



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

Report Nos. 50-280/79-67 and 50-281/79-89

Licensee: Virginia Electric and Power Company
 Richmond, Virginia 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: *[Signature]*
 D. J. Burke

1/21/80
 Date Signed

Approved by: *[Signature]*
 P. J. Kellogg

1/21/80
 Date Signed

SUMMARY

Inspection on November 1 - December 14, 1979

Areas Inspected

This routine, announced inspection involved 120 inspector-hours onsite in the areas of plant operations and operating records, plant maintenance, and plant security.

Results

Of the three areas inspected, no apparent items of noncompliance or deviations were found in two areas; one apparent item of noncompliance was found in the remaining area (Infraction - failure to follow corrective maintenance procedures - paragraph 5.a.).

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DETAILS

1. Persons Contacted

Licensee: Employees

Virginia Electric and Power Company (VEPCO)

- *W. L. Stewart, Station Manager
- *J. L. Wilson, Superintendent, Operations
- *T. A. Peebles, Superintendent, Technical Services
- *R. F. Saunders, Superintendent, Maintenance
- R. M. Smith, Supervisor, Health Physics
- R. L. Baldwin, Supervisor, Administrative Services
- G. Kane, Operating Supervisor
- *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, and administrative personnel.

*Attended exit interview

2. Management Interviews

The scope and findings were summarized on a weekly basis with those persons indicated in Paragraph 1 above. The item of noncompliance was discussed and licensee action to resolve the specific discrepancy was in progress.

3. Licensee Action on Previous Findings

- a. (Closed) Noncompliance (280/78-21-03) - Failure to take adequate corrective actions to reduce the high flux setpoint when significant differences between the calorimetric and nuclear power were observed. The inspector verified that PT-35 was revised to specify that trip setpoint will be reduced by the ratio of the indicated to calculated power if gain adjustments cannot bring the nuclear instruments into agreement with calculated power. The inspector had no further questions.
- b. (Closed) Unresolved Item (280/281/78-21-01) - Error in FQ (Z) equation in Technical Specification 3.12.B.1. The correct equation was included in TS change no 57, and appropriate TS amendments were issued by the NRC. The current TS 3.12.B.1 equation is correct.
- c. (Closed) Noncompliance (280/79-55-01) - Failure to follow radiation control procedures for welding and grinding S/G A feedwater line; respirators required but not used. The radiation and administrative controls detailed in the response letter have been implemented and have significantly improved the controls for radiation workers who enter the Restricted Controlled Areas.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Units 1 and 2 Operations and Maintenance

Unit 1 has operated at or near full power since startup on October 24, 1979. Unit 2 is in the SG replacement outage. To conduct the operations inspections, the inspector routinely toured the Unit 1 and 2 control rooms and certain plant areas to verify that the plant operations were in accordance with the Technical Specifications (TS) and facility procedures. Plant logs, maintenance records, equipment and instrumentation were also reviewed. Specific areas of inspection and results included the following items:

- a. CVCS Heat Tracing - The licensee has replaced nearly half of the heat tracing in the chemical and volume control system with a new tape which is more resistant to mechanical, chemical and heat damage; additional circuit separation and special testing is in progress and new electrical equipment and boric acid transfer pumps will be installed. The results of the circuit testing due to annunciated heat tracing alarms are documented in the PT-27 test series and the control room logs. While following up on the plugged emergency borate line on November 20, 1979, the inspector noted that some three feet of heat traced piping downstream of the emergency borate valve MOV-1350, had no insulation over the top of the pipe run, the bottom half of this two inch diameter pipe was insulated. Since corrective maintenance procedures EMP-C-HT-20 and MMP-C-G-017 require reinstallation of insulation removed during maintenance, the procedures apparently were not followed. This is an infraction (280/79-67-01) which may have aggravated or led to the emergency borate line plugging. At the request of the inspector, the licensee flow tested the alternate (manual) emergency borate line and found it plugged also. One of the three flow paths from the boric acid tanks to the charging pumps was operable (normal makeup through the blender) in accordance with TS 3.2.B.4, and a flow path from the RWST to the charging pumps was operable to establish at least two flow paths to the core.

The licensee reinstalled the emergency borate line and determined by flow testing on November 26, 1979, that the line was no longer plugged; flow in the line is verified daily by cycling MOV-1350. While the borate lines were out of service, a Standing Order supplemented the Abnormal Procedure (AP-3) for emergency boration.

- b. Valve and Equipment Operability - The inspector reviewed the Deviation Report (79-236) concerning the removal of the blank flange from the Unit 1 containment suction piping to the hydrogen analyzers, without leak rate testing the isolation valves 1-GW-182 and 1-GW-183 outside containment. The valves were verified closed and had no leakage when tested; in addition, the licensee is verifying that the hydrogen sample system is a Class I, leaktight system (Open item 79-67-02).

The inspector also reviewed the Deviation Report 79-234 which involved the discovery during testing, of a small amount of foreign material on Unit 2 containment isolation valve 2-VP-12. Plant procedures specifically prohibit the use of any foreign materials on safety related valve internals. Since some rust was noted on the valve internals during maintenance, maintenance personnel applied a thin film of silicone grease to inhibit rust on this vacuum priming valve which they considered non-safety related. Plant personnel were reinstructed on the use of grease or other materials on safety related valves, and a list of all containment isolation valves has been provided to maintenance personnel to assure that appropriate maintenance procedures will be utilized. The Unit was not operated with the grease on the valve, and the valve has been cleaned and leak tested.

The inspector reviewed Unit 1 containment temperatures and pressures, and the service water temperatures to verify that the parameters were within the more restrictive limits identified on November 28, 1979 as a result of the reduction in the analyzed containment spray effectiveness; the parameters were within the revised limits.

- c. Snubbers - The inspector reviewed Unit 1 and 2 snubber data as a result of information regarding the scoring (or scratching) of the shafts and glands on large bore Bergen-Patterson (B-P) hydraulic snubbers. The licensee uses two large bore (12") B-P snubbers on each reactor coolant pump; although scoring had been noted, the snubbers were determined operable by visual inspections since they are too large to test (1 million lb., TS 4.17.D). Visual snubbers inspections performed in accordance with PT-39 over the past year have verified no measurable leakage from the reservoirs or seals. The licensee plans to functionally test these large snubbers at the Wyle Laboratories facility prior to their reinstallation in Unit 2. This matter remains open pending the results of this and other licensee's testing of the large B-P snubbers (281/79-89-01).
- d. Periodic Testing - the inspector reviewed certain periodic tests (PT) and observed the performance of certain periodic testing to verify that the PT's and that the results were satisfactory. While observing the performance of 1-PT-17.1, Containment Spray Pump Operability testing on December 5, 1979, the inspector noted that when test personnel went to open valve CS 68, the valve was found open. CS 68 is a 3/4 inch normally closed valve from the CS pump discharge to the RWST. A Deviation Report was submitted and the licensee determined that the open valve would not have affected the operability of the CS system; each CS pump discharges into a redundant 8 inch pipeline. The inspector noted that CS 68 was verified closed on the Unit 1 startup checklist completed in October, 1979. The licensee stated that the valve was apparently left open after the performance of the last monthly PT-17.1 conducted on November 4, 1979, although PT-17.1 contains a specific procedural step (5.2.4) to close CS-68 and was signed-off. In addition, on December 14, 1979, the licensee found Unit 1 manual valves

CS-39 and CS-43 closed which isolate MOV-CS-102B, the ES valve which opens to deliver sodium hydroxide from the chemical addition tank to the RWST upon containment spray initiation. The redundant line and MOV-CS-102A were operable. The licensee is submitting an LER on this occurrence. PT-19.1 also contains specific steps (5.3.5 and 5.3.6) to reopen CS-43 and CS-39, and was signed-off. The licensee's review of the above items determined that the improper valve line-ups may have been the result of administrative control confusion by personnel performing the PT since the official PT is retained in the control room for valve timing and equipment operation, while the field copy is "completed" at the equipment location and the data transferred to the official PT when field personnel return to the control room. Although the field personnel use a copy of the PT for conduct of the test, they are not required to sign off each step until they return to the control room and sign off the official PT. Thus, the step by step signoff of the PT in the control room may be dependent on field personnel recall or memory of the steps completed. To correct this, the licensee reinstructed personnel to complete and sign-off each PT step in the field as it is performed and to transfer the data from the field copy to the official copy of the PT when the test is complete.

Sabotage is not suspected. The Unit 1 valve lineup checklists are being performed to verify valve positions.

- e. Radiation Monitors - while reviewing control room logs, the inspector noted that the Unit 1 containment particulate and gas monitors (RM-159 and RM-160) were out of service for approximately 8 hours on December 5, 1979, due to water condensation in the detector box. During this time, the manipulator crane monitor (RM-162) inside the containment was operable and air sampling indicated no increases in the containment activity; the licensee stated that containment air grab samples would be analyzed at least once per day when RM-159 and RM-160 are not operable. The licensee is also reviewing the use of heat-tracing and additional insulation to reduce condensation. The inspector had no further questions at this time.

6. 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.

Within the areas inspected, no items of noncompliance were identified.