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Docket No.: 50-339

Mr. J. H. Ferguson
 Executive Vice President - Operations
 Virginia Electric and Power Company
 P. O. Box 26666
 Richmond, Virginia 23261

bcc: ACRS (16)
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Dear Mr. Ferguson:

SUBJECT: Issuance of Amendment No. 2 to License NPF-7 - North Anna Power Station, Unit No. 2

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 2 to License NPF-7 for Fuel Loading and Low Power Testing in accordance with your letter, dated July 9, 1980. In your letter, you requested exceptions to the North Anna Power Station, Unit 2 Appendix A Technical Specifications to perform the water hammer demonstration test which is required to be performed as specified in Technical Specification 8.1 of Appendix A.

We have reviewed the information provided in your July 9, 1980 letter and have concluded that an exception to the Technical Specifications for conducting the water hammer demonstration test is acceptable. Our Safety Evaluation regarding this matter is enclosed.

A copy of a related Federal Register Notice which has been forwarded to the Office of the Federal Register for publication is also enclosed.

Sincerely,

BS

B. J. Youngblood, Chief
 Licensing Branch No. 1
 Division of Licensing

Enclosures:

1. Amendment No. 2 to License NPF-7
2. Safety Evaluation
3. Federal Register Notice

cc w/enclosures:
 See next page

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Fed. Reg. & Amendment only

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VIRGINIA ELECTRIC AND POWER COMPANY
DOCKET NO. 50-339
NORTH ANNA POWER STATION, UNIT NO. 2
AMENDMENT TO LICENSE FOR FUEL LOADING
AND LOW POWER TESTING

Amendment No. 2
 License NPF-7

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company (VEPCO), dated July 9, 1980, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth 10 CFR Chapter I;
 - B. The facility will operate in conformity with the license, as amended, the provisions of the Act, and the 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.
 - F. Prior public notice of this amendment was not required since it does not involve a significant hazards consideration nor amendment of a license of the type described in 10 CFR Section 2.106 (a)(2).

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2. Accordingly, the license is amended by authorization of the following exception to Appendix A of the Technical Specifications to perform only the water hammer test. VEPCO may take exception from complying with the following Appendix A Technical Specifications:

- 3.3.2.1
- 3.3.2.1 Table 3.3-4.6
- 3.5.2
- 3.7.1.2
- 3.7.1.3

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, of License NPF-7, Fuel Loading and Low Power Testing, as revised through Amendment No. 2 are hereby incorporated into the license. VEPCO 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

15/

B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

Date of Issuance: AUG 18 1980

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DATE ▶	8/7/80	8/7/80	8/11/80	8/13/80	8/15/80	8/18/80

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AUG 18 1980

SAFETY EVALUATION FOR ISSUANCE OF AN EXCEPTION
TO CERTAIN TECHNICAL SPECIFICATIONS RELATED
TO THE CONDUCTING OF WATER HAMMER TESTS

1.0 INTRODUCTION AND EVALUATION

In a letter dated July 9, 1980, the Virginia Electric and Power Company requested certain exceptions to the Appendix A Technical Specifications. In their letter, the Virginia Electric and Power Company stated that in order to conduct the water hammer demonstration test, required in Technical Specification 8.1, certain exceptions to the Appendix A Technical Specifications are required.

2.0 DISCUSSION

Our Safety Evaluation Report for North Anna Units 1 and 2 addressed the matter of water hammer which has been experienced in pressurized water and boiling water reactors. Of the 100 incidents of water hammer which have occurred, the systems most frequently affected are the feedwater systems. To avoid water hammer events that are a result of steam bubble collapse following initiation of auxiliary feedwater flow, the Unit 1 and 2 steam generators have been modified by plugging the orifice holes on the bottom side of the sparger and installing J-tubes on the upper side. In Section 10.3 of the Safety Evaluation Report and Amendment No. 4 to Operating License NPF-4, "North Anna Power Station Unit 1", we concluded that the preoperational test program performed on North Anna Unit 1 was acceptable, and the feedwater system and steam generator design for North Anna Units 1 and 2 with respect to this potential water hammer concern is acceptable. We stated, however, that we would require Unit 2 to perform tests to show that water hammer will not occur in the feedwater system and the Technical Specifications were modified to reflect this requirement.

VEPCO by letter dated July 9, 1980, has stated that five exceptions to the Appendix A Technical Specifications would be required in order to allow the water hammer test to be performed on one steam generator.

The requested exceptions to Appendix A Technical Specifications to perform the water hammer test are discussed in the following paragraphs.

a) TS 3.3.2.1 ESFAS Instrumentation, Differential Pressure Between Steam Lines

Defeating the differential pressure signal which is generated by differential pressure between the steam generator under test and either of the other two steam generators will not interfere with a differential pressure signal between the two steam generators operating in their normal mode. Further, all of the other ESFAS signals will be operable.

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We conclude that the proposed Technical Specification change is acceptable for the purpose of conducting the water hammer test.

b) TS 3.3.2.1 ESFAS Instrumentation, Auxiliary Feedwater Pump Start Low-Low Steam Generator Level

Defeating the auxiliary feedwater pump start signal on low-low steam generator water level is necessary for conducting the water hammer test. If the signal is not defeated the pumps will be energized as the water level of the steam generator under test is lowered to the test start level.

We conclude that the proposed Technical Specification change is acceptable as the remaining pump start signals will be operable for the two steam generators operating in their normal mode.

c) TS 3.5.2 ECCS Requires $T_{avg} \geq 350^{\circ}\text{F}$

The differential pressure signal for the steam generator under test is blocked in TS 3.3.2.1(a) above. This same signal input is utilized in combination with T_{avg} for actuating the safety injection system. Therefore, the differential pressure, being blocked, is not available to fulfill the requirement of TS 3.5.2.

We conclude that the proposed Technical Specification change is acceptable as all of the other ECCS actuation signals are still available.

d) TS 3.7.1.2 Auxiliary Feedwater System

The feedwater system pump actuation signal on low-low water level in the steam generator under test is defeated in TS 3.3.2.1(b) above will also result in TS 3.7.1.2 not being met.

As stated for TS 3.3.2.1(b) above the remaining pump start signals will be operable for the two steam generators operating in their normal mode. We, therefore, concur that the proposed Technical Specification change is acceptable.

e) TS 3.7.1.3 Emergency Condensate Storage Tank

In the performance of the steam generator test the water level may go below normal levels but in the performance of these tests, it will not be allowed to go below 60,000 gallons. Further, the normal backup sources of water will still be available.

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We conclude that the proposed Technical Specification change is acceptable because the minimum water supply will never fall below 60,000 gallons.

3.0 ENVIRONMENTAL CONSIDERATION

We have determined that the amendment does not authorize a change in effluent types, total amounts or an increase in design power level of 2900 Mwt. The test program will not result in any environmental impacts other than those evaluated in the Staff's Safety Environmental Statement since the test program is encompassed by the overall activity evaluated in the Final Environmental Statement. Therefore, we have concluded based on the considerations discussed above, that: (1) it 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. Also, we reaffirm our conclusions as otherwise stated in our Safety Evaluation and its supplements.

4.0 CONCLUSIONS

On the basis of the above considerations, we have determined that conducting the water hammer test as described in the Virginia Electric and Power Company's letter of July 9, 1980, will not result in undue risk to the public health and safety of the public.

We have reviewed the Technical Specification exceptions proposed by the licensee to perform the water hammer test. The five exceptions are needed to block the auxiliary feedwater system pump actuation signal and the safety injection signal which would be energized by placing the steam generator under test in the test mode. Our safety evaluation of each of these exceptions is as stated above. During the performance of the test the available water will not be allowed to go below 60,000 gallons and backup sources (300,000 gallons) are available.

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-339

VIRGINIA ELECTRIC AND POWER COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO

LICENSE NPF-7

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 2 to License NPF-7 for Fuel Loading and Low Power Testing, issued to the Virginia Electric and Power Company (licensee), which allowed certain exceptions to Appendix A of the Technical Specifications 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 permits the licensee to conduct the water hammer demonstration test as presented in our Safety Evaluation, dated August 1980.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations. The Commission has made appropriate findings as required by the Act and the Commission's regulations in 10 CFR Chapter I, which are set forth in the license amendment. The activity authorized by the amendment is encompassed by the overall action involving the proposed issuance of an operating license for which prior public notice was issued in the Federal Register on May 25, 1973 (38 F.R. 13772).

The Commission has determined that the issuance of this amendment will not result in any environmental impacts other than those evaluated in the Final Environmental Statement since the activity authorized by the amendment is encompassed by the overall action evaluated in the Final Environmental Statement.

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For further details with respect to this action, see (1) the application for amendment, dated July 9, 1980, (2) Amendment No. 2 to NPF-7, and (3) the Commission's related Safety Evaluation concerning the water hammer demonstration test.

All of the items are available for public inspection at the Commission's Public Document Room 1717 H Street, N. W., Washington, D. C. and at the local public document rooms in the Alderman Library, Manuscripts Department, University of Virginia, Charlottesville, Virginia 22901 and at the Office of the Board of Supervisors, Louisa County Courthouse, P. O. Box 27, Louisa, Virginia 23093. A copy of items 2 and 3 may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing, Office of Nuclear Reactor Regulation.

Dated at Bethesda, Maryland, this 18th day of August, 1980.

FOR THE NUCLEAR REGULATORY COMMISSION

15/
B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

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