



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

Report No. 50-280/81-34 and 50-281/81-34

Licensee: Virginia Electric and Power Company
P. O. Box 26666
Richmond, VA 23262

Facility Name: Surry 1 and 2

Docket Nos. 50-280 and 50-281

License Nos. DPR-32 and DPR-37

Inspection at Surry site near Williamsburg, VA

Inspector: E. H. Brooks
E. H. Brooks

1-5-82
Date Signed

Approved by: Frank Jape
F. Jape, Section Chief
Engineering and Technical Inspection Division

1/6/82
Date Signed

SUMMARY

Inspection on December 10-19, 1981

Areas Inspected

This routine, unannounced inspection involved 63 inspector-hours on site in the areas of containment integrated leakage rate testing.

Results

Within the scope of this inspection no violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*J. Wilson, Plant Manager
*R. Saunders, Assistant Plant Manager
R. Blount, Test Director

Other Organizations

Stone and Webster

H. Kunkel
M. O'Rourke

NRC Resident Inspector

*D. Burke
*M. Davis

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 23, 1981 with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Containment Integrated Leakage Rate Testing (CILRT)

During the period from December 10-23, the inspector and resident NRC inspectors witnessed preparations for and performance of the CILRT for Unit 2 of the Surry Nuclear Plant. Due to delays prior to initiation of containment pressurization, performance of the CILRT was observed by the resident inspectors while transmitting the details of the test to the Region II office.

Containment pressurization was initiated at 2350 hours on 12-15-81. During pressurization, leakage was noted past vent system valve MOV-VS-200B. Pressurization was secured and valve MOV-VS-200B was determined to be partially open as a result of personnel opening the breaker before the valve was fully shut. The valve breaker was then closed and the valve stroked to a fully closed position resulting in elimination of the leakage. Pressurization was restarted and continued to 61.58 psia test pressure. Leakage to atmosphere at electrical penetration A-18 was discovered and several other electrical penetrations were found to be pressurized indicating leakage into the penetrations from the containment. Leakage from penetration A-18 was of sufficient magnitude such that containment maximum allowable leakage rate was exceeded. Efforts were made to stop the leakage such as application of an air-block applied to penetration A-18 without success. Subsequently, a loose collar bushing was found on the electrical connector on penetration A-18 and was tightened thereby reducing the leakage to an acceptable level. The integrated leak rate test was for record purposes considered a failure. In accordance with Appendix J to 10CFR50 Surry Unit 2 will be subjected to additional integrated leakage rate tests at each plant shutdown for refueling or approximately every 18 months whichever occurs first until two consecutive tests meet the acceptance criteria.

Without depressurizing the containment a new CILRT was initiated. Data taking continued for approximately 16 hours. Following are test results based on the absolute test method mass point analysis, and the test acceptance criteria:

Calculated leakage rate	0.037%/day
Upper 95% confidence level	0.038%/day
Maximum allowable leakage rate	0.1%/day
75% of maximum allowable leakage rate	0.075%/day

The acceptance criteria for the CILRT requires that the upper bound of the leakage rate calculated at 95% confidence level plus any required local leakage rate additions shall be less than 75% of maximum allowable leakage rate. Subsequent to the completion of the tests described above, the licensee agreed to repeat local leak rate tests on all electrical penetrations at full pressure (Pa). The total local leakage (containment penetrations and isolation valves) to be added to the containment calculated integrated leakage rate is 0.00129%/day or 3.87 SCFH. Accordingly, 0.038%/day + 0.00129%/day does not exceed 0.075%/day and is therefore acceptable. The results of the CILRT including the adjustments for local leakage rate testing will be submitted in a test report to the Commission.