



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

APR 08 1985

Report Nos.: 50-338/85-06 and 50-339/85-06

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 Conducted: March 11-14, 1985

Inspectors: W. W. Peery 4/4/85  
W. W. Peery Date Signed

Accompanying Personnel: T. G. Lee

Approved by: G. R. Jenkins 4/4/85  
G. R. Jenkins, Section Chief Date Signed  
Division of Radiation Safety and Safeguards

SUMMARY

Scope: This routine, unannounced inspection entailed 54 inspector-hours on site in the areas of organization and management controls, training and qualifications, external exposure control and ALARA.

Results: No violations or deviations were identified.

## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*E. W. Harrel, Station Manager
- \*M. L. Bowling, Assistant Station Manager
- R. Infinger, Superintendent of Operations
- \*D. Wagner, Health Physicist, Corporate
- \*A. H. Stafford, Supervisor, Health Physics
- \*F. Terminella, Supervisor, Quality Control
- S. B. Eisenhart, Licensing Coordinator
- \*M. Pinion, Engineering Supervisor
- J. O'Connel, Assistant Health Physics Supervisor
- A. Kozak, Operations Instructor
- J. Breeden, Training Specialist
- \*T. Johnson, Quality Assurance
- \*A. Hogg, Quality Assurance

Other licensee employees contacted included engineers, technicians, and office personnel.

#### NRC Resident Inspector

- \*M. W. Branch

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on March 14, 1985, with those persons indicated in paragraph 1 above. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

### 3. Licensee Action on Previous Enforcement Matters

(Closed) Violation (388, 339/84-40-02) Unmonitored Release of Radioactive Liquid. The inspector reviewed the corrective actions initiated by the licensee in accordance with his letter to the NRC dated December 26, 1984, and concluded that the actions taken should be adequate to preclude recurrence of the violation.

### 4. Organization and Management Controls (83722)

Technical Specification 6.2 described the licensee's organization. Detailed responsibilities and lines of authority were specified in the plant radiation protection plan.

The inspector reviewed changes made to the licensee's organization, staffing levels and lines of authority as they related to radiation protection and radioactive material control and verified that the changes had not adversely affected the licensee's ability to control radiation exposures or radioactive material. Through discussions with Health Physics personnel and other groups, it was determined that the Radiation Protection Manager apparently has adequate responsibility, authority and management support to ensure an effective radiation protection program. The inspector reviewed training and organizational documentation with Radiation Protection Management and supervision and determined that the licensee has been very successful in maintaining a high degree of stability of personnel in the radiation protection program.

No violations or deviations were identified.

5. Training and Qualifications (83723)

a. Basic Radiation Protection Training

The licensee was required by 10 CFR 19.12 to provide basic radiation protection training to workers. Regulatory Guides 8.27, 8.29, and 8.13, outline topics that should be included in such training. The inspector discussed the initial and refresher general employee radiation protection training (GET) with the Training Supervisor and reviewed lesson plans to determine what changes had been made in GET training and the scope of these changes. An inspector attended GET training sessions for selected topics where the program had been changed. The inspector reviewed the GET training records for selected workers to determine if records reflected adequate completion of GET initial and refresher training.

b. Radiation Protection Technician Qualification

The inspector reviewed the program for qualification of contract radiation protection technicians. The inspector discussed with Radiation Protection Management the technicians' previous experience and training to determine if it was comprehensive or if it had been limited to selected tasks. The inspector also discussed the training and qualification program the licensee had provided, what limits had been placed on their activities, and controls that should be established for one task they were qualified to perform.

c. Radiation Protection Foreman Qualifications

Technical Specification 6.3.1 required radiation protection staff to have four years experience in their specialty. The inspector

discussed with Radiation Protection Supervision the radiation protection training and experience and selected duties and responsibilities of the respective positions.

d. Radiation Protection Manager Qualifications

Technical Specification 6.3.1 required that the individual filling the position of Radiation Protection Supervisor meet the qualifications for a Radiation Protection Manager specified in Regulatory Guide 1.8. The inspector discussed with the Radiation Protection Supervisor his training and experience.

No violations or deviations were identified.

e. External Occupational Dose Control and Personal Dosimetry (83724)

During plant tours, the inspector checked the security of the locks at several locked high radiation areas and observed posting of survey results and the use of controls specified on applicable radiation work permits (RWPs).

a. Use of Dosimeters and Controls

The licensee was required by 10 CFR 20.202, 20.201(b), 20.101, 20.102, 20.104, 20.402, 20.403, 20.405, 19.13, 20.407, and 20.408 to maintain worker's doses below specified levels and keep records of and make reports of doses. The licensee was required by 10 CFR 20.203 and Technical Specification 6.12 to post and control access to plant areas. During observation of work in the plant, the inspector observed the wearing of TLDs and pocket dosimeters by workers. The inspector discussed the assignment and use of dosimeters with radiation protection technicians. During plant tours, the inspector observed the posting of areas and observed measurements of dose to assure proper posting. The inspector reviewed recent changes to plant procedures regarding the use of TLDs and dosimeters.

b. Processing of Dosimeters

The inspector discussed with the Dosimetry Supervisor the flow of the TLD badge from its return by a worker through the recording of information (dose) from the readout on the worker's dose record, to determine areas where information could possibly be mishandled. The inspector observed the results of the most recent National Voluntary Laboratory Accreditation Program (NVLAP) tests and audits.

c. Dosimetry Results

Due to unplanned outages of both units at North Anna, the licensee experienced man-rem overruns in excess of projected exposures. The initial exposure estimate was 773 man-rem for calendar year 1984, however, the actual collective exposures of 1918 man-rem was a factor of 2.48 higher than the initial estimate. Barring unforeseen outages, the licensee anticipated a marked decrease in man-rem for the calendar year 1985. For example, as of March 10, 1985, the initial estimate was 42 man-rem and the actual exposures totaled 19 man-rem.

No violation or deviations were identified.

7. Maintaining Occupational Doses ALARA (83728)

10 CFR 20.1(c) specified that licensees should implement programs to keep workers' doses As Low As Reasonably Achievable (ALARA). FSAR Chapter 12 also contains licensee commitments regarding worker ALARA actions.

a. Worker and Supervisor Actions

The inspector discussed dose control measures with radiation protection personnel and with maintenance and operations supervisors to determine their degree of involvement in dose reduction. The inspector also discussed actions to set dose goals for tasks, methods used to reduce doses, and techniques used to monitor performance against goals.

b. ALARA Procedure Changes

The inspector reviewed recent changes to administrative procedures that implemented the elements of ALARA. The inspector discussed these changes with radiation protection personnel.

c. ALARA Reviews

The inspector reviewed the ALARA review documentation for activities during 1984 and through March 1985 and discussed resulting actions with radiation protection personnel.

d. ALARA Reports

The inspector reviewed the ALARA Outage Report for the 1984 outages and discussed the results with the Radiation Protection Manager. The summary of tasks estimate for 1984 was 773 man-rems. The total cumulative dose for 1984 was 1918 man-rems, due to unplanned outages of both units.

No violations or deviations were identified.

## 8. Inspector Followup (92701)

(Closed) Unresolved Item (338, 339/84-40-01) Failure to Make Exit Whole Body Count. The inspector reviewed the actions taken by the licensee to assure that exit whole body counts are performed and concluded that the actions should be effective in assuring that the whole body counts are performed.