

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

W. L. STEWART  
VICE PRESIDENT  
NUCLEAR OPERATIONS

June 18, 1984

Serial No. 253A  
EC:BSD:pr  
Docket Nos. 50-338  
50-339  
License Nos. NPF-4  
NPF-7

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
Attention: Mr. James R. Miller, Chief  
Operating Reactors Branch No. 3  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Gentlemen:

GENERAL DESIGN CRITERIA 17 ANALYSIS  
NORTH ANNA UNIT NO. 1 AND 2

Your letter of April 17, 1984 requested that Vepco provide a viable updated schedule for completing remaining open items regarding General Design Criteria 17 Analysis for North Anna Units 1 and 2. The enclosure of this letter provides updated information.


The expected completion of all regulatory commitments and modifications related to General Design Criteria 17 for North Anna Units 1 and 2, except motor control center contactor coils, are scheduled to be completed by the upcoming refueling outages. These refueling outages are currently scheduled to be completed by July, 1984 for North Anna Unit 1 and October, 1984 for North Anna Unit 2. The motor control center contactor coil test results are scheduled to be available and submitted by the end of December, 1984. This item is further discussed in Item III A. The continuing work which extends into 1986, as indicated in the Detailed Five-Year Summary Report dated January 1, 1984 and revised on April 1, 1984 is to install new torque switch limiter plates on the MOVs. This information is further discussed in Item II, Status A of the enclosure. This continued work on the MOVs would not effect the NRC closure of Item B-48 since the MOVs have been analysed to operate during an emergency when the voltage on the 480 volt bus is between 80 and 90 percent of the rated motor voltage.

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We will continue to provide you with updates per your request.

Very truly yours,



W. L. Stewart

cc: Mr. James P. O'Reilly  
Regional Administrator  
Region II

Mr. M. W. Branch  
NRC Resident Inspector  
North Anna Power Station

## STATUS AND SCHEDULE FOR GDC-17 ANALYSIS

### COMMITMENTS

#### Item I: Operating Restrictions

Commitment A: Generator bus voltage must be maintained at an adequate level to ensure acceptable voltages are maintained on a "J" emergency bus fed from a station service bus.

Status A: An operating procedure has been implemented to comply with this requirement.

Commitment B: Load on a station service bus must be limited when a "J" emergency bus is fed from it.

Status B: An operating procedure has been implemented to comply with this requirement.

Commitment C: If Vepco installs the Unit 2 emergency to station service bus ties, then, when emergency bus 2H is transferred to and fed from station service bus 2C, emergency bus 2J must be transferred to a power source other than Reserve Station Service Transformer C within 1 hour.

Status C: Vepco has not installed the Unit 2 emergency to station service bus ties and their installation is not presently planned. Vepco will implement an operating procedure to comply with this requirement if the bus ties are installed as designed.

Commitment D: The existing load shed, which is initiated when both units load to the Reserve Station Service Transformers (RSSTs), will be enabled at all times when 1) one unit is on line and the other unit is in startup, 2) both units are on line, and 3) both units are in start up.

Status D: The existing load shed is enabled at all times when 1) one unit is on line and the other unit is in start up, 2) both units are on line, or 3) both units are in start up.

Commitment E: A program will be established to ensure station operation is consistent with the assumptions made in the GDC-17 analysis. The program will specify the appropriate corrective actions to be taken if transmission system voltage goes outside the range of 505 KV to 535 KV.

Status E: Vepco has implemented a system-wide operating procedure to address this commitment and has provided these procedures in our letter of July 1, 1982 (Serial No. 374).

#### Item II: Modifications

Commitment A: Rerate all motor operated valves (MOVs) to assure starting at predicted voltages. Motors on certain MOVs may have to be replaced. (The full scope for MOV rerating/motor replacement is still being developed). In our February 26, 1982 letter, Serial No. 076, we stated 128 MOVs were involved. In January 20, 1984 letter, Serial No. 038, we stated only 56 MOVs would be required to operate during the period when voltage is between 80 and 90 percent.

Status A: All motor operated valves which are required to operate during an emergency when the voltage on the 480 volt bus predicted to be between 80 and 90 percent of the rated motor voltage have been reviewed. The motors for these valves have been analysed to operate at the reduced voltages predicted during our GDC-17 analysis. We also included in the GDC-17 capital project budget other MOV enhancements which are not required to

satisfy GDC-17 requirements. We plan to implement these enhancements following the completion of the GDC-17 requirements and this additional work is reflected in the schedule shown in our 5-year plan.

Commitment B: Install a load shed scheme to remove certain motors when Unit 2 transfers to the RSSTs simultaneously with a Safety Injection (SI) or Containment Depressurization Actuation (CDA) occurrence on Unit 1.

Status B: A Design Change Package (DCP) for each unit to install this control circuitry has been prepared and approved for construction. Materials for these DCPs have been ordered and most are available on site. Construction has begun on both units and is scheduled to be complete by the end of the Unit 2 refueling, presently scheduled for October 1984. The circuitry will be activated when Unit 2 returns to service after the refueling.

Commitment C: Trip the 34.5 KV reactors in the switchyard when an SI or CDA occurs on either unit.

Status C: The DCPs, which were prepared for Item IIB above, include the tripping of the 34.5KV reactors in the switchyard. Construction has begun and is scheduled to be complete by the end of the Unit 2 refueling outage. The circuitry will be activated when Unit 2 returns to service after its next refueling. The Unit 2 refueling is presently scheduled to be completed in October 1984.

Commitment D: Install overvoltage alarms on 4160 and 480 volt emergency buses to alert station personnel to the need to protect equipment against high voltage.

- Status D: A DCP for each unit has been prepared to install this circuitry. The DCP has been approved for Unit 1. The Unit 1 DCP will be installed during the Unit 1 refueling scheduled to end in July, 1984.
- The DCP for Unit 2 should be available and implemented during the Unit 2 outage which is scheduled to end in October 1984.
- Commitment E: Modify RSST load tap changer (LTC) control to eliminate all delays in LTC response during the first three minutes of a SI or CDA event on either unit and on transfer of unit loads to the RSS system.
- Status E: The DCPs, which were prepared for Item IIB above, include the RSST A, B, and C LTCs control changes. The equipment is presently on order and scheduled for delivery in June. The modified control circuitry will be activated when unit 2 returns to service after its next refueling. The Unit 2 refueling is presently scheduled to be completed in October 1984.
- Commitment F: Block the auto starting of large non-IE motors, when the station service bus feeding the motor is fed from the same source as an emergency bus of a unit experiencing an SI or CDA.
- Status F: The DCPs, which were prepared for Item IIB above, include the blocking of the auto start of large non-IE motors. The material for this control circuitry has been ordered and most is available on site and construction has begun on both units. Construction is scheduled to be completed by the end of the Unit 2 refueling, presently scheduled to end in October 1984.



Commitment G: Eliminate the automatic transfer of emergency buses from the Reserve Station Service to the Normal Station Service.

Status G: A DCP has been prepared and approved to eliminate the automatic transfer for Unit 1 emergency buses from the Reserve Station Service to the Normal Station Service. The modifications to control circuitry is scheduled to be completed during the Unit 1 outage which is scheduled to end in July 1984. The DCP, which has been prepared to install similar bus ties for Unit 2, has been modified to delete the automatic transfer. Vepco at this time is not planning the installation of these bus ties for Unit 2.

Commitment H: When a unit experiences an SI or CDA and the "G" bus tie breaker is closed, then all circulating water pumps on the unit experiencing the accident will be tripped.

Status H: The DCPs, which were prepared for Item IIB above, include the tripping of circulating water pumps on the unit experiencing an SI or a CDA. Construction has begun and is scheduled to be completed by the end of the Unit 2 refueling which is scheduled to be completed in October 1984.

#### Item III: Additional Commitments

Commitment A: In our letter of June 7, 1983 (Serial No. 326) Vepco stated that tests would be performed on motor control center contactor coils to determine the effects of overvoltage. In our letter of March 26, 1984 (Serial No. 326A) we stated our current schedule for completing the overvoltage test by May, 1984, obtaining a test report in June, 1984, and providing results to the NRC in July, 1984.

Status A: Additional thermal aging time has been required which was not confirmed when we made our March 26, and May 15, 1984<sup>~</sup> submittals. Based on presently available information we anticipate the test report will be available to Vepco in early December 1984. Based on receipt of the report in December, Vepco will submit results to the NRC in late December 1984. Any changes to this schedule will be provided in a later 30 day status update requested in your April 17, 1984 letter. We continue to believe that this is not a serious concern and that no corrective actions will be required.