



UNITED STATES
NUCLEAR REGULATORY COMMISSION

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

Report Nos. 50-338/82-31 and 50-339/82-31

Licensee: Virginia Electric and Power Company
P. O. Box 26666
Richmond, VA 23261

Facility Name: North Anna Units 1 and 2

Docket Nos. 50-338 and 50-339

License Nos. NPF-4 and NPF-7

Inspection at North Anna site near Mineral, Virginia

Inspector: *Kerry D Landis for*
M. B. Shymlock

10/29/82
Date Signed

Approved by: *C. Julian*
C. Julian, Section Chief, Division of Project
and Resident Programs

11/1/82
Date Signed

SUMMARY

Inspection on September 6 - October 5, 1982

Areas Inspected

This routine inspection by the resident inspector involved 142 inspector hours on site in the areas of outage activities, licensee surveillance test program, surveillance and maintenance activities, followup of previously identified items, licensee event reports, and plant operations.

Results

Of the six areas inspected, no violations or deviations were identified in five areas; one violation was found in one area (failure to maintain procedures - paragraph 5).

DETAILS

1. Persons Contacted

Licensee Employees

- *W. R. Cartwright, Station Manager
- *E. W. Harrell, Assistant Station Manager
- *J. A. Hanson, Superintendent - Technical Services
- J. R. Harper, Superintendent - Maintenance
- *D. L. Benson, Superintendent - Operations
- G. Paxton, Superintendent - Administrative Services
- J. M. Mosticone, Operations Coordinator
- J. P. Smith, Engineering Supervisor
- F. Terminella, Engineering Supervisor
- P. T. Knutsen, Engineering Supervisor
- R. A. Bergquist, Instrument Supervisor
- J. R. Stratton, Mechanical Maintenance Supervisor
- D. E. Thomas, Electrical Supervisor
- A. H. Stafford, Health Physics Supervisor
- *A. L. Hogg, Jr., Site QA Manager
- F. P. Miller, QC Supervisor
- M. E. Fellows, Staff Assistant
- *K. A. Huffman, Senior Clerk

Other licensee employees contacted included technicians, operators, mechanics, security force members, and office personnel.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on September 30, 1982, 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. Procedures Not Current

While touring the control room on September 28, 1982, fifteen Operating Procedures (OP) and 5 Abnormal Procedures (AP) in the Unit 2 Visible Files were reviewed to determine if the copies were current.

The Visible Files are white copies of procedures maintained in plastic protective sheets in a large catalog file next to the Shift Supervisor's desk in the center of the control room.

Current procedure dates (effective date) were compared with those procedures reviewed and the following was noted:

<u>Current Procedure Effective Date</u>	<u>Procedure Title</u>	<u>Effective Date of those found in Visible Files</u>
9/23/82	Operating Procedure List	6/10/82
3/24/82	OP-1.3-Unit Startup From Cold Shutdown Condition (Mode 5) to Hot Shutdown Condition (Mode 4) at less than or equal to 350°F.	1/21/82
5/22/82	OP-2.1 Unit Power Operation Mode 2 to Mode 1	11/25/81
9/15/82	OP-5.1 Filling and Venting the Reactor Coolant System	8/13/82
9/22/82	OP-10.2 Degassing the Primary System Utilizing the Gas Stripper (1-BR-EV-2B) while Simultaneously Purging the VCT Gaseous Atmosphere with Nitrogen.	6/26/78
9/15/82	OP-21.1 Containment Ventilation	6/5/80
11/25/81	AP-3 Loss of Vital Instrumentation	5/6/81

Administrative Procedure ADM 29.2, dated August 21, 1981 states in several locations "maintained in the "Visible Files" for immediate reference." If procedures are to be maintained in the Visible Files they must be maintained current. This is a violation and is designated items 338/82-31-01 and 339/82-31-01.

The file cabinets at each end of the control room are used to hold the colored copies of current procedures. The inspector has on several occasions reviewed these file cabinets and found the procedures to be current. These procedures are used to carry out operations evolutions and, upon completion, are routed for filing. However, the procedures in the Visible Files are available for immediate reference, and some OP's can be used for commonly performed evolutions (i.e. rod movements, power changes, C_B changes, chemical feed operation) per ADM 29.2. When the procedures in the Visible Files are used they are not written on and there are no routing requirements.

6. Licensee Event Report (LER) Followup

The following LER's were reviewed and closed. The inspector verified that reporting requirements had been met, causes had been identified, corrective actions appeared appropriate, generic applicability had been considered, and the LER forms were complete. Additionally, for those reports identified by asterisk, a more detailed review was performed to verify that the licensee had reviewed the event, corrective action had been taken, no unreviewed safety questions were involved, and violations of regulations or Technical Specification conditions had been identified.

- *338/82-01 Power range detector N-44 drifted low and was declared inoperable.
- 338/82-51 Source range power level indication was not audible in the containment.
- *339/82-32 One train of the control room bottled air pressurization system had lower pressure than required.

7. Plant Status

Unit 1

The scheduled refueling and maintenance outage continued during this inspection period.

The following items relate to specific Unit 1 activities:

a. Foreign objects Found in Steam Generators A and C

(Closed) 338/82-21-01 - The foreign objects found in the A and C steam generators were identified as inconel nuts from the control rod guide tube support pins. These nuts and their associated support pins have been retrieved.

b. Steam Generator Tube Damage

(Open) 338/82-21-02 - Repair work was started on the C steam generator by B&W. At the end of this inspection period the repairs to the C steam generator were about 80% complete. The repair work on the A steam generator had not begun.

This repair work, being accomplished by remote controlled equipment, includes an inside diameter machine boring, flat face machine milling, followed by a wire brush cleaning.

There were 2 tubes in C steam generator which were flat faced below tolerance. Followup on the resolution of this item is identified as 338/82-31-01.

c. Reactor Coolant System Flow Splitters

(Closed) 338/82-21-03 - Each loop flow splitter has been removed. Visual examination and ultrasonic tests of the RCS piping have been conducted. Both Westinghouse and the licensee have reviewed these results and concluded:

- (1) The only linear indications noted in the B loop stubs were those indicated by the U.T. and one visually observed on the wall stub face.
- (2) These indications will not propagate and therefore no loose parts will be generated.
- (3) Pressure boundary integrity will be maintained.

d. Thermal Sleeves in Reactor Coolant Piping

(Open) 338/82-21-04 - The lower internals package was removed on the weekend of October 2, 1982. The missing thermal sleeve from the A loop 6" safety injection line was discovered and removed. The repair of the 3" charging line thermal sleeve will be started after refueling and after the reactor vessel head is installed.

e. Guide Tube Support Pin Replacement

(Closed) 338/82-18-01 - All 61 guide tubes have been removed and replaced. Followup of control rod drop time test will be identified as inspector followup 338/82-31-02.

f. Power Operation with One Flow Splitter in Place

(Closed) 338/82-18-02 - This item is closed because all loop flow splitters were removed.

g. A Loop Reactor Coolant Pump

(Open) 338/82-18-03 - All of the diffuser adapter cap screws have been replaced on all the reactor coolant pumps.

The material used in these replacement cap screws was SA-453 Grade 660 stainless steel. This material has a higher yield strength than the original bolt material.

The failure mechanism of the original bolts is believed to be stress corrosion cracking. Final documentation of this is pending completion of analysis.

h. Loop Stop Valve Guide Missing

(Open) 338/82-18-04 - There have been four pieces retrieved during the lower internals lift that were identified as valve guide pieces.

Further evaluation is pending to determine if all of the valve guide pieces have been retrieved.

Unit 2

During this inspection period the unit operated at or near capacity load except for two occurrences requiring maintenance. On September 21 the unit was placed in Mode 3 (Hot Standby) to repair excessive leakage on the C main feed pump recirc isolation valve 2-FW-250C. It took approximately 24 hours to bring the unit off line, complete repairs and return to power. On September 27, the unit was reduced to 32% power to repair an air leak on the pneumatic control for B feedwater control valve. About seven hours was needed to make necessary repairs and return to 100% power.

8. Followup of Previously Identified Items

(Closed) 339/81-07-03 - Modification of valve operators on MOV-2536 and MOV-2373. These two valves were modified per Westinghouse recommendation by design change 81-S33. The design change was installed May 18, 1981.

9. Licensees Surveillance Test Program

The licensees Technical Specification (TS) surveillance program was reviewed per Regional Office Notice No. 0551 dated September 17, 1982. The following information relates to areas reviewed per this notice:

C.1.a., C.1.b., C.1.c. - Per the licensee's Administrative Procedure, (ADM) 24.0 Adherence to Technical Specifications, dated April 21, 1982, the Station Nuclear Safety and Operating Committee (SNSOC) will review and approve all North Anna Power Station Technical Specification changes before they are submitted to the NRC for approval. During this review and approval period the SNSOC will determine the affected department(s) and will distribute the Submitted Technical Specification Change Sheet, attachment 1 of ADM-24.0. This change sheet requires specific action from the identified department(s). This action may include identifying, changing and revising affected documents (i.e. procedures, instructions, surveillance items, or drawing changes, etc.).

Engineering Administrative Procedure 19, Engineering Administrative Procedure Periodic Testing, provides the method and documentation required to insure maintenance of Periodic Testing Program integrity when surveillance requirement changes are made.

Five of the most recent amendments were reviewed by the inspector (Unit 1 amendment Nos. 38-42, Unit 2 Amendment Nos. 21-26) to determine if surveillance activities required were implemented.

During review of Unit 2 amendment 25 it was noted that 2 Periodic Tests were not revised to add several tests to specific valves (i.e. TV-SS203A, TV-SS203B, TV-DA203A, TV-DA203B).

However these valve tests are still within the required surveillance period (18 months). The amendment was dated May 25, 1982. This is identified as inspector followup item 339/82-31-02.

The other amendments reviewed had no items of concern and were properly implemented. Engineering Administrative Procedure No. 19 will be revised to assure that all applicable Periodic Tests affected by an amendment are identified. This is identified as inspector followup item 338/82-31-03 and 339/82-31-03.

C.1.d. The following periodic tests were reviewed for Unit 2 and all the requirements were being met.

2-PT-10	Determination of Shutdown Margin
2-PT-23	Quadrant Power Tilt Ratio
2-PT-20.1	Axial Flux Difference
2-PT-24	Calorimetric
2-PT-34.3	Turbine Valve Freedom Test
2-PT-37	Radiation Monitoring Equipment Check
2-PT-57.2	Valve Inservice Test
2-PT-80	Offsite A.C. Sources
2-PT-100.1	Motor Driven Fire Protection Pump
2-PT-100.1.2	Diesel Driven Fire Protection Pump

C.1.e.(1) - The licensee Quality Assurance department has committed to conducting a 100% review of surveillance requirements by mid November 1982. This is identified as inspector followup item 338/82-31-04 and 339/82-31-04.

C.1.e (2) - The licensee Quality Assurance department has committed to modifying their Periodic Test Audit program to include a review of the technical adequacy of the surveillance procedures. This is identified as inspector followup items 338/82-31-05 and 339/82-31-05.

C.1.e.(3) - The Quality Assurance Periodic Test Audit program will be revised to include review of surveillance requirements implemented per amendment changes. This is identified as inspector followup items 338/82-31-06 and 339/82-31-06.

No violations were identified in these areas.

10. Routine Inspection

Containment entries were made during the current Unit 1 refueling maintenance outage. These entries were made to observe work in progress, overall housekeeping, adherence to health physics requirements and witnessing of fuel handling and maintenance activities.

By observations during the inspection period, the inspector verified that the control room manning requirements were being met. In addition, the inspector observed shift turnovers to verify that continuity of system

status was maintained. The inspector periodically questioned shift personnel relative to their awareness of plant conditions.

Through log reviews and direct observation during plant tours, the inspector verified compliance with selected Technical Specification Limiting Conditions for Operation.

During the course of these inspections, observations relative to protected and vital area security were made, including access controls, boundary integrity, search, escort, and badging.

On a regular basis radiation work procedures (RWP's) were reviewed and the specific work activity was monitored to assure the activities were being conducted per the RWP's. Radiation protection instruments were verified operable and calibration/check frequencies were reviewed for completeness.

The inspector kept informed on a daily basis of overall status of both units and of any significant safety matter related to plant operations. Discussions were held with plant management and various members of the operation staff on a regular basis. Selected portions of operating logs and data sheets were reviewed daily.

The inspector conducted various plant tours and made frequent visits to the control room. Observations included: witnessing work activities in progress, status of operating and standby safety systems and equipment, confirming valve positions, instrument readings and recordings, annunciator alarms, housekeeping and vital area controls.

No violations were identified in these areas.