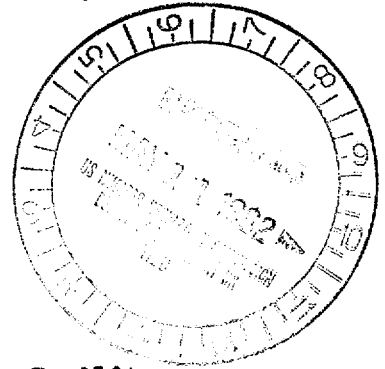


DCS-MS-014

Docket No. 50-339 MAY 4 1982

- ✓ Docket File
- NRC PDR
- Local PDR
- ORB Rdg
- DEisenhut
- PMKreutzer-3
- LEngle
- OELD
- SECY
- OI&E-2
- TBarnhart-4
- LSchneider
- DBrinkman
- ACRS (10)
- OPA
- RFerguson
- RDiggs
- RBallard
- NSIC
- ASLAB
- Gray File



Mr. R. H. Leasburg  
 Vice President-Nuclear Operations  
 Virginia Electric and Power Company  
 Post Office Box 26666  
 Richmond, Virginia 23261

Dear Mr. Leasburg:

The Commission has issued the Enclosed Amendment No. 23 to Facility Operating License No. NPF-7 for the North Anna Power Station, Unit No. 2 (NA-2). The amendment revises License Condition 2.C.(4)(C) as requested in your letters dated February 24, 1982, March 30, 1982 and in our discussions with you regarding this matter.

The amendment revises License Condition 2.C.(4)(C) to require that narrow and wide range resistance temperature detectors be tested by the Loop Current Step Response method and be replaced at a given refueling outage only if unsatisfactory test results are observed. The revised condition further provides for an augmented preventive maintenance and surveillance control program for narrow and wide range resistance detectors until such time that long-term qualified resistance temperature detectors become available.

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

Original signed by

Leon B. Engle, Project Manager  
 Operating Reactors Branch #3  
 Division of Licensing

Enclosures:

1. Amendment No. 23 to NPF-7
2. Safety Evaluation
3. Notice of Issuance

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OFFICE	DL:ORB#3	DL:ORB#3	AD/DL	OELD	D/DL		
SURNAME	LEngle/dyd	RAOark	TNovak	DSwanson	DEisenhut		
DATE	4/27/82	4/27/82	4/27/82	4/13/82	4/1/82		



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555

DISTRIBUTION:  
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ORB#3 Rdg  
PMKreutzer

Docket No. 50-339

Docketing and Service Section  
Office of the Secretary of the Commission

SUBJECT: VIRGINIA ELECTRIC AND POWER COMPANY, North Anna Power Station,  
Unit No. 2

Two signed originals of the Federal Register Notice identified below are enclosed for your transmittal to the Office of the Federal Register for publication. Additional conformed copies ( 12 ) of the Notice are enclosed for your use.

- Notice of Receipt of Application for Construction Permit(s) and Operating License(s).
- Notice of Receipt of Partial Application for Construction Permit(s) and Facility License(s): Time for Submission of Views on Antitrust Matters.
- Notice of Availability of Applicant's Environmental Report.
- Notice of Proposed Issuance of Amendment to Facility Operating License.
- Notice of Receipt of Application for Facility License(s); Notice of Availability of Applicant's Environmental Report; and Notice of Consideration of Issuance of Facility License(s) and Notice of Opportunity for Hearing.
- Notice of Availability of NRC Draft/Final Environmental Statement.
- Notice of Limited Work Authorization.
- Notice of Availability of Safety Evaluation Report.
- Notice of Issuance of Construction Permit(s).
- Notice of Issuance of Facility Operating License(s) or Amendment(s).
- Other: Amendment No. 23  
Referenced documents have been provided PDR.

Division of Licensing  
Office of Nuclear Reactor Regulation

Enclosure:  
As Stated

OFFICE	ORB#3:DL					
SURNAME	PMKreutzer/pm					
DATE	5/11/82					

Virginia Electric and Power Company

cc:

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Louisa, Virginia 23093

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Sheldon, Harman, Roisman and Weiss  
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Richmond, Virginia 23219

Resident Inspector/North Anna  
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Mrs. June Allen  
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U.S. Environmental Protection Agency  
Region III Office  
ATTN: Regional Radiation Representative  
Curtis Building  
6th and Walnut Streets  
Philadelphia, Pennsylvania 19106

Mr. Paul W. Purdom  
Environmental Studies Institute  
Drexel University  
32nd and Chestnut Streets  
Philadelphia, Pennsylvania 19104

Atomic Safety and Licensing  
Appeal Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Regional Administrator  
Nuclear Regulatory Commission, Region II  
Office of Executive Director for Operations  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-339

NORTH ANNA POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 23  
License No. NPF-7

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The applications for amendment by Virginia Electric and Power Company (the Licensee) dated February 24, 1982 and March 30, 1982 comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the applications, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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2. Paragraph 2.C.(4)(C) of Facility Operating License NPF-7 is hereby amended to read as follows:

"VEPCO shall test the narrow and wide-range resistance temperature detectors for the reactor coolant system by the Loop Current Step Response method each calendar quarter until a long-term qualified resistance temperature detector is available. Resistance temperature detectors will be replaced if unsatisfactory Loop Current Step Response test results are acquired.

For narrow and wide-range resistance temperature detectors not replaced at a given refueling outage, VEPCO shall assure that resistance temperature detector cable connectors are adequately sealed and shall use the Arrhenius methodology to affirm that the resistance temperature detector material has not endured significant degradation due to environmental parameters. The results of this affirmation shall be added to central environmental qualification files."

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert A. Clark, Chief  
Operating Reactors Branch #3  
Division of Licensing

Date of Issuance: May 4, 1982



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 23 TO FACILITY OPERATING LICENSE NO. NPF-7  
VIRGINIA ELECTRIC AND POWER COMPANY  
NORTH ANNA POWER STATION, UNIT NO. 2  
DOCKET NO. 50-339

Introduction:

By letters dated February 24, 1982 and March 30, 1982, the Virginia Electric and Power Company (the licensee or VEPCO) requested a change to Operating License NPF-7 for the North Anna Power Station, Unit No. 2 (NA-2). The licensee's requested change would revise License Condition 2.C.(4)(C) regarding Resistance Temperature Detectors (RTD's) for the Reactor Coolant System (RCS).

License Condition 2.C.(4)(C) presently states that:

"No later than June 30, 1982, the wide-range resistance temperature detectors for the reactor coolant system shall be qualified for radiation exposure for the 40-year plant life and appropriate exposure condition due to design basis accidents. Pending completion of such qualification and acceptance by the Commission, VEPCO shall replace each of these detectors at each refueling outage."

The licensee has requested that License Condition 2.C.(4)(C) be revised to test narrow and wide-range RTD's by using the NRC approved Loop Current Stop Response method each calendar quarter until a long-term qualified resistance temperature detector is available. The licensee has further requested that RTD's be replaced only if unsatisfactory LCRS test results are acquired.

A discussion of the licensee's request and our evaluation and conclusions regarding this matter are provided below:

Discussion:

In its letter dated February 24, 1982, the licensee stated that it had received equipment bid proposals from several RTD vendors indicating environmental qualification requirements of IEEE 323-1974 are met by the vendor products. Although the licensee is encouraged by the equipment qualification documentation received by one RTD vendor, several items must be resolved before the licensee can confirm that the vendor RTDs are qualified and can be installed in NA-1&2.

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The Electric Power Research Institute (EPRI) has recently developed an accurate method for measuring RTD time response called the Loop Current Step Response (LCRS) method. The licensee has evaluated and tested the Analysis and Measurement Services Corporation (AMS) test equipment, the LCRS method and found it to be a viable method for obtaining reasonable accurate results.

Also, we have reviewed and approved the AMS LCRS method (NUREG-0809, August, 1981) and find it adequate and reliable to measure the RTD time constant and time response.

Based on the improved accuracy for RTD time response testing, the licensee states that it intends to test the RCS narrow and wide range RTD for NA-1&2 by the LCRS method on a quarterly-calender year basis until such time that a long term qualified RTD is available.

In addition, the licensee has proposed that the replacement of RTD's during the Spring, 1982 NA-2 refueling outage be on the basis of unsatisfactory LCRS test results on individual Rosemont RTD's.

#### Evaluation:

We have reviewed the licensee's proposal and find it acceptable provided the following conditions are met for each RTD that is not replaced at the time of a refueling outage: (1) Assurance should be provided that the RTD cable connector is adequately sealed; (2) perform a study, based on the Arrhenius method, to affirm that the RTD material has not endured significant degradation due to actual environmental parameters from the service condition at its installed location and (3) the study shall be provided to the central EQ file.

By letter dated April 20, 1982, the NRC Generic Letter No. 82-09 was issued regarding "Equipment Qualification of Safety-Related Electrical Equipment. In this letter we stated NRC staff positions to clarify certain aspects of qualification requirements and stipulate staff positions to be used in the review of licensee's submittals. In Generic Letter NO. 82-09, we state in part:

"An acceptable method for addressing in-service degradation is through a preventive maintenance/surveillance program with equipment and component refurbishment and/or replacement based on known susceptibility to aging degradation, the results of inspections, or manufacturers recommendations. These elements of the program lead to an understanding on a device specific basis of the nature and extent of the increased stress levels encountered during Design Basis Accidents and resultant degradation (if any) which may occur. Arrhenius or other appropriate accelerated aging methodologies may be used to establish replacement and refurbishment schedules if the component's design and materials application are sufficiently simple and the necessary data are available to allow a meaningful application.

In plants subject to the qualification requirements of either the DOR Guidelines or NUREG-0588 Category II, for equipment that has been identified as being susceptible to significant degradation due to thermal and radiation aging, the schedule for inspection of and/or replacement of the susceptible components in that equipment must be incorporated into the preventive maintenance and surveillance programs, and that information should be incorporated into the system component evaluation worksheets (SCEWS). For other equipment, the aging column in the SCEWS should be marked "No Known Susceptibility."

Based on the above, we find that the licensees, proposed revision to License Condition 2.C.(4)(C) when combined with our conditions as stated above, meets the qualification requirements specified in NRC Generic Letter 82-09, and is therefore acceptable.

Therefore, License Condition 2.C.(4)(C) is hereby revised to state:

"VEPCO shall test the narrow and wide-range resistance temperature detectors for the reactor coolant system by the Loop Current Step Response method each calendar quarter until a long-term qualified resistance temperature detector is available. Resistance temperature detectors will be replaced if unsatisfactory Loop Current Step Response test results are acquired.

For narrow and wide-range resistance temperature detectors not replaced at a given refueling outage, VEPCO shall assure that resistance temperature detector cable connectors are adequately sealed and shall use the Arrhenius methodology to affirm that the resistance temperature detector material has not endured significant degradation due to environmental parameters. The results of this affirmation shall be added to the central environmental qualification files."

#### Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.



Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: May 4, 1982

Principal Contributors:

Z Rostoczy  
L. Engle

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-339VIRGINIA ELECTRIC AND POWER COMPANYNOTICE OF ISSUANCE OF AMENDMENT FACILITY  
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 23 to Facility Operating License No. NPF-7 issued to the Virginia Electric and Power Company (the licensee) for operation of the North Anna Power Station, Unit No. 2 (the facility) located in Louisa County, Virginia. The amendment is effective as of its date of issuance.

The amendment revises License Condition 2.C.(4)(C) to require that narrow and wide range resistance temperature detectors be tested by the Loop Current Step Response method and be replaced at a given refueling outage only if unsatisfactory test results are observed. The revised condition further provides for an augmented preventative maintenance and surveillance control program for narrow and wide range resistance detectors until such time that long-term qualified resistance temperature detectors become available.

The applications for the amendment comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since this amendment does not involve a significant hazards consideration.

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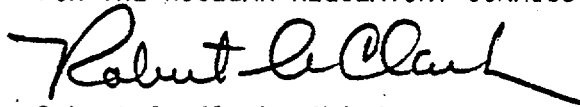
-2-

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environment impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the applications for amendment dated February 24, 1982 and March 30, 1982; (2) Amendment No. 23 to Facility Operating License No. NPF-4 ; and (3) the Commission's related Safety Evaluation. These items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W. Washington, D. C. 20555 and at the Board of Supervisors Office, Louisa County Courthouse, Louisa, Virginia 23093 and at the Alderman Library, Manuscripts Department, University of Virginia, Charlottesville, Virginia 22901. A copy of items (2) and (3) may be obtained upon request to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland this 4th day of May, 1982.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert A. Clark, Chief  
Operating Reactors Branch #3  
Division of Licensing