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

OCT 22 1979

Report Nos. 50-399/79-41, 50-404/79-07 and 50-405/79-07

Licensee: Virginia Electric and Power Company
P. O. Box 26666
Richmond, Virginia 23261

Facility Name: North Anna Units 2, 3, and 4

Docket Nos. 50-339, 50-404 and 50-405

License Nos. CPPR-78, CPPR-114 and CPPR-115

Inspection at North Anna site near Mineral, Virginia

Inspector: J. C. Bryant for C. R. McFarland — 10/19/79 Date Signed

Approved by: J. C. Bryant, Section Chief, RC&ES Branch — 10/19/79 Date Signed

SUMMARY

Inspection on September 18-21, 1979

Areas Inspected

This routine, unannounced inspection involved twenty-six inspector hours onsite in the areas of nonconformance related to concrete operations (Unit 3), 10 CFR 50.55(e) items (Units 2, 3, and 4), and activities related to the extended construction delay of Units 3 and 4.

Results

Of the three areas inspected, no items of noncompliance or deviations were identified.

1506 189

DETAILS

1. Persons Contacted

Licensee Employees

*N. B. Dillon, Resident Engineer
E. R. Bane, Supervisor, Construction QA
*P. A. Slater, Resident QA Engineer
M. A. Harrison, QC Engineer
D. S. Hart, QC Engineer, Civil
P. A. Furman, Associate Engineer, Engineering Services, Operations

Contractor Organizations

Stone and Webster Engineering Corporation (S&W)

A. A. Sasenbrock, Resident Manager
*A. J. Foussekis, Resident Engineer
K. C. Murray, Senior Construction Inspector
*W. R. Whitley, Assistant Superintendent, Field Quality Control (FQC)
F. P. Carchedi, FQC Engineer
J. Lehman, Field Engineer
C. Heishman, Field Engineer

Champion Incorporated (Champion)

R. Sterge, Superintendent
C. Starge, QC Technician

NRC Resident Inspector

M. S. Kidd

Other licensee and contractor employees contacted included several construction craftsmen and foremen.

*Attended exit interview.

2. Exit interview

The inspection scope and findings were summarized on September 21, 1979, with those persons indicated in Paragraph 1 above. No new items of noncompliance or deviations were identified.

3. Licensee Action on Previous Inspection Findings

a. (Closed) Infraction 404/79-04-01, Failure to calibrate concrete batch plant scales, Unit 3. The inspector reviewed the VEPCO response to Region II dated July 31, 1979, the documentation of the corrective

steps taken and the results achieved, and discussed the work with the responsible VEPCO QA and QC personnel and the operators of the batch plant. The methods used to calibrate the batch plant scales and the QC reports for the recalibration work performed April 28 through May 3, 1979 and on May 14, 1979 were performed per the requirements of VEPCO Construction Instruction (CQCI) 10.2.1 "Calibration of Batch Plant Equipment and Measuring Devices". The scales were in tolerance. The records of the cylinder breaks for the concrete placed for the period March 24, 1979 to July 24, 1979 were reviewed. The breaks were in tolerance or above the requirements for the various mixes placed.

The inspector reviewed the current National Ready Mixed Concrete Associations "Certification of Ready Mixed Concrete Production Facilities", third revision dated January 1, 1976, the certification for the main plant dated January 23, 1979, and the basic batching requirements in section 4 of NAS-30113, the concrete specification for Units 3 and 4. The batch plant measuring devices have been placed in the site calibration program to prevent a recurrence of the problem.

b. (Open) Unresolved Item 404-405/79-02-01, Humidity in internals of components in storage, Units 3 and 4. The inspector observed the equipment in the Level A storage area of warehouse 5, instrumentation, computers, control rod drive assemblies, motor control boards, and other miscellaneous equipment. The site has upgraded the storage program for the remainder of the Babcock & Wilcox Company (B&W) supplied components and has erected buildings around the major components (see paragraph 8). Humidity indicators were observed on the steam generators, the pressurizer, the reactor pressure vessels, and the reactor internals.

The inspector observed the current refurbishing and cleanup work on steam generators 3RC-SG1A and SG1B which were open at the time of the inspection. The steam side of the tube sheet for SG1A was clean. The shell side of both SG1A and SG1B, as observed from the feedwater nozzles, was covered with a light, uniform covering of rust. VEPCO visually inspects components weekly and B&W inspects them monthly.

c. (Open) Inspector followup item (IFI) 404-405/79-06-01, Containment liner wall inspection. The inspector discussed the subject with the S&W resident engineer and observed the cleaning and painting work in Unit 3. The containment base plate and the lower part of the liner wall are being painted with Carbo Zinc 11 primer and a top coat of Carboline No. 191 HB epoxy paint. Unit 3 painting is 70% complete. Painting has not started in Unit 4. Section 4 of NAS-30176 contains the surface preparation and painting requirements. The coating inspection records for the initial sand blasting and primer painting were reviewed. Heat shrink sleeves have been installed over the Cadweld sleeves that were welded over the bridging bar assemblies. Waterstop has been put on the embedded concrete.

d. (Open) IFI 404-405/79-06-02, Containment liner dome plate inspections. Discussions with the S&W resident engineer indicate that the licensee and S&W are working with Chicago Bridge & Iron Company (CB&I) to

develop a program to evaluate the status of the plates and to preserve the surfaces. The inspector observed the stacked plates and observed the variations in rust and surface conditions.

4. Unresolved Items

There were no new unresolved items identified during this inspection.

5. Independent Inspection

The inspector inspected the Unit 3 and 4 facilities and the storage areas, observed work in the Unit 3 containment vessel, talked to various craft personnel and discussed the schedule for work with the VEPCO resident QA engineer, the S&W resident engineer, and the NRC Resident Inspector.

6. Licensee Identified Items (LII), 10 CFR 50.55(e) Items

a. (Closed) LII 339/79-12-01, Service water to charging pump oil coolers, Unit 2. The inspector reviewed the VEPCO responses to Region II dated January 12, 1979 and February 7, 1979 relative to the inability to obtain the design service water flow rate through the skid mounted oil coolers which serve each pump. The piping and coolers on all three of the Unit 2 high head safety injection pumps skids have been cleaned and the piping and valving modified. Service water flow tests have been conducted per preoperational test procedure 2-PO-6.2, Service Water System Flow Verification Test. The test results report that the acceptance criteria have been met, and that the design flow and pressure drop requirements have been met. The inspector reviewed the test procedure and the test results and discussed the test and the test report with the responsible VEPCO operations engineer. The tests were completed on August 7, 1979. The evaluation of the test results was completed as September 10, 1979 and approved by the station nuclear safety and operating committee on September 13, 1979.

The inspector observed charging pumps 2-CH-P-1A and 1C, the piping and instrumentation systems, and verified representative valves, flow indicators and temperative indicators. In the control room the inspector observed the annunciators for the service water flow indicators for the temperature of the service water and the lube oil outlet temperature indicators. The inspector reviewed the QA documentation related to the design changes as reported in Engineering & Design Coordination Reports (E&DCR) PS-5207, P-2551, P2602 and 05D-0008L, S and T, and Nonconformity and Disposition Report (N&D) 3787.

b. (Open) LII 404-405/79-07-01 Groundwater elevation analysis. The inspector review the VEPCO response to Region II dated August 21, 1979 and discussed the subject with the S&W resident engineer and, subsequent to the inspection, a responsible VEPCO Power Station engineering staff civil engineer. The inspector observed work related to the subsurface drainage and the installation of water stops at various structures. The item remains open pending a more extensive review of the subject and observation of other structural work.

c. (Open) LII 404-405/79-07-02 Containment overpressurization. The inspector reviewed the VEPCO response to Region II dated September 7, 1979 and discussed the subject with VEPCO staff and the NRC resident inspector. VEPCO met with NRR staff on September 13, 1979 at NRC Headquarters. VEPCO, S&W and B&W are investigating modifications to the auxiliary feedwater system to limit feedwater flow to the broken steam generator in the event of a main steam line break. A recent analysis indicates that the long term blowdown from a main steam line break would overpressurize the containment. Analyses with other basic assumptions relative to the timing of certain events are being made. An interim or a final report will be made by October 4, 1979.

d. (Open) LII 404-405/79-07-03, Defect in feedwater pump motor oil reservoirs. On September 20, 1979, VEPCO informed the inspector that a pin hole leak bad been detected in the casting for an oil reservoir of an auxiliary feedwater pump, 600 horsepower Westinghouse motor, model RSDP, serial number IS-75. Four such pumps are in the warehouse. Further investigation identified a similar appearing condition on two of the other pumps. Potential generic aspects will be discussed by VEPCO with the supplier, Bingham Pump Company.

Nonconforming report (NCR) 3-0033 identifies the hole as being in the lower reservoir of the shaft drive end bearing.

7. IE Bulletin IEB

a. (Open) IEB 79-15, Deep draft pump deficiencies. Region II has received the VEPCO response dated September 14, 1979. Due to the delay in construction of Units 3 and 4, the pumps have not been installed, hence most of the required information is not available at this time. This item was not inspected.

8. Extended Construction Delay, Units 3 and 4

Work on the containment wall liners was stopped in November 1978. Current work is limited to maintaining the material received and in storage. Concrete work is being performed to protect the rebar and outside of the containment wall. The containment base plate and the lower section of the inside of the liner wall plate are to be painted for weather protection. Unit 3 is 7.0% complete. Unit 4 is 3.7% complete.

The inspector discussed the subject with the S&W resident engineer and reviewed documentation of the plans to improve the storage of B&W components (June 8, 1979 S&W memorandum), the long term surveillance and protection of in-place and site stored materials (July 2, 1979) and the storage and refurbishment schedule for B&W manufactured equipment (September 19, 1979 S&W memorandum). The inspector inspected the B&W supplied items stored on site with two S&W field engineers (reference paragraph 3.b) and the containment vessel work with the resident engineer (reference 3c and 3.d). New building have been or are being built around the major components supplied by B&W (reference paragraph 3.b).

No items of noncompliance were identified.