

August 26, 1998

50-280/281

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

DISTRIBUTION:
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SUBJECT: SURRY UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: TEMPORARY SERVICE WATER SUPPLY LINE (TAC NOS. M99953 AND M99954)

Dear Mr. O'Hanlon:

The Commission has issued the enclosed Amendment No. 216 to Facility Operating License No. DPR-32 and Amendment No. 216 to Facility Operating License No. DPR-37 for the Surry Power Station, Unit Nos. 1 and 2, respectively. The amendments change the Licenses and Technical Specifications (TS) in response to your application transmitted by letter dated June 19, 1998, as supplemented July 14, 1998.

These amendments revise the TS to allow the use of a temporary jumper line for providing service water to component cooling water heat exchangers while maintenance is performed on existing service water supply piping. The temporary jumper will be used for up to 35 days during each of the next two Unit 1 refueling outages, currently scheduled to occur in 1998 and 2000. As agreed with Virginia Electric and Power Company (G. Miller) by telephone on August 6, 1998, we have made a minor clarification to the footnote to TS 3.14.A.2.b and to the Bases Section of TS 3.14 to identify the specific outages (SI-R-15 and SI-R-16) when the temporary jumper will be used. The licenses for Units 1 and 2 are also amended with a new license condition to reflect the Surry Contingency Action Plan and other project restraints which the NRC staff relied upon, in part, to perform our review. In addition, editorial changes have been made to TS Table 3.7-2, item 3, and to TS Bases Section 3.14.

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
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 216 to DPR-32
2. Amendment No. 216 to DPR-37
3. Safety Evaluation

cc w/enclosures: See next page

Document Name - G:\SURRY\M99953.AMD

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NAME	GEdison	EDunnington <i>ETD</i>	P. T. KUB <i>P.T.K.</i>	R.Bachmann	JTatum
DATE	8/4/98	8/7/98	8/11/98	8/11/98	SE dtd 8/4/98

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DATED: August 26, 1998

AMENDMENT NO. 216 TO FACILITY OPERATING LICENSE NO. DPR-32 - SURRY UNIT 1
AMENDMENT NO. 216 TO FACILITY OPERATING LICENSE NO. DPR-37 - SURRY UNIT 2

Docket File

PUBLIC

PDII-1 RF

J. Zwolinski

E. Dunnington

G. Edison

OGC

G. Hill (2), TWFN, 5/C/3

W. Beckner

ACRS

L. Plisco, RII

T. Harris (eMail SE only, TLH3)

DATED: August 26, 1998

AMENDMENT NO. 216 TO FACILITY OPERATING LICENSE NO. DPR-32 - SURRY UNIT 1
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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
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

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- 2. Amendment No. 216 to DPR-37
- 3. Safety Evaluation

cc w/enclosures: See next page

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NAME	GEdison	EDunnington <i>ETD</i>	P. T. KUB <i>P.T.K.</i>	<i>R. Baabman</i>	JTatum
DATE	8/12/98	8/17/98	8/24/98	8/11/98	SE dtd 8/4/98



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

August 26, 1998

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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SERVICE WATER SUPPLY LINE (TAC NOS. M99953 AND M99954)

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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
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-280 and 50-281

Enclosures:

1. Amendment No. 216 to DPR-32
2. Amendment No. 216 to DPR-37
3. Safety Evaluation

cc w/enclosures:
See next page

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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. 216
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 June 19, 1998, as supplemented on July 14, 1998, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 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. 216 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. Further, Facility Operating License No. DPR-32 is hereby amended to add condition 3.O to read as follows:

O. The use of a temporary, seismic, non-missile protected supply line to provide service water to the component cooling heat exchangers required by TS 3.13, to facilitate maintenance activities on the existing SW supply line, shall be in accordance with the bases and compensatory measures (including a Contingency Action Plan) provided in the licensee's submittal dated June 19, 1998 (Serial No. 98-327).

4. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Pao-Tsin Kuo, Acting Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachments:

1. Page 5a of License DPR-32
2. Changes to the Technical Specifications

Date of Issuance: August 26, 1998

K. Secondary Water Chemistry Monitoring Program

The licensee shall implement a secondary water chemistry monitoring program to inhibit steam generator tube degradation. This program shall include:

1. Identification of a sampling schedule for the critical parameters and control points for these parameters;
2. Identification of the procedures used to quantify parameters that are critical to control points;
3. Identification of process sampling points;
4. Procedure for the recording and management of data;
5. Procedures defining corrective actions for off control point chemistry conditions; and
6. A procedure for identifying the authority responsible for the interpretation of the data, and the sequence and timing of administrative events required to initiate corrective action.

L. The licensee shall fully implement and maintain in effect all provisions of the Commission-approved Nuclear Security Personnel Training and Qualifications Program, including amendments and changes made pursuant to 10 CFR 50.54(p). The approved Nuclear Security Personnel Training and Qualifications Program consists of a document withheld from public disclosure pursuant to 10 CFR 2.790(d) identified as "Surry Power Station Nuclear Security Personnel Training and Qualifications Program" dated September 15, 1980. The Nuclear Security Personnel Training and Qualifications Program shall be fully implemented in accordance with 10 CFR 73.55(b)(4), within 60 days of this approval by the Commission. All security personnel shall be qualified within two years of this approval.

M. The design of the reactor coolant pump and steam generator supports may be revised in accordance with the licensee's submittals dated November 5, 1985 (Serial No. 85-136), December 3, 1985 (Serial No. 85-136A), and January 14, 1986 (Serial No. 85-136C).

N. Deleted by Amendment No. 203.

O. The use of a temporary, seismic, non-missile protected supply line to provide service water to the component cooling heat exchangers required by TS 3.13, to facilitate maintenance activities on the existing SW supply line, shall be in accordance with the bases and compensatory measures (including a Contingency Action Plan) provided in the licensee's submittal dated June 19, 1998 (Serial No. 98-327).

4. This license is effective as of the date of issuance, and shall expire at midnight on May 25, 2012.

FOR THE ATOMIC ENERGY COMMISSION

Original signed by A. Giambusso

A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

Enclosure Appendix A -
Technical Specifications

Date of Issuance: May 25, 1972



**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. 216
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 June 19, 1998, as supplemented on July 14, 1998, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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

(B) Technical Specifications

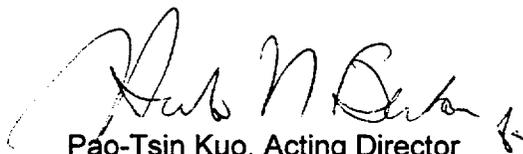
The Technical Specifications contained in Appendix A, as revised through Amendment No. 216 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. Further, Facility Operating License No. DPR-37 is hereby amended to add condition 3.O to read as follows:

O. The use of a temporary, seismic, non-missile protected supply line to provide service water to the component cooling heat exchangers required by TS 3.13, to facilitate maintenance activities on the existing SW supply line, shall be in accordance with the bases and compensatory measures (including a Contingency Action Plan) provided in the licensee's submittal dated June 19, 1998 (Serial No. 98-327).

4. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Pao-Tsin Kuo, Acting Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachments:

1. Page 6a of License DPR-37
2. Changes to the Technical Specifications

Date of Issuance: August 26, 1998

K. Secondary Water Chemistry Monitoring Program

The licensee shall implement a secondary water chemistry monitoring program to inhibit steam generator tube degradation. This program shall include:

1. Identification of a sampling schedule for the critical parameters and control points for these parameters;
2. Identification of the procedures used to quantify parameters that are critical to control points;
3. Identification of process sampling points;
4. Procedure for the recording and management of data;
5. Procedures defining corrective actions for off control point chemistry conditions; and
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N. Deleted by Amendment No. 203.

O. The use of a temporary, seismic, non-missile protected supply line to provide service water to the component cooling heat exchangers required by TS 3.13, to facilitate maintenance activities on the existing SW supply line, shall be in accordance with the bases and compensatory measures (including a Contingency Action Plan) provided in the licensee's submittal dated June 19, 1998 (Serial No. 98-327).

4. This license is effective as of the date of issuance, and shall expire at midnight on January 29, 2013.

FOR THE ATOMIC ENERGY COMMISSION

Original signed by Roger Boyd/for

A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

Enclosure Appendix A -
Technical Specifications

Date of Issuance: January 29, 1973

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 216 TO FACILITY OPERATING LICENSE NO. DPR-32

AMENDMENT NO. 216 TO FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NOS. 50-280 AND 50-281

Revise Appendix A as follows:

Remove Pages

TS 3.7-20
TS 3.14-1
TS 3.14-4

Insert Pages

TS 3.7-20
TS 3.14-1
TS 3.14-4
TS 3.14-5

TABLE 3.7-2 (Continued)
ENGINEERED SAFEGUARDS ACTION
INSTRUMENT OPERATING CONDITIONS

<u>Functional Unit</u>	<u>Total Number Of Channels</u>	<u>Minimum OPERABLE Channels</u>	<u>Channels To Trip</u>	<u>Permissible Bypass Conditions</u>	<u>Operator Actions</u>
3. AUXILIARY FEEDWATER (continued)					
e. Trip of main feedwater pumps - start motor driven pumps	2/MFW pump	1/MFW pump	2-1 each MFW pump		21
f. Automatic actuation logic	2	2	1		22
4. LOSS OF POWER					
a. 4.16 kv emergency bus undervoltage (loss of voltage)	3/bus	2/bus	2/bus		20
b. 4.16 kv emergency bus undervoltage (degraded voltage)	3/bus	2/bus	2/bus		20
5. NON-ESSENTIAL SERVICE WATER ISOLATION					
a. Low intake canal level - Note A	4	3	3		20
b. Automatic actuation logic	2	2	1		14
6. ENGINEERED SAFEGAURDS ACTUATION INTERLOCKS - Note B					
a. Pressurizer pressure, P-11	3	2	2		23
b. Low-low T _{avg} , P-12	3	2	2		23
c. Reactor trip, P-4	2	2	1		24
7. RECIRCULATION MODE TRANSFER					
a. RWST Level - Low	4	3	2		25
b. Automatic Actuation Logic and Actuation Relays	2	2	1		14

Note A - When the temporary Service Water supply jumper to the CCHXs is in service in accordance with the footnote to TS 3.14.A.2.b, two low intake canal level probes will be permitted to be in the tripped condition. In this condition, two operable channels are required with one channel to trip. If one of the two operable channels becomes inoperable, the operating Unit must be in HOT SHUTDOWN within the following 6 hours and in COLD SHUTDOWN within the following 30 hours.

Note B - Engineered Safeguards Actuation Interlocks are described in Table 4.1-A

3.14 CIRCULATING AND SERVICE WATER SYSTEMS

Applicability

Applies to the operational status of the Circulating and Service Water Systems.

Objective

To define those limiting conditions of the Circulating and Service Water Systems necessary to assure safe station operation.

Specification

- A. The Reactor Coolant System temperature or pressure of a reactor unit shall not exceed 350° F or 450 psig, respectively, or the reactor shall not be critical unless:
1. The high level intake canal is filled to at least elevation +23.0 feet at the high level intake structure.
 2. Unit subsystems, including piping and valves, shall be operable to the extent of being able to establish the following:
 - a. Flow to and from one bearing cooling water heat exchanger.
 - b. Flow to and from the component cooling heat exchangers required by Specification 3.13. *
 3. At least two circulating water pumps are operating or are operable.
 4. Three emergency service water pumps are operable; these pumps will service both units simultaneously.

* For the purpose of performing inspections, cleaning and repairs associated with the SW supply piping to the component cooling water heat exchangers (CCHXs), a temporary 30" seismic, non-missile protected pipe jumper will be provided to supply SW flow to the CCHXs required by TS 3.13. The basis for using the temporary jumper is provided in the licensee's submittal dated June 19, 1998 (Serial No. 98-327). The use of the temporary jumper as the sole SW supply to the CCHXs is permitted two times only for a duration of up to 35 days during each of two Unit 1 refueling outages (Surry Unit 1 refueling outages S1-R-15 and S1-R-16). If non-essential SW isolation is required during the pipe repair activities, it will be accomplished consistent with design basis requirements by using operator (manual) action to close the SW isolation valve in the temporary jumper within the time constraints established by the Station Abnormal Procedures. If the temporary jumper becomes inoperable as the sole SW supply to the CCHXs during either 35-day period, the requirements of Specification 3.0.1 shall apply. Upon completion of the work associated with the second 35-day period, this footnote will no longer be applicable.

including replacement of an Emergency Service Water pump without forcing dual unit outages, yet limits the amount of operating time without the specified number of pumps.

When one Unit is in Cold Shutdown and the heat load from the shutdown unit and spent fuel pool drops to less than 25 million BTU/HR, then one Emergency Service Water pump may be removed from service for the subsequent time that the unit remains in Cold Shutdown due to the reduced residual heat removal and hence component cooling requirements.

A minimum level of +17.2 feet in the High Level Intake canal is required to provide design flow of Service Water through the Recirculation Spray heat exchangers during a loss-of-coolant accident for the first 24 hours. If the water level falls below +23' 6", signals are generated to trip both unit's turbines and to close the nonessential Circulating and Service Water valves. A High Level Intake canal level of +23' 6" ensures actuation prior to canal level falling to elevation +23'. The Circulating Water and Service Water isolation valves which are required to close to conserve Intake Canal inventory are periodically verified to limit total leakage flow out of the Intake Canal. In addition, passive vacuum breakers are installed on the Circulating Water pump discharge lines to assure that a reverse siphon is not continued for canal levels less than +23 feet when Circulating Water pumps are de-energized. The remaining six feet of canal level is provided coincident with ESW pump operation as the required source of Service Water for heat loads following the Design Basis Accident.

To facilitate inspection, cleaning and repair of the SW supply line to the CCHXs, a temporary, seismic, non-missile protected SW supply line (jumper) will be used as discussed in the temporary footnote to TS 3.14.A.2.b. The temporary jumper is required since service water is supplied to the CCHXs by a single concrete-encased line. To remove the SW supply line from service for extended maintenance, an alternate temporary SW supply path is required to support the operation of the CCHXs during the maintenance activities. The basis for using the temporary SW supply jumper to the CCHXs is provided in the licensee's submittal dated June 19, 1998 (Serial No. 98-327). The use of the

temporary jumper as the sole SW supply to the CCHXs is only permitted for a duration of up to 35 days during each of two Unit 1 refueling outages (Surry Unit 1 refueling outages S1-R-15 and S1-R-16) and shall be operated in accordance with the compensatory measures (including a Contingency Action Plan) provided in the letter referenced above and in the Operating License. The only automatic function in the normal supply line when Unit 1 is in COLD SHUTDOWN or REFUELING SHUTDOWN is provided by the SW supply MOVs which close on low Intake Canal level. If non-essential SW isolation is required during the time the jumper is in service, it will be accomplished consistent with design and licensing bases requirements by using operator (manual) action to close the SW isolation valve in the temporary jumper within the time constraints established by the Station Abnormal Procedures.

References:

UFSAR Section 9.9	Service Water System
UFSAR Section 10.3.4	Circulating Water System
UFSAR Section 14.5	Loss-of-Coolant Accidents, Including the Design Basis Accident



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 216 TO FACILITY OPERATING LICENSE NO. DPR-32
AND AMENDMENT NO. 216 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 application dated June 19, 1998, as supplemented on July 14, 1998, the Virginia Electric and Power Company (the licensee) submitted a request to change the Technical Specification (TS) requirements and to add a license condition for the Surry Power Station, Unit Nos. 1 and 2. The requested changes would allow the use of a temporary 30" seismic, non-missile protected jumper for providing service water (SW) to the component cooling heat exchangers (CCHXs) while repairs are being made to the existing CCHX service water supply piping. The temporary jumper would be used for up to 35 days during each of the next two Unit 1 refueling outages, which are currently scheduled to be performed in the years 1998 and 2000. The licensee's application also requested approval to make minor administrative changes to TS Table 3.7-2, and to correct a reference in the Bases Section of TS 3.14.

2.0 BACKGROUND

The licensee began a service water restoration project in the fall of 1990, which includes inspection, repair, and refurbishment of the SW system piping. The next piping section scheduled for restoration is the service water supply piping to the CCHXs. This single concrete-encased line provides service water cooling for the four CCHXs (two for each of the Surry units) during normal operating and shutdown conditions. Unit 1 will be shut down in a refueling outage and Unit 2 will be operating at full power while this service water line is removed from service and an alternate supply of service water will be required to satisfy CCHX TS operability requirements. With one unit operating and one unit shut down, two CCHXs are required to be operable. The licensee plans to install an alternate service water supply line (otherwise known as a temporary service water jumper) to provide water for the CCHXs during this phase of the service water restoration project.

The existing service water supply piping for the CCHXs takes water from the B and/or D circulating water (CW) inlet bays via the 96" CW supply piping, and supplies water to the CCHXs through separate branch lines and component isolation valves. A diagram of the piping arrangement is provided in the licensee's June 19, 1998, submittal as Figure 1. Service water can be isolated from either the B or D CW inlet bays by a motor-operated valve (MOV) located

in each of these flow paths. These MOVs receive an isolation signal in the event of low inlet bay level to preserve the capability of the ultimate heat sink. The temporary jumper will take water from the C inlet bay via the 96" CW supply piping and a temporary manual isolation valve, and deliver it to the A and B CCHXs through a temporary manual isolation valve for each of the two heat exchangers. The jumper will be sized to provide sufficient flow to cool the Unit 1 shutdown heat loads and the Unit 2 operating heat loads simultaneously. The licensee will install the jumper as a safety-related and seismic system, but it will not be missile-protected over its entire length. The licensee concluded that the small increase in the probability of equipment malfunction due to missile strike or heavy load drop constitutes an unreviewed safety question, and that installation and use of the jumper would require prior NRC review and approval. The licensee also determined that changes to the Surry TS were required to facilitate use of the temporary SW jumper and completion of this phase of the SW restoration project.

In order to support use of the temporary SW jumper, the licensee defined project constraints and compensatory measures that would be implemented; proposed a license condition that acknowledges the project constraints and compensatory measures being implemented; and requested changes to TS Table 3.7-2, Item 5, TS 3.14.A.2.b, and to the Basis Section of TS 3.14. The licensee also requested administrative changes to TS Table 3.7-2, Item 3, and to the Basis Section of TS 3.14 that are unrelated to use of the SW jumper.

3.0 EVALUATION

The licensee's submittal and supplemental information discuss the differences in design and operation that exist between the proposed temporary SW jumper and the actual SW supply line for the CCHXs, and describe contingencies that will be taken to compensate for these differences. The licensee has requested specific TS changes to facilitate use of the temporary jumper and a license condition is proposed to recognize the specific compensatory measures and contingencies that will be taken during the two 35-day periods when the normal CCHX service water supply piping will be removed from service for restoration.

Based on the information submitted by the licensee, the temporary jumper will satisfy the same design requirements as the existing CCHX SW supply line, with only a few exceptions. The staff's review focused on the differences that will exist in design and operation between the temporary jumper and the CCHX SW supply line, and on measures being taken by the licensee to compensate for these differences. In reviewing the information provided by the licensee, the following aspects of jumper design and operation were identified for staff consideration:

- The jumper can take water from only one inlet bay (C), whereas the existing SW supply line can take water from two inlet bays (B and D).
- Two of the four inlet bays will be dewatered during this phase of the SW restoration work in order to allow access to the existing CCHX SW supply line.

- A manual valve will be used for isolating the jumper and automatic isolation capability will not exist, whereas the existing SW supply line is automatically isolated by motor-operated valves when 3 out of 4 inlet bay levels are low in order to preserve the ultimate heat sink.
- The jumper will not be missile protected over its entire length, and will be more vulnerable to missiles, heavy load mishaps, and vehicular impact.
- The jumper will be more limiting in its flow capability than the existing SW supply line and will only provide SW to the A and B CCHXs, rendering the other two CCHXs inoperable.
- Interim use of the temporary jumper could be a confusion factor for plant operators and station personnel.

The licensee's submittal and supplemental information recognize these aspects of jumper design and operation, and establish specific project constraints and compensatory measures in order to support interim use of the temporary jumper. Included among the compensatory measures that will be established is a Contingency Action Plan (CAP) that will be in effect whenever the jumper is in service. The CAP establishes criteria for restoring the normal CCHX SW supply line to service in the event that continued use of the temporary jumper may be jeopardized due to weather conditions (for example) or if conditions associated with the operating unit (Unit 2) should warrant such action. The project constraints and compensatory measures provide assurance that:

- the temporary jumper will be able to perform its intended function during each of the two 35-day periods when the normal CCHX SW line is removed from service;
- the normal CCHX SW supply can be restored within 4 hours; and
- the Unit 1 reactor coolant will remain subcooled for at least 6 hours (during most of the SW restoration work) in the event that flow through the temporary jumper is interrupted.

The licensee has determined that the most limiting condition will occur during a 3½-day time period towards the end of the Unit 1 refueling operation, when reactor vessel integrity is being restored. Should loss of SW flow through the temporary jumper occur during this period, boiling of the reactor coolant could occur in about 36 minutes, and fuel clad damage could occur in about 2 hours. However, alternate cooling to mitigate this event will be assured by Operations Surveillance Procedure 1-OSP-ZZ-004, "Unit 1 Safety Systems Status List for Cold Shutdown/Refueling Conditions," and Abnormal Procedure 1-AP-27.00, "Loss of Decay Heat Removal Capability." Based on simulation

of this event, the licensee has determined that alternate cooling can be established in about 15 minutes. Assuming that 10 minutes will elapse before operator action is taken, alternate cooling should be established before the reactor coolant begins to boil and well before the onset of fuel clad damage.

By establishing appropriate project constraints and compensatory measures, the licensee has adequately addressed the differences that exist in design and operation of the temporary SW jumper as compared to the normal CCHX SW supply line. The staff finds that interim use of the temporary SW jumper, as discussed in the TS amendment request dated June 19, 1998, as supplemented July 14, 1998, is appropriate and justified, and that use of the temporary jumper is acceptable provided that the project constraints and compensatory measures are implemented as described. Further, the staff finds that the proposed license condition provides adequate assurance that the project constraints and compensatory measures will be implemented and that the requested changes to TS Table 3.7-2, Item 5, TS 3.14.A.2.b and to the Bases Section of TS 3.14 are necessary and acceptable for facilitating use of the temporary jumper. However, the staff has clarified the footnote to TS 3.14.A.2.b and the change to the Bases Section of TS 3.14 in order to identify the specific Unit 1 outages (SI-R-15 and SI-R-16) when the temporary jumper will be used in order to avoid any confusion in the future. Finally, the proposed administrative changes to TS Table 3.7-2, Item 3, and to the Bases Section of TS 3.14 are editorial in nature and are, therefore, acceptable.

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

These amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding (63 FR 38206). 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.

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.

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