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

Report Nos.: 50-338/84-20 and 50-339/84-20

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 11-14, and June 19-22, 1984

Inspection at North Anna site near Mineral, Virginia

Inspector: Johnny L. Mathis 7/5/84
J. L. Mathis Date Signed

Approved by: Francis Jape 7/5/84
F. Jape, Section Chief Date Signed
Test Program Branch
Division of Reactor Safety

SUMMARY

Areas Inspected:

This routine unannounced inspection involved 50 inspector-hours on site in the areas of Preparation for Refueling (60705), Refueling Activities (60710); Spent Fuel Pool activities (86700) and Plant tour (92706).

Results:

No violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

*E. W. Harrell, Station Manager
*S. B. Eisenhart, Licensing Coordinator
*L. A. Johnson, Supt. Technical Services
*A. H. Stafford, Supervisor, Health Physics
J. Hayes, Operations Coordinator
*L. O. Silman, QC Engineer
A. Neufer, Refueling Coordinator
J. Smith, Supervisor, Test Performance
R. Teague, Fuel Resource
L. Fox, Fuel Resource
V. West, Planning and Scheduling

Other licensee employees contacted included one technician and one operator.

NRC Resident Inspector

*M. Branch, Senior Resident Inspector

*Attended exit interview

2. Exit Interview

The inspector scope and findings were summarized on June 22, 1984, with those persons indicated in paragraph 1 above. The following inspector followup item was discussed. The licensee acknowledged the inspector's findings with no significant comment.

- Inspector Followup Item (IFI) 338/84-20-01 - Unknown cause of failed fuel assemblies during first cycle - paragraph 8.

3. Licensee Action on Previous Enforcement matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Plant Tours (Units 1 & 2) (92706)

The inspector conducted plant tours periodically during the inspection interval to verify that monitoring equipment was recording as required, equipment was properly tagged, operations personnel were aware of plant conditions, and plant housekeeping efforts were adequate. The inspector also determined that appropriate radiation controls were properly established, critical clean areas were being controlled in accordance with procedures, excess equipment or material was stored properly and combustible

material and debris were disposed of expeditiously. During tours, the inspector looked for existing fluid leaks, piping vibration, pipe hanger and seismic restraint settings, various valve and breaker positions, equipment caution and danger tags, component positions and status, adequacy of fire fighting equipment, and instrument calibration dates.

Within the areas inspected no violations or deviations were identified.

6. Preparation for refueling (60705)

During the Unit 1 refueling outage, the inspector reviewed the licensee's controlling procedure for refueling, 1-OP-4.1, which provided the overall instructions for making core alterations, the surveillance testing required by Technical Specifications, limitations and preparation, and prerequisites necessary for preparing the unit for refueling.

The inspector verified that initial preparation and conditions were noted and satisfied prior to reactor head removal in accordance with MMP-C-RC-15A. The licensee removed the upper internals on June 17, 1984. The inspector verified that the following periodic tests (PTs) had been completed within the last 100 hours prior to core alterations:

1-PT-38.1.2, Manipulator Area Monitor

1-PT-38.1.5, Containment Particulate Monitor

1-PT-38.1.6, Containment Gaseous Monitor

1-PT-91, Containment Penetration Closure

1-PT-92.1, Manipulator Crane Operability (Hoist)

1-PT-92.2, Manipulator Crane Operability (Aux. Hoist)

The periodic tests categorized above were witnessed by the inspector to ascertain procedural and performance adequacy. The completed test procedures examined were analyzed for embodiment of the necessary test prerequisites, preparations, instructions, acceptance criteria, and sufficiency of technical content.

The selected tests witnessed were examined to ascertain that current written approved procedures were available and in use, that test equipment in use was calibrated, that test prerequisites were met, system restoration completed, and test results were adequate.

Within the areas inspected no violations or deviations were identified.

7. Refueling Activities (60710)

Unit 1, End of Cycle 4 (EOC 4) off-load started June 15, 1984, and ended June 20, 1984. The inspector witnessed fuel handling activities from the control room and spent fuel pool to verify the following:

a. Direct communication was established between the control room, reactor building and spent fuel pool area.

b. Staffing requirements were in accordance with TS.

c. Control of personnel access to the spent fuel pool areas was established.

d. Changes to the procedures were made in accordance with administrative procedures.

e. The controlling procedures were reviewed and approved.

f. Appropriate steps and QA hold points were signed off.

g. Licensee maintained good housekeeping in the refueling and spent fuel pool areas.

h. Radiological controls were maintained in accordance with approved procedures.

Fuel assemblies were removed from the core to the spent fuel pool in accordance to fuel shuffle/VNF-7 utilizing the tool handling instruction from 1-OP-4.7 through 1-OP-4.15. The licensee performed an inspection of upper and lower reactor internals following removal of fuel from the core by utilizing a high resolution TV camera

Within the areas inspected no violations or deviations were identified.

8. Spent Fuel Pool Activity (86700)

During the refueling fuel shuffle, the inspector witnessed fuel handling operations in the spent fuel pit area in order to verify that activities were being performed in accordance with Technical Specifications and approved procedures. The inspector verified that procedures relating to fuel handling operations included the following:

1) A limitation on the number of fuel assemblies that could be out of safe geometry locations at the same time

2) Provisions for verifying prior to fuel handling operations that the spent fuel pit bridge crane interlocks on physical stops were tested

3) Provisions for verifying prior to fuel handling operations that the spent fuel area ventilation system was operating as required

4) Provisions for verifying that minimum water level requirements were monitored during fuel handling operations

5. Provisions for verifying that the spent fuel pool storage area radiation monitors were operable

6. Provisions for verifying that the spent fuel pool cooling and clean-up system was operable

Other activities witnessed by the inspector included General Electric (GE) vacuum sipping of the off load fuel assemblies in the spent fuel pool area. The inspector verified that fuel sipping operation was performed in accordance with 1-TOP-4.1A. Movement of spent fuel assemblies into and out of GE equipment was administratively controlled by VEPCO personnel, although GE personnel only were to operate their data acquisition system and detector electronics.

GE had two sipping canisters installed in the west end of the spent fuel pool to perform sipping in a timely manner. A copy of 1-TOP-4.1A was maintained by GE in the sipping area.

The inspector at the exit meeting, held June 22, 1984, mentioned to plant management concerns that were witnessed during fuel sipping operation.

Contrary to the precautions of 1-TOP-4.1A, the following were noted by the inspector:

a. All hand tools in the spent fuel pool area were not secured by rope or lanyard to prevent loss in the spent fuel pool.

b. There was no strict control of tools used in the vicinity of the spent fuel pool.

Since fuel sipping operations were performed in the remote west end of he spent fuel pool, there was no fuel storage in the immediate vicinity of the sipping process. No violation of NRC requirement existed; however, the two concerns above are self imposed conditions that the licensee failed to comply with precautions of 1-TOP-4.1A.

At the end of the inspection period, the licensee had confirmed eight leakers and six suspected leakers. Out of the eight confirmed leakers, six were first cycle fuel assemblies. The licensee plans to evaluate what caused the first cycle leakers. This problem is under review by the licensee and the NRC (IFI 338/84-20-01).