June 4, 1991

Docket Nos. 50-338
and 50-339

DISTRIBUTION
See attached sheet

Mr. W. L. Stewart
Senior Vice President - Nuclear
Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, Virginia 23060

Dear Mr. Stewart:

SUBJECT: NORTH ANNA UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: CORRECTION OF ADMINISTRATIVE ERRORS (TAC NOS. 80291 AND 80292)

The Commission has issued the enclosed Amendment Nos. 145 and 129 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 March 18, 1991.

The amendments revise the NA-1&2 TS by correcting certain administrative errors.

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)

Leon B. Engle, Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 145 to NPF-4
2. Amendment No. 129 to NPF-7
3. Safety Evaluation

cc w/enclosures:
See next page

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cc:
Mr. William C. Porter, Jr.
County Administrator
Louisa County
P.O. Box 160
Louisa, Virginia 23093

Michael W. Maupin, Esq.
Hunton and Williams
P. O. Box 1535
Richmond, Virginia 23212

Dr. W. T. Lough
Virginia State Corporation Commission
Division of Energy Regulation
P. O. Box 1197
Richmond, Virginia 23209

Old Dominion Electric Cooperative
4201 Dominion Blvd.
Glen Allen, Virginia 23060

Mr. E. Wayne Harrell
Vice President - Nuclear Operations
Virginia Electric and Power Co.
5000 Dominion Blvd.
Glen Allen, Virginia 23060

Mr. Patrick A. O'Hare
Office of the Attorney General
Supreme Court Building
101 North 8th Street
Richmond, Virginia 23219

Senior Resident Inspector
North Anna Power Station
U.S. Nuclear Regulatory Commission
Route 2, Box 78
Mineral, Virginia 23117

C. M. G. Buttery, M.D., M.P.H.
State Health Commissioner
Office of the Commissioner
Virginia Department of Health
P.O. Box 2448
Richmond, Virginia 23218

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street, N.W., Suite 2900
Atlanta, Georgia 30323

Mr. G. E. Kane, Manager
North Anna Power Station
P.O. Box 402
Mineral, Virginia 23117

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

Mr. Martin Bowling
Manager - Nuclear Licensing
Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, Virginia 23060

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. 145
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 March 18, 1991, 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. 145 , 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 issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 4, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 145

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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B 3/4 1-4

REACTIVITY CONTROL SYSTEMS

BORATED WATER SOURCES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.7 As a minimum, one of the following borated water sources shall be OPERABLE:

a. A boric acid storage system and associated heat tracing with:

1. A minimum contained borated water volume of 1378 gallons,
2. Between 12,950 and 15,750 ppm of boron, and
3. A minimum solution temperature of 115°F.

b. The refueling water storage tank with:

1. A minimum contained borated water volume of 51,000 gallons,
2. Between 2300 and 2400 ppm of boron, and
3. A minimum solution temperature of 35°F.

APPLICABILITY: MODES 5 and 6.

ACTION:

With no borated water source OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes until at least one borated water source is restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.1.2.7 The above required borated water source shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the boron concentration of the water,
2. Verifying the contained borated water volume of the tank, and
3. Verifying the boric acid storage tank solution temperature when it is the source of borated water.

b. At least once per 24 hours by verifying the RWST temperature when it is the source of borated water and the outside air temperature is < 35°F.

BORATED WATER SOURCES - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.8 Each of the following borated water sources shall be OPERABLE:

a. A boric acid storage system and associated heat tracing with:

1. A contained borated water volume of between 6000 and 16,280 gallons,
2. Between 12,950 and 15,750 ppm of boron, and
3. A minimum solution temperature of 115°F.

b. The refueling water storage tank with:

1. A contained borated water volume of between 466,200 and 487,000 gallons,
2. Between 2300 and 2400 ppm of boron, and
3. A solution temperature between 40°F and 50°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the boric acid storage system inoperable, restore the storage system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and borated to a SHUTDOWN MARGIN equivalent to at least 1.77% $\Delta k/k$ at 200°F;
restore the boric acid storage system to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

b. With the refueling water storage tank inoperable, restore the tank to OPERABLE status 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

4.1.2.8 Each borated water source shall be demonstrated OPERABLE:

REFUELING OPERATIONS

SPENT FUEL PIT WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.11 At least 23 feet of water shall be maintained over the top of irradiated fuel assemblies seated in the storage racks.

APPLICABILITY: Whenever irradiated fuel assemblies are in the spent fuel pit.

ACTION:

With the requirements of the specification not satisfied, suspend all movement of fuel assemblies and crane operations with loads in the spent fuel pit areas and place the load in a safe condition. Restore water level to within its limit within 4 hours. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.11 The water level in the spent fuel pit shall be determined to be at least at the minimum required depth at least once per 7 days when irradiated fuel assemblies are in the spent fuel pit.

REFUELING OPERATIONS

FUEL BUILDING VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.12 A fuel building ventilation system shall be OPERABLE and discharging through at least one auxiliary building HEPA filter and charcoal adsorber assembly.

APPLICABILITY:

a. During irradiated fuel movement within the spent fuel pit, or

b. During crane operation with loads over irradiated fuel in the spent fuel pit.

ACTION:

a. With a fuel building ventilation system inoperable, irradiated fuel movement within the storage pool or crane operation with loads over the spent fuel pit may proceed provided the fuel building ventilation system is in operation and discharging through at least one train of HEPA filters and charcoal adsorber assemblies.

b. With no fuel building ventilation system OPERABLE, suspend all operations involving movement of irradiated fuel within the spent fuel pit or crane operation with loads over the spent fuel pit until at least one fuel building ventilation system is restored to OPERABLE status.

c. The provisions of Specifications 3.0.3, 3.0.4 and 4.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.12 The above required fuel building ventilation system shall be demonstrated OPERABLE and discharging through at least one auxiliary building HEPA filter and charcoal adsorber assembly;

a. At least once per 31 days by initiating flow through the HEPA filter and charcoal adsorber assembly for 15 minutes

b. At least once per 18 months during system operation, by verifying a 1/8 inch vacuum, water gauge, relative to the outside atmosphere, and

c. By performance of the Surveillance Requirements of Specification 4.7.8.1 b, c, d, e and f.

4.8.1.1.2 (continued)

7. Verifying the diesel generator operates** for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to an indicated target value of 2950 kw (between 2900-3000 kw)*** and during the remaining 22 hours of this test, the diesel generator shall be loaded to an indicated 2500 to 2600 kw.*** Within 5 minutes after completing this 24-hour test, perform Surveillance Requirement 4.8.1.1.2.d.4.

8. Verifying that the auto-connected loads to each diesel generator do not exceed the 2000 hour rating of 3000 kw.

9. Verifying the diesel generator's capability to:

   a)Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power.

   b)Transfer its loads to the offsite power source, and

   c)Proceed through its shutdown sequence.

10. Verifying that the following diesel generator lockout features prevent diesel generator starting only when required:

    a)Remote Local Selection Switch
    a)Emergency Stop Switch

e. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting ** both diesel generators simultaneously, during shutdown, and verifying that both diesel generators accelerate to at least 900 rpm in less than or equal to 10 seconds.

**This test shall be conducted in accordance with the manufacturer's recommendations regarding engine prelube and warmup procedures, and as applicable regarding loading recommendations.

***This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.

3/4.1.2 BORATION SYSTEMS (Continued)

With the RCS average temperature above 200°F, a minimum of two separate and redundant boron injection systems are provided to ensure single functional capability in the event an assumed failure renders one of the systems inoperable. Allowable out-of-service periods ensure that minor component repair or corrective action may be completed without undue risk to overall facility safety from injection system failures during the repair period.

The boration capabioity of either system is sufficient to provide a SHUTDOWN MARGIN from expected operating conditions of 1.77% $\Delta k/k$ after xenon decay and cooldown to 200°F. This expected boration capability requirement occurs at EOL from full power equilibrium xenon conditions and requires 6,000 gallons of 12,950 ppm borated water from the boric acid storage tanks or 54,200 gallons of 2300 ppm borated water from the refueling water storage tank.

The limitation for a maximum of one centrifugal charging pump to be OPERABLE and the Surveillance Requirement to verify all charging pumps except the required OPERABLE pump to be inoperable below 324°F provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV.

With the RCS temperature below 200°F, one injection system is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the additional restrictions prohibiting CORE ALTERATIONS and positive reactivity change in the event the single injection system becomes inoperable.

The boron capability required below 200°F is sufficient to provide a SHUTDOWN MARGIN of 1.77% $\Delta k/k$ after xenon decay and cooldown from 200°F to 140°F. This condition requires either 1378 gallons of 12,950 ppm borated water from the boric acid storage tanks or 3400 gallons of 2300 ppm borated water from the refueling water storage tank.

The contained water volume limits include allowance for water not available because of discharge line location and other physical characteristics. The OPERABILITY of one boron injection system during REFUELING insures that this system is available for reactivity control while in MODE 6.

3/4.1.2 BORATION SYSTEMS (Continued)

The limits on contained water volume and boron concentration of the RWST ensure a pH value of between 7.7 and 9.0 for the solution recirculated within the containment after a LOCA. This pH minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components.

At least one charging pump must remain operable at all times when the opposite unit is in MODE 1, 2, 3, or 4. This is required to maintain the charging pump cross-connect system operational.

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

The specifications of this section (1) ensure that acceptable power distribution limits are maintained, (2) ensure that the minimum SHUTDOWN MARGIN is maintained, and (3) limit the potential effects of rod misalignment on associated accident analyses. OPERABILITY of the movable control assemblies is established by observing rod motion and determining that rods are positioned within ± 12 steps (indicated position) of the respective demand step counter position. The OPERABILITY of the individual rod position indication system is established by appropriate periodic CHANNEL CHECKS, CHANNEL FUNCTIONAL TESTS, and CHANNEL CALIBRATIONS. OPERABILITY of the individual rod position indicators is required to determine control rod position and thereby ensure compliance with the control rod alignment and insertion limits. The OPERABLE condition for the individual rod position indicators is defined as being capable of indicating rod position within ± 12 steps of the associated demand position indicator. For power levels below 50 percent of RATED THERMAL POWER, the specifications of this section permit a maximum one hour in every 24 stabilization period (thermal "soak time") to allow stabilization of known thermal drift in the individual rod position indicator channels during which time the indicated rod position may vary from demand position indication by no more than ± 24 steps. This "1 in 24" feature is an upper limit on the frequency of thermal soak allowances and is available both for a continuous one hour period or one consisting of several discrete intervals. During this stabilization period, greater reliance is placed upon the demand position indicators to determine rod position. In addition, the ± 24 step/hour limit is not applicable when the control rod position is known to be greater than 12 steps from the rod group step counter demand position indication. Above 50 percent of RATED THERMAL POWER, rod motion is not expected to induce thermal transients of sufficient magnitude to exceed the individual rod position indicator instrument accuracy of ± 12 steps. Comparison of the demand position indicators to the bank insertion limits with verification of rod position by the individual rod position indicators (after thermal soak following rod motion below 50 percent of RATED THERMAL POWER) is sufficient verification that the control rods are above the insertion limits.

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

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. 129
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 March 18, 1991, 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. 129 , 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 issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 4, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 129

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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LIMITING CONDITION FOR OPERATION

3.1.2.2 At least two of the following three boron injection flow paths shall be OPERABLE:

a. The flow path from the boric acid tanks via a boric acid transfer pump and a charging pump to the Reactor Coolant System.

b. Two flow paths from the refueling water storage tank vial charging pumps to the Reactor Coolant System.

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

ACTION:

With only one of the above required boron injection flow paths to the Reactor Coolant System OPERABLE, restore at least two boron injection flow paths to the Reactor Coolant System to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 1.77% delta k/k at 200°F within the next 6 hours; restore at least two flow paths to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.2 Each of the above required flow paths shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that the temperature of the heat traced portion of the flow path from the boric acid tanks is greater than or equal to 115°F when it is a required water source.

#Only one boron injection flow path is required to be OPERABLE whenever the temperature of one or more of the RCS cold legs is less than or equal to 340°F.

SURVEILLANCE REQUIREMENTS (Continued)

b. 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.

c. At least once per 18 months during shutdown by verifying that each automatic valve in the flow path actuates to its correct position on a safety injection test signal.

REACTIVITY CONTROL SYSTEMS

BORATED WATER SOURCES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.7 As a minimum, one of the following borated water sources shall be OPERABLE:

a. A boric acid storage system and at least one associated heat tracing system with:

1. A minimum contained borated water volume of 1378 gallons,

2. Between 12,950 and 15,750 ppm of boron, and

3. A minimum solution temperature of 115°F.

b. The refueling water storage tank with:

1. A minimum contained borated water volume of 51,000 gallons,

2. Between 2300 and 2400 ppm of boron, and

3. A minimum solution temperature of 35°F.

APPLICABILITY: MODES 5 and 6.

ACTION:

With no borated water source OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes until at least one borated water source is restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.1.2.7 The above required borated water source shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the boron concentration of the water,

2. Verifying the contained borated water volume of the tank, and

3. Verifying the boric acid storage tank solution temperature when it is the source of borated water.

b. At least once per 24 hours by verifying the RWST temperature when it is the source of borated water and the outside air temperature is less than 35°F.

BORATED WATER SOURCES - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.8 As a minimum, the following borated water source(s) shall be OPERABLE as required by Specification 3.1.2.2:

a. A boric acid storage system and at least one associated heat tracing system with:

1. A contained borated water volume of between 6000 and 16,280 gallons,

2. Between 12,950 and 15,750 ppm of boron, and

3. A minimum solution temperature of 115°F.

b. The refueling water storage tank with:

1. A contained borated water volume of between 466,200 and 487,000 gallons,

2. Between 2300 and 2400 ppm of boron, and

3. A solution temperature between 40°F and 50°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the boric acid storage system inoperable and being used as one of the above required borated water sources, restore the storage system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and borated to a SHUTDOWN MARGIN equivalent to at least 1.77% $\Delta k/k$ at 200°F; restore the boric acid storage system to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

b. With the refueling water storage tank inoperable, restore the tank to OPERABLE status within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

LIMITING CONDITION FOR OPERATION

3.4.1.5 A reactor coolant loop cold leg stop valve shall remain closed until:

a. The isolated loop has been operating on a recirculation flow greater than or equal to 125 gpm for at least 90 minutes and the temperature at the cold leg of the isolated loop is within 20°F of the highest cold leg temperature of the operating loops.

b. The reactor is subcritical by at least 1.77 percent $\Delta k/k$.

APPLICABILITY: ALL MODES.

ACTION:

With the requirements of the above specification not satisfied, suspend startup of the isolated loop.

SURVEILLANCE REQUIREMENTS

4.4.1.5.1 The isolated loop cold leg temperature shall be determined to be within 20°F of the highest cold leg temperature of the operating loops within 30 minutes prior to opening the cold leg stop valve.

4.4.1.5.2 The reactor shall be determined to be subcritical by at least 1.77 percent $\Delta k/k$ within 30 minutes prior to opening the cold leg stop valve.

SAFETY VALVES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.2 A minimum of one pressurizer code safety valve shall be OPERABLE with a lift setting of 2485 PSIG ± 1%.*

APPLICABILITY: MODE 4.

ACTION:

With no pressurizer code safety valve OPERABLE, immediately suspend all operations involving positive reactivity changes and place an OPERABLE RHR loop into operation.

SURVEILLANCE REQUIREMENTS

4.4.2 No additional Surveillance Requirements other than those required by Specification 4.0.5.

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*The lift setting pressure shall correspond to ambient condition of the valve at nominal operating temperature and pressure.

3/4.1.2 BORATION SYSTEMS

The boron injection system ensures that negative reactivity control is available during each mode of facility operation. The components required to perform this function include 1) borated water sources, 2) charging pumps, 3) separate flow paths, 4) boric acid transfer pumps, 5) associated heat tracing systems, and 6) an emergency power supply from OPERABLE diesel generators.

With the RCS average temperature above 200°F, a minimum of two boron injection flow paths are required to ensure single functional capability in the event an assumed failure renders one of the flow paths inoperable. The boration capability of either flow path is sufficient to provide a SHUTDOWN MARGIN from expected operation conditions of 1.77% delta k/k after xenon decay and cooldown to 200°F. The maximum expected boration capability requirement occurs at EOL from full power equilibrium xenon conditions and requires 6000 gallons of 12,950 ppm borated water from the boric acid storage tanks or 54,200 gallons of 2300 ppm borated water from the refueling water storage tank.

With the RCS temperature below 200°F, one injection system is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the additional restrictions prohibiting CORE ALTERATIONS and positive reactivity change in the event the single injection system becomes inoperable.

The limitation for a maximum of one centrifugal charging pump to be OPERABLE and the Surveillance Requirement to verify all charging pumps except the required OPERABLE pump to be inoperable below 340°F provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV.

The boron capability required below 200°F is sufficient to provide a SHUTDOWN MARGIN of 1.77 delta k/k after xenon decay and cooldown from 200°F to 140°F. This condition requires either 1378 gallons of 12,950 ppm borated water from the boric acid storage tanks or 3400 gallons of 2300 ppm borated water from the refueling water storage tank.

3/4.1.2 BORATION SYSTEMS (Continued)

The contained water volume limits include allowance for water not available because of discharge line location and other physical characteristics. The OPERABILITY of one boron injection system during REFUELING insures that this system is available for reactivity control while in MODE 6.

The limits on contained water volume and boron concentration of the RWST also ensure a pH value of between 7.7 and 9.0 for the solution recirculated within the containment after a LOCA. This pH minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components.

At least one charging pump must remain operable at all times when the opposite unit is in MODE 1, 2, 3, or 4. This is required to maintain the charging pump cross-connect system operational.

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

The specifications of this section (1) ensure that acceptable power distribution limits are maintained, (2) ensure that the minimum SHUTDOWN MARGIN is maintained, and (3) limit the potential effects of rod misalignment on associated accident analyses. OPERABILITY of the movable control assemblies is established by observing rod motion and determining that rods are positioned within ± 12 steps (indicated position) of the respective demand step counter position. The OPERABILITY of the individual rod position indication system is established by appropriate periodic CHANNEL CHECKS, CHANNEL FUNCTIONAL TESTS, and CHANNEL CALIBRATIONS. OPERABILITY of the individual rod position indicators is required to determine control rod position and thereby ensure compliance with the control rod alignment and insertion limits. The OPERABLE condition for the individual rod position indicators is defined as being capable of indicating rod position within ± 12 steps of the associated demand position indicator. For power levels below 50 percent of RATED THERMAL POWER, the specifications of this section permit a maximum one hour stabilization in every 24 period (thermal "soak time") to allow stabilization of known thermal drift in the individual rod position indicator channels during which time the indicated rod position may vary from demand position indication by no more than ± 24 steps. This "1 in 24" feature is an upper limit on the frequency of thermal soak allowances and is available both for a continuous one hour period or one consisting of several discrete intervals. During this stabilization period, greater reliance is placed upon the demand position indicators to determine rod position. In addition, the ± 24 step/hour limit is not applicable when the control rod position is known to be greater than 12 steps from the rod group step counter demand position indication. Above 50 percent of RATED THERMAL POWER, rod motion is not expected to induce thermal transients of sufficient magnitude to exceed the individual rod position indicator instrument accuracy of ± 12 steps. Comparison of the demand position indicators to the bank insertion limits with verification of rod position by the individual rod position indicators (after thermal soak following rod motion below 50 percent of RATED THERMAL POWER) is sufficient verification that the control rods are above the insertion limits.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 145 AND 129 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 March 18, 1991, the Virginia Electric and Power Company (the licensee) proposed changes to the Technical Specifications (TS) for the North Anna Power Station, Units No. 1 and No. 2 (NA-1&2). The proposed changes would revise the current TS to correct administrative errors to numerical values which were inadvertently overlooked during prior amendment reviews. Because the values are non-conservative with respect to the correct values, or a source of potential confusion, the licensee considered it appropriate to revise the items.

The errors and corrective actions are discussed below.

2.0 DISCUSSION

For the NA-2 TS 3.1.2.2, Flow Paths-Operating, Limiting Condition for Operation (LCO), the required shutdown margin was inadvertently changed from 1.77% to 1% delta k/k in the NA-2 TS. This was a typographical error included in Amendment 54 to NA-2 license. TS 3.1.2.2 is revised to show the correct value of 1.77%. The shutdown margin is stated correctly in the NA-1 TS.

For the NA-1&2 TS 3.1.2.8, Borated Water Sources-Operating, LCO, the refueling water storage tank (RWST) is required to contain a borated water volume of between 475,058 and 487,000 gallons. The correct RWST minimum volume is from 475,058 gallons to 466,200 gallons. This change was previously evaluated in the licensee's submittal dated March 2, 1988 (Serial No. 87-385), and approved by NRC letter dated December 14, 1988. The change to the correct value of 466,200 gallons in TS 3.1.2.8 should have occurred at that time.

For the NA-1&2 TS 3/4.1.2, Reactivity Control Systems, Bases, the bases for the boration system states that the limits on contained water volume and boron concentration of the RWST ensure a pH value of between 8.5 and 11.0 for the solution recirculated within the containment after a LOCA. The pH value was changed from between "8.5 and 11.0" to "7.7 and 9.0" in the licensee's submittal

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dated December 19, 1985 (Serial No. 85-718), and approved by NRC letter dated August 22, 1986. The change to the correct value of between 7.7 and 9.0 should have occurred at that time. The word "also" is deleted in the sentence for clarity.

For the NA-2 TS 3.4.1.5, Isolated Loop Startup, the LCO on page 3/4 4-5 was originally numbered as 3.4.1.3, and the corresponding surveillance requirements as 4.4.1.3.1 and 4.4.1.3.2. Those numbers are incorrect and cause confusion with the similarly numbered LCO and surveillance requirements on page 3/4 4-3 and 3/4 4-4. The correct numbers for page 3/4 4-5 are 3.4.1.5, 4.4.1.5.1 and 4.4.1.5.2, respectively.

For the NA-1 TS 4.8.1.1.2, Electrical Power Systems, Surveillance Requirements, item 7 on page 3/4 8-3c contains an error. The current surveillance requirement states that "...the diesel generator shall be loaded to an indicated target value of 2950 kw (between 290--3000 kw)..." The value of 290 is incorrect and should be changed to 2900. The correct diesel generator target value is between 2900 and 3000 kw.

For the NA-1 TS 4.9.12, Fuel Building Ventilation System, Surveillance Requirements, page 3/4 9-12 requires flow through the HEPA filter and charcoal adsorber assembly for 5 minutes. That is incorrect. The correct value is 15 minutes. The NA-2 surveillance requirement is stated correctly. In spite of the error, compliance with the correct specification has been maintained. The procedure for implementing the surveillance requirement is 1-PT-95.1, "Fuel Building Ventilation System 15 Minute Run," which contains the correct time interval.

The numerical values in error are non-conservative with respect to the correct values and are a source of potential confusion to operators. Correcting the above-noted TS may decrease the possibility of a potential accident as a result of inaccurate information currently in the TS. Also, the proposed changes have been previously evaluated and approved by the NRC or correct administrative errors. Therefore, we find the proposed changes to be acceptable.

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 surveillance requirements. 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 the amendments involve no significant hazards consideration and there has been no public comment on such finding (56 FR 15645). 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 these amendments.

5.0 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.

Principal Contributor: Leon B. Engle

Date: June 4, 1991

DATED: June 4, 1991

AMENDMENT NO. 145 TO FACILITY OPERATING LICENSE NO. NPF-4-NORTH ANNA UNIT 1
AMENDMENT NO. 129 TO FACILITY OPERATING LICENSE NO. NPF-7-NORTH ANNA UNIT 2

Docket File
NRC & Local PDRs
PDII-2 Reading
S. Varga, 14/E/4
G. Lainas, 14/H/3
H. Berkow
D. Miller
L. Engle
OGC-WF
D. Hagan, 3302 MNBB
E. Jordan, 3302 MNBB
B. Grimes, 9/A/2
G. Hill (6), P-137
Wanda Jones, P-130A
C. Grimes, 11/F/23
ACRS (10)
GPA/PA
OC/LFMB
PD Plant-specific file [Gray File]
M. Sinkule, R-II
Others as required

cc: Plant Service list