

April 22, 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 OF CASING COOLING AND OUTSIDE RECIRCULATION SPRAY PUMPS SURVEILLANCE TESTING CRITERIA (TAC NOS. MA2421 AND MA2422)

Dear Mr. O'Hanlon:

The Commission has issued the enclosed Amendment Nos. 219 and 200 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 July 28, 1998.

The amendments change the NAPS TS casing cooling and outside recirculation spray pumps surveillance testing criteria.

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, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-338 and 50-339 HBerkow
Enclosures:

- 1. Amendment No. 219 to NPF-4
 - 2. Amendment No. 200 to NPF-7
 - 3. Safety Evaluation
- cc w/encs: See next page

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* See previous concurrence

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DATE	4/16/99	4/16/99	4/22/99	4/22/99	4/20/99	04/15/99
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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SUBJECT: NORTH ANNA POWER STATION, UNITS 1 AND 2 - ISSUANCE OF
AMENDMENTS REGARDING A TECHNICAL SPECIFICATION CHANGE OF
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SURVEILLANCE TESTING CRITERIA (TAC NOS. MA2421 AND MA2422)

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Sincerely,

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

N. Kalyanam, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-338 and 50-339

Enclosures:

1. Amendment No. 219 to NPF-4
2. Amendment No. 200 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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Mineral, Virginia 23117

DATED: April 22, 1999

AMENDMENT NO. 219- FACILITY OPERATING LICENSE NO. NPF-4-NORTH ANNA UNIT 1
AMENDMENT NO. 200- FACILITY OPERATING LICENSE NO. NPF-7-NORTH ANNA UNIT 2

Docket File

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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. 219

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 July 28, 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. 219 , 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 of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard L. Emch Jr., Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachments:
Changes to the Technical
Specifications

Date of Issuance: April 22, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 219

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 6-12a

Insert Page

3/4 6-12a

CONTAINMENT SYSTEMS

CONTAINMENT RECIRCULATION SPRAY SYSTEM

SURVEILLANCE REQUIREMENTS

4.6.2.2.1 Each containment recirculation spray subsystem and casing cooling subsystem shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.
- b. Verify each RS and casing cooling pump's developed head at the flow test point is greater than or equal to the required developed head. The frequency shall be in accordance with the Inservice Testing Program.
- c. At least once per 18 months by:
 1. Verifying that on a Containment Pressure High-High signal, each casing cooling pump starts automatically without time delay, and each recirculation spray pump starts automatically with the following time delays: inside 195 ± 9.75 seconds, outside 210 ± 21 seconds.
 2. Verifying that each automatic valve in the flow path actuates to its correct position on a containment pressure high-high test signal.
- d. At least once per 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

4.6.2.2.2 The casing coolant tank shall be demonstrated OPERABLE:

- a. At least once per 7 days by:
 1. Verifying the contained borated water volume in the tank, and
 2. Verifying the boron concentration of the water.
- b. At least once per 24 hours by verifying the casing cooling tank temperature.



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. 200
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 July 28, 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. 200 , 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 of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard L. Emch Jr., Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachments:
Changes to the Technical
Specifications

Date of Issuance: April 22, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 200

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 6-12

Insert Page

3/4 6-12

CONTAINMENT SYSTEMS

CONTAINMENT RECIRCULATION SPRAY SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

- b. Verify each RS and casing cooling pump's developed head at the flow test point is greater than or equal to the required developed head. The frequency shall be in accordance with the Inservice Testing Program.
- c. At least once per 18 months by:
 - 1. Verifying that on a Containment Pressure--High-High signal, each casing cooling pump starts automatically without time delay, and each recirculation spray pump starts automatically with the following time delays: inside 195 ± 9.75 seconds, outside 210 ± 21 seconds.
 - 2. Verifying that each automatic valve in the flow path actuates to its correct position on a Containment Pressure - high-high test signal.
- d. At least once per 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

4.6.2.2.2 The casing coolant tank shall be demonstrated OPERABLE:

- a. At least once per 7 days by:
 - 1. Verifying the contained borated water volume in the tank, and
 - 2. Verifying the boron concentration of the water.
- b. At least once per 24 hours by verifying the casing cooling tank temperature.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 219 AND 200 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 July 28, 1998, Virginia Electric and Power Company (VEPCO, the licensee) submitted proposed Technical Specification changes that would revise the testing acceptance criteria for the casing cooling and outside recirculation spray pumps for North Anna Power Station, Units 1 and 2. Specifically, the proposed changes will delete the current Surveillance Requirement 4.6.2.2.1.b and instead incorporate the Inservice Testing Program surveillance requirements for the casing cooling and outside recirculation spray pumps. The proposed changes will revise the current acceptance criteria to be consistent with the acceptance criteria specified in the Standard Technical Specifications for Westinghouse plants (NUREG-1431).

The NRC's basis for approving the proposed changes to the Technical Specifications is given below.

2.0 TECHNICAL SPECIFICATION CHANGE

The current operability requirements for the Casing Cooling and Recirculation Spray Systems include measurement of discharge pressure and verification that recirculation flow discharge pressure is above specific pressure head values established in the Technical Specifications.

The Surveillance Requirement 4.6.2.2.1.b for both Units 1 and 2 reads:

Verifying, that on recirculation flow, each outside recirculation pump develops a discharge pressure of ≥ 115 psig and each casing cooling pump develops a discharge pressure of ≥ 58 psig (*) when tested pursuant to Specification 4.0.5.

(*) 46 psig for Unit 2

The licensee proposes to replace the current Surveillance Requirement 4.6.2.2.1.b for both Units 1 and 2 with the following:

Verify each RS and casing cooling pump's developed head at the flow test point is greater than or equal to the required developed head. The frequency shall be in accordance with the Inservice Testing Program.

2.1 Bases for Acceptance

The containment Recirculation Spray (RS) System, along with the Containment Quench Spray System, is designed to limit post-accident pressure and temperature in the containment to less than the design values and depressurize the containment to subatmospheric pressures. Two RS pumps are located inside the containment and two are located outside. Following a Loss of Coolant Accident (LOCA), the water accumulated in the containment sump provides a suction supply for the RS pumps. The Casing Cooling subsystem which is considered a part of the outside RS subsystem, cools the water on the suction side of the RS pumps to increase their net positive suction head.

The current Technical Specifications Surveillance Requirements require that each outside RS pump develops a discharge pressure head equal to or greater than 115 psig and that each Casing Cooling pump develops a discharge pressure head equal to or greater than 58 psig for Unit 1 and 46 psig for Unit 2, when tested pursuant to TS 4.0.5.

The proposed changes verify that the developed head at the flow test points for the Casing Cooling and outside RS pumps is greater than or equal to the required developed head that is in agreement with the vendor's pump curves used in the system calculation.

Instead of verifying the discharge pressure head against specific values which are currently stated in the TS, the licensee's proposed surveillance requirement verifies that the developed head is consistent with the system design basis calculations. These calculations indicate the pump discharge pressure necessary to assure the capability of the system to mitigate the consequences of a design basis accident.

10 CFR 50.36(c)(2)(ii) provides four criteria for determining whether a TS limiting condition for operation is required for an item. These criteria are:

- Criterion 1. Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant system pressure boundary.
- Criterion 2. A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
- Criterion 3. A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
- Criterion 4. A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

Operability of the RS and Casing Cooling systems meets Criterion 3.

The licensee's proposed changes provide a more accurate assessment of the pump performance and are consistent with the acceptance criteria specified in NUREG-1431, which requires the verification of each RS and Casing Cooling pump's developed head at the flow test point to be greater than or equal to the required head.

The licensee's proposed changes are acceptable since (1) the pump performance data obtained with the periodic test procedures are in agreement with the vendor's pump curves and (2) use of the proposed acceptance criteria during periodic testing will demonstrate that the systems are capable of supplying the required design basis flow to the containment in a post accident situation.

TS 4.0.5 states that Surveillance Requirements for Inservice Inspection and Inservice Testing of ASME Code Class 1, 2, and 3 components shall be performed in accordance with Section XI of the ASME Code and applicable addenda as required by 10 CFR 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). The proposed changes to the TS refer to the Inservice Testing Program for testing frequency, and the Inservice Testing of ASME Code Class 1, 2, and 3 components is performed in accordance with Section XI of the ASME Code.

3.0 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.

4.0 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 and change a surveillance requirement. The NRC staff has determined (1) 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 (2) 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 48272). 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.

5.0 CONCLUSION

The proposed Technical Specifications changes described in the licensee's submittal of July 28, 1998, are acceptable since the pump performance data obtained with the periodic test procedures are in agreement with the vendor's pump curves and the changes are consistent with the acceptance criteria in NUREG-1431.

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: T. Cerovski

Date: April 22, 1999