UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-338/85-31 and 50-339/85-31

Licensee: Virginia Electric & Power Company
Richmond, VA 23261

Docket Nos.: 50-338 and 50-339

Facility Name: North Anna 1 and 2

Inspection Conducted: November 4 - December 1, 1985

Inspectors: S. Grunther for 12/16/85
M. W. Branch, Senior Resident Inspector Date Signed

Gregory A. Pick 12/16/85
G. A. Pick (Section 7 & 13) Date Signed

Approved by: S. Elrod 12/16/85
S. Elrod, Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine inspection by the resident inspector involved 101 inspector-hours on site in the areas of licensee event report (LER), engineering safety features (ESF) walkdown, operational safety verification, monthly maintenance, monthly surveillance, and refueling activity.

Results: Of the areas inspected, no violations or deviations were identified.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

*E. W. Harrell, Station Manager
*D. B. Roth, Quality Control (QC) Manager
G. E. Kane, Assistant Station Manager
*E. R. Smith, Assistant Station Manager
*R. O. Enfinger, Superintendent, Operations
*J. R. Harper, Superintendent, Maintenance
A. H. Stafford,Superintendent, Health Physics
J. A. Stall, Superintendent, Technical Services
*G. J. Paxton, Supervisor, Administrative Services
J. R. Hayes, Operations Coordinator
D. A. Heacock, Engineering Supervisor
D. E. Thomas, Mechanical Maintenance Supervisor
E. C. Tuttle, Electrical Supervisor
R. A. Bergquist, Instrument Supervisor
F. T. Terminella, QA Supervisor
R. S. Thomas, Supervisor Engineering
*G. H. Flowers, Nuclear Specialist
J. H. Leberstein, Licensing Coordinator

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

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 2, 1985, with those persons indicated in paragraph 1 above. The licensee acknowledged the inspectors findings. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors during this inspection.

3. Licensee Action on Previous Inspection Findings

This area was not inspected.

4. Unresolved Items

An unresolved item (UNR) is a matter about which more information is required to determine whether it is acceptable or may involve a violation or deviation.

One unresolved item was identified during this inspection and is discussed in paragraph 13.

5. Plant status

Unit 1

The refueling outage continued, with the following major activities being accomplished:

- Overhaul of the 1H and the 1J emergency diesel generator engines.
- Replacement of the 1-1 and 1-2, 125 volt DC vital batteries.
- Inspection and repairs to the high pressure turbine and rotor.
- Inspection and repair of tubes in the three steam generators.
- Repair and cleaning of the service water system.
- Inspection and testing of the reactor trip breakers.
- Inservice inspection of primary and secondary systems.
- Type "C" leakrate testing.
- Computer tie-in for the safety parameter display system (SPDS).

Unit 2

The unit operated at or near 100% power throughout the inspection period.

6. Licensee Event Report (LER) Follow-Up

The following LERs were reviewed and closed. The inspector verified that reporting requirements had been met, that causes had been identified, that corrective actions appeared appropriate, that generic applicability had been considered, and that the LER forms were complete. Additionally, the inspectors confirmed that no unreviewed safety questions were involved and that violations of regulations or Technical Specification (TS) conditions had been identified.

(Closed) LER 338/84-13, Liquid waste discharge without demineralizer treatment. The corrective action specified in this LER failed to prevent a similar event on June 1, 1985, which was the subject of a notice of violation documented in Inspection Report 338, 339/85-18. The licensee has modified procedure 1-OP-22.14, "Clarifier Discharge Demineralizers", to require verification of valve position prior to discharge.

(Closed) LER 339/85-10, Plant shutdown required by TS due to an inoperable emergency diesel generator. Details of the diesel generator failures are discussed in paragraphs 5 and 12 of Inspection Report 338, 339/85-27.

(Closed) LER 338/85-11, Plant shutdown required by TS due to an inoperable emergency diesel generator. Details of the diesel generator failures are discussed in paragraph 12 of Inspection Report 338, 339/85-27.

(Closed) LER 338/85-15, Plant shutdown required by TS due to high reactor coolant system leakage. Details of the event described in this LER are discussed in paragraph 5 of Inspection Report 338, 339/85-26.

(Closed) LER 338/85-13, Operability of the reactor vessel level indication system (RVLIS). A notice of violation was issued in Inspection Report 338,339/85-22 for the failure to maintain the RVLIS operable during plant operations.

7. Follow-up of Previously Identified Items

(Closed) IFI 338, 339/85-03-02, Refueling water storage tank system walkdown discrepancies. The inspector verified that the licensee corrected the identified discrepancies.

(Closed) IFI 338, 339/85-12-02, Changes to hydrogen recombiner test procedure. The inspector verified that 1-PT-68.1.1, 1-PT-68.1.2, 1-PT-68.2.1, and 1-PT-68.2.2, were revised and approved on August 8, 1985, thereby resolving the inspector's concern.

(Closed) IFI 338, 339/85-05-02, Battery procedure problems. The inspector reviewed the licensee's actions for the various items identified. Procedures were modified as required and battery level correction factors were validated.

(Closed) IFI 338, 339/85-12-05, Correction of diesel air lineup discrepancies. The inspector verified that operating procedure (OP) 2-OP-46.4A, "Diesel Air System Valve Lineup" was modified to correct the discrepancy between ADM 19.29 and the valve lineup procedure. Additionally, on November 27, 1985, the inspector verified that the air leaks, identified in Inspection Report 338, 339/85-12, were corrected.

8. Monthly Maintenance

Station maintenance activities affecting safety related systems and components were observed/reviewed, to ascertain that the activities were conducted in accordance with approved procedures, regulatory guides and industry codes or standards, and in conformance with Technical Specifications. The inspector monitored those maintenance items listed in paragraph 5 of this report, paying close attention to the diesel generator overhaul.

9. Monthly Surveillance

The inspectors observed/reviewed technical specification required testing and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting conditions for operation (LCO) were met and that any deficiencies identified were properly reviewed and resolved.

On November 4, 1985, the inspector witnessed portions of Periodic Test (PT) 1-PT-70, dated 08-15-85, "Main Steam Safety Valve Set Point Verification". The test is required by TS 4.7.1.1 to be accomplished in accordance with section XI of the 1974 ASME code. Subsection IWV-3500 of section XI, which specifies testing requirements for safety valves, states that set points

shall be tested in accordance with American Society of Mechanical Engineers (ASME) Power Test Code (PTC) 25.2-1966. During the test the inspector noted that the PT procedure only required one test of each valve set point when accomplished in place, however, if the valves were removed and sent off-site for testing, the procedure required at least three lifts of the valve to establish the set point.

Subsequent review of the requirements established by PTC 25.2-1966, indicated that the test method used by the licensee was not addressed by the code. The licensee uses pneumatic assist equipment, allowed by section XI, to lift the valve, where the PTC describes a method of adjusting steam pressure below the valve seat to lift the valve. The inspector noted that PTC 25.2-1966 did allow other testing methods; provided the accuracy and reliability of the alternate procedure was equivalent to those established by the code, and provided the mandatory requirements of the code were satisfied. Additionally, PTC 25.2-1966 appeared to require at least two lifts of the valve to establish the set point, where 1-PT-70 which was developed from test procedure (T-1652-2), provided by the valve vendor, required only one lift to establish the valve set point. However, the vendor supplied test procedure did recommend additional lifts of the valve to improve the accuracy of the test.

The inspector requested the licensee provide proof of equivalence between the required method of testing and the actual method of testing, which only required one lift of the valve to establish the set point. After telephone conversations between the licensee, the vendor, NRR and Region II personnel, and after the licensee provided additional information, it was agreed, based on the vintage of the licensee code commitment that more than one lift of the valves was not necessary. However, all parties did agree that multiple lifts of the valve would produce more accurate results, and is required by the newer revisions of the ASME code. The licensee committed to modifying their procedure to require multiple lifts of the valves during future testing.

The modification of the licensee's test procedure, for both units, prior to subsequent test is identified as IFI 338, 339/85-31-01.

10. ESF System Walkdown

The following selected ESF systems were verified operable by performing a walkdown of the accessible and essential portions of the systems on November 27 and December 1, 1985.

Unit 2

Diesel Starting Air (2-OP-46.4A)

At the completion of the walkdowns, the inspector provided the licensee the following comments:

a. Valves identified by labels as 2-EB-69, 2-EB-56, and 2-EB-57 are incorrectly listed on the lineup sheet.

b. Small air leaks were noted on valves 2-EB-66, 2-EB-49, 2-EB-38, and 2-EB-81.

c. Valve 2-EB-88, which is the after cooler water trap blowdown valve on the 2J diesel starting air system, appeared to be shut when the valve lineup called for the valve to be open. The licensee investigated the reason the valve was out of position and reopened the valve. The mispositioning of this valve does not affect system operations, however, automatic blowdown of the water trap is a design feature of the system to reduce the possibility of moisture buildup.

d. Valve lineup sheet for valve 2-EB-45, contains an editorial error, in that, the valve position is listed under the valve name column of the lineup sheet.

Correction of these discrepancies is identified as IFI 339/85-31-02.

11. Routine Inspection

By observations during the inspection period, the inspectors verified that the control room manning requirements were being met. In addition, the inspectors observed shift turnover to verify that continuity of system status was maintained. The inspectors periodically questioned shift personnel relative to their awareness of plant conditions.

Through log review and plant tours, the inspectors verified compliance with selected Technical Specification (TS) and Limiting Conditions for Operations.

During the course of the inspection, 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 permits (RWP) were reviewed and the specific work activity was monitored to assure the activities were being conducted per the RWPs. Selected radiation protection instruments were periodically checked and equipment operability and calibration frequency was verified.

The inspectors 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 operations staff on a regular basis. Selected portions of operating logs and data sheets were reviewed daily.

The inspectors conducted various plant tours and made frequent visits to the Control Room. Observations included: witnessing work activities in progress; verifying the status of operating and standby safety systems and equipment; confirming valve positions, instrument and recorder readings, annunciator alarms, and housekeeping.

12. Administrative Problems Associated With Procedures and Safety Committee Meeting Minutes

Inspection Reports 338, 339/85-22 and 85-18 as well as Inspection Report 338, 339/84-37 have identified administrative problems associated with the licensee's procedures approval process. Specifically, station administrative procedures allow the use of approved draft (hand-written) procedures as an interim measure while the final procedure is being typed and proofed. The current turnaround time for final typed procedures is approximately 2-3 months, with a backlog of approximately 1,000 procedures. The use of interim procedures as described in the above reports has, in part, been responsible for two violations of technical requirements. The licensee's response to the latest of these violations indicates the practice of allowing the use of handwritten procedures will continue, however, the response did charge the cognizant department supervisor with the responsibility of assuring the handwritten procedure is legible and orderly.

There is no regulatory basis for insisting that only typed procedures be utilized; however, the fact that hand-written procedures have led to past technical problems would seem to warrant a quicker final procedure turnaround time. This administrative support problem affects other areas as well as procedures. There presently exists a backlog of approximately one year of meeting minutes from the Station Nuclear Safety and Operating Committee (SNSOC). These minutes are considered quality records and are required by technical specifications to be retained for the duration of the facility. The SNSOC does not approve these minutes until they are in the final typed form, thereby creating an approximate one year delay in processing these quality records.

The inspector will closely monitor the licensee performance in this area and will periodically reassess the licensee backlog of procedures and SNSOC minutes.

13. Refueling Activities (60710)

The inspector monitored the licensee refueling activities, observing the following:

- Refueling equipment, TS required surveillances were accomplished.
- Proper refueling water levels were established and verified.
- Plant conditions were maintained as required by TS.
- Licensee staffing was in accordance with TS.
- Housekeeping in the area of the open vessel was adequate.

The licensee did experience several problems with the fuel transfer equipment. The problems were associated with the drive mechanism for the transfer cart and may have been caused, in part, by the licensee bypassing of the limit switches associated with the transfer cart. These limits are not discussed in the Updated Final Safety Analysis Report (UFSAR), however, the design basis of the system as described in section 9.1.4.1 of the UFSAR, is to have provisions to avoid the dropping or jamming of fuel assemblies during transfer operations. One of the equipment breakdowns occurred when a fuel element was being transferred between the spent fuel pool and the reactor. The element was safely returned to the spent fuel storage location while underwater repairs were being made to the transfer cart. This item was discussed with the licensee and is considered unresolved pending determination of equipment limit switch requirements (338/85-31-02).