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

Report No. 50-281/80-07

Licensee: Virginia Electric and Power Company
Richmond, VA 23261

Facility: Surry Power Station, Unit 2

Docket No. 50-281

License No. DPR-37

Inspection at Surry Power Station

Inspectors: Herbert L. Whitener — 3/27/80
H. L. Whitener — Date Signed

Bobby T. Moon — 3/27/80
B. T. Moon — Date Signed

Approved by: C. M. Upright — 3/27/80
C. M. Upright, Acting Section Chief, RONS Branch — Date Signed

SUMMARY

Inspection on March 9-13, 1980

Areas Inspected

This routine, announced inspection involved 89 inspector-hours on site in the area of witnessing the integrated leak rate testing.

Results

In the area inspected, no items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

   Licensee Employees

   W. Stewart, Plant Manager
   *J. Wilson, Operations Superintendent
   T. Peebles, Technical Services Superintendent
   M. Kansler, Associate Engineer
   R. Blount, Test Director
   C. Gullette, Shift Test Director
   D. Padula, Shift Test Director
   D. Christian, Acting Test Director

   Other Organizations

   Stone and Webster

   C. Morrell, ILRT Consultant
   S. Frank, ILRT Consultant
   R. Parry, ILRT Consultant
   R. Bernier, ILRT Consultant

   NRC Resident Inspector

   *D. Burke

   *Attended exit interview

2. Exit Interview

   The inspection scope and findings were summarized on March 13, 1980 with those persons indicated in Paragraph 1 above. During this interview the licensee agreed that initial test conditions had been altered in the search for leakage paths; consequently, the initial system conditions would have to be reestablished and verified prior to a valid leak rate test.

3. Licensee Action on Previous Inspection Findings

   Not inspected.

4. Unresolved Items

   Unresolved items were not identified during this inspection.

5. Containment Integrated Leak Rate Testing

   During the period March 9-13, 1980, the inspectors witnessed the containment integrated leak rate test (ILRT) to determine that the test was performed

in accordance with the requirements of Appendix J to 10 CFR 50. The containment leakage had been previously measured in the period February 26-28 and failed to meet the acceptance criteria (See IE Report 50-281/80-01). The licensee stated that an open drain valve on the main steam line was thought to be the major source of leakage. The second ILRT was initiated March 8. The test pressure of about 61 psia was achieved at 0700 hours March 9. Temperature stabilization was achieved and the official test was started at 1100 hours March 9. The initial leak rate of about 0.27 percent per day trended downward and stabilized in the range of .12 to .14 percent per day leak rate. This exceeds the acceptable leak rate of 0.75 La=0.075 percent per day. The licensee aborted this test and proceeded to manipulate valves and systems to identify the leakage paths. On March 17 the licensee advised the inspector by telephone that the leakage appeared to be through the recirculation spray system and safety injection lines. The containment was depressurized March 15 and subsequent testing deferred until the low head safety injection system modification inside containment is completed.

6. Valve Pit Leakage

While inspecting for air leakage during the ILRT the licensee discovered an audible leak in the outer wall of the safeguards building valve pit. The inner wall of the valve pit is formed by the containment wall and the floor is an extension of the containment mat. The leakage was coming from the junction of the outer (away from containment) wall with the floor mat. The licensee attempted to determine if this leakage was through the containment liner by way of the floor mat by flooding the containment floor with water at a test pressure of about 61 psia. This had no apparent effect on the valve pit leakage. Also, depressurization of the containment caused no apparent decrease in the leakage rate. This matter is still under investigation.