Docket Nos. 50-280
and 50-281

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

Dear Mr. Stewart:

SUBJECT: SURRY UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: SERVICE WATER TEMPERATURE LIMIT (TAC NOS. M86944 AND M86945)

The Commission has issued the enclosed Amendment No. 183 to Facility Operating License No. DPR-32 and Amendment No. 183 to Facility Operating License No. DPR-37 for the Surry Power Station, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TS) in response to your application transmitted by letter dated July 16, 1993.

These amendments permit operation with a three degree increase in the service water temperature limit for containment air partial pressures of 9.1, 9.2 and 9.35 psia. Typographical errors made in previous amendments are also corrected.

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)
Bart C. Buckley, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 183 to DPR-32
2. Amendment No. 183 to DPR-37
3. Safety Evaluation

cc w/enclosures:
See next page

OFC	:LA:PDII-2	:PE:PDII-2	:PM:PDII-2	:SCSB	:OGC	:D:PDII-2
	BCB for	BCB for	BCB		C Marco	
NAME	:ETana	:RCroteau	:BBuckley	:RBarrett	:subject to appeal period shall	:HBerkow
DATE	: 7/29/93	: 7/29/93	: 7/29/93	: 7/29/93	:8/2/93	: 8/16/93

OFFICIAL RECORD COPY - FILENAME: SU86944.AMD

Mr. W. L. Stewart
Virginia Electric and Power Company

Surry Power Station

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DATED: September 7, 1993

AMENDMENT NO. 183 TO FACILITY OPERATING LICENSE NO. DPR-32 - SURRY UNIT 1
AMENDMENT NO. 183 TO FACILITY OPERATING LICENSE NO. DPR-37 - SURRY UNIT 2

Docket File
NRC & Local PDRs
PDII-2 Reading
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G. Lainas, 14/H/3
H. Berkow
E. Tana
R. Croteau
B. Buckley
OGC
D. Hagan, 3302 MNBB
G. Hill (4), P-137
C. Grimes, 11/F/23
ACRS (10)
OPA
OC/LFMB
M. Sinkule, R-II

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. 183
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 July 16, 1993, 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-32 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 183 , 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

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 7, 1993

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. 183
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 July 16, 1993, 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. 183, 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

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 7, 1993

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 183 TO FACILITY OPERATING LICENSE NO. DPR-32

AMENDMENT NO. 183 TO FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NOS. 50-280 AND 50-281

Revise Appendix A as follows:

Remove Pages	Insert Pages
TS 3.8-3	TS 3.8-3
TS 3.8-4	TS 3.8-4
TS Figure 3.8-1	TS Figure 3.8-1

c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange, or

d. Otherwise, place the unit in HOT SHUTDOWN within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

D. Internal Pressure

1. Containment air partial pressure shall be maintained within the acceptable operation range as identified in Figure 3.8-1 whenever the Reactor Coolant System temperature and pressure exceed 350°F and 450 psig, respectively.

a. With the containment air partial pressure outside the acceptable operation range, restore the air partial pressure to within acceptable limits within 1 hour or be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Basis

CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment will be restricted to those leakage paths and associated leak rates assumed in the accident analysis. These restrictions, in conjunction with the allowed leakage, will limit the site boundary radiation dose to within the limits of 10 CFR 100 during accident conditions.

The operability of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. The opening of manual or deactivated automatic containment isolation valves on an intermittent basis under administrative control includes the following considerations: (1) stationing an operator, who is in constant communication with the control room, at the valve controls, (2) instructing this operator to close these valves in an accident situation, and

(3) assuring that environmental conditions will not preclude access to close the valves and 4) that this administrative or manual action will prevent the release of radioactivity outside the containment.

The Reactor Coolant System temperature and pressure being below 350°F and 450 psig, respectively, ensures that no significant amount of flashing steam will be formed and hence that there would be no significant pressure buildup in the containment if there is a loss-of-coolant accident. Therefore, the containment internal pressure is not required to be subatmospheric prior to exceeding 350°F and 450 psig.

The allowable value for the containment air partial pressure is presented in TS Figure 3.8-1 for service water temperatures from 25 to 95°F. The allowable value varies as shown in TS Figure 3.8-1 for a given containment average temperature. The RWST water shall have a maximum temperature of 45°F.

The horizontal limit lines in TS Figure 3.8-1 are based on LOCA peak calculated pressure criteria, and the sloped line is based on LOCA subatmospheric peak pressure criteria.

The curve shall be interpreted as follows:

> The horizontal limit line designates the allowable air partial pressure value for the given average containment temperature. The horizontal limit line applies for service water temperatures from 25°F to the sloped line intersection value (maximum service water temperature).

From TS Figure 3.8-1, if the containment average temperature is 112°F and the service water temperature is less than or equal to 83°F, the allowable air partial pressure value shall be less than or equal to 9.65 psia. If the average containment temperature is 116°F and the service water temperature is less than or equal to 91°F, the allowable air partial pressure value shall be less than or equal to 9.35 psia. These horizontal limit lines are a result of the higher allowable initial containment average temperatures and the analysis of the pump suction break.

ALLOWABLE AIR PARTIAL PRESSURE
SURRY POWER STATION UNITS 1 AND 2

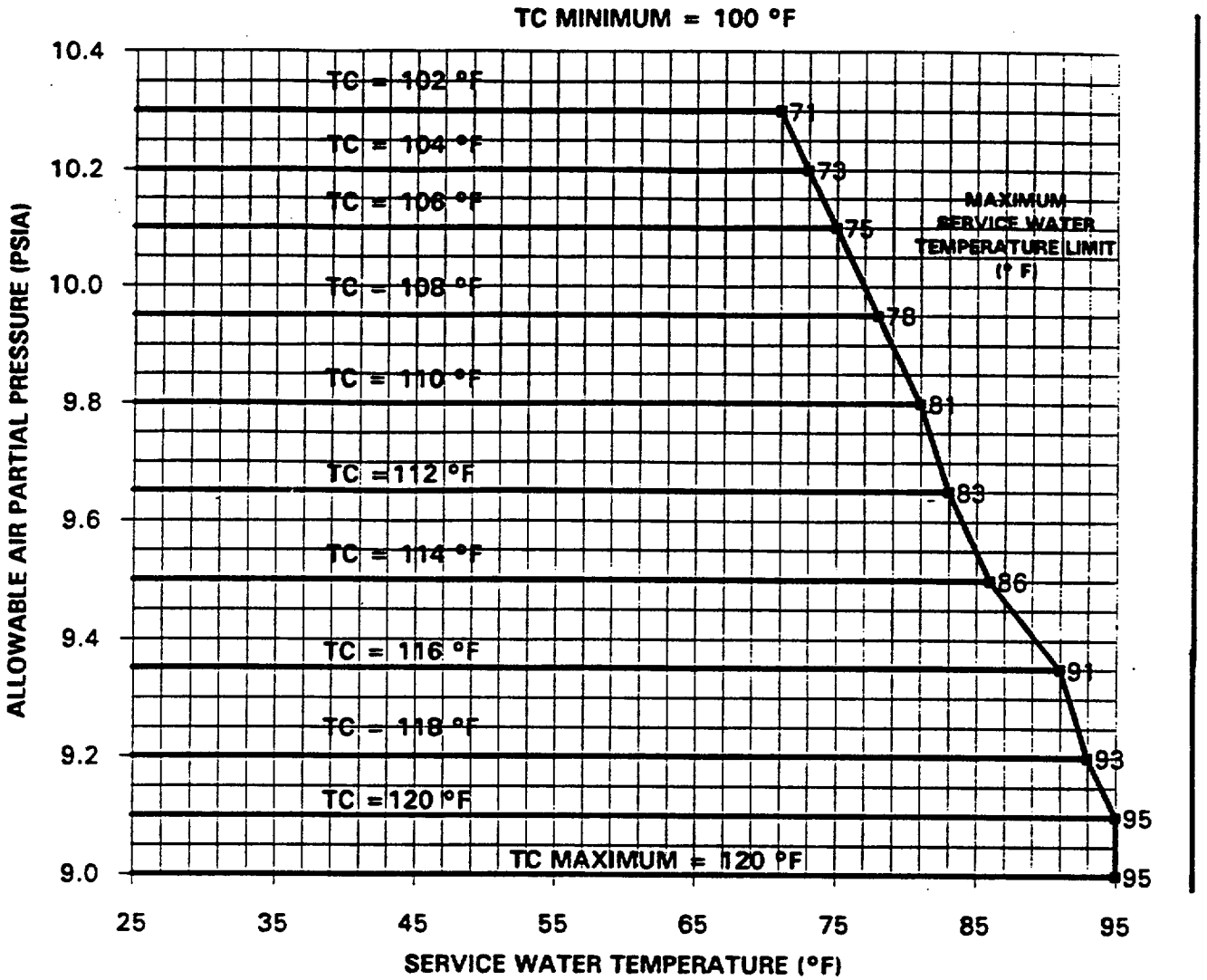

FIGURE NOTATION

TC - Containment average temperature

FIGURE NOTES

1. Refueling Water Storage Tank temperature ≤ 45°F.
2. Allowable operating air partial pressure in the containment is a function of service water temperature.
3. Horizontal lines designate allowable air partial pressure per given containment average temperature.
4. Each containment temperature line is a maximum for the given air partial pressure.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 183 TO FACILITY OPERATING LICENSE NO. DPR-32

AND AMENDMENT NO. 183 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

Pursuant to 10 CFR 50.90, by letter dated July 16, 1993, the Virginia Electric and Power Company (the licensee) proposed changes to the Technical Specifications (TS) for the Surry Power Station (SPS), Units 1 and 2. The changes would (1) allow operation with a three degree Fahrenheit increase in the service water temperature limit for containment air partial pressures of 9.1, 9.2, and 9.35 psia and (2) correct typographical errors associated with the reactor coolant system temperature and pressure values which were transposed in Amendment Nos. 172 and 171, dated January 22, 1993. The licensee is proposing the changes since the temperature limits are approached during periods of extended hot weather, minimal rainfall, and low tide.

2.0 PROPOSED TECHNICAL SPECIFICATION CHANGES

TS 3.8.D.1 is being revised to require the containment air partial pressure to be maintained within the Figure 3.8-1 range whenever the reactor coolant system temperature and pressure exceed 350°F and 450 psig, respectively. This corrects a typographical error made previously which specified values of 450°F and 350 psig.

TS Figure 3.8-1 is being revised to permit operation with a three degree increase in the service water temperature limit for containment air partial pressures of 9.1, 9.2, and 9.35 psia. The revised service water temperature limits for these partial pressures are 95°F, 93°F, and 91°F respectively. The curve on the figure is being revised to fit these points.

In addition, the Basis Section of TS 3.8 is being revised to reflect the above changes.

3.0 EVALUATION

The SPS containment depressurization and long-term cooling for a design basis accident (DBA) is dependent on the following three parameters: (1) containment air partial pressure, (2) the average containment air temperature, and (3) the

temperature of the ultimate heat sink, i.e., the James River. The James River is the source of service water to the recirculation spray heat exchangers for the containment depressurization and cooling following a DBA.

Operation with the containment air temperature, containment air partial pressure, and service water temperature within the limits of TS figure 3.8-1 ensures the containment response to a DBA will remain bounded by the safety analysis.

The licensee has performed containment response analysis at a three degree higher service water temperature for containment air partial pressures of 9.1, 9.2, and 9.35 psia. Models, methods, and input consistent with the current analysis of record were used for the analysis. The licensee used previously existing analysis margins to accommodate the impact of the three degree service water temperature shift. The results of the analysis indicate that the worst case values for the post loss-of-coolant accident containment response criteria are still bounded by the safety analysis. The response criteria are peak pressure, depressurization time, subatmospheric peak pressure and engineered safety features pump net positive suction head.

Section 9.9, Service Water System, of the Updated Final Safety Analysis Report for Surry states that the system is designed for the removal of heat resulting from the simultaneous operation of various systems and components of two SPS units based on a maximum river water temperature of 95°F.

The proposed change to TS 3.8.D.1 is to correct a typographical error and is acceptable.

4.0 SUMMARY

Since the analysis indicates that the containment will continue to meet its design basis acceptance criteria following a DBA, and since the analysis was performed with current models, methods and inputs, the staff finds the licensee's proposed revision to TS 3.8 acceptable.

5.0 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.

6.0 ENVIRONMENTAL CONSIDERATIONS

These amendments change a requirement with respect to installation or use of facility component located within the restricted areas 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 effluent 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 (58 FR 41519). 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.

7.0 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. P. Croteau

Date: September 7, 1993