

June 29, 1995

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

SUBJECT: SURRY UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: PRESSURIZER SAFETY VALVES (TAC NOS. M91809 AND M91810)

Dear Mr. O'Hanlon:

The Commission has issued the enclosed Amendment No. 200 to Facility Operating License No. DPR-32 and Amendment No. 200 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 January 24, 1995.

These amendments change the "as-found" test acceptance criterion for the pressurizer safety valves from  $\pm 1\%$  to  $\pm 3\%$ .

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

Docket Nos. 50-280  
and 50-281

Enclosures:

1. Amendment No. 200 to DPR-32
2. Amendment No. 200 to DPR-37
3. Safety Evaluation

cc w/enclosures:  
See next page

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NAME	EDunnington	BBuckley	DMatthews	OPW	FE. J. W.
DATE	05/24/95	05/24/95	05/23/95	05/15/95	05/16/95
COPY	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

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

June 29, 1995

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Senior Vice President - Nuclear  
Virginia Electric and Power Company  
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Glen Allen, Virginia 23060

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SAFETY VALVES (TAC NOS. M91809 AND M91810)

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Sincerely,

A handwritten signature in cursive script that reads "Bart C. Buckley".

Bart C. Buckley, Senior Project Manager  
Project Directorate II-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

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See next page

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

Surry Power Station

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Board of Supervisors of Surry County  
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Robert B. Strobe, M.D., M.P.H.  
State Health Commissioner  
Office of the Commissioner  
Virginia Department of Health  
P.O. Box 2448  
Richmond, Virginia 23218

DATED: June 29, 1995

AMENDMENT NO. 200 TO FACILITY OPERATING LICENSE NO. DPR-32 - SURRY UNIT 1  
AMENDMENT NO. 200 TO FACILITY OPERATING LICENSE NO. DPR-37 - SURRY UNIT 2

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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. 200  
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 January 24, 1995, 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.

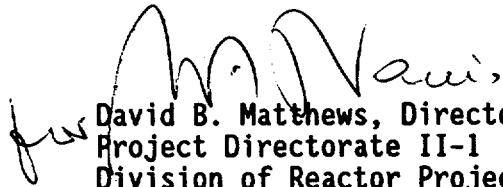
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-32 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 200, 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

  
David B. Matthews, Director  
Project Directorate II-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 29, 1995



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. 200  
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 January 24, 1995, 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. 200, 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

*for*   
David B. Matthews, Director  
Project Directorate II-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 29, 1995



ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 200 TO FACILITY OPERATING LICENSE NO. DPR-32

AMENDMENT NO. 200 TO FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NOS. 50-280 AND 50-281

Revise Appendix A as follows:

Remove Page

Insert Page

TS 3.1-3

TS 3.1-3

- e. Reactor power shall not exceed 50% of rated power with only two pumps in operation unless the overtemperature  $\Delta T$  trip setpoints have been changed in accordance with Section 2.3, after which power shall not exceed 60% with the inactive loop stop valves open and 65% with the inactive loop stop valves closed.
- f. When all three pumps have been idle for > 15 minutes, the first pump shall not be started unless: (1) a bubble exists in the pressurizer or (2) the secondary water temperature of each steam generator is less than 50°F above each of the RCS cold leg temperatures.

## 2. Steam Generator

A minimum of two steam generators in non-isolated loop shall be operable when the average reactor coolant temperature is greater than 350°F.

## 3. Pressurizer Safety Valves

- a. Three valves shall be operable when the head is on the reactor vessel and the reactor coolant average temperature is greater than 350°F, the reactor is critical, or the Reactor Coolant System is not connected to the Residual Heat Removal System.
- b. Valve lift settings shall be maintained at 2485 psig  $\pm$  1 percent\*

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\* The as-found tolerance shall be  $\pm 3\%$  and the as-left tolerance shall be  $\pm 1\%$ .



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 200 TO FACILITY OPERATING LICENSE NO. DPR-32  
AND AMENDMENT NO. 200 TO FACILITY OPERATING LICENSE NO. DPR-37  
VIRGINIA ELECTRIC AND POWER COMPANY  
SURRY POWER STATION, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-280 AND 50-281

1.0 INTRODUCTION

By letter dated January 24, 1995, the Virginia Electric and Power Company proposed changes to the Surry, Units 1 and 2 Technical Specifications (TS) to increase the "as-found" test acceptance criterion for the pressurizer safety valves (PSVs) from  $\pm 1\%$  to  $\pm 3\%$ . The "as-left" acceptance criterion of  $\pm 1\%$  remains unchanged.

2.0 EVALUATION

Surry, Units 1 and 2, each has one pressurizer. Each pressurizer has three PSVs with lift settings at 2485 psig. The licensee is proposing to relax the "as-found" setpoint tolerances for the PSVs from  $\pm 1\%$  to  $\pm 3\%$ . This relaxation is applicable to the PSV setpoint drift which may occur during an operating cycle. The licensee's submittal included an evaluation of the overall effect of changing the PSVs setpoint criterion on those transients which experience the most limiting pressure increases. These transients are the Complete Loss of External Electrical Load, the Locked Reactor Coolant Pump Rotor, and the Rod Withdrawal events at low power. Departure from nucleate boiling and operational margins considerations were also evaluated. These analyses were performed assuming an uprated core power level of 2546 MWt; the currently licensed core power level is 2441 MWt.

2.1 Loss of External Electrical Load

The Loss of Load event causes a rapid reduction in steam flow from the steam generators and a rapid increase in the secondary system pressures. This transient is terminated either by a direct reactor trip or by the high pressurizer pressure reactor trip. The maximum primary and secondary pressures resulting from this transient are 2680 psia and 1187 psia, respectively. The overpressure limits for the primary and secondary system are 2750 psia and 1210 psia, respectively.

## 2.2 Reactor Coolant Pump Locked Rotor Event

The peak primary and secondary system pressures developed during this transient are 2677 psia and 1164 psia, respectively, which are below the respective safety limits of 2750 psia and 1210 psia.

## 2.3 Rod Withdrawal Events

The licensee's analysis evaluated the Rod Withdrawal at Power (RWAP) and Rod Withdrawal from Subcritical (RWSC) events. The limiting case was initiated from 12% power and assumed a bounding reactivity insertion rate, a 3% PSV lift setpoint tolerance, a drained loop seal, and a least negative Doppler temperature coefficient. This case resulted in a maximum primary system pressure of 2697 psia. A similar analysis of the RWSC case yielded a maximum primary system pressure of 2643 psia. Both of these results are below the design pressure of 2750 psia.

## 2.4 Departure from Nucleate Boiling Considerations

Because the increased low-end tolerance (i.e. -3%) potentially reduces the system pressure experienced at the point of minimum departure from nucleate boiling ratio (DNBR), the effects of both the low-end (-3%) and high-end (+3%) tolerance acceptance criterion on the DNBR results of the affected transients were evaluated. Of the affected transients, only the DNBR results of the Locked Rotor event are potentially adversely influenced by the increased low-end tolerance. The licensee's analysis of this case revealed that the minimum DNBR statepoint pressure is below the proposed low-end PSV lift setpoint of 2425 psia.

## 2.5 Operational Margin Considerations

The licensee states that the proposed "as-found" lift setpoint acceptance criterion was selected to minimize the potential for an inadvertent opening of the PSVs during normal operation. The nominal high primary system pressure reactor trip setpoint is 2400 psia with a maximum uncertainty of 16 psi. Thus, the nominal reactor trip setpoint is 2416 psia. Since the nominal PSV lift setpoint (2500 psia) minus the 3% tolerance (75 psia) corresponds to a trip setpoint of 2425 psia, a reactor trip would occur before an inadvertent opening of the PSVs would occur.

## 3.0 SUMMARY CONCLUSION

Based on the above evaluation, the NRC staff agrees that the analysis which the licensee has performed demonstrates the acceptability of the proposed TS changes. The proposed increase in the "as-found" setpoint tolerances of the PSVs has been shown to be acceptable for meeting the plant design basis. The "as left" tolerance of  $\pm 1\%$  remains unchanged. Therefore, the proposed TS changes have no significant safety impact to the operation of Surry, Units 1 and 2, and are 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 (60 FR 18631). 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.

Principal Contributor: B. Buckley

Date: June 29, 1995