

February 23, 2006

Mr. David A. Christian  
Sr. Vice President  
and Chief Nuclear Officer  
Virginia Electric and Power Company  
Innsbrook Technical Center  
5000 Dominion Blvd.  
Glen Allen, VA 23060-6701

SUBJECT: SURRY POWER STATION, UNIT NOS. 1 AND 2 - ISSUANCE OF  
AMENDMENTS ON REVISION OF AUXILIARY FEEDWATER  
REQUIREMENTS AND SURVEILLANCES (TAC NOS. MC6368 AND MC6369)

Dear Mr. Christian:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 246 to Renewed Facility Operating License No. DPR-32 and Amendment No. 245 to Renewed Facility Operating License No. DPR-37 for the Surry Power Station, Unit Nos. 1 and 2, respectively. The amendments change the Technical Specifications (TSs) in response to your application dated March 8, 2005.

These amendments revise the auxiliary feedwater (AFW) requirements to eliminate the inconsistency between the AFW pump requirements and the required actions, establish consistency with the Improved TSs, and add an AFW flowpath allowed-outage time along with required actions. In addition, editorial changes were made to the TSs.

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,

**/RA/**

Stephen Monarque, Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-280 and 50-281

Enclosures:

1. Amendment No. 246 to DPR-32
2. Amendment No. 245 to DPR-37
3. Safety Evaluation

cc w/encls: See next page

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VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-280

SURRY POWER STATION, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 246  
Renewed 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 March 8, 2005, 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 Renewed 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. 246, are hereby incorporated in the renewed 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 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Evangelos C. Marinos, Chief  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 23, 2006

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-281

SURRY POWER STATION, UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 245  
Renewed 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 March 8, 2005, 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 Renewed 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. 245, are hereby incorporated in the renewed 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 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Evangelos C. Marinos, Chief  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 23, 2006

ATTACHMENT TO  
LICENSE AMENDMENT NO. 246 TO  
RENEWED FACILITY OPERATING LICENSE NO. DPR-32  
LICENSE AMENDMENT NO. 245 TO  
RENEWED FACILITY OPERATING LICENSE NO. DPR-37  
DOCKET NOS. 50-280 AND 50-281

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

3.6-1  
3.6-2  
3.6-3  
3.6-4  
-  
-  
3.6-5  
3.6-5a  
-  
3.6-6  
3.9-2  
3.16-6  
4.8-1  
4.8-2  
-  
4.8-3  
4.8-4

Insert Pages

3.6-1  
3.6-2  
3.6-3  
3.6-4  
3.6-4a  
3.6-4b  
3.6-5  
3.6-5a  
3.6-5b  
3.6-6  
3.9-2  
3.16-6  
4.8-1  
4.8-2  
4.8-2a  
4.8-3  
4.8-4

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 246 TO

RENEWED FACILITY OPERATING LICENSE NO. DPR-32

AND

AMENDMENT NO. 245 TO RENEWED 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 application dated March 8, 2005, Virginia Electric and Power Company (the licensee) requested changes to the Technical Specifications (TSs) for Surry Power Station, Unit Nos. 1 and 2 (Surry 1 and 2). The proposed changes would revise TS 3.6, "Turbine Cycle," to eliminate the inconsistency between the auxiliary feedwater (AFW) pump requirements and add an AFW flowpath allowed-outage time (AOT). In addition, the licensee proposed to revise the TS 3.6 requirements and the TS 4.8, "Auxiliary Feedwater System," surveillances for consistency with NUREG-1431, Revision 3, "Standard Technical Specifications - Westinghouse Plants."

The licensee, in its submittal, discussed the various reasons for requesting these amendments. First, the current TS 3.6.F required action statement implies that at any time one AFW pump is inoperable, all three AFW pumps must be restored to operable status within 72 hours, or the unit must be placed in hot shutdown within the following 12 hours. This required action statement is not consistent with the operability requirements of TSs 3.6.B.1 and 3.6.C. TS 3.6.B.1 requires the two motor-driven AFW pumps to be operable prior to reactor coolant system (RCS) conditions exceeding 350 °F and 450 psig, but TS 3.6.C does not require the turbine-driven AFW pump to be operable until prior to reactor power exceeding 10 percent. Therefore, from the time RCS conditions exceed 350 °F and 450 psig until reactor power exceeds 10 percent, only two motor-driven AFW pumps are required to be operable. Thus, the TS 3.6.F requirement to restore three pumps to operable status is not consistent with TSs 3.6.B.1 and 3.6.C. Finally, TS 3.6.D requires AFW piping, valves, and control board indication to be operable. However, there is no associated AOT and required action for the inoperability of these components.

## 2.0 REGULATORY EVALUATION

The Nuclear Regulatory Commission (NRC) staff evaluated the acceptability of the licensee's proposed amendments based on the following regulations and guidance:

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix A, General Design Criteria (GDC) 34 and 44 reflect the design basis for the AFW system with respect to decay heat removal. GDC 34 specifies, in part, that the system safety function shall be to transfer fission product decay heat and other residual heat from the reactor core at a rate such that specified acceptable fuel design limits and the design conditions of the reactor coolant pressure boundary are not exceeded. GDC 44 for cooling water specifies, in part, that a system to transfer heat from structures, systems, and components important to safety, to an ultimate heat sink shall be provided. Both GDCs specify that suitable redundancy in components and features, interconnections, and isolation capabilities shall be provided.

The licensee proposed changes to the Surry 1 and 2 TSs in order to establish consistency with NUREG-1431, as it relates to the Improved TS (ITS) program.

## 3.0 TECHNICAL EVALUATION

### 3.1 AFW System Description

The AFW system provides a source of feedwater to the secondary side of the steam generators whenever the feedwater system is not available, thereby maintaining the heat sink capabilities of the steam generators. The system is relied upon to prevent core damage and RCS overpressurization in the event of transients, such as, a loss of normal feedwater or a secondary system pipe rupture, and to provide a means of plant cooldown following a reactor trip.

The AFW system for each unit consists of two motor-driven AFW pumps, each rated for 350 gallons-per-minute (gpm) at 2730 feet of head, one turbine-driven AFW pump rated for 700 gpm at 2730 feet of head, a 110,000 gallon emergency condensate storage tank, and associated piping, headers, valves, controls, and instrumentation. The two motor-driven AFW pumps and a turbine-driven AFW pump provide for diversity of power sources to support the automatic actuation of the AFW supply. The motor-driven or turbine-driven AFW pumps provide adequate capacity to cool the RCS. The amount of AFW flow that is required is dependent upon the amount of decay heat being generated, the cooldown rate desired for the RCS, and the heat being added to the RCS by the operating reactor coolant pumps. Although the flowpaths from the pumps to the steam generators include common piping, the configuration of the system provides two redundant flowpaths. For each unit, the components in one flowpath are supplied by the H emergency bus, while the other flowpath is supplied by the J emergency bus. The AFW systems for each unit are cross-connected to provide additional redundancy in case a single event, such as a fire or a high energy line break, would disable the AFW system of one unit.

### 3.2 Proposed Changes to TS 3.6.A

The licensee proposed to revise TS 3.6.A by consolidating the requirements for the main steam safety valves (MSSVs) from TS 3.6.A, TS 3.6.B.3, and TS 3.6.D into TS 3.6.A. The licensee accomplished this by deleting the duplicate MSSV requirements contained in TS 3.6.B.3 and relocating the associated system piping requirements for the MSSVs from TS 3.6.D to 3.6.A.

The licensee's consolidation and relocation of the MSSV requirements did not result in any changes to the requirements for the MSSV or associated system piping. The NRC staff has determined that the relocation of these TS requirements has no impact upon the technical aspects of the items that were removed or relocated. As such, the licensee's proposed changes are acceptable.

### 3.3 Proposed Replacement of TS 3.6.B

The licensee proposed to renumber the current TS 3.6.B as TS 3.6.C and add a new TS 3.6.B. The revised TS 3.6.B will incorporate new AFW requirements and will read as follows:

- B. With Reactor Coolant System conditions less than 350 °F and 450 psig and the steam generators being used for heat removal, one motor driven auxiliary feedwater pump and associated flowpath shall be OPERABLE.

The licensee's proposed changes to TS 3.6.B include the addition of new AFW pump and flowpath requirements if the steam generators are used for heat removal, when RCS conditions are less than 350 °F and 450 psig. The licensee stated that these new requirements in TS 3.6.B are consistent with NUREG-1431. The NRC staff found this proposed TS revision consistent with NUREG-1431, and, therefore, acceptable.

### 3.4 Proposed Changes to TS 3.6.B, TS 3.6.B.1, TS 3.6.B.3, and TS 3.6.B.4.a

#### 3.4.1 TS 3.6.B currently states:

- 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 and 450 psig which would preclude operation of the Residual Heat Removal System. The following shall apply:

The licensee proposed to renumber TS 3.6.B as 3.6.C, capitalize the initial letters of the term 'reactor coolant system', and replace the phrase 'the commencement of any unit operation that would establish' with 'exceeding'. The NRC staff has determined that the changes to TS 3.6.B have no impact upon the technical aspects of the items that were removed. The renumbering and capitalization are considered editorial changes. As such, the licensee's proposed changes are acceptable.

#### 3.4.2 TS 3.6.B.1 currently states:

1. Two motor driven auxiliary feedwater pumps shall be OPERABLE.

The licensee proposed to renumber TS 3.6.B.1 as TS 3.6.C.1 and revise the sentence as follows:

1. Three auxiliary feedwater pumps shall be OPERABLE.

The licensee revised the renumbered TS 3.6.C.1 to require three AFW pumps to be operable prior to exceeding RCS conditions of 350 °F and 450 psig. The licensee stated that this requirement is consistent with NUREG-1431. The NRC staff found this proposed TS revision consistent with NUREG-1431, and, therefore, acceptable.

3.4.3 TS 3.6.B.3 currently states:

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 Tables 3.6-1A and 3.6-1B.

The licensee proposed to delete TS 3.6.B.3, relocate the first sentence of the current TS 3.6.D to TS 3.6.B.3, renumber TS 3.6.B.3 as new TS 3.6.C.3, and revise the new TS 3.6.C.3 to read as follows:

3. Two redundant flowpaths, including system piping, headers, valves, and control board indication required for operation of the components enumerated in Specifications 3.6.C.1 and 3.6.C.2, shall be OPERABLE.

The licensee revised the new TS 3.6.C.3 requirements for piping, valves, and control board indication to more appropriately reflect AFW flowpath requirements, where the flowpath is defined as headers, valves, and control board indication required for operation. The licensee stated that the flowpath requirements are consistent with NUREG-1431. The NRC staff found this proposed TS revision consistent with NUREG-1431, and, therefore, acceptable.

3.4.4 TS 3.6.B.4 a currently states:

- 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.

The licensee proposed to renumber TS 3.6.B.4a as TS 3.6.C.4a and revise this section as follows:

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

The licensee revised TS 3.6.B.4a. to establish consistency with the requirements of TS 3.6.C.3. The NRC staff considered this proposed change, an editorial change, and, therefore, acceptable.

### 3.5 Proposed Changes to TS 3.6.C

TS 3.6.C currently states:

- C. Prior to reactor power exceeding 10 percent, the steam driven auxiliary feedwater pump shall be OPERABLE.

The licensee proposed to delete the current TS 3.6.C. As part of the deletion of TS 3.6.C, the licensee has revised the current TS 3.6.B. Because of the changes discussed in paragraph 3.4, TS 3.6.C is no longer needed. The licensee proposed to delete the current TS 3.6.C to eliminate inconsistency between the AFW pump requirements and to be consistent with NUREG-1431. The NRC staff found these proposed TS revisions consistent with NUREG-1431, and, therefore, acceptable.

### 3.6 Proposed Replacement of TS 3.6.D

TS 3.6.D currently states:

- 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).

The licensee proposed to relocate the following phrase in parentheses from the current TS 3.6.D to the current TS 3.6.G, and renumber TS 3.6.G as TS 3.6.I:

(automatic initiation instrumentation associated with the opposite unit's auxiliary feedwater pumps need not be OPERABLE)

In addition, the licensee proposed to replace the current TS 3.6.D with the following paragraph:

- D. With reactor coolant system conditions less than 350 °F and 450 psig and the steam generators being used for heat removal, if either the motor driven pump or the associated flowpath becomes inoperable, immediately initiate action to restore the inoperable equipment to OPERABLE status.

The licensee relocated the current TS 3.6.D requirement to the renumbered TS 3.6.I with the opposite unit's AFW requirements. The remainder of the current TS 3.6.D is revised and relocated to the renumbered TS 3.6.C.3, as noted above in paragraph 3.4.

Corresponding to new TS 3.6.D above, the licensee added new required actions to immediately restore inoperable equipment if either the motor-driven pump or associated flowpath becomes inoperable with RCS conditions less than 350 °F and 450 psig and the steam generators are being used for heat removal. The licensee stated that these new requirements in TS 3.6.D are consistent with NUREG-1431. The NRC staff found this proposed TS revision consistent with NUREG-1431, and, therefore, acceptable.

### 3.7 Proposed Replacement of TS 3.6.E

The licensee proposed to renumber the current TS 3.6.E as TS 3.6.H, and replace TS 3.6.E with the following paragraph.

- E. With the turbine driven pump inoperable on the affected unit and with Reactor Coolant System temperature and pressure greater than 350 °F and 450 psig, respectively, immediately following REFUELING SHUTDOWN and prior to REACTOR CRITICAL, restore the inoperable pump to OPERABLE status within 7 days or be less than 350 °F and 450 psig within the next 12 hours.

The licensee's new TS 3.6.E includes a 7-day AOT for turbine-driven AFW pump inoperability on the affected unit following a refueling outage and prior to reactor criticality. The licensee stated that these new required actions are consistent with NUREG-1431. The licensee further stated that, due to the Surry AFW system configuration, the 7-day AOT for an inoperable steam supply to the turbine-driven AFW pump, as provided in NUREG-1431, was not included because it is not applicable. However, the more conservative 72-hour AOT was applied for the turbine-driven AFW pump when in the steam supply for this pump is lost. The NRC staff found this proposed TS revision consistent with NUREG-1431, and, therefore, acceptable.

### 3.8 Proposed Replacement of TS 3.6.F

TS 3.6.F currently states:

- 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.

The licensee proposed to replace TS 3.6.F with the following information:

- F. The following actions shall be taken when one or more auxiliary feedwater pumps are inoperable on the affected unit for reasons other than those addressed in Specification 3.6.E:
  1. With one auxiliary feedwater pump inoperable, restore the inoperable pump to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 6 hours and be less than 350 °F and 450 psig within the following 12 hours.
  2. With two auxiliary feedwater pumps inoperable, be in HOT SHUTDOWN within 6 hours and be less than 350 °F and 450 psig within the next 12 hours.
  3. With three auxiliary feedwater pumps inoperable, immediately initiate action to restore one inoperable pump to OPERABLE status. Specification 3.0.1 and all other required actions directing

mode changes are suspended until one inoperable pump is restored to OPERABLE status.

The licensee replaced the current TS 3.6.F to eliminate inconsistency between AFW pump requirements and to be consistent with NUREG-1431. The licensee replaced the current TS 3.6.F AFW required actions with new required actions to be taken when one or more AFW pumps are inoperable (e.g., 72-hour AOT for 1 inoperable AFW pump, etc.) on the affected unit. The NRC staff found the proposed TS revisions consistent with NUREG-1431, and, therefore, acceptable.

### 3.9 Proposed Replacement of TS 3.6.G

The licensee proposed to renumber the current TS 3.6.G as 3.6.I, and replace TS 3.6.G with the following information.

- G. The following actions shall be taken with inoperability of a component or instrumentation other than the flow instrumentation in one or both redundant auxiliary feedwater flowpaths required by Specification 3.6.C.3 on the affected unit: (See Specification 3.7 and TS Table 3.7-6 for auxiliary feedwater flow instrumentation requirements.)
  - 1. With component or instrumentation inoperability in one redundant flowpath, restore the inoperable component or instrumentation to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 6 hours and be less than 350 °F and 450 psig within the following 12 hours.
  - 2. With component or instrumentation inoperability affecting both redundant flowpaths, immediately initiate action to restore the inoperable component or instrumentation in one flowpath to OPERABLE status. Specification 3.0.1 and all other required actions directing mode changes are suspended until the inoperable component or instrumentation in one flowpath is restored to OPERABLE status.

The licensee replaced TS 3.6.G to be consistent with NUREG-1431. The licensee replaced the current TS 3.6.G with new AFW flowpath/instrumentation required actions to be taken when one or both redundant flowpaths are inoperable (e.g., 72-hour AOT for 1 inoperable flowpath) on the affected unit. The NRC staff found these proposed TS revisions consistent with NUREG-1431, and, therefore, acceptable.

### 3.10 Proposed Changes to Current TS 3.6.G (New 3.6.I), TS 3.6.G.1, TS 3.6.G.2, And TS 3.6.G.3

#### 3.10.1 TS 3.6.G currently states:

- G. The requirements of TSs 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.

The licensee proposed to relocate the following phrase in parentheses from the current TS 3.6.D to the current TS 3.6.G, and renumber TS 3.6.G as TS 3.6.I:

(automatic initiation instrumentation associated with the opposite unit's auxiliary feedwater pumps need not be OPERABLE)

In addition, the licensee proposed to revise the new 3.6.I to read as follows:

- I. The requirements of Specification 3.6.C.4 above concerning the opposite unit's auxiliary feedwater pumps; the associated redundant flowpaths, including piping, headers, valves, and control board indication; the cross-connect piping from the opposite unit; 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. Automatic initiation instrumentation associated with the opposite unit's auxiliary feedwater pumps need not be OPERABLE.

The licensee made several changes to the new TS 3.6.I. First, the licensee relocated the current TS 3.6.D requirement that 'automatic initiation instrumentation associated with the opposite unit's auxiliary feedwater pumps need not be operable' to the new TS 3.6.I. Next, the licensee made changes to the AFW cross-connect flowpath terminology in order to be consistent with the flowpath terminology changes that were made to the new TS 3.6.C.3. Finally, the licensee included the required actions for the opposite unit's AFW cross-connect pump and flowpath whenever components described in TS 3.6.I.1 through TS 3.6.I.3 are inoperable. The AFW systems for Surry 1 and 2 are cross-connected to provide additional redundancy in case a single event, such as fire or a high energy line break in the main steam valve house, disables the AFW system for one unit. Therefore, the NRC staff determined that the licensee's proposed changes properly reflect the design capability and are consistent with the intent of GDCs 34 and 44. As such, the licensee's proposed changes are acceptable.

3.10.2 TS 3.6.G.1 currently states:

1. One train of the opposite unit's piping, valves, and control board indications or two of the opposite units's auxiliary feedwater pumps may be inoperable for a period of not to exceed 14 days.

The licensee proposed to renumber TS 3.6.G.1 as TS 3.6.I.1 and revise the TS as follows:

1. One of the opposite unit's flowpaths or two of the opposite unit's auxiliary feedwater pumps may be inoperable for a period not to exceed 14 days.

Corresponding to TS 3.6.I above, the licensee revised the renumbered TS 3.6.I.1 to include one of the opposite unit's flowpaths that may be inoperable for a period not to exceed 14 days. In addition, the licensee made changes to the AFW cross-connect flowpath terminology in order to be consistent with the flowpath terminology changes that were made to the new TS 3.6.C.3.

The flowpaths at Surry 1 and 2 include piping, headers, valves, and control board indications. The AFW systems for Surry 1 and 2 are cross-connected to provide additional redundancy in case a single event, such as fire or a high energy line break in the main steam valve house, disables the AFW system for one unit. Therefore, the NRC staff determined that the licensee's proposed changes properly reflect the design capability that is consistent with the intent of GDCs 34 and 44, and the licensee's proposed changes are acceptable.

3.10.3 TS 3.6.G.2 currently states:

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.

The licensee proposed to renumber TS 3.6.G.2 as TS 3.6.I.2 and revised as follows:

2. Both of the opposite unit's flowpaths; 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.

Corresponding to TS 3.6.I above, the licensee revised the renumbered TS 3.6.I.2 to include both of the opposite unit's flowpaths that may be inoperable for a period not to exceed 72 hours. In addition, the licensee made changes to the AFW cross-connect flowpath terminology in order to be consistent with the flowpath terminology changes that were made to the new TS 3.6.C.3. The flowpaths at Surry 1 and 2 include piping, headers, valves, and control board indications. The AFW systems for Surry 1 and 2 are cross-connected to provide additional redundancy in case a single event, such as fire or a high energy line break in the main steam valve house, disables the AFW system for one unit. Therefore, the NRC staff determined that the licensee's proposed changes properly reflect the design capability and are consistent with the intent of GDCs 34 and 44. As such, the licensee's proposed changes are acceptable.

3.10.4 The licensee proposed to renumber TS 3.6.G.3 as TS 3.6.I.3, change 'flow path' to 'flowpath', and change 'TS 3.6.B.4.c' to 'TS 3.6.C.4.c.' The NRC staff determined that these changes are editorial, and, therefore, acceptable.

3.10.5 The end statement in TS 3.6.G currently states:

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

The licensee proposed to renumber the last statement of TS 3.6.G as TS 3.6.I and revise the TS as follows:

If the above requirements are not met, be in HOT SHUTDOWN within the next 6 hours and be less than 350 °F and 450 psig within the next 12 hours.

For the AFW required actions in the renumbered TS 3.6.I, the licensee revised the end state of hot shutdown to more appropriately reflect the plant condition where the AFW system is no longer required to be operable. Given the licensee's revision of the end statement to more appropriately include the plant condition of less than 350 °F and 450 psig (where an operable AFW system is not required) and the fact that the licensee's proposed changes properly reflect the design capability that is consistent with the intent of GDCs 34 and 44, the NRC staff found the licensee's proposed changes acceptable.

### 3.11 Proposed Changes to Current TS 3.6.H

The licensee proposed to renumber TS 3.6.H as TS 3.6.J, replace 'TS 3.6.B.2' with 'TS 3.6.C.2', and replace the term 'steam generator' with 'feedwater.'

The NRC staff determined that these changes are editorial and have no impact upon the technical aspects of the items that were removed or relocated. Therefore, the NRC staff found these proposed changes acceptable.

### 3.12 Proposed Changes to TS 4.8

3.12.1 The licensee proposed to change the spelling of 'flow path' to 'flowpath' in TS 4.8.A.1., TS 4.8.A.2., and TS 4.8.A.5.b. The NRC staff has determined that these changes are editorial. Therefore, the NRC staff found these proposed changes acceptable.

3.12.2 TS 4.8.A.3.a currently states:

- a. Verify that the auxiliary feedwater pumps perform satisfactorily when tested in accordance with the Inservice Testing Program. The provisions of TS 4.0.4 are not applicable for the turbine driven pump.

The licensee proposed to revise TS 4.8.A.3.a as follows:

- a. Verify that the auxiliary feedwater pumps perform satisfactorily when tested in accordance with the Inservice Testing Program. The provisions of Specification 4.0.4 are not applicable for the turbine driven pump. Note that the developed head test of the turbine driven pump is required to be performed within 24 hours after reaching HOT SHUTDOWN.

The licensee revised this TS 4.8 surveillance to be consistent with NUREG-1431. A note was added to TS 4.8.A.3.a to qualify that the developed head test of the turbine-driven AFW pump is required to be performed within 24 hours after reaching hot shutdown. The NRC staff found this TS revision consistent with NUREG-1431, and, therefore, acceptable.

3.12.3 TSs 4.8.A.4a and 4.8.A.4b currently state:

- 4a. Within 72 hours prior to Reactor Coolant System temperature and pressure exceeding 350 °F and 450 psig, respectively, the motor driven auxiliary feedwater pumps shall be flow tested from the 110,000 gallon above-ground Emergency Condensate Storage Tank to the steam generators.

- 4b. Within 72 hours after achieving reactor criticality, the steam turbine driven auxiliary feedwater pump shall be flow tested from the 110,000 gallon above-ground Emergency Condensate Storage Tank to the steam generators. The provisions of Specification 4.0.4 are not applicable.

The licensee proposed to replace TSs 4.8.A.4a and 4.8.A.4b with TS 4.8.A.4. TS 4.8.A.4 is revised to read as follows:

4. Whenever the unit's Reactor Coolant System temperature and pressure have been less than 350 °F and 450 psig, respectively, for a period greater than 30 days, prior to Reactor Coolant System temperature and pressure exceeding 350 °F and 450 psig, respectively, verify proper alignment of the required auxiliary feedwater flowpaths by verifying flow from the 110,000 gallon above-ground Emergency Condensate Storage Tank to the steam generators from each of the auxiliary feedwater pumps.

The licensee revised these TS surveillances to be consistent with NUREG-1431. The licensee replaced the current TSs 4.8.A.4a and 4.8.A.4b flow test requirements with a verification of proper alignment of the AFW flowpaths prior to exceeding 350 °F and 450 psig, whenever the RCS conditions have been less than 350 °F and 450 psig for a period greater than 30 days. The NRC staff found these TS revisions consistent with NUREG-1431, and, therefore, acceptable.

#### 3.12.4 New TS 4.8.A.6

The licensee proposed to create TS 4.8.A.6 to provide new AFW automatic valve and pump surveillances. The new TS 4.8.A.6 will read as follows:

6. On an 18-month frequency:
  - a. Verify each auxiliary feedwater automatic valve that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.
  - b. Verify each auxiliary feedwater pump starts automatically on an actual or simulated actuation signal. Note that this surveillance is required to be performed for the turbine driven pump within 24 hours after reaching HOT SHUTDOWN.

The licensee added these TS surveillances to be consistent with NUREG-1431. These 18-month TS surveillances provide for verification of the correct position for the AFW automatic valve actuation and for the verification of AFW pump auto-start. The NRC staff found these proposed revisions consistent with NUREG-1431, and, therefore, acceptable.

#### 3.12.5 TS 4.8.B currently states:

- B. Acceptance Criteria

The pump and valve tests, except the system flow test, shall be considered satisfactory if they meet the Inservice Testing Program acceptance criteria.

The system flow tests during unit startup from COLD SHUTDOWN or REFUELING SHUTDOWN shall be considered satisfactory if the control board indication demonstrates that flow paths exist to each steam generator.

The licensee proposed to revise TS 4.8.B as follows:

B. Acceptance Criteria

The pump and valve tests shall be considered satisfactory if they meet the Inservice Testing Program acceptance criteria.

The flowpath alignment tests during unit startup from REFUELING, COLD, or INTERMEDIATE SHUTDOWN shall be considered satisfactory if the control board indication demonstrates that flowpaths exist to each steam generator.

The licensee revised this surveillance to be consistent with NUREG-1431. The licensee revised TS 4.8.B acceptance criteria to reflect the deletion of flow test requirements and the replacement with flowpath alignment requirements in TS 4.8.A.4. Intermediate shutdown is added since RCS conditions less than 350 °F and 450 psig partially encompass the intermediate shutdown operating condition, defined in TS 1.0.C.3. The NRC staff found these TS revisions consistent with NUREG-1431, and, therefore, acceptable.

3.13 Licensee's Proposed Basis Changes

The licensee revised the basis for TS 3.6 and TS 4.8 to describe the AFW system configuration, to discuss the AFW system design basis and accident analysis requirements, and add a discussion on AFW pump operability considerations. Furthermore, the licensee made changes that were editorial, corresponded to the TS revisions, and updated the references to the Updated Final Safety Analysis for Surry. The NRC staff found these proposed revisions of the TS 3.6 and TS 4.8 bases acceptable.

3.14 Conclusion

Based on its review of the licensee's submittal dated March 8, 2005, the NRC staff concluded that the proposed TS revisions properly reflect the design capability that is consistent with the intent of GDCs 34 and 44, and are consistent with NUREG-1431. As such, the NRC staff has determined that the licensee's proposed amendments are acceptable with regard to the following:

- o Elimination of TS 3.6 inconsistency between the current AFW pump operability requirements and required actions

- o Addition of TS 3.6 flowpath AOT and required actions
- o Revision of TS 3.6 operability requirements and required actions and TS 4.8 surveillances for AFW system.

#### 4.0 STATE CONSULTATION

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

#### 5.0 ENVIRONMENTAL CONSIDERATION

The 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 (70 FR 21465). Accordingly, the 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: R. Young

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Surry Power Station, Units 1 & 2

cc:

Ms. Lillian M. Cuoco, Esq.  
Senior Counsel  
Dominion Resources Services, Inc.  
Building 475, 5th Floor  
Rope Ferry Road  
Waterford, Connecticut 06385

Mr. Donald E. Jernigan  
Site Vice President  
Surry Power Station  
Virginia Electric and Power Company  
5570 Hog Island Road  
Surry, Virginia 23883-0315

Senior Resident Inspector  
Surry Power Station  
U. S. Nuclear Regulatory Commission  
5850 Hog Island Road  
Surry, Virginia 23883

Chairman  
Board of Supervisors of Surry County  
Surry County Courthouse  
Surry, Virginia 23683

Dr. W. T. Lough  
Virginia State Corporation Commission  
Division of Energy Regulation  
Post Office Box 1197  
Richmond, Virginia 23218

Dr. Robert B. Stroube, MD, MPH  
State Health Commissioner  
Office of the Commissioner  
Virginia Department of Health  
Post Office Box 2448  
Richmond, Virginia 23218

Office of the Attorney General  
Commonwealth of Virginia  
900 East Main Street  
Richmond, Virginia 23219

Mr. Chris L. Funderburk, Director  
Nuclear Licensing & Operations Support  
Dominion Resources Services, Inc.  
Innsbrook Technical Center  
5000 Dominion Blvd.  
Glen Allen, Virginia 23060-6711