

March 1, 1999

Mr. J. P. O'Hanlon
Senior Vice President - Nuclear
Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, Virginia 23060

SUBJECT: NORTH ANNA POWER STATION, UNITS 1 AND 2 - ISSUANCE OF
AMENDMENTS REGARDING A TECHNICAL SPECIFICATION CHANGE ON
PRESSURIZER HEATER EMERGENCY POWER SOURCE CLARIFICATION
(TAC NOS. MA4155 AND MA4156)

Dear Mr. O'Hanlon:

The Commission has issued the enclosed Amendment Nos. 217 and 198 to Facility
Operating License Nos. NPF-4 and NPF-7 for the North Anna Power Station (NAPS), Unit Nos.
1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response
to your letter dated November 10, 1998.

The amendments change the NAPS TS to clarify the operability requirements for pressurizer
heaters and the emergency power source for the pressurizer heaters.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the
Commission's biweekly Federal Register notice.

Sincerely,

Original signed by:
N. Kalyanam, Project Manager
Project Directorate II-1
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-338 and 50-339

Enclosures:

1. Amendment No. 217 to NPF-4
2. Amendment No. 198 to NPF-7
3. Safety Evaluation

cc w/encls: See next page

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OFFICE	PM:PDII-2	LA:PDII-2	D:PDII-2	DSSA/SRXB*	DSSA/SPSB*	OGC
NAME	NKalyanam <i>lah</i>	Dunnington <i>ED</i>	HBS <i>how</i>	TECollins	RJBarrett	<i>DB</i>
DATE	2/11/99	2/11/99	3/11/99	1/199	1/199	2/22/99
COPY	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

* see SE dated 2/18/99.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Senior Vice President - Nuclear
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A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

A handwritten signature in black ink, appearing to read "N. Kalyanam", with a horizontal line underneath.

N. Kalyanam, Project Manager
Project Directorate II-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-338 and 50-339

Enclosures:

1. Amendment No. 217 to NPF-4
2. Amendment No. 198 to NPF-7
3. Safety Evaluation

cc w/enclosures:
See next page

Mr. J. P. O'Hanlon
Virginia Electric & Power Company

North Anna Power Station
Units 1 and 2

cc:

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U.S. Nuclear Regulatory Commission
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DATED: March 1, 1999

AMENDMENT NO. 217- FACILITY OPERATING LICENSE NO. NPF-4-NORTH ANNA UNIT 1
AMENDMENT NO. 198- FACILITY OPERATING LICENSE NO. NPF-7-NORTH ANNA UNIT 2

Docket File

PUBLIC

PDII-1 RF

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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. 217
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 November 10, 1998, 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.

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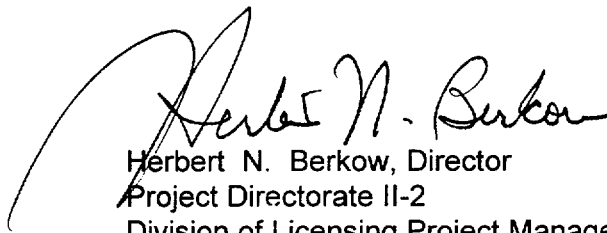
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.D.(2) of Facility Operating License No. NPF-4 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 217, 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 its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Herbert N. Berkow, Director
Project Directorate II-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachments:
Changes to the Technical
Specifications

Date of Issuance: March 1, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 217

TO FACILITY OPERATING LICENSE NO. NPF-4

DOCKET NO. 50-338

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page as indicated. The revised page is identified by amendment number and contains vertical lines indicating the areas of change.

Remove Page

3/4 4-8

Insert Page

3/4 4-8

REACTOR COOLANT SYSTEM

PRESSURIZER

LIMITING CONDITION FOR OPERATION

3.4.4 The pressurizer shall be OPERABLE with two groups of pressurizer heaters OPERABLE with the capacity of each group greater than or equal to 125 kW and capable of being powered from its associated emergency bus, and a water volume of less than or equal to 1240 cubic feet.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- a. With one required group of pressurizer heaters inoperable, restore the required group of pressurizer heaters to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With the pressurizer otherwise inoperable, be in at least HOT STANDBY with the reactor trip breakers open within 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.4.1 The pressurizer water volume shall be determined to be within its limit at least once per 12 hours.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

DOCKET NO. 50-339

NORTH ANNA POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 198
License No. NPF-7

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 November 10, 1998, 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.C.(2) of Facility Operating License No. NPF-7 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 198 , 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 its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Herbert N. Berkow, Director
Project Directorate II-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachments:
Changes to the Technical
Specifications

Date of Issuance: March 1, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 198

TO FACILITY OPERATING LICENSE NO. NPF-7

DOCKET NO. 50-339

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page as indicated. The revised page is identified by amendment number and contains vertical lines indicating the areas of change.

Remove Page

3/4 4-8

Insert Page

3/4 4-8

REACTOR COOLANT SYSTEM

PRESSURIZER

LIMITING CONDITION FOR OPERATION

3.4.4 The pressurizer shall be OPERABLE with two groups of pressurizer heaters OPERABLE with the capacity of each group greater than or equal to 125 kW and capable of being powered from its associated emergency bus, and a water volume of less than or equal to 1240 cubic feet.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- a. With one required group of pressurizer heaters inoperable, restore the required group of pressurizer heaters to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With the pressurizer otherwise inoperable, be in at least HOT STANDBY with the reactor trip breakers open within 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.4.1 The pressurizer water volume shall be determined to be within its limit at least once per 12 hours.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 217 AND 198 TO

FACILITY OPERATING LICENSE NOS. NPF-4 AND NPF-7

VIRGINIA ELECTRIC AND POWER COMPANY

NORTH ANNA POWER STATION, UNITS NO. 1 AND NO. 2

1.0 INTRODUCTION

By letter dated November 10, 1998, Virginia Electric and Power Company (VEPCO, the licensee) has requested license amendments for the North Anna Units 1 and 2 plants that modify the Technical Specifications (TS) related to the operability requirements for the pressurizer heaters and the emergency power source for the pressurizer heaters.

The proposed changes are to clarify the operability requirements for the pressurizer heater and eliminate a potential verbatim compliance issue associated with the pressurizer heaters and the emergency power supply. The verbatim compliance issue was created when the emergency diesel generator (EDG) allowed outage time (AOT) was changed from 72 hours to 14 days.

The existing TS are proposed to be revised as noted below for Units 1 and 2:

Existing TS 3.4.4:

3.4.4 The pressurizer shall be OPERABLE with at least 125 kw of pressurizer heaters and a water volume of less than or equal to 1240 cubic feet.

APPLICABILITY: MODES 1, 2, and 3

ACTION:

- a. With the pressurizer inoperable due to an inoperable emergency power supply for the pressurizer heaters either restore the inoperable emergency power supply within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With the pressurizer otherwise inoperable, be in at least HOT STANDBY with the reactor trip breakers open within 6 hours and in HOT SHUTDOWN within the following 6 hours.

Proposed TS 3.4.4:

3.4.4 The pressurizer shall be OPERABLE with **two groups of pressurizer heaters OPERABLE with the capacity of each group greater than or equal to 125 kW and**

capable of being powered from its associated emergency bus, and a water volume of less than or equal to 1240 feet.

APPLICABILITY: MODES 1, 2, AND 3

ACTION:

- a. With **one required group of pressurizer heaters inoperable, restore the required group of pressurizer heaters to OPERABLE status** within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With the pressurizer otherwise inoperable, be in at least HOT STANDBY with the reactor trip breakers open within 6 hours and in HOT SHUTDOWN within the following 6 hours.

2.0 BACKGROUND

The licensee stated that the emergency power supply for the pressurizer heaters is consistent with satisfying the requirements of General Criteria 10, 14, 15, 17, and 20 of Appendix A of 10 CFR Part 50 for a loss of offsite power event. The pressurizer heater power supply design provides the capability to supply, from either the offsite power source or the emergency power source, a predetermined number of pressurizer heaters and associated controls necessary to establish and maintain natural circulation at hot standby conditions. The required heaters and their controls are connected to the emergency buses in a manner that provides redundant power supply capability. The TS currently require "at least 125 kw of pressurizer heaters" to be operable. Consistent with NUREG-0737, Item 11. E.3.1.1, "Emergency Power Supply for Pressurizer Heaters," two redundant groups of 125 kW heaters powered from emergency busses are maintained operable to meet the TS requirement.

The primary purpose of the pressurizer electrical immersion heaters is to heat and maintain the water in the pressurizer at or above saturation temperature corresponding to the desired reactor coolant system (RCS) pressure. The pressurizer heaters are divided into five groups, which extend vertically through the lower head into the pressurizer water space. A minimum required capacity of pressurizer heaters (125 kW) capable of being powered from its associated emergency bus ensures that the RCS pressure can be maintained at or above saturation temperature during a loss of offsite power. The capability to maintain and control system pressure is important for maintaining subcooled conditions in the RCS and ensuring the capability to remove core decay heat by either forced or natural circulation of reactor coolant. Unless adequate heater capacity is available, the hot high pressure condition cannot be maintained indefinitely and still provide the required subcooling margin in the primary system.

On August 26, 1998, the NRC issued Amendments 214 and 195 to the North Anna Power Station TS for Units 1 and 2, respectively, which permitted a 14-day AOT for an inoperable EDG in lieu of the original 72-hour AOT. However, the Action Statement for the pressurizer heaters permits continued operation for up to 72 hours with an inoperable emergency power supply for the pressurizer heaters. Therefore, to eliminate any potential compliance issue on the pressurizer heaters with entry into the 14-day AOT for the EDG, the Limiting Condition for

Operation (LCO) and Action Statement are proposed to be revised. In addition, the number of groups of heaters required to be operable will be delineated in the LCO.

3.0 EVALUATION

The licensee stated that the proposed changes will revise LCO 3.4.4 to require that the pressurizer have two groups of pressurizer heaters operable with a capacity of greater than or equal to 125 kW and capable of being powered from its associated emergency bus. There are five groups of pressurizer heaters. Groups 1, 2, 4 and 5 are backup heaters. Group 3 consists of proportional heaters. Groups 1 and 4 are powered from the emergency bus and are governed by the TS. The emergency bus for the pressurizer heaters is capable of being powered from either the offsite power supply, the emergency power supply, or the station blackout diesel generator.

The proposed Action Statement revision permits up to 72 hours with inoperable heaters, eliminating the confusion with the emergency power supply. With an inoperable power supply, either normal or emergency, the appropriate electrical distribution Action Statement will be entered. Therefore, the pressurizer heater operability addressed in accordance with TS 3.0.5. permits a component/train to be considered operable with an inoperable power source (normal or emergency) if the other redundant component/train is operable with both the normal and emergency power supplies operable. The licensee stated that the 72-hour AOT for inoperable heaters has not changed and is considered reasonable based on operating experience to reach the required plant conditions from full power condition in an orderly manner without challenging plant systems. The 72 hours is also reasonable considering the anticipation that a demand caused by a loss of offsite power would be unlikely in this period. Additionally, pressure control can be maintained during the time using the remaining heaters.

The licensee stated that the proposed changes will not reduce the margin of safety since the change has no effect on any safety analyses assumptions. The pressurizer heaters remain operable as assumed in the safety analysis to mitigate the consequences of any accident previously analyzed. The proposed changes only clarify the operability requirements and associated Action Statement for the pressurizer heaters and associated emergency power supplies. The proposed changes will continue to ensure the pressurizer heaters are operable to perform their intended function during plant accident scenarios. Initiating events, including loss of offsite power where pressurizer heaters are required to maintain natural circulation, were included in a probabilistic risk assessment that was completed to support the 14-day EDG AOT.

The staff agrees with the above statements and therefore finds the TS changes to be acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Virginia State official was notified of the proposed issuance of the amendments. The State official had no comment.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluent that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding (63 FR 66605). Accordingly, these amendments meet 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 amendments.

6.0 CONCLUSION

The staff has evaluated the licensee's submittal and concluded that the proposed change eliminates any potential compliance issue with entry into the 14-day AOT for the EDG and the LCO and Action Statements for the pressurizer heaters. The proposed change will continue to ensure that the pressurizer heaters remain operable to perform their intended safety function during plant accident scenarios and the change is, therefore, acceptable.

Based on the preceding discussions, the staff finds that the proposed change to the TS will clarify the operability requirements for pressurizer heaters and the emergency power source for the pressurizer heaters. TS revising the EDG section are consistent with station procedures associated with steady-state conditions, and, therefore, are acceptable to the staff.

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: H. Balukjian and N. K. Trehan

Date: March 1, 1999