

Docket

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

Docket Nos. 50-280
and 50-281

Virginia Electric & Power Company
ATTN: Mr. Stanley Ragone
Senior Vice President
Post Office Box 26666
Richmond, Virginia 23261

NOV 21 1975

Gentlemen:

The Commission has issued the enclosed Amendments No. 12 to Facility Operating Licenses Nos. DPR-32 and DPR-37 for the Surry Power Station, Units 1 and 2. The amendments include Change No. 27 to the Technical Specifications for each license and are in response to your request dated October 22, 1975.

The amendments revise the provisions in the Technical Specifications relating to the heatup and cooldown limitations of the reactor coolant system.

Copies of the related Safety Evaluation and the Federal Register Notice are also enclosed.

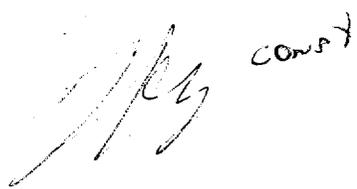
Sincerely,


Robert W. Reid, Chief
Operating Reactors Branch 4
Division of Reactor Licensing

Enclosures:

1. Amendment No. 12 to DPR-32
2. Amendment No. 12 to DPR-37
3. Safety Evaluation
4. Federal Register Notice

cc: See next page



Virginia Electric & Power Company

cc w/enclosures:

Michael W. Maupin, Esquire
Hunton, Williams, Gay & Gibson
P. O. Box 1535
Richmond, Virginia 23213

Swem Library
College of William & Mary
Williamsburg, Virginia 23185

Mr. Sherlock Holmes
Chairman
Board of Supervisors of Surry County
Surry County Courthouse
Surry, Virginia 23683

cc w/enclosures & incoming:

Ms. Susan T. Wilburn
Commonwealth of Virginia
Council on the Environment
P. O. Box 790
Richmond, Virginia 23206

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

VIRGINIA ELECTRIC & POWER COMPANY

DOCKET NO. 50-280

SURRY POWER STATION UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 12
License No. DPR-32

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric & Power Company dated October 22, 1975, 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; and
 - 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.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 3.B of Facility License No. DPR-32 is hereby amended to read as follows:



" B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised by issued changes thereto through Change No. 27."

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Reactor Licensing

Attachment:
Change No. 27 to the
Technical Specifications

Date of Issuance: November 21, 1975

ATTACHMENT TO LICENSE AMENDMENT NO. 12
CHANGE NO. 27 TO THE TECHNICAL SPECIFICATIONS
FACILITY OPERATING LICENSE NO. DPR-32
DOCKET NO. 50-280

Revise Appendix A as follows:

Remove Pages:

3.1-6
3.1-11
figure 3.1-1
figure 3.1-2
4.3-1

Insert Pages:

3.1-6
3.1-11
figure 3.1-1
figure 3.1-2
4.3-1

NOV 21 1975

B. HEATUP AND COOLDOWN

Specification

1. Unit 1 and Unit 2 reactor coolant temperature and pressure and the system heatup and cooldown (with the exception of the pressurizer) shall be limited in accordance with TS Figure 3.1-1.

Heatup:

Figure 3.1-1 may be used for heatup rates of up to 50°F/hr. below an indicated temperature of 440°F and 100°F/hr. above 440°F.

Cooldown:

Allowable combinations of pressure and temperature for specific cooldown rates are below and to the right of the limit line as shown in TS Figure 3.1-1. This rate shall not exceed 50°F/hr. for temperatures at or below an indicated temperature of 440°F. For temperatures above an indicated temperature 440°F, the rate shall not exceed 100°F/hr.

Core Operation:

During operation where the reactor core is in a critical condition (except for low level physics tests), vessel metal and fluid temperature shall be maintained above the reactor core criticality limits specified in Figure 3.1-1.

2. The secondary side of the steam generator must not be pressurized above 200 psig if the temperature of the vessel is below 70°F.

dependence on cooldown rate. For heatup, the thermal stress is reversed and the location of the limiting stress is a function of heatup rate. The 50°F/hr heatup and cooldown line on TS Figure 3.1-1 bounds all limit lines for heatup and cooldown rates up to 50°F/Hr for indicated temperatures at or below 440°F, and 100°F/Hr above 440°F. T.S. Figure 3.1-1 is based on the Standard Review Plan as modified by measured irradiation sample temperature shifts and appropriate vessel attenuation factors and azimuthal neutron flux variations.

27

TS Figure 3.1-1 defines stress limitations only. For normal operation other inherent plant characteristics, e.g., pump parameter and pressurizer heater capacity, may limit the heatup and cooldown rates that can be achieved over certain pressure ranges.

The heatup and cooldown rate of 100°F/Hr for the steam generator is consistent with the remainder of the Reactor Coolant System, as discussed in the first paragraph of the basis. The stresses are within acceptable limits for the anticipated usage.

Temperature requirements for the steam generator correspond with the measured NDT for the shell. The spray should not be used if the temperature difference between the pressurizer and spray fluid is greater than 320°F. This limit is imposed to maintain the thermal stresses at the pressurizer spray line nozzle below the design limit.

NOV 21 1975

UPPER PRESSURIZATION LIMITS
FOR HEATUP AND COOLDOWN
SURRY UNITS NO. 1 AND 2

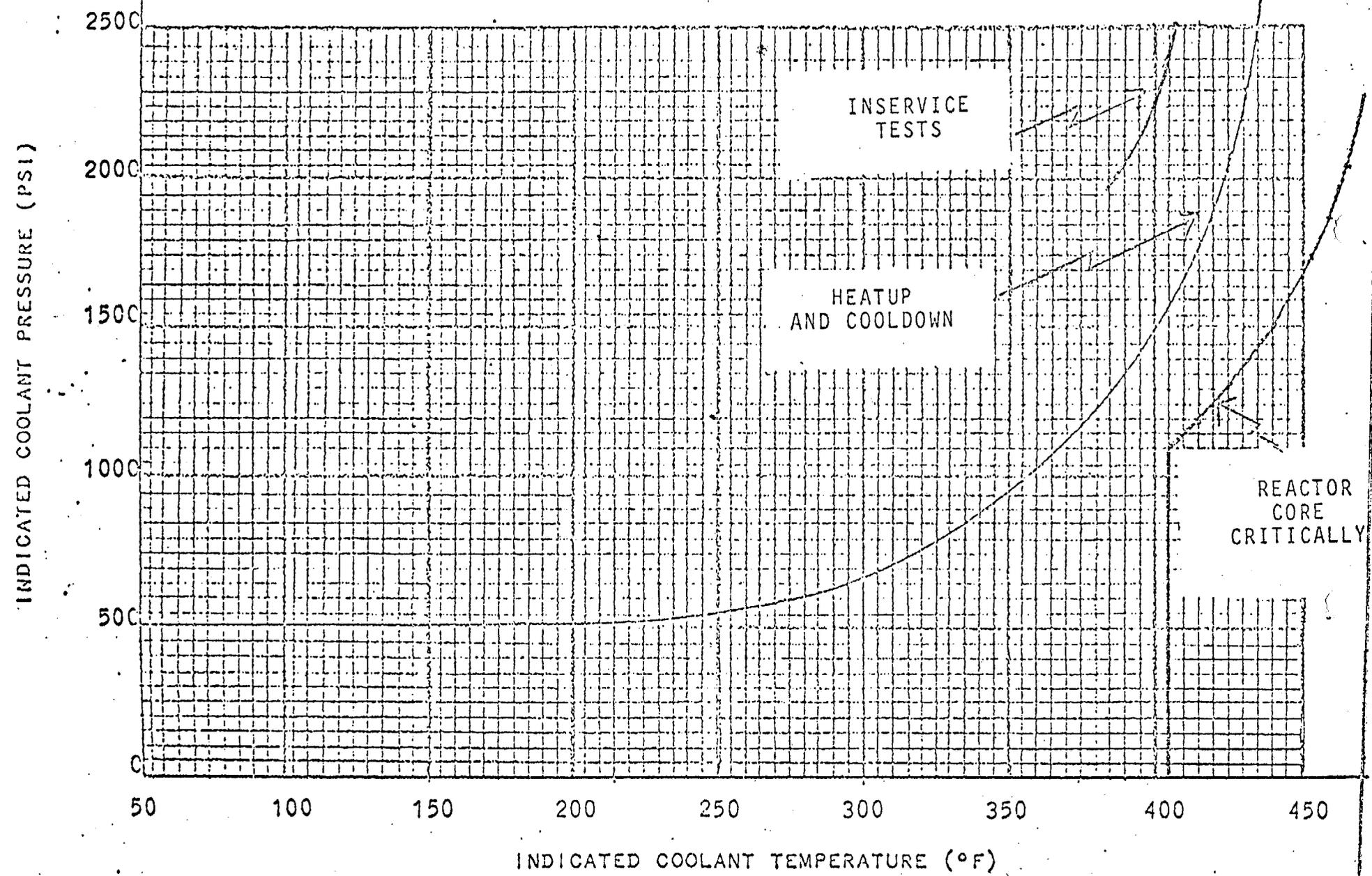
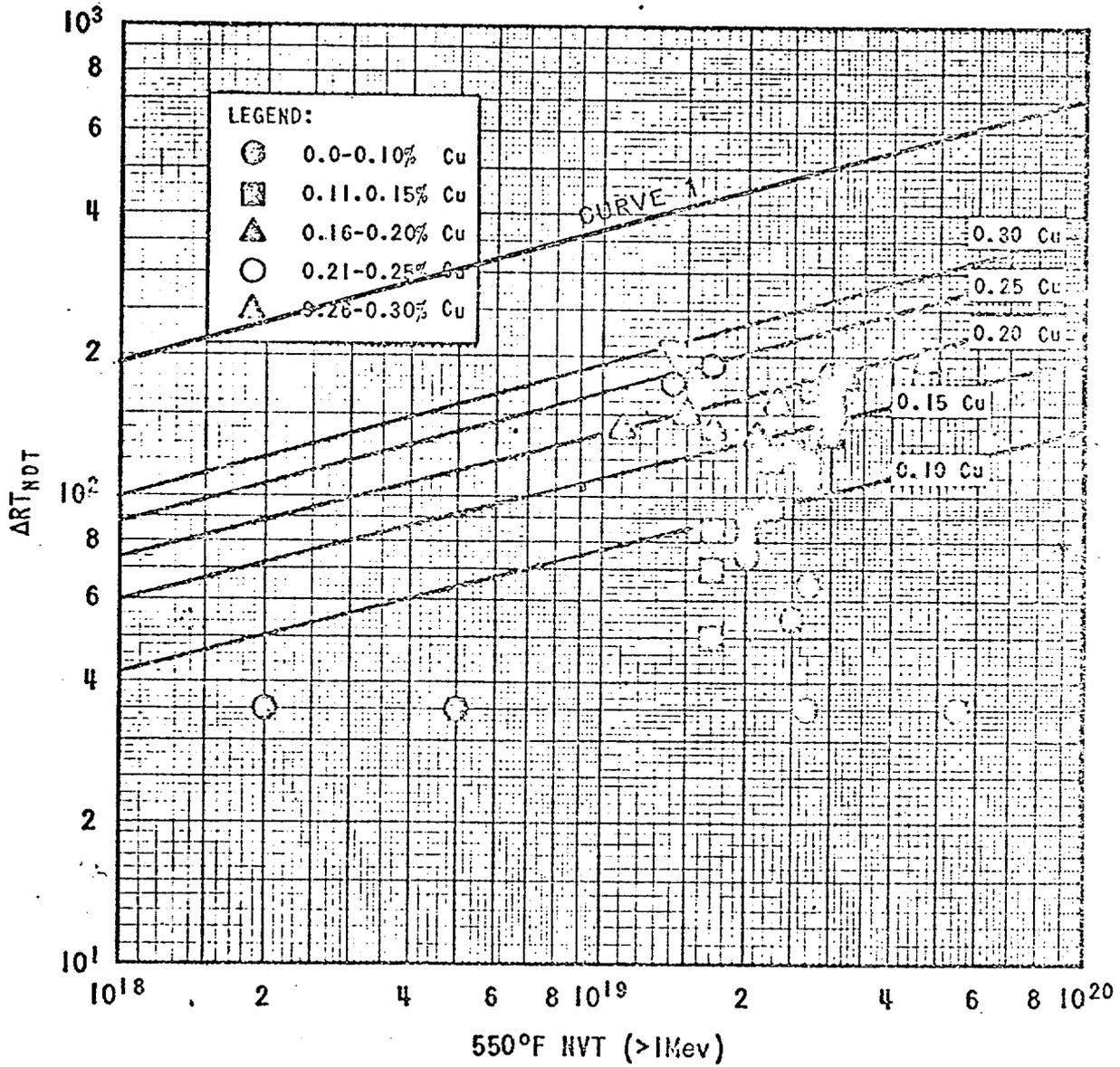


FIGURE VALID UP TO 3.8 EFPY.

TS FIGURE 3.1-1
NOV 21 1975



NOTE: CURVE 1 BASED ON ACTUAL IRRADIATION DATA FOR UNIT 1 FROM JUNE 24, 1975 BATTELLE COLUMBUS LABORATORIES REPORT

NOV 21 1975

Figure 3.1-2. Radiation Induced Increase In Transition Temperature

4.3 REACTOR COOLANT SYSTEM INTEGRITY TESTING FOLLOWING OPENING

Applicability

Applies to test requirements for Reactor Coolant System integrity. In this context, closed is defined as that state of system integrity which permits pressurization and subsequent normal operation after the system has been opened.

Objective

To specify tests for Reactor Coolant System integrity after the system is closed following normal opening, modification or repair.

The pressure-temperature limits for these tests will be in accordance with Figure 3.1-1.

27

Specification

- A. Each time the Reactor Coolant System is closed, the system will be leak tested at not less than the nominal operating pressure +100 psi in conformance with NDT requirements.
- B. When Reactor Coolant System modifications or repairs have been made which involved new strength welds on piping and components greater than 2 in. diameter, the new welds will receive both a surface and 100% volumetric non-destructive examination and meet applicable code requirements.

NOV 21 1975

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

VIRGINIA ELECTRIC & POWER COMPANY

DOCKET NO. 50-281

SURRY POWER STATION UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 12
License No. DPR-37

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric & Power Company (the licensee) dated October 22, 1975 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; and
 - 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.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 3.B of Facility License No. DPR-37 is hereby amended to read as follows:

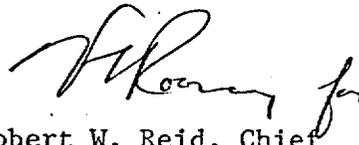


" B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised by issued changes thereto through Change No.27 ."

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Reactor Licensing

Attachment:
Change No. 27 to the
Technical Specifications

Date of Issuance: November 21, 1975

ATTACHMENT TO LICENSE AMENDMENT NO. 12
CHANGE NO. 27 TO THE TECHNICAL SPECIFICATIONS
FACILITY OPERATING LICENSE NO. DPR-37
DOCKET NO. 50-281

Revise Appendix A as follows:

Remove Pages:

3.1-6
3.1-11
figure 3.1-1
figure 3.1-2
4.3-1

Insert Pages:

3.1-6
3.1-11
figure 3.1-1
figure 3.1-2
4.3-1

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENTS NO. 12 TO LICENSES NOS. DPR-32 AND DPR-37

CHANGE NO. 27 TO TECHNICAL SPECIFICATIONS

VIRGINIA ELECTRIC & POWER COMPANY

SURRY POWER STATION UNITS 1 & 2

DOCKETS NOS. 50-280 AND 50-281

Introduction

By letter dated October 22, 1975, Virginia Electric & Power Company (the licensee) requested changes to the Technical Specifications appended to Facility Operating Licenses Nos. DPR-32 and DPR-37 for the Surry Power Station Units 1 and 2. The purpose of the request is to revise the Surry 1 and 2 Technical Specifications relating to the heatup and cool-down limitations of the reactor coolant system.

Discussion

The proposed pressure-temperature limits for operation of Surry Units 1 and 2 are based on the requirements of 10 CFR 50-Appendix G, NRC Standard Review Plan 5.3.2, "Pressure and Temperature Limits" and data from tests on the material surveillance specimens withdrawn from their vessels. The limiting material for the proposed pressure-temperature limit curves is weld material from the Unit 1 reactor vessel. This material contains 0.25% copper. Surveillance specimens of this material, subjected to a fluence of 2.5×10^{18} nvt, showed an increase in RT_{NDT} of 250 F. The proposed limit curves are for 3.8 effective full power years (EFPY), at which time the fluence is calculated to be 3.58×10^{18} nvt at 1/4 T location and the resulting shift in RT_{NDT} is calculated to be 280 F.

Evaluation

We have evaluated the pressure-temperature limit curve presented in Figure 3.1-1 of the licensee's proposed Technical Specification Change of October 22, 1975 and conclude that it is acceptable for heatup and cooldown pressure-temperature limits. We have augmented this curve to indicate pressure-temperature limits for inservice hydro testing and core criticality. The attached curves provide acceptable limits for these conditions.

The following paragraph has been added to Specification 3.1.B.1:

"Core Operation:

During operation where the reactor core is in a critical condition (except for low level physics tests), vessel metal and fluid temperature shall be maintained above the reactor core criticality limits specified in Figure 3.1-1."

The following statement has been added to Specification 4.3.A:

"The pressure-temperature limits for these tests will be in accordance with Figure 3.1-1."

The pressure-temperature limits for inservice tests, heatup and cooldown and core operation contained in the licensee's Technical Specification Change of October 22, 1975 with the above revisions comply with the requirements of Appendix G, 10 CFR Part 50 and are acceptable. The use of Appendix G in establishing safe operating limitations will ensure adequate safety margins during operation, testing, maintenance and postulated accident conditions and constitute an acceptable basis for satisfying the requirements of NRC General Design Criterion 31, Appendix A, 10 CFR Part 50.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the change does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKETS NOS. 50-280 AND 50-281

VIRGINIA ELECTRIC & POWER COMPANY

NOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY
OPERATING LICENSES

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendments No. 12 to Facility Operating Licenses Nos. DPR-32 and DPR-37 issued to Virginia Electric & Power Company which revised Technical Specifications for operation of the Surry Power Station, Units 1 and 2, located in Surry County, Virginia. The amendment is effective as of its date of issuance.

The amendments revise the provisions in the Technical Specifications relating to the heatup and cooldown limitations of the reactor coolant system.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments is not required since the amendments do not involve a significant hazards consideration.

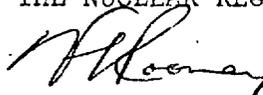
For further details with respect to this action, see (1) the application for amendments dated October 22, 1975, (2) Amendments No. 12 to Licenses Nos. DPR-32 and DPR-37, with Change No. 27 and (3) the Commission's related Safety Evaluation. All of these items

are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Swem Library, College of William and Mary, Williamsburg, Virginia.

A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Reactor Licensing.

Dated at Bethesda, Maryland, this 21st day of November, 1975

FOR THE NUCLEAR REGULATORY COMMISSION



Vernon L. Rooney, Acting Chief
Operating Reactors Branch 4
Division of Reactor Licensing