



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

Report Nos.: 50-338/84-23 and 50-339/84-23

Licensee: Virginia Electric and Power Company
Richmond, VA 23261

Docket Nos.: 50-338 and 50-339

License Nos.: NPF-4 and NPF-7

Facility Name: North Anna 1 and 2

Inspection Dates: June 20 - 22, 1984

Inspection at North Anna site near Mineral, Virginia

Inspector: J. J. Lenahan
J. J. Lenahan

7/2/84
Date Signed

Accompanying Personnel: F. Jape (June 21 - 22)
G. A. Schnebli

Approved by: Frank Jape
F. Jape, Section Chief
Engineering Branch
Division of Reactor Safety

7/3/84
Date Signed

SUMMARY

Areas Inspected

This routine, unannounced inspection involved 38 inspector-hours on site in the areas of the snubber surveillance program and Type C leak testing.

Results

No violations or deviations were identified.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *S. B. Eisenhart, Licensing Coordinator
- *E. W. Harrell, Station Manager
- *L. A. Johnson, Superintendent, Technical Services
- *R. K. Sharp, Associate Engineer

Other licensee employees contacted included one operator and two mechanics.

NRC Resident Inspector

- *M. Branch

*Attended exit interview.

2. Exit Interview

The inspection scope and findings were summarized on June 22, 1984, with those persons indicated in paragraph 1 above. The licensee acknowledged the inspection findings with no dissenting comments.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Independent Inspection Effort (92706)

The inspectors witnessed local leak rate (Type C) testing of containment penetration number 113, a high head safety injection line. The inspectors verified the valve lineup (positions) outside containment and observed the rotameter during the test. No leakage was observed.

Within the areas inspected, no deviations or violations were identified.

6. Snubber Surveillance Program (61729)

As a result of problems identified with the snubber surveillance program at the licensee's Surry Nuclear Station, NRC Region II requested that the licensee perform a detailed review of the snubber surveillance program at North Anna. The results of this review were summarized in the licensee's June 11, 1984 letter to NRC Region II, subject: North Anna Power Station Snubber Surveillance Program. The inspectors discussed the results of this review with licensee engineers, reviewed procedures and quality records

related to the snubber surveillance program, and inspected selected snubbers installed on piping in the elevation 244 Unit 1 west penetration area. Acceptance criteria examined by the inspector appear in Unit 1 and 2 Technical Specifications 3/4.7.10.

a. Results of Licensee's Review of North Anna Snubber Surveillance Program.

As stated above, the licensee performed a detailed review of the North Anna snubber surveillance program. The licensee's review was performed to verify that:

- Non-Ethylene propylene (EP) seal material has been removed from all small bore hydraulic snubbers.
- Visual and functional testing of snubbers is properly controlled, documented, and performed at correct frequencies.
- Testing as a result of visual or functional test rejection is correctly programmed and conducted.
- A service life program is established and implemented for all snubbers.
- The controls exist and are properly used to analyze the impact of snubber test rejection on the associated piping systems and attached components.
- Controls are in place and implemented to account for snubber changes as a result of design changes or test rejection.

After evaluation of the snubber surveillance program, the licensee identified four major deficiencies. These deficiencies, which were documented on deviation reports (DR), were as follows:

- Snubbers which are required to be operable during Modes 5 and 6 were not listed in the Performance Test procedure. This problem was documented on DR 84-700.
- Snubber service life records were not maintained per the requirements of the Technical Specifications. This problem was documented on DR 84-701.
- Technical Specification 4.7.10.c requires a generic review of snubber functional test failures. This review was performed; however, it has not been documented per the Technical Specification requirements. This licensee identified item was documented on DR 84-702.
- The listing of safety-related snubbers contained in the performance test procedure and the Technical Specification Tables 3.7-4a was incomplete. This problem was documented as DR 84-699.

The corrective action to resolve these problems was as follows:

- A computer list of snubbers has been generated to list the snubber mark numbers, location, system, and indicate whether or not they are required in Modes 5 and/or 6. All snubbers are required for modes 1 through 4.
- A detailed review of the snubber service life program is being conducted. For the purposes of functional testing, the snubbers have been divided into 6 groups (Groups A through F). There are approximately 85 snubbers in each group. All the snubbers in a group are tested during each refueling outage to comply with the requirements of Technical Specification 4.7.10.c. Snubbers from Group B are being functionally tested during the current outage. In addition to the Group B snubbers, approximately 215 additional snubbers are being functionally tested during the current outage to verify snubber seal life. Samples of the seals will be sent to an offsite laboratory to confirm that they were fabricated from ethylene-propylene (EP) materials. A listing of all snubber service life, installation and maintenance records is being compiled. All snubbers with questionable seal materials will be either replaced or rebuilt using EP type seals.
- The performance test procedures will be revised to require documentation of the generic review of snubber functional test failures.
- A review of all design changes or other engineered modifications will be made to ensure that all safety-related snubbers are included in controlled snubber listings. Performance Test procedures and snubber service life records will be revised to include all snubbers in the Controlled Snubber Listings.

The inspectors discussed the above corrective actions with licensee engineers and reviewed the schedule for completion of the corrective action. The licensee's corrective actions will be reviewed in detail during future NRC inspections to verify its adequacy and completeness.

b. Review of Snubber Surveillance Procedures

The inspectors examined the following procedures which control the snubber surveillance program:

- (1) Procedure 1-PT-79.0, Snubber Maintenance Tracking Procedure
- (2) Procedure 1-PT-79.1, Hydraulic Snubbers Accessible for Visual Inspection During Reactor Operation
- (3) Procedure 1-PT-79.2, Hydraulic Snubbers Not Accessible for Visual Inspection During Reactor Operation

- (4) Procedure 1-PT-79.3, Hydraulic Snubber Functional Testing
- (5) Procedure 1-PT-79.5, Mechanical Snubber Functional Testing
- (6) Procedure MD ADM 7.0, ITT Grinnell Shock and Sway Suppressor Operating and Maintenance Instructions
- (7) VEPCO Engineering Study 78-02

c. Inspection of Snubbers

The inspectors performed a visual inspection of snubber numbers 1-CH-HSS-190 and 191, and 1-CC-HSS-412. These snubbers are located in the Unit 1 elevation 244 west penetration area. The inspectors verified that the snubber attachments to piping and components were secure, that there was no visual indication of damage or impaired operability, that fluid reservoirs were more than half full, and that there was no leakage from fluid connections.

d. Review of Quality Records

The inspectors reviewed quality records documenting inspection and functional testing of Unit 1 snubbers. Records reviewed were as follows:

- (1) Results of visual inspection, including the operability and engineering review of the inspection results, of accessible snubbers.
- (2) Results of field inspections of inaccessible (during operation) snubbers completed as of the inspection date.
- (3) Results of functional testing of Group B snubbers completed as of June 21, 1984.

During visual inspection of the accessible snubbers, four snubbers were identified that had low fluid levels (i.e., reservoirs were less than half full). The licensee plans to evaluate these snubbers per the requirements of Engineering Study 78-02 to determine if these snubbers are operable. The licensee has completed functional testing of 60 of the Group B snubbers. The test results indicate that approximately ten snubbers demonstrated bleed rates outside the administrative limits stated in procedure PT-79.3. An engineering evaluation will be performed to determine if these snubbers are acceptable, or if additional functional testing will be required to meet Technical Specification 4.7.10.c requirements. Two Group B snubbers were leaking and could not be tested. One Group B snubber failed to lock-up when it was tested. The Unit 1 functional testing will be completed prior to restart of the Unit.

Within the areas inspected, no deviations or violations were identified.