



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

Report Nos.: 50-338/83-19 and 50-339/83-19

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 at North Anna site near Mineral, Virginia

Inspector: *A. L. Cunningham* 08/09/83
A. L. Cunningham Date Signed

Approved by: *J. M. Montgomery* 8/10/83
Jm D. M. Montgomery, Section Chief Date Signed
Operational Programs Branch
Division of Engineering and Operational Programs

SUMMARY

Inspection on July 26-29, 1983

Areas Inspected

This routine, unannounced inspection involved 37 inspector-hours on site in the areas of Radiological Environmental Protection including: management and administrative controls; review of previous inspection findings; review of routine and nonroutine reports; status review of radiological environmental monitoring for the period June 1982 through July 1983; verification of siting of selected NRC TLDs colocated with licensee TLDs; review of analytical quality control program; status review of the onsite meteorological measurements program; interlaboratory comparison program.

Results

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

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *G. E. Kane, Assistant Station Manager
- *D. L. Benson, Operations Superintendent
- *F. T. Terminella, Engineering Supervisor
- *A. H. Stafford, Health Physics Supervisor
- *F. P. Miller, Quality Assurance Supervisor
- *A. L. Hogg, Jr., Quality Assurance Manager
- *S. B. Eisenhart, Licensing Coordinator
- *M. G. Pinion, Engineering Design Supervisor
- *M. L. Johnson, Assistant Health Physics Supervisor
- *J. G. O'Connell, Assistant Health Physics Supervisor
- *K. R. LeFevre, Senior Health Physicist

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on July 29, 1983, with those persons indicated in paragraph 1 above. A previous enforcement matter was discussed and pronounced closed.

3. Licensee Action on Previous Enforcement Matters

(Closed) Violation (50-338/81-10-01, 50-339/81-10-01): Failure to audit conformance of facility operation with provisions required by Appendix B Technical Specification 3.2 including radiochemical analysis of environmental samples during calendar years 1979 and 1980. Inspection disclosed that corrective actions committed to by the licensee were implemented as required. There were no further questions regarding this item.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Management Controls

- a. Inspection included a review of management controls and specific discussions with cognizant licensee representatives regarding the application of such controls to ensure implementation of radiological environmental monitoring required by Environmental Technical Specification (ETS) 3.2. The following items were reviewed: (1) responsibility assigned to organizations and individuals to assure required implementation of the monitoring program; (2) environmental monitoring

procedures; (3) quality assurance, including periodic audits and analytical quality control. Analytical quality control is discussed in paragraph 6, below.

- b. The inspector conducted a detailed review, including discussions with cognizant licensee representatives, regarding station and corporate organizational changes to determine the adequacy of specific management responsibility for assuring implementation of the radiological environmental monitoring program. Inspection disclosed that no significant changes were made and that the current organizational structure and specific management assignments should assure continued implementation of the program in accordance with license conditions. There were no questions regarding this item.
- c. Appendix B Technical Specification 5.5 requires preparation and maintenance of procedures to implement the radiological environmental monitoring program required by Technical Specification 3.2 Table 3.2.1. The subject specification further stipulates that procedures will include securing of samples, scheduling, transporting of samples, required sample analysis and reporting of analytical results. These procedures were reviewed in detail during the previous inspection (50-338/82-17, 50-339/82-17, paragraph 5.c); therefore, the current inspection was confined to review and assessment of procedural revisions implemented subsequent to the referenced inspection. Inspection also included review of abstracts of the licensee contractor's (Teledyne Instruments, Inc.) radiochemical analytical and quality assurance procedures. The inspector reviewed revisions to Radiological Monitoring procedure HP-REMM-9, Rev. 5. The subject revision was implemented as part of a corrective action committed to by the licensee in response to the violation regarding periodic audit requirements as cited in NRC Report Nos. 50-338/81-10 and 50-339/81-10. The referenced procedure requires in part, an annual audit of the licensee contractor which routinely conducts all required radiochemical analyses of environmental samples. There were no further questions regarding this item.
- d. Environmental Technical Specification 5.3.2.2.a provides for audit of the conformance of facility operation to all provisions contained within the Environmental Technical Specifications and applicable license conditions at least once per twelve months. Inspection included a detailed review of audits and respective audit checklists of environmental sampling and radiochemical analyses required by Environmental Technical Specification 3.2, Tables 3.2-1 and 3.2-2 during the period June 1982 through July 1983. Radiological environmental sampling is routinely implemented by the licensee; however, radiochemical analyses of environmental samples are conducted by a licensee service contractor, viz, Teledyne Isotopes, Inc. Inspection disclosed that audit of the radiological environmental monitoring program, including the licensee's analytical contractor, is scheduled to be conducted later during the current year. The scheduled audits will be reviewed during a subsequent inspection. The inspector did

review, however, Audit Reports N-82-07 (08/04/82), N-83-18 (02/08/83), and N-83-23 (04/15/83) which addressed the onsite meteorological measurements program, and liquid and gaseous effluent releases, respectively. Inspection disclosed that findings and respective items of concern were resolved following submission of acceptable responses by the appropriate groups involved. There were no questions regarding this item.

6. Analytical Quality Control

Since the licensee has contracted with Teledyne Isotopes, Inc. to analyse all environmental samples, the inspector reviewed the contractor's 1982 Annual Report and Monthly Reports for January 1983 through May 1983. These reports presented quality control data summaries for the analytical results reported therein. The contractor's quality control program consisted of the following: (1) periodic instrument systems calibrations and associated counting efficiencies and background measurements; (2) analysis of spiked, duplicate, replicate, and recount analyses; (3) interlaboratory analytical comparisons and participation in the EPA Cross-Check Program. The latter item is addressed in paragraph 9, below. There were no questions regarding the service contractor's quality control program.

7. Implementation of Radiological Environmental Monitoring Program

- a. Environmental Technical Specification 3.2 defines the requirements for the radiological environmental monitoring program. Inspection included review and discussion of the following items with cognizant licensee representatives: (1) Annual Radiological Environmental Monitoring Report for the period ending December 31, 1982; (2) environmental sampling field data records for the period July 1, 1982, through July 28, 1983; (3) records/invoices of licensee shipments of environmental samples to the contractor for radiochemical analyses during the above cited period; (4) available records verifying receipt of environmental samples by the contractor and analytical results completed and forwarded to license by same during the period January 1, 1983, through May 30, 1983; (5) review of updated licensee radiological environmental monitoring procedures; (6) review of licensee contractor analytical and quality control program and procedures. Inspection disclosed that the above elements of the subject program were consistent with Technical Specification requirements and licensee commitments.
- b. The inspector accompanied a licensee representative on tour and inspection of environmental monitoring stations including the following: (1) air particulate/radioiodine monitoring stations and respective TLD's including those posted by the licensee, Commonwealth of Virginia and the NRC (Sampling stations 1, 3, 5, 7, 2, 21, 22, 23, 24); (2) milk sampling station No. 13. Inspection disclosed that all air particulate stations were operational and were periodically calibrated and maintained as required. Inspection also disclosed that milk

and all required environmental samples were collected and submitted for analysis at the required frequency. There were no questions regarding this item.

8. Review of Interlaboratory Comparison Program

The Bureau of Radiological Health of the Commonwealth of Virginia, under NRC Contract No. 05-80-277, performs environmental sampling at designated locations around the North Anna Power Station as part of the State-licensee split sampling program to evaluate the adequacy of the licensee's radiological environmental monitoring program. The program includes analysis of split and duplicate samples by the Commonwealth and the licensee and comparison of the respective results. The sampling program included the following environmental sampling parameters: air particulates and radioiodine, ambient gamma exposure (TLD), fish, milk, shellfish, vegetation, sediment, ground and surface waters. Inspection routinely involves a review of the State report which summarized State/licensee split and duplicate analytical data on samples collected during the calendar year. The Commonwealth of Virginia's Annual Interlaboratory Comparison Report for the year ending December 31, 1982, was not available for review. This item will be reviewed during a subsequent inspection.

9. NRC TLD Network Program

Inspection included verification of selected NRC TLD stations which were collocated with licensee and Commonwealth of Virginia TLDs. Review of the NRC TLD Network deployment scheme indicated that the following stations were assigned for collocation with licensee TLDs, viz: Stations 2, 3, 16, 22, and 26. Inspection disclosed that the above NRC Stations were collocated with licensee emergency TLD Stations 26, 27, 12, 8, and 4 respectively. Inspection verified that all NRC/licensee collocated TLDs were deployed at the assigned stations. There were no questions regarding this item.

10. Onsite Meteorological Monitoring Program

- a. Appendix B Technical Specification 3.1.4 defines the requirements for onsite meteorological monitoring. The inspector conducted a detailed review of the program to assess its compliance with criteria defined in the referenced specification. The review included the following items: (1) onsite management responsibility for program coordination and implementation; (2) detailed written procedures addressing monitoring, sensor and transmission equipment calibration, maintenance and sensitivity checks including control room and Health Physics recording equipment; (3) inspection of control room, and primary and backup meteorological stations recording equipment (strip chart and magnetic tape in the case of each station); (4) inspection of control room, primary and backup station records and logs documenting required checks, calibration, and maintenance of data recording equipment, sensor and transmission equipment during January 1, 1983 to July 29, 1983; (5) review of LERs and deviation reports submitted during the current year regarding the subject program.

- b. Inspection disclosed that approved written procedures were provided and adhered to for required operation, calibration and maintenance of sensors, transmission and data recording equipment for both primary and backup onsite meteorological monitoring stations. Similarly, an approved administrative procedure was established and followed which provided for periodic checks of control room meteorological data recorders. Review of control room and meteorological station records and logs disclosed that required checks, calibration and maintenance were implemented in accordance with the approved procedures.
- c. Review of nonroutine reports regarding the subject program disclosed that LER 83-002/03L-0 was submitted to the NRC on February 1, 1983 and addressed the recurrent tendency of the primary delta temperature recorder to fade out of the specified design tolerance. The event was caused by instrument drift of the recorder. Corrective action involved satisfactory recalibration of the recorder. The licensee also implemented a study which entails an evaluation of the meteorological monitoring system to determine the adequacy of its design. The scope of the study further includes entire loop accuracies for all instrumentation required by Regulatory Guide 1.23. A previous LER (82-063) addressing this item was issued during 1982. The current LER will remain open until such time that the referenced study associated with the corrective action is completed. During the course of this study, meteorological systems calibrations are conducted on a monthly basis. This item will be reviewed during a subsequent inspection. (50-338/83-19-01, 50-339/83-19-01).
- d. The inspector reviewed current management responsibility for coordination and implementation of the onsite meteorological monitoring program. Inspection disclosed that all elements of the program were implemented as required.