UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report Nos. 50-338/81-10 and 50-339/81-06

Licensee: Virginia Electric and Power Company
Richmond, VA 23261

Facility Name: North Anna Power Station

Docket Nos. 50-338 and 50-339

License Nos. NPF-4 and NPF-7

Inspection at Mineral, Virginia

Inspector: DM Montgomery for
A. L. Cunningham — Date Signed

Approved by: D. Montgomery
D. Montgomery, Acting Section Chief, IMEP Section — 4-24-81 Date Signed

SUMMARY

Inspection on March 23-27, 1981

Areas Inspected

This routine unannounced inspection involved 32 inspector-hours on site in the area of radiological environmental monitoring including: management and administrative controls; quality control of analytical measurements; inspection of selected environmental monitoring stations; review and verification of implementation of environmental monitoring; review of previous enforcement matters.

Results

Of the five areas inspected, no violations were identified in four areas; one violation was found in one area (annual radiological environmental monitoring audits - 50-338/81-10-01, 50-339/81-06-01). No apparent deviations were found in five areas.

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DETAILS

1. Persons Contacted

   Licensee Employees

   *E. W. Harrell, Assistant Station Manager
   *A. H. Stafford, Health Physics Supervisor
   *G. Gilbert, Assistant Health Physics Supervisor
   J. W. White, Station Biologist
   *F. Miller, Quality Assurance Engineer
   R. Shaffer, Quality Assurance Supervisor

   NRC Resident Inspector

   *E. H. Webster

   *Attended exit interview

2. Exit Interview

   The inspection scope and findings were summarized on March 27, 1981 with those persons indicated in Paragraph 1 above. The violation listed herein was discussed.

3. Licensee Action on Previous Inspection Findings

   (Closed) Noncompliance (50-338/80-25-04 and 50-339/80-26-04): Inadequate Milk Sample Preservation Technique. Incompatibility of the milk sample preservation technique with the analytical procedure used for quantifying radioiodine within the sample was identified. Inspection disclosed that the subject preservation technique was modified as required. Accordingly, licensee procedure H. P. REMM-4 was revised and approved on July 2, 1980, to assure implementation of the modified milk sample preservation method involving the quantitative addition of sodium bisulfite. There were no further questions regarding this item.

4. Unresolved Items

   Unresolved items were not identified during this inspection.

5. Management Controls

   a. Management and administrative controls defined in Section 5.0 of the Technical Specifications were reviewed by the inspector with respect to the following items: (1) organization and management responsibility

for the radiological environmental monitoring program; (2) environmental monitoring procedures; (3) quality assurance including periodic audits and analytical quality control.

b. The inspector conducted a detailed review including discussions with cognizant licensee representatives of recent corporate organizational changes to determine the adequacy of specific management responsibility for assuring implementation of the radiological environmental monitoring program. Inspection disclosed that organizational structure and specific management assignments should assure continued implementation of the program in accordance with license requirements. There were no questions regarding this item.

c. Technical Specification 5.5.3 requires preparation and maintenance of procedures to implement the radiological environmental monitoring program. The subject specification further stipulates that procedures will include securing of samples, scheduling, transporting of samples, required sample analysis and reporting of analytical results. Inspection included a comprehensive review of licensee procedures, and all revisions thereof, developed to assure implementation of the radiological environmental monitoring requirements defined in Technical Specification 3.2, Table 3.2-1. Inspection also included review of the licensee vendor's (Teledyne Instruments, Inc.) quality assurance and analytical quality control procedures, the listing of revisions and all revisions thereof. Each revision was reviewed and approved by the licensee. Licensee monitoring procedures reviewed are listed below.

(1) H. P. REMM-1 "Introduction" (9/27/79)
(2) H. P. REMM-2 "Sampling Schedule" (9/27/79)
(3) H. P. REMM-3 "Sampling Locations" (9/27/79)
(4) H. P. REMM-4 "Securing Sampling" (7/2/80)
(5) H. P. REMM-5 "Packaging and Shipping" (9/27/79)
(6) H. P. REMM-6 "Operational Required Analyses and Sensitivities (9/27/79)
(7) H. P. REMM-7 "Reporting Requirements" (9/27/79)
(8) H. P. REMM-8 "Maintenance and Calibration of Monitors" (9/27/79)
(9) H. P. REMM-9 "Quality Assurance" (9/27/79)
(10) H. P. REMM-10 "Emergency Plan TLD's (9/27/79)

Inspection disclosed that all of the above procedures were reviewed and approved as required. Inspection also disclosed that the section of procedure H. P. REMM-4 addressing milk sampling and sample preservation was revised and approved on July 2, 1980, to include the addition of sodium bisulfite to all milk samples as a preservative in response to the enforcement matter discussed in paragraph 3, above. 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 respective radiochemical analyses defined in Environmental Technical Specification 3.2, Tables 3.2-1 and 3.2-2 during calendar years 1979 and 1980. Radiological environmental sampling is routinely implemented by the licensee; however, radiochemical analyses of all samples collected are conducted by a licensee contractor, viz., Teledyne Isotopes, Inc., of Westwood, New Jersey. Audits of the radiological environmental monitoring program selected for inspection included Audit No. N-79-38 conducted on May 4, 1979, and the required annual audit for calendar year 1980. Inspection disclosed the following findings: (1) the annual audit scheduled for calendar year 1980, was not conducted; (2) Audit No. N-79-38, referenced above, was determined to be inadequate based upon failure to include within the scope of such audit the analytical services provided by the above referenced contractor, including analytical procedures, instrument calibration program, and compliance with the analytical quality assurance and quality control programs commited to by the contractor to assure implementation of Technical Specification requirements. In the case of the scheduled 1980 audit a licensee representative stated that the subject audit would be conducted by the VEPCO corporate QA Group instead of Station QA Engineer. This statement was verified by the review of the 1980 QA Audit Schedule. At the time of inspection, the inspectors' discussions with a corporate QA representative disclosed that the scheduled audit of Environmental Technical Specification 3.2 was not implemented as required. Licensee representatives were informed that the above findings constituted a violation of Environmental Technical Specification 5.3.2.2.a, wherein such findings would be cited as two examples of the subject violation (50-338/81-10-01; 50-339/81-06-01). In discussions with licensee representatives regarding the inadequacy of Audit No. N-79-38 cited above, the inspector emphasized the items listed below.

(1) Radiological environmental monitoring defined in Environmental Technical Specification 3.2, Tables 3.2-1, 3.2-2 and 3.2-3 is an integrated program consisting of periodic environmental sampling and the respective radiochemical analyses of samples collected. Hence, annual audit of the specified program should not be confined solely to implementation of environmental sampling requirements, but should also address required environmental sample analyses, respective analytical sensitivities (L.L.D Tables 3.2-2 and 3.2-3), and assessment of the contractor's analytical quality assurance and quality control programs assuring validity and accuracy of such analyses.

(2) Radiochemical analyses of environmental samples conducted by the contractor are, in fact, an extension of the licensee's required function imposed by the subject specification; hence the licensee bears responsibility for assuring the quality and accuracy of the contractor's analytical procedures, quality assurance commitments and analytical results through review and audit, at least, in conformance with the intent of Environmental Technical Specification 5.3.2.2.a.

(3) The term "periodic basis" as used in section 3.3 of licensee procedure H. P.-REMM-9 (Quality Assurance) in reference to conformance of Teledyne's analyses of environmental samples to applicable standards, should be defined to conform, at least, to the minimal annual audit condition imposed by Environmental Technical Specification 5.3.2.2.a. The licensee currently audits the subject contractor on a triennial basis. The above items were discussed with licensee representatives during the exit interview referenced in paragraph 2, above.

6. 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 Environmental Report (as required by Environmental Technical Specification 5.6.1.1) for the periods ending December 31, 1979 and December 31, 1980; (2) environmental sampling field data records for the period January 1, 1980 through March 26, 1981; (3) records/invoices of licensee shipments of environmental samples to contractor for radiochemical analyses during the period January 1, 1980 through March 26, 1981; (4) records verifying receipt of environmental samples by service contractor and analytical results generated by the contractor during the period January 1, 1980 through December 31, 1980; (5) review of updated licensee radiological environmental monitoring procedures; (6) review of licensee contractor analytical quality assurance/quality control procedures and program. Inspection disclosed that the above elements of the subject program appeared to be consistent with Technical Specification requirements.

b. The inspector also accompanied a licensee representative on our and inspection of seventeen environmental monitoring stations including the following: (1) all air particulate/radioiodine monitoring stations and respective TLD's including those posted by the licensee, State of Virginia and the NRC (Sampling stations 1, 3, 5, 7, 2, 21, 22, 23, 24); (2) milk sampling stations 13 and 14A; (3) surface water sampling station 11; (4) well water sampling station 1A; (5) green leafy

vegetation stations 21, 23; (6) aquatic sediment and shoreline stations 8 and 9 respectively. Inspection disclosed that all air particulate monitoring equipment was operational and periodically calibrated as required. There were no questions regarding this item.

c. The licensee's continued plotting of data for trend analysis upon receipt of the contractor quarterly analytical results was reviewed and found to be satisfactory. There were no questions regarding this item.