

June 7, 1999

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

Distribution:  
See next page

SUBJECT: SURRY UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: REVISED  
AUXILIARY FEEDWATER CROSS-CONNECT REQUIREMENTS  
(TAC NOS. MA4859 AND MA4860)

Dear Mr. O'Hanlon:

The Commission has issued the enclosed Amendment No. 220 to Facility Operating License No. DPR-32 and Amendment No. 220 to Facility Operating License No. DPR-37 for the Surry Power Station, Unit Nos. 1 and 2, respectively. The amendments change the Technical Specifications (TS) in response to your application transmitted by letter dated February 16, 1999.

These amendments revise TS Sections 3.6, 3.9 and 3.16 and the associated Bases for those sections for Units 1 and 2. The changes consolidate the auxiliary feedwater cross-connect requirements by relocating the electrical power requirements from Section 3.16 to Section 3.6. The TS are also clarified with regard to permitting simultaneous entry into certain conditions of operation on Units 1 and 2.

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:

Gordon E. Edison, Senior Project Manager, Section 1  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-280 and 50-281

Enclosures:

1. Amendment No. 220 to DPR-32
2. Amendment No. 220 to DPR-37
3. Safety Evaluation

cc w/encls: See next page

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To receive a copy of this document, indicate in the box C=Copy w/o attachment/enclosure E=Copy with attachment/enclosure N = No copy

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NAME	GEEdison:cn <sup>#</sup>		EDunnington <sup>ETD</sup>		R.Weisman	REmch <sup>RZE</sup>		HBerkow
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

June 7, 1999

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

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These amendments revise TS Sections 3.6, 3.9, and 3.16 and the associated Bases for those sections for Units 1 and 2. The changes consolidate the auxiliary feedwater cross-connect requirements by relocating the electrical power requirements from Section 3.16 to Section 3.6. The TS are also clarified with regard to permitting simultaneous entry into certain conditions of operation on Units 1 and 2.

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

Sincerely,

A handwritten signature in cursive script that reads "Gordon E. Edison".

Gordon E. Edison, Senior Project Manager, Section 1  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-280 and 50-281

Enclosures:

1. Amendment No. 220 to DPR-32
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3. Safety Evaluation

cc w/encls: See next page

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

Surry Power Station

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

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-280

SURRY POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 220  
License No. DPR-32

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated February 16, 1999, 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 3.B of Facility Operating License No. DPR-32 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 220 , 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



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

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 7, 1999



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

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-281

SURRY POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 220  
License No. DPR-37

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated February 16, 1999, 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.

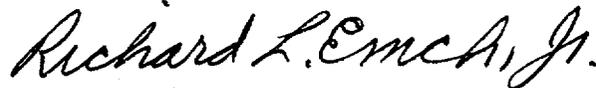
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-37 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 220 , 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



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

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 7, 1999

ATTACHMENT TO  
LICENSE AMENDMENT NO. 220 TO FACILITY OPERATING LICENSE NO. DPR-32  
LICENSE AMENDMENT NO. 220 TO FACILITY OPERATING LICENSE NO. DPR-37  
DOCKET NOS. 50-280 AND 50-281

Remove Pages

TS 3.6-1

TS 3.6-2

TS 3.6-3

TS 3.6-3a

TS 3.6-4

TS 3.6-5

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TS 3.9-2

TS 3.16-1

TS 3.16-2

TS 3.16-3

TS 3.16-6

Insert Pages

TS 3.6-1

TS 3.6-2

TS 3.6-3

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TS 3.6-4

TS 3.6-5

TS 3.6-5a

TS 3.9-2

TS 3.16-1

TS 3.16-2

TS 3.16-3

TS 3.16-6

### 3.6 TURBINE CYCLE

#### Applicability

Applies to the operating status of the Main Steam and Auxiliary Feed Systems.

#### Objectives

To define the conditions required in the Main Steam System and Auxiliary Feed System for protection of the steam generator and to assure the capability to remove residual heat from the core during a loss of station power/or accident situations.

#### Specification

- A. A unit's Reactor Coolant System temperature or pressure shall not exceed 350°F or 450 psig, respectively, or the reactor shall not be critical unless the five main steam line code safety valves associated with each steam generator in unisolated reactor coolant loops are OPERABLE with lift settings as specified in Table 3.6-1A and 3.6-1B.
- B. To assure residual heat removal capabilities, the following conditions shall be met prior to the commencement of any unit operation that would establish reactor coolant system conditions of 350°F or 450 psig which would preclude operation of the Residual Heat Removal System. The following shall apply:
  1. Two motor driven auxiliary feedwater pumps shall be OPERABLE.
  2. A minimum of 96,000 gallons of water shall be available in the protected condensate storage tank to supply emergency water to the auxiliary feedwater pump suction.
  3. All main steam line code safety valves, associated with steam generators in unisolated reactor coolant loops, shall be OPERABLE with lift settings as specified in Table 3.6-1A and 3.6-1B.

4. The auxiliary feedwater cross-connect capability shall be available, as follows:
  - a. Two of the three auxiliary feedwater pumps on the opposite unit (automatic initiation instrumentation need not be OPERABLE) capable of being used with the opening of the cross-connect.
  - b. A minimum of 60,000 gallons of water available in the protected condensate storage tank of the opposite unit to supply emergency water to the auxiliary feedwater pump suction of that unit.
  - c. Emergency power supplied to the opposite unit's auxiliary feedwater pumps and to the AFW cross-connect valves, as follows:
    1. Two diesel generators (the opposite unit's diesel generator and the shared backup diesel generator) OPERABLE with each generator's day tank having at least 290 gallons of fuel and with a minimum on-site supply of 35,000 gallons of fuel available.
    2. Two 4160V emergency buses energized.
    3. Two OPERABLE flow paths for providing fuel to the opposite unit's diesel generator and the shared backup diesel generator.
    4. Two station batteries, two chargers and the DC distribution systems OPERABLE.
    5. Emergency diesel generator battery, charger and the DC control circuitry OPERABLE for the opposite unit's diesel generator and for the shared back-up diesel generator.
    6. The 480V emergency buses energized which supply power to the auxiliary feedwater cross-connect valves:
      - a. For AFW from Unit 1 to Unit 2: Buses 1H1 and 1J1.
      - b. For AFW from Unit 2 to Unit 1: Buses 2H1 and 2J1.

7. One of the two physically independent circuits from the offsite transmission network energizing the opposite unit's emergency buses.
- C. Prior to reactor power exceeding 10%, the steam driven auxiliary feedwater pump shall be OPERABLE.
  - D. System piping, valves, and control board indication required for operation of the components enumerated in Specifications 3.6.B and 3.6.C shall be OPERABLE (automatic initiation instrumentation associated with the opposite unit's auxiliary feedwater pumps need not be OPERABLE).
  - E. The specific activity of the secondary coolant system shall be  $\leq 0.10 \mu\text{Ci/cc DOSE EQUIVALENT I-131}$ . If the specific activity of the secondary coolant system exceeds  $0.10 \mu\text{Ci/cc DOSE EQUIVALENT I-131}$ , the reactor shall be shut down and cooled to  $500^\circ\text{F}$  or less within 6 hours after detection and in COLD SHUTDOWN within the following 30 hours.
  - F. With one auxiliary feedwater pump inoperable, restore at least three auxiliary feedwater pumps (two motor driven feedwater pumps and one steam driven feedwater pump) to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the following 12 hours.
  - G. The requirements of Specifications 3.6.B and 3.6.D above concerning the opposite unit's auxiliary feedwater pumps; associated piping, valves, and control board indication; and the protected condensate storage tank may be modified to allow the following components to be inoperable, provided immediate attention is directed to making repairs.
    1. One train of the opposite unit's piping, valves, and control board indications or two of the opposite unit's auxiliary feedwater pumps may be inoperable for a period not to exceed 14 days.

2. Both trains of the opposite unit's piping, valves, and control board indications; the opposite unit's protected condensate storage tank; the cross-connect piping from the opposite unit; or three of the opposite unit's auxiliary feedwater pumps may be inoperable for a period not to exceed 72 hours.
3. A train of the opposite unit's emergency power system as required by Section 3.6.B.4.c above may be inoperable for a period not to exceed 14 days; if this train's inoperability is related to a diesel fuel oil path, one diesel fuel oil path may be "inoperable" for 24 hours provided the other flow path is proven OPERABLE: if after 24 hours, the inoperable flow path cannot be restored to service, the diesel shall be considered "inoperable". During this 14 day period, the following limitations apply:
  - a. If the offsite power source becomes unable to energize the opposite unit's OPERABLE train, operation may continue provided its associated emergency diesel generator is energizing the OPERABLE train.
  - b. If the opposite unit's OPERABLE train's emergency diesel generator becomes unavailable, operation may continue for 72 hours provided the offsite power source is energizing the opposite unit's OPERABLE train.
  - c. Return of the originally inoperable train to OPERABLE status allows the second inoperable train to revert to the 14 day limitation.

If the above requirements are not met, be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the next 30 hours.

- H. The requirements of Specification 3.6.B.2 above may be modified to allow utilization of protected condensate storage tank water with the auxiliary steam generator feed pumps provided the water level is maintained above 60,000 gallons, sufficient replenishment water is available in the 300,000 gallon condensate storage tank, and replenishment of the protected condensate storage tank is commenced within two hours after the cessation of protected condensate storage tank water consumption.

Basis

A reactor which has been shutdown from power requires removal of core residual heat. While reactor coolant temperature or pressure is  $> 350^{\circ}\text{F}$  or 450 psig, respectively, residual heat removal requirements are normally satisfied by steam bypass to the condenser. If the condenser is unavailable, steam can be released to the atmosphere through the safety valves or power operated relief valves.

The capability to supply feedwater to the generators is normally provided by the operation of the Condensate and Feedwater Systems. In the event of complete loss of electrical power to the station, residual heat removal would continue to be assured by the availability of either the steam driven auxiliary feedwater pump or one of the motor driven auxiliary feedwater pumps and the 110,000-gallon protected condensate storage tank.

In the event of a fire or high energy line break which would render the auxiliary feedwater pumps inoperable on the affected unit, residual heat removal would continue to be assured by the availability of either the steam driven auxiliary feedwater pump or one of the motor-driven auxiliary feedwater pumps from the opposite unit. A minimum of two auxiliary feedwater pumps are required to be operable\* on the opposite unit to ensure compliance with the design basis accident analysis assumptions, in that auxiliary feedwater can be delivered via the cross-connect, even if a single active failure results in the loss of one of the two pumps. In addition, the requirement for operability of the opposite unit's emergency power system is to ensure that auxiliary feedwater from the opposite unit can be supplied via the cross-connect in the event of a common-mode failure of all auxiliary feedwater pumps in the affected unit due to a high energy line break in the main steam valve house. Without this requirement, a single failure (such as loss of the shared backup diesel generator) could result in loss of power to the opposite unit's emergency buses in the event of a loss of offsite power, thereby rendering the cross-connect inoperable. The longer allowed outage time for the opposite unit's emergency power system is based on the low probability of a high energy line break in the main steam valve house coincident with a loss of offsite power.

\* excluding automatic initiation instrumentation

The specified minimum water volume in the 110,000-gallon protected condensate storage tank is sufficient for 8 hours of residual heat removal following a reactor trip and loss of all offsite electrical power. It is also sufficient to maintain one unit at hot shutdown for 2 hours, followed by a 4 hour cooldown from 547°F to 350°F (i.e., RHR operating conditions). If the protected condensate storage tank level is reduced to 60,000 gallons, the immediately available replenishment water in the 300,000-gallon condensate tank can be gravity-fed to the protected tank if required for residual heat removal. An alternate supply of feedwater to the auxiliary feedwater pump suction is also available from the Fire Protection System Main in the auxiliary feedwater pump cubicle.

The five main steam code safety valves associated with each steam generator have a total combined capacity of 3,842,454 pounds per hour at their individual relieving pressure; the total combined capacity of all fifteen main steam code safety valves is 11,527,362 pounds per hour. The nominal power rating steam flow is 11,260,000 pounds per hour. The combined capacity of the safety valves required by Specification 3.6 always exceeds the total steam flow corresponding to the maximum steady state power than can be obtained during three reactor coolant loop operation.

The availability of the auxiliary feedwater pumps, the protected condensate storage tank, and the main steam line safety valves adequately assures that sufficient residual heat removal capability will be available when required.

The limit on steam generator secondary side iodine - 131 activity is based on limiting the inhalation dose at the site boundary following a postulated steam line break accident to a small fraction of the 10 CFR 100 limits. The accident analysis, which is performed based on the guidance of NUREG-0800 Section 15.1-5, assumes the release of the entire contents of the faulted steam generator to the atmosphere.

7. Two emergency diesel generators OPERABLE as explained in Section 3.16.

B. The requirements of Specification 3.9-A items 3, 4, 5, 6, and 7 may be modified as provided in Section 3.16-B.

#### Basis

During startup of a unit, the station's 4,160V and 480V normal and emergency buses are energized from the station's 34.5KV buses. At reactor power levels greater than 5 percent of rated power the 34.5KV buses are required to energize only the emergency buses because at this power level the station generator can supply sufficient power to the normal 4,160V and 480V lines to operate the unit. Three reactor coolant loop operation with all 4,160V and 480V buses energized is the normal mode of operation for a unit.

The electrical power requirements and the emergency power testing requirements for the auxiliary feedwater cross-connect are contained in TS 3.6.B.4.c and TS 4.6, respectively.

#### References

FSAR Section 8.4 Station Service Systems

FSAR Section 8.5 Emergency Power Systems

### 3.16 EMERGENCY POWER SYSTEM

#### Applicability

Applies to the availability of electrical power for safe operation of the station during an emergency.

#### Objective

To define those conditions of electrical power availability necessary to shutdown the reactor safely, and provide for the continuing availability of Engineered Safeguards when normal power is not available.

#### Specification

- A. A reactor shall not be made critical nor shall a unit be operated such that the reactor coolant system pressure and temperature exceed 450 psig and 350°F, respectively, without:
1. Two diesel generators (the unit diesel generator and the shared backup diesel generator) OPERABLE with each generator's day tank having at least 290 gallons of fuel and with a minimum on-site supply of 35,000 gal of fuel available.
  2. Two 4,160V emergency buses energized.
  3. Four 480V emergency buses energized.

4. Two physically independent circuits from the offsite transmission network to energize the 4,160V and 480V emergency buses. One of these sources must be immediately available (i.e. primary source) and the other must be capable of being made available within 8 hours (i.e. dependable alternate source).
  5. Two OPERABLE flow paths for providing fuel to each diesel generator.
  6. Two station batteries, two chargers, and the DC distribution systems OPERABLE.
  7. Emergency diesel generator battery, charger and the DC control circuitry OPERABLE for the unit diesel generator and for the shared back-up diesel generator.
- B. During power operation or the return to power from HOT SHUTDOWN, the requirements of specification 3.16-A may be modified by one of the following:
- 1.a. With either unit's dedicated diesel generator or shared backup diesel generator unavailable or inoperable:
    1. Verify the operability of two physically independent offsite AC circuits within one hour and at least once per eight hours thereafter.
    2. If the diesel generator became inoperable due to any cause other than preplanned preventive maintenance or testing, demonstrate the operability of the remaining OPERABLE diesel generator daily. For the purpose of operability testing, the second diesel generator may be inoperable for a total of two hours per test provided the two offsite AC circuits have been verified OPERABLE prior to testing.
    3. If this diesel generator is not returned to an OPERABLE status within 7 days, the reactor shall be brought to HOT SHUTDOWN within the next 6 hours and COLD SHUTDOWN within the following 30 hours.
  - 1.b. One diesel fuel oil flow path may be "inoperable" for 24 hours provided the other flow path is proven OPERABLE. If after 24 hours, the inoperable flow path cannot be returned to service, the diesel shall be considered "inoperable." When the emergency diesel generator battery, charger or DC control circuitry is inoperable, the diesel shall be considered "inoperable."

2. If a primary source is not available, the unit may be operated for seven (7) days provided the dependable alternate source can be OPERABLE within 8 hours. If specification A-4 is not satisfied within seven (7) days, the unit shall be brought to COLD SHUTDOWN.
  3. One battery may be inoperable for 24 hours provided the other battery and battery chargers remain OPERABLE with one battery charger carrying the DC load of the failed battery's supply system. If the battery is not returned to OPERABLE status within the 24 hour period, the reactor shall be placed in HOT SHUTDOWN. If the battery is not restored to OPERABLE status within an additional 48 hours, the reactor shall be placed in COLD SHUTDOWN.
- C. The continuous running electrical load supplied by an emergency diesel generator shall be limited to 2750 KW.

Basis

The Emergency Power System is an on-site, independent, automatically starting power source. It supplies power to vital unit auxiliaries if a normal power source is not available. The Emergency Power System consists of three diesel generators for two units. One generator is used exclusively for Unit 1, the second generator for Unit 2, and the third generator functions as a backup for either Unit 1 or 2. The diesel generators have a cumulative 2,000 hour rating of 2750 KW. The actual loads using conservative

The day tanks are filled by transferring fuel from any one of two buried tornado missile protected fuel oil storage tanks, each of 20,000 gal capacity. Two of 100 percent capacity fuel oil transfer pumps per diesel generator are powered from the emergency buses to assure that an operating diesel generator has a continuous supply of fuel. The buried fuel oil storage tanks contain a seven (7) day supply of fuel, 35,000 gal minimum, for the full load operation of one diesel generator; in addition, there is an above ground fuel oil storage tank on-site with a capacity of 210,000 gal which is used for transferring fuel to the buried tanks.

If a loss of normal power is not accompanied by a loss-of-coolant accident, the safeguards equipment will not be required. Under this condition the following additional auxiliary equipment may be operated from each emergency bus:

- A. One component cooling pump
- B. One residual heat removal pump
- C. One motor-driven auxiliary steam generator feedwater pump

The emergency buses in each unit are capable of being interconnected under strict administrative procedures so that the equipment which would normally be operated by one of the diesels could be operated by the other diesel, if required.

The electrical power requirements and the emergency power testing requirements for the auxiliary feedwater cross-connect are contained in TS 3.6.B.4.c and TS 4.6 respectively.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 220 TO FACILITY OPERATING LICENSE NO. DPR-32  
AND AMENDMENT NO. 220 TO FACILITY OPERATING LICENSE NO. DPR-37  
VIRGINIA ELECTRIC AND POWER COMPANY  
SURRY POWER STATION, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-280 AND 50-281

1.0 INTRODUCTION

By letter dated February 16, 1999, the licensee proposed editorial changes to the plant Technical Specifications (TS) to consolidate the auxiliary feedwater (AFW) cross-connect requirements by relocating the associated electrical power requirements. Also, the licensee proposed additional editorial changes to various TS.

2.0 EVALUATION

The licensee proposed the following specific changes to the plant TS:

Change 1: In TS 3.6.B delete "1. The following shall be operable:" and substitute "The following shall apply:" at the end of the first paragraph.

Since the proposed individual specifications in TS 3.6.B contain their respective requirements for operability/availability, this proposed change is considered editorial in nature and is therefore acceptable on that basis.

Change 2: Delete TS 3.6.B.1.a and substitute "1. Two motor driven auxiliary feedwater pumps shall be OPERABLE."

This proposed change, coupled with Change 1 above, relocates the operability requirement from the opening paragraph in TS 3.6.B to this individual specification. The change is considered editorial and is therefore considered acceptable on that basis.

Change 3: Add a new TS 3.6.B.4 with "The auxiliary feedwater cross-connect capability shall be available, as follows:" as the first sentence.

Enclosure

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Change 3A: Delete the existing TS 3.6.B.1.b and substitute:

Two of the three auxiliary feedwater pumps on the opposite unit (automatic initiation instrumentation need not be OPERABLE) capable of being used with the opening of the cross-connect.

as new TS 3.6.B.4.a.

Change 3B: Delete the last sentence from the existing TS 3.6.B.2 and substitute:

A minimum of 60,000 gallons of water available in the protected condensate storage tank of the opposite unit to supply emergency water to the auxiliary feedwater pump suction of that unit.

as new TS 3.6.B.4.b.

Change 3C: Delete existing TS 3.16.A.8 and substitute the following as new TS 3.6.B.4.c:

- c. Emergency power supplied to the opposite unit's auxiliary feedwater pumps and to the AFW cross-connect valves, as follows:
  1. Two diesel generators (the opposite unit's diesel generator and the shared backup diesel generator) OPERABLE with each generator's day tank having at least 290 gallons of fuel and with a minimum on-site supply of 35,000 gallons of fuel available.
  2. Two 4160V emergency buses energized.
  3. Two OPERABLE flow paths for providing fuel to the opposite unit's diesel generator and the shared backup diesel generator.
  4. Two station batteries, two chargers and the DC distribution systems OPERABLE.
  5. Emergency diesel generator battery, charger and the DC control circuitry OPERABLE for the opposite unit's diesel generator and for the shared backup diesel generator.
  6. The 480V emergency buses energized which supply power to the auxiliary feedwater cross-connect valves:
    - a. For AFW from Unit 1 to Unit 2: Buses 1H1 and 1J1.
    - b. For AFW from Unit 2 to Unit 1: Buses 2H1 and 2J1.

7. One of the two physically independent circuits from the offsite transmission network energizing the opposite unit's emergency buses.

These proposed changes relocate and consolidate the existing AFW cross-connect requirements and are editorial in nature. On this basis they are therefore considered acceptable.

Change 4: In TS 3.6.D delete "3.6.B.1, 3.6.B.2, 3.6.B.3," and substitute "3.6.B".

This proposed change moves the TS reference up one level and is editorial in nature. On this basis it is therefore considered acceptable.

Change 5: In TS 3.6.G delete "3.6.B.1, 3.6.B.2" and substitute "3.6.B". Also delete the comma following "and" and before "the protected" in the first sentence.

The first proposed change moves the TS reference up one level. Both changes are editorial in nature and are therefore acceptable on that basis.

Change 6: Delete existing TS 3.16.B.4 and substitute the following as new TS 3.6.G.3:

- c. A train of the opposite unit's emergency power system as required by Section 3.6.B.4.c above may be inoperable for a period not to exceed 14 days; if this train's inoperability is related to a diesel fuel oil path, one diesel fuel oil path may be "inoperable" for 24 hours provided the other flow path is proven OPERABLE; if after 24 hours, the inoperable flow path cannot be restored to service, the diesel shall be considered "inoperable". During this 14 day period, the following limitations apply:
  - a. If the offsite power source becomes unable to energize the opposite unit's OPERABLE train, operation may continue provided its associated emergency diesel generator is energizing the OPERABLE train.
  - b. If the opposite unit's OPERABLE train's emergency diesel generator becomes unavailable, operation may continue for 72 hours provided the offsite power source is energizing the opposite unit's OPERABLE train.
  - c. Return of the originally inoperable train to OPERABLE status allows the second inoperable train to revert to the 14 day limitation.

This change relocates and consolidates the action statements for the AFW cross-connect electrical power. In addition, the action requirements for the diesel fuel oil path inoperability, identical to existing TS 3.16.B.1.b, have been included. These changes are editorial in nature and are therefore considered acceptable.

Change 7: In the second paragraph of the Basis for TS 3.6, start a new paragraph with the third sentence. Add "In addition," following the last sentence of this new paragraph and append the last paragraph on Page TS 3.16-6 from the Basis for TS 3.16. Add the following to replace the paragraph removed from the Basis for TS 3.16.

The electrical power requirements and the emergency power testing requirements for the AFW cross-connect are contained in TS 3.6.B.4.c and TS 4.6, respectively.

This change relocates and consolidates the Basis discussion for the AFW cross-connect requirements. This change is editorial in nature and is therefore considered acceptable.

Change 8: Delete TS 3.9.B.

Since the AFW cross-connect electrical power requirements are being relocated and consolidated in TS 3.6 (as proposed in the above changes), this change eliminates unnecessary electrical power requirements which are contained in the revised TS 3.6 and is editorial in nature. On that basis it is considered acceptable.

Change 9: Delete TS 3.9.C. Also combine the first and second paragraphs under the Basis for TS 3.9 and delete the last sentence.

This change eliminates the electrical power requirements and the corresponding Basis discussion associated with power operation with less than three loops in service. This material is no longer necessary since power operation with less than three loops in service is prohibited. This change is editorial in nature and is there considered acceptable.

Change 10: Existing TS 3.9.D is renumbered 3.9.B.

This change results from Changes 8 and 9 above and is editorial in nature. On that basis it is considered acceptable.

Change 11: Delete the existing last paragraph under the Basis for TS 3.9 and substitute:

The electrical power requirements and the emergency power testing requirements for the auxiliary feedwater cross-connect are contained in TS 3.6.B.4.c and TS 4.6, respectively.

This change is part of the consolidation of the Basis discussion for the AFW cross-connect requirements to the Basis under TS 3.6. It is editorial in nature and is therefore considered acceptable.

Change 12: In TS 3.6.A replace "operable" with "OPERABLE". In TS 3.6.F replace "operable" with "OPERABLE" and "hot shutdown" with "HOT SHUTDOWN". In the last sentence of TS 3.6.G, replace "hot shutdown" with "HOT SHUTDOWN" and "cold shutdown" with "COLD SHUTDOWN". In TS 3.9.A.7 replace "operable" with "OPERABLE." In TS 3.16.A.1 replace "operable" with "OPERABLE". In TS 3.16. A.5, 6, and 7 replace "operable" with "OPERABLE". In TS 3.16.B replace "hot shutdown conditions" with "HOT SHUTDOWN". In TS 3.16.B.1.a.2 replace "operable" with "OPERABLE" in two places. In TS 3.16.B.1.a.3 replace "operable" with "OPERABLE", "hot shutdown" with "HOT SHUTDOWN", and "cold shutdown" with "COLD SHUTDOWN". In TS 3.16.B.1.b replace "operable" with "OPERABLE". In TS 3.16.B.2 replace "operable" with "OPERABLE" and "the cold shutdown condition" with "COLD SHUTDOWN". In TS 3.16 B.3 replace "operable" with "OPERABLE" in three places, "the hot shutdown condition" with "HOT SHUTDOWN", and "the cold shutdown condition" with "COLD SHUTDOWN".

These changes are all editorial in nature and are therefore acceptable.

Change 13: Revise TS 3.16.A.4 as follows adding the parenthesis and a previously omitted "V."

Two physically independent circuits from the offsite transmission network to energize the 4160V and 480V emergency buses. One of these sources must be immediately available, (i.e. primary source) and the other must be capable of being made available within 8 hours, (i.e. dependable alternate source).

This change is editorial and is therefore acceptable.

Change 14: In TS 3.16.B.1.b add "path" after "flow" in the second line.

This is an editorial change and is therefore acceptable.

Change 15: In the second sentence of TS 3.16.B.3, insert a comma after "period".

This change is editorial and is therefore 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 changes a surveillance requirement. 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 (64 FR 24203). 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: F. Burrows

Date: June 7, 1999

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AMENDMENT NO. 220 TO FACILITY OPERATING LICENSE NO. DPR-32 - SURRY UNIT 1  
AMENDMENT NO. 220 TO FACILITY OPERATING LICENSE NO. DPR-37 - SURRY UNIT 2

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