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

Report No. 50-338/81-04

Licensee: Virginia Electric and Power Company
Richmond, VA 23261

Facility Name: North Anna 1

Docket No. 50-338

License No. NPF-4

Inspection at North Anna site near Mineral, VA

Inspector N. Economos 3/4/81
N. Economos Date Signed

Approved by A. Herdt 3/5/81
A. Herdt, Section Chief, Engineering Date Signed
Inspection Branch

SUMMARY

Inspection on February 2-5, 1981

Areas Inspected

This routine, unannounced inspection involved 24 inspector-hous on site in the areas of licensee actions on previous inspection findings; review of welding procedures, records and work observation.

Results

Of the two areas inspected, no violations were identified in one area: two violations were identified in one area (Violation - indoctrination and training of welding personnel, pargraph 7; Violation - welding material control paragraph 8).

DETAILS

1. Persons Contacted

   Licensee Employees

   *W. R. Cartwright, Station Manager
   *J. R. Harper, Maintenance Superintendent
   K. B. Chrisman, Jr., Welding Foreman
   *J. Stratten, Mechanical Supervisor
   *M. A. Harrison, Resident QC Engineer

   NRC Resident Inspector

   *E. H. Webster

   *Attended exit interview

2. Exit Interview

   The inspection scope and findings were summarized on February 5, 1981 with those persons indicated in paragraph 1 above. The findings were discussed in detail with the licensee and are described in paragraphs 7 and 8 of this report. The licensee had no dissenting comments.

3. Licensee Action on Previous Inspection Findings

   a. (Closed) Infraction 338/79-47-01 Deposited Weld Metal Thickness. VEPCO's letter of response dated October 2, 1980 has been reviewed and determined to be acceptable by Region II. The inspector held discussions with the station manager and examined the corrective actions as stated in the letter of response. The insepctor concluded that VEPCO had determined the full extent of the subject noncompliance, performed the necessary survey and follow-up actions to correct the present conditions and developed the necessary corrective actions to preclude recurrence of similar circumstances. The corrective actions identified in the letter of response have been implemented.

   b. (Closed) Unresolved Item 338/80-33-02 Visual Weld Inspection Procedure. Visual inspection of newly fabricated welds for workmanship and surface condition characteristic is now being performed in accordance with procedure NDT-15.2 "Visual Inspection of Weldments". The procedure was issued for use at all stations on 11/17/80. The procedure has been approved by the corporate Level III examiner and the North Anna station manager. The inspector reviewed the procedure for adequacy and content.

c. (Closed) Infraction 338/80-33-01 Failure to Take Corrective Action. VEPCO's letter of response dated November 7, 1980 has been reviewed and determined to be acceptable by Region II. The inspector held discussions with the station manager and examined the corrective actions as stated in the letter of response. The inspector concluded that VEPCO had determined the full extent of the subject noncompliance, performed the necessary survey and follow-up actions to correct the present conditions and developed the necessary corrective actions to preclude recurrence of similar circumstances. The corrective actions identified in the letter of response have been implemented.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve noncompliance or deviations. One new unresolved item identified during this inspection is discussed in paragraph 6.a.

5. Independent Inspection Effort

Efforts were underway to remove (flame-cut) the number 1 disc, governor and generator ends, from the LP#2 turbine rotor. The inspector discussed the operation with Westinghouse (W) representatives and observed some of the operation. It was expected that this project would take approximately two (2) weeks to complete. Ultrasonic examination of the TMI-2 rotor was underway at TMI and it was reported that perliminary results of the No. 1 disc showed it to be of sound quality. In the meantime baffles are being fabricated as an alternative to the TMI rotor.

Within the areas inspected no violations or deviations were identified.

6. Welding Program - Procedure Review

The licensee's welding program is controlled by plans and procedures contained in VEPCO's Nuclear Power Station Quality Assurance Manual (NPSQAM) and in the Welding Procedure and Qualification Manual (WPQM). Both documents were written for the Surry Nuclear Station and have been made applicable to North Anna via cover page(s) issued at the corporate level.

Procedures of specific interest selected for review included:

NPSQAM - Section 9, Control of Special Processes
- Section 7, Control of Purchased Material

WPQM - W-1 Revision 2, General Welding Procedure
- W-2 Revision 1, Control of Weld Material
- Section III A, 3.1, Welder Number Assignment

Within these areas the inspector noted the following:

a. The NPSQAM, under Section 9 Control of Special Processes references ASME Section IX (74S75) as the code of record relative to weld procedure and welder qualification. Control of field welding activities is maintained through the USAS, B31.7, 1969 Nuclear Power Piping standard. The approved site procedure, W-1 Rev.2 "General Welding Procedure", used to implement applicable code requirements references the 1974 Edition of Section IX with addenda through Winter of 1976. The NPSQAM and the WPQM were written for the Surry Plant and later adopted by North Anna. The inspector could not ascertain which of the above code editions was applicable to North Anna. In addition, the inspector noted that the welding forman, whose responsibilities included welder qualification, had not been assigned copies of Section IX (74S75) or B31.7, 1969 Edition which was needed for review of acceptance criteria and other requirements. These areas of concern were discussed with field supervision and site management with emphasis placed on the fact that these matters were basically of a programmatic nature that should have been identified and corrected by QA and/or cognizant corporate personnel. Site management agreed to provide copies of the aforementioned codes/standards to the foreman and to look further into the code of record question. This matter was identified as an unresolved item and assigned No. 338/81-04-03, "Applicable Welding Code Discrepancies".

b. Within the area of welder and weld identification, the inspector noted that Section 9 of the NPSQAM requires that welders identify their welds also, WPQM procedure 3.1 "Welder Number Assignment" requires the identification of weldments and welders be performed with low stress punch or vibratools. However, the inspector noted that none of these procedures specify the time or location, relative to the weld joint, where this is to be done. The inspector emphasized the importance of placing the necessary identification outside the area of interest in order to preclude problems with NDE/ISI weld preparation requirements. The licensee agreed to pursue this matter. This matter was identified as inspector followup item 338/81-04-04, "Identification of Welds and Welders on Weldments".

c. During the programmatic review and following discussions with cognizant personnel, concerning controls over weld fabrication and repairs, the inspector noted that the licensee had not generated a program (procedures) to cover ASME Code Section XI repairs as required under Article IWB-4000 of this Code. The inspector stated that this was an area that required considerable attention and preparation in order to be ready in the event that such a repair program becomes necessary. The licensee representative stated that such a program was not available at this time and agreed to look further into the matter.

This matter was identified as inspector followup item 338/81-04-05, Section XI, "Weld Repair Program".

Within the areas inspected no violations or deviations were identified.

7. Welder Indoctrination and Training

Paragraph 5.2 of procedure W-1, "General Welding Procedure", describes the methods and codes used to qualify welders. The program specifies tests for newly hired welders and for those qualifying for the fabrication of code type welds. In addition this procedure places certain responsibilities for observing, conducting and accepting test results on designated individuals e.g., supervisor of mechanical maintenance. On February 4, 1981, inquiries and interviews with field and supervisory personnel concerning VEPCO's welder training program disclosed that welders are given hands-on job training, commensurate with previous experience, prior to taking performance qualification tests. VEPCO's cognizant personnel stated that welders are given informal verbal instructions concerning welding rod withdrawal and other weld-specific information as required. Within the area of training the inspector inquired whether the licensee had a written program whereby welders were given formal instruction/training on safety-related work and QA/QC procedures that would have an impact on the performance and quality of their work. In response to this question the licensee representative stated that no such program existed at this time.

The inspector stated that failure to provide an indoctrination/training program was contrary to 10 CFR 50 Appendix B Criterion II as implemented by VEPCO Topical Report VEP-3-A paragraph 17.2.2.7 which states in part, that station personnel engaged in activities affecting quality of structures are indoctrinated in...station procedures required in the performance of their respective duties. This item was identfied as violation No. 338/81-04-01, "Indoctrination and Training of Welding Personnel".

8. Control of Welding Materials

Procedure W-2 Revision 1 "Control of Welding Materials" provides specific instructions for handling storing, and issuing of welding consummables. On February 4, 1981 the inspector conducted an inspection of storage facilities and reviewed quality records of material on hand in order to ascertain whether code and procedural requirements were being met.

Within this area the inspector noted that a substantial quantity, approximately 50 lbs, of 309 stainless bare wire filler material produced from lot #3155T309, had been obtained from Stone & Webster's rod issue station on September 20, 1977 with a requisition ip, No. 294527, made out for ten (10) lbs. Discussions with cognizant licensee personnel disclosed the material was transferred directly to the rod issue station and subsequently issued to the field. The material had not been receipt inspected nor was it accompanied by the appropriate quality records. The inspector stated that this practice was contrary to 10 CFR 50 Appendix B, Criterion VII as

implemented by VEPCO's, NPSQAM Section 7 paragraph 5.1 which requires receipt inspection be performed on material upon its arrival at the station store room for manufacturing documentation and, Topical VEP-3-A paragraph 17.2.7 which requires that material received at the station be inspected to assure that it meets specification requirements, code or other purchasing documents.

This item was identifeid as violation No. 338/81-04-02 "Welding Material Conrol".

9. Work Observation - Welding

Complete pipe welds on the hydrogen recombiner system were observed in order to ascertain whethe workmanship and weld appearance was consistent with applicable code and procedural requirements. The work had been performed under maintenance report (MR) No. N1-79-0423-1639. Welding quality and workmanship was controlled by USAS, B31.7, 1969 edition.

Welds observed were as follows:

Weld No.	Size	Material Type	Line No.
2A and 3A	2"	Stainless	2"-HC-8-154-Q2
4A and 5A	2"	Stainless	2"-HC-9-154-Q2
8A and 9A	2"	Stainless	2"-HC-10-154-Q2
27A-30A, 33A-36A	2"	Carbon	2"-HC-8, 10,-154-Q2
54A. 58A, 59A	2"	Carbon	2"-HC-9-154-Q2

For these welds, the inspector reviewed welder qualifications and weld material quality records.

Within the areas inspected no violations or deviations were identified.

10. Record Review - Welding

During this outage a number of 3/4 inch flow transmitter isolation valves with bolted bonnets were replaced with valves featuring welded type bonnets, series No. 2821. The work was performed under MR N1-80-0917-1712. The controlling isometric drawing was identified as CFPD-100-2A Rev 2. Weld fabrication and inspection was controlled by USAS, B 31.7 1969 edition.

Welds selected for record review were 80A, 24A, 2A, 3A, 26A.

Within these areas the inspector reviewed material/component quality records, receipt inspection reports, personnel qualification records. The matter of insufficient records for 309 stainless bare wire filler material used on some of the aforementioned welds is discussed under paragraph 8 of this report.

Within the areas inspected no violations or deviations were identified.