Attended exit interview

2. Management Interviews

The scope and findings were summarized on a biweekly basis with those persons indicated in Paragraph 1 above. The items of noncompliance were specifically discussed and licensee actions are in progress to resolve the discrepancies.

3. Licensee Action on Previous Findings

(Closed) Noncompliance (280/80-01-02) Inadequate review of PORV replacement gaskets. Proper gaskets have been installed in the Unit 1 PORV's, and plant personnel have been reinstructed on the use of appropriate replacement parts during maintenance on safety-related components.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Unit 1 Operations

Unit 1 was shut down on February 19, 1980, and is scheduled to restart on May 7, 1980, following completion of piping support modifications and LP turbine repairs. (See IE Inspection Report 50-280/80-13). During the shutdown, the inspector routinely toured the Unit 1 control room and other plant areas to verify that the operations and maintenance were being conducted in accordance with the Technical Specifications (TS) and facility procedures. Specific areas of inspection and review included the following:

a. While in the cold shutdown condition on April 30, 1980, an inadvertent Safety Injection was actuated by personnel replacing the Westinghouse

BFD relays in accordance with the IE Bulletin 79-25 program. Adequate design change procedures were in use; a momentary screwdriver short apparently caused the inadvertent SI. The SI signal opened certain isolation valves which permitted gravity flow from the RWST to the primary system and the pressurizer level increased to some 12%, until the valves were closed. Prior to resetting the SI signal, the operators reenergized the SI accumulator B discharge isolation valve MOV-1865B to verify the valve position from the control board. When reenergized, the SI signal opened the 1865B valve and the accumulator discharged into the primary system, filling the pressurizer, and blew the one inch temporary tygon tubing used for level indication (during shutdown) off the vent valve. The licensee had previously submitted a design change to replace the temporary tygon tubing with a more suitable, permanent installation, and is now expediting the replacement. Samples and surveys determined that no significant radiological hazards resulted from the spill or its cleanup inside containment. The event also did not actuate the PORV overpressure mitigating system, which was operable; however, since the event "diluted" the overborated primary system from 3090 ppm boron to some 2570 ppm, the licensee will submit an LER on the event.

b. During the shutdown, the inspector routinely verified that adequate boric acid and flow paths were available in accordance with TS3.2.A, that the RCS overpressure mitigating system was operable in accordance with TS3.1.G, and that appropriate sampling and radiation monitoring was conducted. Within the areas inspected, no items of noncompliance were identified.

c. The Unit 1 pressurizer power operated relief valves (PORV's) have been rebuilt with the appropriate gaskets, the auxiliary feedwater flow indication instrumentation (FT-100A,B,C) have been recalibrated, and the boric acid filters are being replaced with more suitable polypropylene filters (open item 280/79-31-01). The above items are closed.

6. Unit 2

The inspector reviewed a variety of completed Periodic Tests (PT), Special Tests (ST) and Design Change tests prior to Unit 2 fuel loading, and observed the conduct of certain tests and plant evolutions to verify that they were conducted in accordance with the plant Technical Specifications, licensee committments, and facility procedures. Specific areas of inspection and review included the following:

a. The inspector reviewed the VEPCO Unit 2 Integrated Startup Test Program which was submitted to the NRC on August 13, 1979 (Serial No. 550) to assure that systems and components important to the safety of the plant are satisfactorily tested and administratively controlled. The inspector reviewed the major preoperational tests and checks listed in Appendix B of the program prior to fuel loading. The inspector noted that several PT's were deviated due to ongoing maintenance work or Type C valve leak rate testing. The tests were reviewed by the licensee

plant safety committee (SNSOC) who determined that the retesting could be performed after fuel loading without constituting an unreviewed safety question or a violation of the TS. The licensee stated that an updated letter to append the program will be submitted to the NRC, with committments to complete Appendix B prior to leaving the refueling mode.

b. Unit 2 refueling commenced at 10:41am on April 19, 1980. Although the licensee was prepared to refuel before April 19, the NRC required that additional ECCS pumps be made operable and tested, that the containment housekeeping be improved, and that the number of personnel permitted in containment during refueling be reduced prior to fuel loading; the licensee met these requests.

c. The inspector witnessed portions of the performance of the Unit 2 containment spray chemical addition flow and LHSI venturi flow verification test conducted on April 15, 1980, to verify Design Change 77-9 modifications, and reviewed the completed test procedure. The following examples of failure to follow the test procedure are in noncompliance with Technical Specification 6.4.A.2 and 6.4.D and constitute an infraction (281/80-19-01):

(1) The Initial Conditions of the test required that the Safety Injection and Containment Spray Systems were available for service per OP-7.1 and OP-7.2 respectively. Valve alignment checklists OP-7.1 and OP-7.2 were not completed prior to the test, but were "visually checked". During the test, the LHSI pump 2-SI-P-1B was operated for some 30 minutes with the pump suction valve inadvertently closed.

(2) Step 6.1.1 of the test procedure required the RWST water pH to be between 4.0 and 4.5; the actual value was 5.4 and corrective action, deviations, or changes to the procedure were not made.

(3) Step 6.2.1 of the procedure was the last step completed (signed-off and dated) during conduct of the test and is the first of several steps for CAT flow verification, which were conducted but not signed and dated.

(4) Attachment IV to the procedure, which verified test instrumentation hook-ups and attachments was not completed; none of the several steps were signed off, although the work was performed prior to conduct of the test.

(5) Field changes (13) to the test were unsigned and were not approved by a licensed SRO prior to implementation of the test. The licensee subsequently repeated the test to obtain more accurate recorded data.

d. The inspector also witnessed portions of ST-78, the Integrated Engineered Safeguards (ES) Functional Test, performed on May 2, 1980. The SI and

CLS systems were initiated by placing the CLS (containment pressure) bistable switches into the test position coincident with a loss of power to the emergency bus by opening ACB 25H8. The emergency diesel generator auto started and assumed load in 3 seconds, and the system pumps and valves performed as required. ST-78 data will be reviewed when the load analyses, etc., are complete.

e. Subsequent to the unsuccessful Type A integrated leak rate test (ILRT) on Unit 2, the licensee reported that eight quarter inch holes were found drilled in the containment steel liner, to install new RTD mounting brackets. Design Change 79-48 ETA 3-P-1-U2 instructions installed the brackets on an adjacent support beam. The liner holes are being repaired and tested, and the Type A ILRT will be repeated prior to Unit 2 startup.

f. The inspector verified that the Unit 2 TS requirements and procedures were completed prior to fuel loading. Operating Procedure (OP) 4.1, attachment 4 checklist, which assures refueling containment integrity, had three unsigned steps, however, the inspector verified that the steps were completed prior to refueling, and had been documented in the normal, more comprehensive OP-1E containment integrity checklist. The steps were subsequently signed in OP4.1.

g. During Unit 2 refueling, the inspector noted that the manipulator crane radiation monitor RM-RMS-262 appeared to intermittantly fail on April 21 and 22, 1980, during fuel loading. Each time the licensee tested RM-262, the PT was successful and demonstrated operability. In addition, the containment purge valves, which are closed by high radiation levels on RM-262, were closed during fuel movement. The inspector determined that adequate written procedures for operator response to malfunctions of certain installed radiation monitoring instrumentation, such as RM-262, had not been provided. This is contrary to Technical Specification 6.4.A.4, and is an infraction (280/80-19-01 and 281/80-19-02), and applies to both Units.

7. Plant Physical Protection

The inspector verified the following by 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.