

DETAILS I

Prepared by: AR Herdt
C. R. McFarland, Principal Inspector
Projects Section
Reactor Construction and Engineering
Support Branch

9/27/78
Date

Dates of Inspection: August 29-31, 1978

Reviewed by: AR Herdt
A. R. Herdt, Chief
Projects Section
Reactor Construction and Engineering
Support Branch

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1. Persons Contacted

a. Virginia Electric and Power Company (VEPCO)

E. R. Bane, Supervisor, Construction Quality Assurance (QA)
*P. A. Slater, Resident QA Engineer
*M. A. Harrison, QA Engineer
J. E. Wroniewicz, QA Engineer
*P. G. Perry, Senior Resident Engineer

b. Contractor Organization

Stone and Webster Engineering Corporation (S&W)

A. A. Dasenbrock, Resident Engineer
*C. D. Lundin, Superintendent, Field Quality Control (FQC)
*R. L. Spence, Assistant Superintendent, FQC
R. Phillippi, FQC Engineer, ASME III Section
N. Walker, FQC Engineer
S. Brooks, Senior Records Clerk

*Denotes those attending exit interview.

2. Licensee Action on Previous Inspection Findings

a. (Closed) Item of Noncompliance 339/78-10-02 Inadequate Document Storage

The VEPCO corrective action program has been stated in their letter to Region II dated May 12, 1978. The inspector discussed the subject with VEPCO and S&W staff, observed the work in all

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areas involved and the documentation of the VEPCO audit of August 10, 1978, of the S&W deficiencies related to the subject. The inspection of work in progress was previously reported in 50-339/78-20.

3. Unresolved Items

No unresolved items were identified during this inspection.

4. Independent Inspection

The inspector reviewed VEPCO QA Manual (QAM) procedure 6.2 Revision 1, dated August 8, 1978, "Review of Architect-Engineer, Constructors and Nuclear Steam System Supplier Quality Assurance Manual", and discussed the subject with VEPCO staff. The revision provides for the VEPCO Project Manager to have responsibility for review and approval of the Architect-Engineer Project Manual rather than the Manager of Power Station, Engineering. This procedure also provides for VEPCO review of QAM changes that will affect the Safety Analysis Report (SAR). Changes to the SAR are approved as required by QAM procedure 5.2 "Safety Analysis - Change Notification." None of the revisions decrease the quality of the program.

The inspector made a walk-through inspection of the Unit 2 containment vessel and observed work on insulating the safety-related piping and installing or modifying piping hangers and restraints. Unit 2 is 92.7% complete. The inspectors observed the Unit 3 containment vessel. The only work being performed was related to locating supports and restraints on the containment wall. Unit 3 is 7.0% complete. Unit 4 is 3.7% complete.

No items of noncompliance were identified.

5. IE Bulletins (IEB)

- a. (Closed) Item 404/405/77-BU-05 and 404/405/77-BU-5A
Electrical Connector Assemblies

The inspector reviewed the VEPCO response dated March 13, 1978. VEPCO, assisted by S&W, has determined that they do not use any assemblies in Units 3 and 4 in safety systems that would be required to mitigate the consequences of an accident and which would also be subject to an accident environment.

- b. (Closed) Item 404/405/78-BU-10 Bergen-Patterson Hydraulic Shock Suppressor Accumulator Spring Coils

The inspector reviewed the VEPCO response dated August 16, 1978. It has been determined that there are no Bergen-Patterson hydraulic snubbers on North Anna Units 3 and 4.

- c. (Closed) Item 404/405/78-BU-01 Flammable Contact-Arm Retainers in G.E. CR120A Relays

The inspector reviewed the VEPCO response dated March 21, 1978. It has been determined that there are none of the subject relays to be used on Units 3 and 4. If some vendor supplied package systems are found to use the Celon contact arm retainers, they will be replaced with Velox retainers prior to the equipment installation in the plant. None of the subject relays will be included in future purchase orders for equipment for Units 3 and 4.

6. Licensee Identified Items

VEPCO has reported a number of items to RII as reportable items in compliance with 10 CFR 50.55(e) and/or 10 CFR 21, and the inspector reviewed the items noted below and the supporting documentation, and discussed the items with responsible staff during this inspection.

- a. (Open) Items 339/78-24-01 and 404/405/78-07-08 Service Water Reservoir Piping Guy Wires

The VEPCO letter to Region II dated August 8, 1978, serial number 455, informs Region II of the failure of several guy wires used to support the service water reservoir spray piping of Unit 2. The deficiency is potentially applicable to Units 3 and 4.

- b. (Open) Item 339/78-24-02 Reactor Vessel Insulation

VEPCO's letters dated August 8, 1978, serial number 456, and September 1, 1978, serial number 456A, informs Region II that a field modification of the subject was not seismically analyzed. A final report is scheduled to be submitted early in October 1978.

- c. (Open) Item 339/78-24-03 Color Coded Cable Separation in

Control Boards

On August 4, 1978, VEPCO informed Region II of a deficiency related to the separation of color coded cables in control boards. Timely action has not been taken on a number of Nonconformity and Disposition Reports relative to the subject.

d. (Open) Item 339/78-24-04 Service Water Reservoir Spray Headers

The VEPCO letter dated July 26, 1978, serial number 428, informs Region II that the fiberglass piping related to the subject failed and caused two nozzles to come off the Unit 2 spray header array.

e. (Open) Item 339/78-24-05 Embedment Plates for Upper Steam Generator Support Snubbers

On August 28, 1978, VEPCO informed Region II of a deficiency related to the stress values used in the calculations for the embedment plates for the snubbers for the upper steam generator supports.

f. (Open) Item 404/405/78-07-01 Service Building E-Line Wall

VEPCO's letters dated March 17, 1978, serial number 137, and April 13, 1978, serial number 137A, inform Region II of the need to redesign a wall capable of accommodating the current loads, including the pipe rupture loads based on the present pipe break criteria. The decision has been made to remove the existing wall section and replace it.

g. (Open) Item 404/405/78-07-02 Service Water Discharge Piping

VEPCO's letters dated April 17, 1978, serial number 212, and May 12, 1978, serial number 212A, informs Region II of the need to redesign this piping as Seismic Class I as described in the PSAR.

h. (Open) Item 404/405/78-07-03 Asymmetric Pressure Analysis

The inspector discussed the status of the design work related to the subject. VEPCO expects to complete the design analysis work previously reported to RII in VEPCO's letter dated July 13, 1978, serial number 675/0728/75, and submit a final report in January 1979.

- i. (Open) Item 404/405/78-07-04 Inadequate NPSH for Recirculation Spray Pumps

VEPCO's letters dated August 18, 1977, serial number 357, and September 7, 1977, serial number 395, inform Region II of the need to reanalyze the subject for Units 3 and 4 systems. Similar work has been in progress and has been previously reported for Units 1 and 2 systems.

- j. (Open) Items 404/405/78-07-05 Reactor Vessel Insulation

VEPCO's letters dated June 30, 1978, serial number 376, and July 7, 1978, serial number 385, inform Region II that the mirror insulation and support steel around the incore nozzles has not been analyzed for the loading effects on the piping and nozzles. During a seismic event the insulation and/or support steel may deflect and excessively load the incore pipes and nozzles. VEPCO has agreed to treat the July 7, 1978, letter as an interim report and will supplement to their final report after a corrective action program is defined.

- k. (Open) Item 404/405/78-07-06 - Recirculating Spray Coolers Vent Problem

VEPCO's letters dated July 7, 1978, serial number 383, and July 31, 1978, serial number 383A, inform Region II of the need to analyze the vent system from the cooler to withstand the hydraulic transient on startup after being laid up dry.

- l. (Open) Item 404/405/78-07-07 Recirculation Pumps Suction Adverse Flow Conditions

VEPCO's letters dated July 31, 1978, serial number 439, and August 18, 1978, serial number 474, inform Region II of the need to modify the suction configuration of the pump to produce acceptable suction hydraulic conditions. Model tests have been conducted with acceptable results. The final report of the model test at LaSalle Hydraulic Laboratory has not been received by VEPCO to date.

7. Exit Interview

The inspector met with the licensee and contractor representatives (denoted in paragraph 1) and reviewed the scope and findings of the inspection. There were no unanswered questions or dissenting comments.

DETAILS II

Prepared by:

Jack Economos
 N. Economos, Metallurgical Engineer
 Engineering Support Section No. 2
 Reactor Construction and Engineering
 Support Branch

10/16/78
 Date

Dates of Inspection: August 29-31, 1978

Reviewed by:

T. E. Conlon
 T. E. Conlon, Chief
 Engineering Support Section No. 2
 Reactor Construction and Engineering
 Support Branch

10/16/78
 Date

1. Persons Contacteda. Virginia Electric and Power Company (VEPCO)

- *P. G. Slater, Resident QA Engineer
- *L. S. Cridlin, Engineer - NDE, Richmond
- *H. L. Travis, Senior Engineering Technicians, NDE
- T. L. Hunt, QC Engineering Technician - Operations
- D. L. Smith, Resident QC Engineer - Operations

b. Westinghouse - Nuclear Service Division (W)

Gene Zottola, Engineering Coordinator
 R. Weber, NDE Examiner

c. Sonic Systems International (SSI)

Bill Aston, NDE Level II Examiner
 J. Furr, NDE, Level I
 H. Rosen, NDE Level II Examiner
 S. Becker, NDE Level II Examiner

In addition to the above, other craft and inspection personnel were interviewed.

*Denotes those present at the exit interview.

2. Licensee Action on Previously Identified Inspection Findings

(Open) Inspector Followup Item (78-21-01): Review of PSI Nondestructive Examination Procedures. The inspector reviewed measures taken by the licensee to clarify questions relative to magnetic particle and

liquid penetrant procedures as described in RII Rpt. No. 50-339/78-21, paragraph 5.6. Corrective action on the other two questions listed under this item has not been finalized. This item will remain open until all questions are satisfactorily resolved.

3. Unresolved Items

No new unresolved items were identified during this inspection.

4. Independent Inspection Effort

A walk-through inspection was conducted inside the reactor building where hanger installation, system testing and other construction type activity was in progress. Within these areas the inspector checked housekeeping, storage and cleanliness conditions, control of issued welding electrodes and electrode caddies. No items of noncompliance or deviations were identified.

5. Preservice Inspection Observation of Work and Work Activities

This inspection is a followup to the one documented in report RII:78-21. The PSI is being performed in accordance with the requirements of Section XI of the ASME Code, 1974 Edition with addenda through summer of 1975. Nondestructive examinations were being conducted on various class 1 and 2 pipe welds in the safety injection, residual heat removal (RHR), and primary coolant drain line systems.

Within these areas, the inspector observed NDE examinations conducted on the following items.

<u>Weld/Item Number</u>	<u>ISO</u>	<u>Size</u>	<u>Method Of Examination</u>	<u>Comment</u>
17	VGB-1-4600	3"φ	UT	CLEAR
22,23	VGB-1-4311	2"φ	UT	CLEAR
Flange #3				
2 bolts	VGB-2-2500	>1"φ	UT	CLEAR
Flange #4				
2 bolts	VGB-2-2500	>1"φ	UT	CLEAR
Valve #2720A	VGB-2-2500	>1"φ	UT	CLEAR
Flange #182				
2 bolts each	VGB-2-2700	>1"φ	UT	CLEAR
Valve #2702B				
2 bolts	VGB-2-2700	>1"φ	UT	CLEAR
Welds #34, #6	VGB-2-2500	14"φ	UT	CLEAR
Weld #13	VGB-2-2510	12"φ	UT	CLEAR
RHR Heat Exchanger				
Welds #1WS, 2WS	VGB-2-1120	Supports	PT	CLEAR

Welds #3,4	VGB-2-1120	Nozzle to Vessel	PT	CLEAR
Weld #WA-1	VGB-2-2500	Lugs on Pipe	PT	CLEAR

Within these areas the inspector reviewed selected NDE personnel qualification records and verified by observation that the PSI program and NDE procedures were being followed. In addition, records of PSI identified indications were reviewed to determine whether evaluations and/or planned repairs were consistent with applicable code and procedural requirements.

Within the areas inspected no items of noncompliance or deviations were identified.

6. Preservice Inspection - Data Review and Evaluation

The inspector selected one set of records related to pressure retaining bolting exceeding 1- inch in diameter listed as item number C2.4 under Table IWC-2600 of Section XI of the ASME Code. These bolts were identified in paragraph 5 above.

For these items the inspector reviewed examination results, evaluations, equipment, material (couplant) and personnel certifications as applicable. Evaluation reports NDT-UT-Form of UT identified indications were reviewed and their dispositions noted. To date, fourteen reportable indications have been investigated and evaluated by the licensee. All were < 100% DAC and none of these were found on the primary loop.

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

7. Exit Interview

The inspector met with the licensee representatives denoted in paragraph 1, at the conclusion of the inspection. The inspector identified the areas inspected which included observation of PSI activities and review of related records. The licensee acknowledged the inspection findings.