

February 9, 1996

DISTRIBUTION  
attached sheet

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

SUBJECT: NORTH ANNA UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE:  
10 CFR 50 APPENDIX J OPTION B (TAC NOS. M94081 AND M94082)

Dear Mr. O'Hanlon:

The Commission has issued the enclosed Amendment Nos. 196 and 177 to Facility Operating License Nos. NPF-4 and NPF-7 for the North Anna Power Station, Units No. 1 and No. 2 (NA-1&2). The amendments revise the Technical Specifications (TS) in response to your letter dated November 20, 1995, as supplemented by letter dated January 23, 1996.

The amendments revise the NA-1&2 TS to permit the use of 10 CFR Part 50, Appendix J, Option B, Performance-Based Containment Leakage Rate Testing.

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  
David B. Matthews for:

Leon B. Engle, Project Manager  
Project Directorate II-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket Nos. 50-338  
and 50-339

Enclosures:

1. Amendment No. 196 to NPF-4
2. Amendment No. 177 to NPF-7
3. Safety Evaluation

cc w/enclosures:  
See next page

Distribution  
See next page

FILENAME - G:\NANNA3.OPA \*Previously Concurred

OFFICE	LA: PDII-1	PM: PD <i>EBB</i>	CSCB*	OGC <i>EB</i>	D: PD <i>EB</i>
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DATE	1/26/96	1/26/96	01/04/96	2/5/96	2/8/96
COPY	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

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PDR

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

North Anna Power Station  
Units 1 and 2

cc:

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County Administrator  
Louisa County  
P.O. Box 160  
Louisa, Virginia 23093

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U.S. Nuclear Regulatory Commission  
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Senior Resident Inspector  
North Anna Power Station  
U.S. Nuclear Regulatory Commission  
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Robert B. Strobe, M.D., M.P.H.  
State Health Commissioner  
Office of the Commissioner  
Virginia Department of Health  
P.O. Box 2448  
Richmond, Virginia 23218

DATED: February 9, 1996

AMENDMENT NO. 196 TO FACILITY OPERATING LICENSE NO. NPF-4-NORTH ANNA UNIT 1  
AMENDMENT NO. 177 TO FACILITY OPERATING LICENSE NO. NPF-7-NORTH ANNA UNIT 2

Distribution

Docket File

PUBLIC

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S. Varga

J. Zwolinski

G. Hill (4), TWFN 5/C/3

C. Grimes, 11/F/23

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K. Landis, RII

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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. 196  
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 20, 1995 as supplemented January 23, 1996, 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. 196, 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



David B. Matthews, Director  
Project Directorate II-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 9, 1996

ATTACHMENT TO LICENSE AMENDMENT NO. 196

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.

Remove Pages

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3/4 6-3  
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## 3/4.6 CONTAINMENT SYSTEMS

### 3/4.6.1 CONTAINMENT

#### CONTAINMENT INTEGRITY

#### LIMITING CONDITION FOR OPERATION

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3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

- a. At least once per 31 days by verifying that all penetrations\* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves, secured in their positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.1.
- b. By verifying that each containment air lock is OPERABLE per Specification 3.6.1.3.
- c. After each closing of the equipment hatch, by leak rate testing the equipment hatch seals, with gas at  $P_a$ , greater than or equal to 44.1 psig. Results shall be evaluated against the criteria of Specification 3.6.1.2.b as required by 10 CFR 50, Appendix J, Option B, as modified by approved exemptions, and in accordance with the guidelines contained in Regulatory Guide 1.163, dated September 1995.
- d. Each time containment integrity is established after vacuum has been broken by pressure testing the butterfly isolation valves in the containment purge lines and the containment vacuum ejector line.

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\* Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked sealed or otherwise sealed in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such surveillance need not be performed more often than once per 92 days.

## CONTAINMENT SYSTEMS

### CONTAINMENT LEAKAGE

#### LIMITING CONDITION FOR OPERATION

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3.6.1.2 Containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of less than or equal to  $L_a$ , 0.1 percent by weight of the containment air per 24 hours, at the calculated peak containment pressure  $P_a$ , greater than or equal to 44.1 psig.
- b. A combined leakage rate of less than or equal to  $0.60 L_a$  for all penetrations and valves subject to Type B and C tests, when pressurized to  $P_a$ , greater than or equal to 44.1 psig.

APPLICABILITY: MODES 1, 2, 3, and 4.

#### ACTION:

With either (a) the measured overall integrated containment leakage rate exceeding  $0.75 L_a$  or (b) with the measured combined leakage rate for all penetrations and valves subject to Type B and C tests exceeding  $0.60 L_a$ , restore the overall integrated leakage rate to less than  $0.75 L_a$  and the combined leakage rate for all penetrations subject to Type B and C tests to less than or equal to  $0.60 L_a$  prior to increasing the Reactor Coolant System temperature above 200°F.

#### SURVEILLANCE REQUIREMENTS

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4.6.1.2 The containment and containment penetrations shall be tested by performing leakage rate testing as required by 10 CFR 50, Appendix J, Option B, as modified by approved exemptions, and in accordance with the guidelines contained in Regulatory Guide 1.163, dated September 1995. The provisions of Specification 4.0.2 are not applicable.

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## CONTAINMENT SYSTEMS

### CONTAINMENT AIR LOCKS

#### LIMITING CONDITION FOR OPERATION

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3.6.1.3 Each containment air lock shall be OPERABLE with:

- a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed, and
- b. An overall air lock leakage rate of less than or equal to  $0.05 L_a$  at  $P_a$  greater than or equal to 44.1 psig.

APPLICABILITY: MODES 1, 2, 3 and 4.

#### ACTION:

- a. With one containment air lock door inoperable:
  1. Maintain at least the OPERABLE air lock door closed and either restore the inoperable air lock door to OPERABLE status within 24 hours or lock the OPERABLE air lock door closed.+
  2. Operation may then continue until performance of the next required overall air lock leakage test provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days.
  3. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
  4. The provisions of Specification 3.0.4 are not applicable.
- b. With a containment air lock inoperable, except as the result of an inoperable air lock door, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

- a. By performing leakage rate testing as required by 10 CFR 50, Appendix J, Option B, as modified by approved exemptions, and in accordance with the guidelines contained in Regulatory Guide 1.163, dated September 1995. The provisions of Specification 4.0.2 are not applicable.
- b. At least once per refueling outage by verifying that only one door in each air lock can be opened at a time.

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+ Entry to repair the inner air lock door, if inoperable, is allowed.

## CONTAINMENT SYSTEMS

### CONTAINMENT STRUCTURAL INTEGRITY

#### LIMITING CONDITIONS FOR OPERATION

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3.6.1.6 The structural integrity of the containment shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.1.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the structural integrity of the containment not conforming to the above requirements, restore the structural integrity to within the limits within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.1.6.1 Containment Surfaces The structural integrity of the exposed accessible interior and exterior surfaces of the containment, including the liner plate shall be determined by performing visual examinations as required by 10 CFR 50, Appendix J, Option B, as modified by approved exemptions, and in accordance with the guidelines contained in Regulatory Guide 1.163, dated September 1995. The provisions of Specification 4.0.2 are not applicable.

## CONTAINMENT SYSTEMS

### 3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

#### CONTAINMENT QUENCH SPRAY SYSTEM

#### LIMITING CONDITION FOR OPERATION

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3.6.2.1 Two independent containment quench spray subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

#### ACTION:

With one containment quench spray subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.2.1 Each containment quench spray subsystem shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
  1. 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.
  2. Verifying the temperature of the borated water in the refueling water storage tank is within the limits shown on Figure 3.6-1.
- b. Verifying that on recirculation flow, each pump develops a discharge pressure of  $\geq 123$  psig when tested pursuant to Specification 4.0.5.
- c. At least once per 18 months during shutdown, by:
  1. Verifying that each automatic valve in the flow path actuates to its correct position on a containment high-high signal.
  2. Verifying that each spray pump starts automatically on a containment high-high signal.

## ADMINISTRATIVE CONTROLS

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### 6.10 RECORD RETENTION

6.10.1 The following records shall be retained for at least five years:

- a. Records and logs of facility operation covering time interval at each power level.
- b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
- c. ALL REPORTABLE EVENTS and Special Reports.
- d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
- e. Records of changes made to Operating Procedures.
- f. Records of radioactive shipments.
- g. Records of sealed source leak tests and results.
- h. Records of annual physical inventory of all sealed source material of record.
- i. Records of the Station Emergency Plan and implementing procedures audits.
- j. Records of the Station Security Plan and implementation procedures audits.

6.10.2 The following records shall be retained for the duration of the Facility Operating License:



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. 177  
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 20, 1995 as supplemented January 23, 1996, 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. 177, 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



David B. Matthews, Director  
Project Directorate II-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 9, 1996

ATTACHMENT TO LICENSE AMENDMENT NO. 177

TO FACILITY OPERATING LICENSE NO. NPF-7

DOCKET NO. 50-339

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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## 3/4.6 CONTAINMENT SYSTEMS

### 3/4.6.1 CONTAINMENT

#### CONTAINMENT INTEGRITY

#### LIMITING CONDITION FOR OPERATION

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3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

- a. At least once per 31 days by verifying that all penetrations\* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves, secured in their positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.1.
- b. By verifying that each containment air lock is OPERABLE per Specification 3.6.1.3.
- c. After each closing of the equipment hatch, by leak rate testing the equipment hatch seals, with gas at  $P_a$ , greater than or equal to 44.1 psig. Results shall be evaluated against the criteria of Specification 3.6.1.2.b as required by 10 CFR 50, Appendix J, Option B, as modified by approved exemptions, and in accordance with the guidelines contained in Regulatory Guide 1.163, dated September 1995.
- d. Each time containment integrity is established after vacuum has been broken by pressure testing the butterfly isolation valves in the containment purge lines and the containment vacuum ejector line.

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\* Except valves, blind flanges and deactivated automatic valves which are located inside the containment and are locked sealed or otherwise sealed in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such surveillance need not be performed more often than once per 92 days.

## CONTAINMENT SYSTEMS

### CONTAINMENT LEAKAGE

#### LIMITING CONDITION FOR OPERATION

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3.6.1.2 Containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of less than or equal to  $L_a$ , 0.1 percent by weight of the containment air per 24 hours, at the calculated peak containment pressure  $P_a$ , greater than or equal to 44.1 psig.
- b. A combined leakage rate of less than or equal to  $0.60 L_a$  for all penetrations and valves subject to Type B and C tests, when pressurized to  $P_a$ , greater than or equal to 44.1 psig.

APPLICABILITY: MODES 1, 2, 3, and 4.

#### ACTION:

With either (a) the measured overall integrated containment leakage rate exceeding  $0.75 L_a$  or (b) with the measured combined leakage rate for all penetrations and valves subject to Type B and C tests exceeding  $0.60 L_a$ , restore the overall integrated leakage rate to less than  $0.75 L_a$  and the combined leakage rate for all penetrations subject to Type B and C tests to less than or equal to  $0.60 L_a$  prior to increasing the Reactor Coolant System temperature above 200°F.

#### SURVEILLANCE REQUIREMENTS

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4.6.1.2 The containment and containment penetrations shall be tested by performing leakage rate testing as required by 10 CFR 50, Appendix J, Option B, as modified by approved exemptions, and in accordance with the guidelines contained in Regulatory Guide 1.163, dated September 1995. The provisions of Specification 4.0.2 are not applicable.

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## CONTAINMENT SYSTEMS

### CONTAINMENT AIR LOCKS

#### LIMITING CONDITION FOR OPERATION

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3.6.1.3 Each containment air lock shall be OPERABLE with:

- a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed, and
- b. An overall air lock leakage rate of less than or equal to  $0.05 L_a$  at  $P_a$  greater than or equal to 44.1 psig.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With one containment air lock door inoperable:
  1. Maintain at least the OPERABLE air lock door closed and either restore the inoperable air lock door to OPERABLE status within 24 hours or lock the OPERABLE air lock door closed.+
  2. Operation may then continue until performance of the next required overall air lock leakage test provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days.
  3. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
  4. The provisions of Specification 3.0.4 are not applicable.
- b. With a containment air lock inoperable, except as the result of an inoperable air lock door, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

- a. By performing leakage rate testing as required by 10 CFR 50, Appendix J, Option B, as modified by approved exemptions, and in accordance with the guidelines contained in Regulatory Guide 1.163, dated September 1995. The provisions of Specification 4.0.2 are not applicable.
- b. At least once per refueling outage by verifying that only one door in each air lock can be opened at a time.

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+ Entry to repair the inner air lock door, if inoperable, is allowed.

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## CONTAINMENT SYSTEMS

### INTERNAL PRESSURE

#### LIMITING CONDITION FOR OPERATION

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3.6.1.4 Primary containment internal air partial pressure shall be maintained greater than or equal to 9.0 psia and within the acceptable operation on Figure 3.6-1.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the containment internal air partial pressure less than 9.0 psia or above the applicable limit shown on Figure 3.6-1, restore the internal air partial pressure to within the limits within 1 hour or be in at least HOT STANDBY within the next 5 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.1.4 The primary containment internal air partial pressure shall be determined to be within the limits at least once per 12 hours.

## CONTAINMENT SYSTEMS

### CONTAINMENT STRUCTURAL INTEGRITY

#### LIMITING CONDITIONS FOR OPERATION

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3.6.1.6 The structural integrity of the containment shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.1.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the structural integrity of the containment not conforming to the above requirements, restore the structural integrity to within the limits within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.1.6.1 Containment Surfaces The structural integrity of the exposed accessible interior and exterior surfaces of the containment, including the liner plate shall be determined by performing visual examinations as required by 10 CFR 50, Appendix J, Option B, as modified by approved exemptions, and in accordance with the guidelines contained in Regulatory Guide 1.163, dated September 1995. The provisions of Specification 4.0.2 are not applicable.

## ADMINISTRATIVE CONTROLS

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### SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Regional Administrator, Region II, within the time period specified for each report. These reports shall be submitted pursuant to the requirement of the applicable specification:

- a. Inservice Inspection Reviews, Specification 4.0.5, shall be reported within 90 days of completion.
- b. MODERATOR TEMPERATURE COEFFICIENT. Specification 3.1.1.4.
- c. Deleted.
- d. RADIATION MONITORING INSTRUMENTATION. Specification 3.3.3.1, Table 3.3-6, Action 35.
- e. Deleted.
- f. LOW-TEMPERATURE OVERPRESSURE PROTECTION. Specification 3.4.9.3.
- g. EMERGENCY CORE COOLING SYSTEMS. Specification 3.5.2 and 3.5.3.
- h. SETTLEMENT OF CLASS 1 STRUCTURES. Specification 3.7.12.
- i. GROUND WATER LEVEL - SERVICE WATER RESERVOIR. Specification 3.7.13.
- j. Deleted.
- k. Deleted.
- l. RADIOACTIVE EFFLUENTS. As required by the ODCM.
- m. RADIOLOGICAL ENVIRONMENTAL MONITORING. As required by the ODCM.
- n. SEALED SOURCE CONTAMINATION. Specification 4.7.11.1.3.
- o. REACTOR COOLANT SYSTEM STRUCTURAL INTEGRITY. Specification 4.4.10. For any abnormal degradation of the structural integrity of the reactor vessel or the Reactor Coolant System pressure boundary detected during the performance of Specification 4.4.10, an initial report shall be submitted within 10 days after detection and a detailed report submitted within 90 days after the completion of Specification 4.4.10.
- p. Deleted.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 196 AND 177 TO

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

VIRGINIA ELECTRIC AND POWER COMPANY

OLD DOMINION ELECTRIC COOPERATIVE

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

DOCKET NOS. 50-338 AND 50-339

1.0 INTRODUCTION

By letter dated November 20, 1995, as supplemented by letter dated January 23, 1996, the Virginia Electric and Power Company (the licensee) proposed a change to the Technical Specifications (TS) for the North Anna Power Station, Units No. 1 and No. 2 (NA-1&2). The proposed TS change would permit the use of 10 CFR Part 50, Appendix J, Option B, Performance-Based Requirements. The January 23, 1996 supplemental letter contained clarifying information only, and did not change the staff's proposed no significant hazards consideration.

2.0 BACKGROUND

Compliance with Appendix J provides assurance that the primary containment, and those systems and components which penetrate the primary containment, do not exceed the allowable leakage rate values specified in the technical specifications and bases. The allowable leakage rate is determined so that the leakage assumed in the safety analyses is not exceeded.

On February 4, 1992, the NRC published a notice in the Federal Register (57 FR 4166) discussing a planned initiative to eliminate requirements marginal to safety which impose a significant regulatory burden. 10 CFR Part 50 Appendix J, "Primary Containment Leakage Testing for Water-Cooled Power Reactors" was considered for this initiative and the staff undertook a study of possible changes to this regulation. The study examined the previous performance history of domestic containments and examined the effect on risk of a revision to the requirements of Appendix J. The results of this study are reported in NUREG-1493, "Performance-Based Leak-Test Program".

Based on the results of this study, the staff developed a performance-based approach to containment leakage rate testing. On September 12, 1995, the NRC approved issuance of this revision to 10 CFR Part 50, Appendix J, which was subsequently published in the Federal Register on September 26, 1995, and became effective on October 26, 1995. The revision added Option B

"Performance-Based Requirements" to Appendix J to allow licensees to voluntarily replace the prescriptive testing requirements of Appendix J with testing requirements based on both overall and individual component leakage rate performance.

Regulatory Guide 1.163, September 1995, "Performance-Based Containment Leak Test Program", was developed as a method acceptable to the NRC staff for implementing Option B. This regulatory guide states that the Nuclear Energy Institute (NEI) document NEI 94-01, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J" provides methods acceptable to the NRC staff for complying with Option B with four exceptions which are described therein.

Option B requires that the regulatory guide or other implementation document used by a licensee to develop a performance-based leakage testing program must be included, by general reference, in the plant technical specifications.

Regulatory Guide 1.163 specifies an extension in Type A test frequency from three approximately equally spaced tests in ten years to at least one test in 10 years based upon two consecutive successful tests. Type B tests may be extended up to a maximum of 10 years based upon completion of two consecutive successful tests and Type C tests may be extended up to 5 years based on two consecutive successful tests.

By letter dated October 20, 1995, NEI proposed technical specifications implementing Option B. After some discussion, the staff and NEI agreed on a set of model technical specifications which were transmitted to NEI in a letter dated November 2, 1995. These technical specifications are to serve as a model for licensees to develop plant specific technical specifications in preparing amendment requests to implement Option B.

In order for a licensee to determine the performance of each component, factors that are indicative of or affect performance, such as an administrative leakage limit must be established. The administrative limit is selected to be indicative of the potential onset of component degradation. Although these limits are subject to NRC inspection to assure that they are selected in a reasonable manner, they are not technical specifications requirements. Failure to meet an administrative limit requires the licensee to return to the minimum test interval for that component.

Option B requires that the licensee maintain records to show that the criteria for Type A, B and C tests have been met. In addition, the licensee must maintain comparisons of the performance of the overall containment system and the individual components to show that the test intervals are adequate. These records are subject to NRC inspection.

### 3.0 EVALUATION

The licensee's November 20, 1995 and January 23, 1996 letters to the NRC proposed technical specifications changes to permit the use of Option B of the revised 10 CFR Part 50 Appendix J. Option B permits a licensee to choose Type A; or Type B and C; or Type A, B and C testing to be done on a

performance basis. The licensee has elected to perform Type A, B and C testing on a performance basis. These technical specifications changes refer to Regulatory Guide 1.163, September 1995, "Performance-Based Containment Leak Test Program" which specifies a method acceptable to the NRC for complying with Option B. This requires changes to technical specifications 4.6.1.1.a, 4.6.1.1.c, 4.6.1.2.a through d, 4.6.1.3.a, 4.6.1.6.1, 4.6.1.6.2, and 6.9.2.p and 6.9.2.r.

These technical specifications changes replace specific surveillance requirements related to primary containment leakage rate testing and the corresponding acceptance criteria and test methods with a requirement to perform the required testing as required by 10 CFR Part 50, Appendix J, Option B, as modified by approved exemptions, in accordance with the guidelines in Regulatory Guide 1.163, September 1995. The licensee chose not to include its performance testing program in the technical specifications as an administrative program as proposed in the November 2, 1995 letter to NEI discussed above. The November 2, 1995 letter provided guidance to licensees but is not an NRC requirement. The staff has reviewed the licensee's proposed changes and finds them consistent with the requirements of 10 CFR Part 50, Appendix J, Option B, in that the changes include general reference in the TS to the regulatory guide used by the licensee to develop the performance-based leakage-testing program for NA-1&2. The staff therefore concludes that the licensee's request to implement 10 CFR Part 50, Appendix J, Option B, is acceptable.

In addition to the technical specifications changes related to Appendix J, Option B, the licensee also proposed a change to the frequency of the airlock interlock mechanism surveillance to assure that only one air lock door in each air lock can be opened at a time (4.6.1.3.b). The licensee proposed changing the frequency from at least once every 18 months to "at least once per refueling outage." The staff finds this change acceptable since air lock interlock mechanisms are typically reliable, and are most effectively and safely checked at refueling outages.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Virginia State official was notified of the proposed issuance of the amendment. 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 effluents 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 (60 FR 65685). 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 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.

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