

May 27, 1986

Docket No. 50-338

Mr. W. L. Stewart  
Vice President - Nuclear Operations  
Virginia Electric and Power Company  
Post Office Box 26666  
Richmond, Virginia 23261

Dear Mr. Stewart:

Distribution:

Docket File  
NRC PDR  
Local PDR  
SECY  
PAD#2 R/F  
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T. Barnhart (4)  
*N. Thompson, DHFT*  
*E. Butcher*

The Commission has issued the enclosed Amendment No. 80 to Facility Operating License No. NPF-4 for the North Anna Power Station, Unit No. 1 (NA-1). The amendment revises the Technical Specifications (TS) in response to your letter dated May 17, 1985, as superseded November 15, 1985.

This amendment would correct errors presently specified in the NA-1 TS for seismic instrument range and testing requirements and delete the functional test requirements for the Auxiliary Building Mat, Reactor Heat Removal Pipe Support and Component Cooling Heat Exchanger Support Response Recorder. In addition, the amendment would modify the scope of the semi-annual channel functional test for the Containment Mat Triaxial Recorder.

A copy of the Safety Evaluation is also enclosed. The notice of issuance will be included in the Commission's next bi-weekly Federal Register notice.

Sincerely,

Leon B. Engle, Project Manager  
PWR Project Directorate #2  
Division of PWR Licensing-A  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 80 to NPF-4
2. Safety Evaluation

cc w/enclosures:  
See next page

LA:PAD#2  
D. Miller  
4/30/86

PM:PAD#2  
L. Engle;bg  
4/30/86

D:PAD#2  
L. Rubenstein  
4/30/86

OELD  
5/13/86

*n. legal objection*  
*Ann P. H. Johnson*

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PDR ADOCK 05000338  
P PDR

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Virginia Electric & Power Company

North Anna Power Station  
Units 1 and 2

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

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

DOCKET NO. 50-338

NORTH ANNA POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 80  
License No. NPF-4

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Virginia Electric and Power Company et al., (the licensee) dated May 17, 1985 as superseded November 15, 1985, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and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 application, 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.


2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.D.(2) of Facility Operating License No. NPF-4 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 80, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION

  
Lester S. Rubenstein, Director  
PWR Project Directorate #2  
Division of PWR Licensing-A

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: May 27, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 80

TO FACILITY OPERATING LICENSE NO. NPF-4

DOCKET NO. 50-338

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

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TABLE 3.3-7  
SEISMIC MONITORING INSTRUMENTATION

<u>INSTRUMENTS AND SENSOR LOCATIONS</u>	<u>MEASUREMENT RANGE</u>	<u>MINIMUM INSTRUMENTS OPERABLE</u>
1. Triaxial Time-History Accelerographs		
a. Containment Mat*	0 - 1.0 g	1
b. Containment Operating Level*	0 - 1.0 g	1
2. Triaxial Peak Accelerographs		
a. RHR Heat Exchanger	0 - 5.0 g	1
b. Safety Injection pipe	0 - 5.0 g	1
c. Component Cooling Heat Exchanger	0 - 5.0 g	1
3. Triaxial Seismic Switches		
a. Containment Mat*	NA	NA
4. Triaxial Response-Spectrum Recorders		
a. Containment Mat*	1 - 30 Hz	1
b. Auxiliary Building Mat	1 - 30 Hz	1
c. RHR Pipe Support	1 - 30 Hz	1
d. Component Cooling Heat Exchanger Support	1 - 30 Hz	1

\*With reactor control room indication

TABLE 4.3-4

SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENTS AND SENSOR LOCATIONS</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>
1. Triaxial Time-History Accelerographs			
a. Containment Mat	M*	R	SA*
b. Containment Operating Level	M*	R	SA*
2. Triaxial Peak Accelerographs			
a. RHR Heat Exchanger	NA	R	NA
b. Safety Injection Pipe	NA	R	NA
c. Component Cooling Heat Exchanger	NA	R	NA
3. Triaxial Seismic Switches			
a. Containment Mat	NA	R	SA
4. Triaxial Response-Spectrum Recorders			
a. Containment Mat	M**	R	NA
b. Auxiliary Building Mat	M***	R	NA
c. RHR Pipe Support	NA	R	NA
d. Component Cooling Heat Exchanger Support	M***	R	NA

\*Except seismic trigger

\*\*Testing will include annunciator circuit only

\*\*\*Testing will only include a visual inspection to detect for  
signs of obvious physical damage



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 80

FACILITY OPERATING LICENSE NO. NPF-4

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

NORTH ANNA POWER STATION, UNIT NO. 1

DOCKET NO. 50-338

Introduction:

By letter dated May 17, 1985, as superseded November 15, 1985, (Serial Nos. 85-306 and 85-306A), the Virginia Electric and Power Company (the licensee) proposed changes to the Technical Specifications (TS) for the North Anna Power Station, Unit No. 1 (NA-1). Specifically, the proposed changes would correct errors in the TS of seismic instrument range and testing requirements. The proposed changes would also delete the functional test requirement for the Auxiliary Building Mat, Reactor Heat Removal (RHR) Pipe Support and Component Cooling Heat Exchanger Support. In addition, the proposed changes would modify the scope of the semi-annual channel functional test of the Containment Mat Triaxial Recorder.

Discussion:

As presently specified, TS Table 3.3-7 lists the instrument measurement range to be 0g to 34g for the triaxial response spectrum recorders. The correct range should be 1.0  $H_z$  to 30  $H_z$  and is consistent with the American National Standards Institute (ANSI)/American Nuclear Society (ANS).

The current surveillance requirements for seismic monitoring instrumentation require semi-annual functional tests for the four triaxial response recorders listed in TS Table 4.3-4. Three of these recorders (the Auxiliary Building Mat, RHR Pipe Support and Component Cooling Heat Exchanger Support) are passive devices with no remote indications. Guidance provided by NRC Regulatory Guide 1.12, 1974, and ANSI/ANS Standard 2.2, 1978, indicate that these recorders do not require a channel functional test. Table 1 of ANSI/ANS Standard 2.2 on frequency of maintenance specifically recommends that no channel functional test be performed for self contained, passive instruments. The proposed change would revise the specifications to be consistent with current regulatory guidance and also the manufacturer's recommendations.

The fourth of these triaxial response recorders is the Containment Mat tri-axial response recorder. This recorder is an inaccessible, active device with a remote indication (annunciator). Present surveillance requirements specified in the NA-1 TS require semi-annual functional testing of this recorder. The containment mat triaxial response recorder is the only one



of these passive devices with a remote indication (annunciator). The recorder itself is primarily a mechanical device, consisting of an event recording plate and a scribe. During a seismic event, the scribe will record scribe shank deflection by etching the motion on the plate. This plate would subsequently be removed for post-event analysis. The associated annunciator is used to alert the operator that the device has recorded scribe motion. Within the recorder, the annunciator circuitry consists of alarm contacts which interface with the scribe should significant motion occur. The current NA-1 TS require that this instrument be opened and the scribe be moved by hand until the contacts close and a light in the remote indicator illuminates to satisfy the channel functional test requirements.

Past semi-annual functional testing of the containment mat recorder has required containment entry (at power) which requires commensurate protective clothing, self-contained breathing apparatus and limited access time because of ALARA concerns. Past semi-annual testing has resulted in damage to the equipment such as a bent scribe shank or bent annunciator contacts since personnel must manipulate the scribe with bulky protective gloves. Also, based on past semi-annual testing, corrosion problems and broken contacts have occurred. Also, it is postulated that the occurrence of corrosion within the recorder has been caused by the introduction of high humidity environments into the internals of the containment mat triaxial device during functional testing.

#### Evaluation:

Revising the instrument measurement range presently specified in the NA-1 TS Table from 0g-34g to 1.0H<sub>z</sub> - 30H<sub>z</sub> is in accordance with the ANSI/ANS standards that apply to NA-1. Therefore, we find this change acceptable.

The proposed change, which would eliminate the channel functional test on a semi-annual basis for the Auxiliary Building Mat, RHR Pipe Support and Component Cooling Heat Exchanger Support triaxial recorders, meets the guidance provided in ANSI/ANS Standard 2.2 for passive devices. In addition, the proposed change would also specify a monthly visual inspection of "accessible" recorders for signs of obvious physical damage. Consistent with ANSI/ANS 2.2, which defines "accessible" as "instrument or sensors whose locations permit ready access during plant operations," monthly visual inspections would be limited to the Auxiliary Building Mat and Component Cooling Heat Exchanger recorders located outside containment. The proposed change would not affect the refueling channel calibration requirement, which remains unchanged. Therefore, based on the above, we find this change to be acceptable.

The NRC staff agrees with the licensee that the requirement to open the Containment Mat triaxial response recorder and manipulate the scribe for the Channel Functional Test is not warranted. In addition, the proposed change would delete the semi-annual functional test for the Containment Mat triaxial response recorder. The proposed change is consistent with ANSI/ANS 2.2 for passive devices. The proposed change would include a monthly annunciator check of the Containment Mat

triaxial recorder. The monthly annunciator check of the containment triaxial recorder is consistent with ANSI/ANS Standard 2.2 for channel checks of active devices. Active devices are defined by the Standard as "instruments requiring a power source to sense motion or to record data." As such, only the annunciator of the containment mat triaxial recorder would be treated as an active device. The proposed change would not affect the refueling channel requirement, which remains unchanged. Therefore, based on the above, we find this change to be acceptable.

#### Implementation Schedule

Implementation of the NA-1 TS changes discussed above become effective on the date specified below.

#### Environmental Consideration

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously published a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR §51.22(c)(9). Pursuant to 10 CFR §51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

#### Conclusion

We have concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: May 27, 1986

Principal Contributors: H. Polk and L. Engle