

February 18, 1994

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: THE AUGMENTED INSPECTION PROGRAM FOR SENSITIZED STAINLESS STEEL (TAC NOS. M87062 AND M87063)

The Commission has issued the enclosed Amendment No. 187 to Facility Operating License No. DPR-32 and Amendment No. 187 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 2, 1993, as supplemented December 10, 1993.

These amendments update the augmented inspection program for sensitized stainless steel to the newer Code requirements.

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. 187 to DPR-32
2. Amendment No. 187 to DPR-37
3. Safety Evaluation

cc w/enclosures:
See next page

OFC :LA:PDII-2 :PM:PDII-2 :D:PDII-2 : OGC :
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 DATE : 1/12/94 : 1/12/94 : 1/12/94 : 2/7/94 :
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2 Tubs - subject to use of new test as attached.

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PDR ADOCK 05000280
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Mr. W. L. Stewart
Virginia Electric and Power Company

Surry Power Station

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Robert B. Strobe, M.D., M.P.H.
State Health Commissioner
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Richmond, Virginia 23218

DATED: February 18, 1994

AMENDMENT NO. 187 TO FACILITY OPERATING LICENSE NO. DPR-32 - SURRY UNIT 1
AMENDMENT NO. 187 TO FACILITY OPERATING LICENSE NO. DPR-37 - SURRY UNIT 2

Docket File

NRC & Local PDRs

PDII-2 Reading

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D. Hagan, 3302 MNBB

G. Hill (4) P1-37

C. Grimes, 11/F/23

ACRS (10)

OPA

OC/LFMB

M. Sinkule, R-II

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. 187, 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
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: February 18, 1994



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. 187
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 2, 1993, as supplemented December 10, 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.

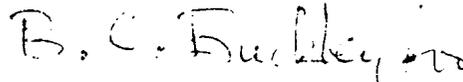
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-32 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 187, 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: February 18, 1994



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. 187
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 2, 1993, as supplemented December 10, 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.

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P PDR

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 187 TO FACILITY OPERATING LICENSE NO. DPR-32

AMENDMENT NO. 187 TO FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NOS. 50-280 AND 50-281

Revise Appendix A as follows:

<u>Remove Pages</u>	<u>Insert Pages</u>
4.2-2	4.2-2
4.2-3	4.2-3
4.2-4	4.2-4
4.2-5	4.2-5
4.2-6	- - -
4.2-7	- - -
4.2-8	- - -

Sensitized stainless steel augmented inspections were added to assure piping integrity of this classification.

Item 2.1

The examinations required by this item utilize the periodically updated ASME Section XI Boiler and Pressure Vessel Code referenced in Technical Specification 4.0.5 in this augmented examination. The surface and volumetric examinations required by this item will be conducted at three times the frequency required by the Code in an interval. In addition to the Code required pressure testing, visual examinations will be conducted, while the piping is pressurized by the procedures defined in Tables 4.1-3A & B of Technical Specification 4.1, concerning flushing of sensitized stainless steel piping. Weld selection criteria are modified from the Code for Class 1 welds, since stress level information as correlated to weld location is unavailable for Surry.

Item 2.2

The sensitized stainless steel located in the containment and recirculation spray rings in the overhead of containment are classified ASME Class 2 components. These components are currently exempted by ASME Section XI from surface and volumetric examination requirements. As such, an augmented program will remain in place requiring visual (VT-1) examination of these components for evidence of cracking. Additionally, sections of the piping will be examined by liquid penetrant inspection when the piping is visually inspected.

TABLE 4.2-1

SECTION A. MISCELLANEOUS INSPECTIONS

<u>Item No.</u>	<u>Required Examination Area</u>	<u>Required Examination Methods</u>	<u>10-Year Interval Inspection</u>	<u>Remarks</u>
1.1	Deleted			
1.2	Low Head SIS piping located in valve pit	Visual	Non-applicable	This pipe shall be visually inspected at each refueling shutdown.
1.3	Primary Pump Flywheel	See remarks	See remarks	Examination to be conducted in accordance with regulatory position C.4.b of regulatory guide 1.14 Rev. 1, August 1975
1.4	Low Pressure Turbine Rotor	Visual and Magnetic Particle or Dye Penetrant	See remarks	100% of blades every six operating years. Inspections are normally performed concurrent with LP turbine rotor disk and hub inspections.

Amendment Nos. 187 and 187

TABLE 4.2-1 (continued)

SECTION B. SENSITIZED STAINLESS STEEL

<u>Item No.</u>	<u>Required Examination Area</u>	<u>Required Examination Methods</u>	<u>10-Year Interval Inspection</u>	<u>Remarks</u>
2.1.1	Class 1 circumferential, longitudinal, branch pipe connection, and socket welds	As required by T.S. 4.0.5	The welds examined by volumetric or surface techniques shall be conducted at three times the frequency required by T.S. 4.0.5	A minimum of 5% of the welds shall be examined each refueling outage. At least 75% of the total population of welds shall be examined each interval. The same welds may be selected in subsequent intervals for examination. See Note 1.
2.1.2	Class 2 circumferential, longitudinal, branch pipe connection, and socket welds	As required by T.S. 4.0.5	The welds examined by volumetric or surface techniques shall be conducted at three times the frequency required by T.S. 4.0.5	A minimum of 2.5% of the welds shall be examined each refueling outage. At least 22.5% of the total population of welds shall be examined each interval. The same welds may be selected in subsequent intervals for examination. See Note 1.
2.1.3	Class 1 and Class 2 sensitized stainless steel pieces	Visual (VT-2) as required by T.S. 4.0.5	As required by T.S. 4.0.5	In addition to the Code required examinations the affected piping shall be visually (VT-2) examined during the flushing requirements of T.S. Tables 4.1-3A and 4.1-3B.

Amendment Nos. 187 and 187

TABLE 4.2-1 (continued)

SECTION B. SENSITIZED STAINLESS STEEL

<u>Item No.</u>	<u>Required Examination Area</u>	<u>Required Examination Methods</u>	<u>10-Year Interval Inspection</u>	<u>Remarks</u>
2.2.1	Containment and Recirculation Spray Piping	Visual (VT-1) and surface examination	(See remarks)	At least 25% of the examinations shall have been completed by the expiration of one-third of the inspection interval and at least 50% shall have been completed by the expiration of two-thirds of the inspection interval. The remaining required examinations shall be completed by the end of the inspection interval. Surface examinations will include 6 patches (each 9 inches square) evenly distributed around each spray ring.

- Note 1:
- a) The examinations shall be distributed among the systems prorated, to the degree practicable, on the number of sensitized stainless steel welds in each system (i.e., if a system contains 30% of the welds, then 30% of the required examinations shall be performed on that system).
 - b) Within a system terminal ends (e.g., branch connections, pipe to pump, pipe to valve) shall be selected. The remainder of the selection shall select structural discontinuities (pipe fittings) prorated to the degree practicable to the number of discontinuities in that system. Other selections may be necessary to meet the total weld selection criteria.
 - c) Within each system, examinations shall be distributed between line sizes prorated to the degree practicable.

Amendment Nos. 187 and 187



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 187 TO FACILITY OPERATING LICENSE NO. DPR-32
AND AMENDMENT NO. 187 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 2, 1993, as supplemented December 10, 1993, the Virginia Electric and Power Company (the licensee) proposed changes to the Technical Specifications (TS) for the Surry Power Station, Units 1 and 2, respectively. The proposed changes would update the augmented inspection program for sensitized stainless steel to incorporate the newer Code requirements, while maintaining the increased inspection commitments made by the licensee and subsequently relied upon by the Atomic Safety and Licensing Board (ASLB) in its Initial Decision issued April 26, 1972, authorizing the issuance of an operating license for the Surry facility. See *Virginia Electric and Power Co. (Surry Power Station, Unit No. 1)*, 4 AEC 825 (1972). The December 10, 1993 letter provided additional clarifying information within the scope of the original amendment application and did not change the Staff's no significant hazards consideration determination.

2.0 BACKGROUND

During the construction of Surry Units 1 and 2, piping materials used for various systems were later identified as sensitized stainless steel. A hearing was held by the ASLB regarding disputed welds and welding practices at Surry, at which the licensee submitted information, in response to questions by the ASLB, describing an augmented inservice inspection program (ISI) which the licensee committed to follow for the affected piping. The licensee refers to the ASLB's Initial Decision, stating that the proposed TS changes "maintain the ASLB directed 'triple the Code' philosophy of examination."

The licensee further states that since some of the sensitized stainless steel components were outside the scope of ASME Section XI in the original Code Edition (1970), these were added to the augmented inspection program, and the program was incorporated in the TS. The licensee states that in the hearing record before the ASLB, it expressed its intention to review the results of the first 5 years of ISI and revise the program as necessary based on the initial examination results. The licensee states that ASME Code Section XI has changed significantly from the edition used to establish the augmented inspection program. Examination requirements and methods have been updated and the scope has expanded to include ASME Class 2 and 3 components. The licensee updates its ISI program to the latest 10 CFR 50.55a approved Code edition at each 10-year interval.

3.0 EVALUATION

In its submittal of July 2, 1993, and its revision of December 10, 1993, under 10 CFR 50.90, the licensee requested changes to the TS for Operating License Nos. DPR-32 and DPR-37, Surry Power Station Units 1 and 2, respectively. The licensee states "the proposed changes will incorporate the ASME Code update process into TS 4.2 for sensitized stainless steel inspections."

The proposed changes state that "the examinations utilize the periodically updated ASME Section XI Boiler Pressure Vessel Code referenced in the Technical Specification. The surface and volumetric examinations required by this item will be conducted at three times the frequency required by the Code in an interval." They further state that "[t]he sensitized stainless steel located in the containment and recirculation spray rings in the overhead of containment are classified ASME Class 2 components. These components are currently exempted by ASME Section XI from surface and volumetric examination requirements. As such, an augmented program will remain in place requiring visual (VT-1) examination of these components for evidence of cracking. Additionally, sections of the piping will be examined by liquid penetrant inspection when the piping is visually inspected."

The Staff has reviewed the proposed TS changes to the licensee's augmented inspection program in light of regulatory and Code requirements. The staff finds the licensee's proposed changes to its TS meet the requirements of the ASME Code and are acceptable. Moreover, the sensitized stainless steel piping in both Surry units has been examined at three times the frequency for approximately 20 years without any indications which were attributed to sensitization.

In addition, the staff has reviewed the submittal in light of the Initial Decision issued by the ASLB. During the hearing before the ASLB, the licensee committed to implement an augmented inservice inspection program, in which, *inter alia*, sensitized stainless steel piping subject to inservice inspection under ASME Code Section XI "has been augmented to triple the frequency of inspection required by the ASME Code." Supplemental Information dated March 15, 1972, at 22, incorporated in the hearing transcript fol. Tr. 282. In its decision, the ASLB noted this commitment, in commenting upon the "inadequate implementation of an effective quality assurance and quality control program" during plant construction, and welding deficiencies which had been discovered. The ASLB stated as follows (4 AEC at 826-27):

8. The Applicant [licensee] has conducted an extensive program to correct the previous welding deficiencies and a strong case was made by the Applicant and the Staff that the welds will function as intended. . . .

9. The Board, however, is not convinced that the evidence provides the necessary degree of assurance that this plant is equivalent to one constructed with a code grade quality assurance and control program in effect from the inception of construction. It is a prime requisite that there always be adequate monitoring for the detection of any possible early warning signs during the lifetime of the plant.

10. The Applicant is subject to the provisions of Section XI . . . of the Boiler and Pressure Vessel Code (the Code) issued by the American Society of Mechanical Engineers. The hearing record reflects that the Applicant will conduct an augmented inservice inspection program for welds in sensitized stainless steel piping. With respect to these welds, the Applicant states the frequency of the inspection required by the Code will be tripled. . . . The Applicant in conducting its inspections should continually recognize the prime importance of welds in the reactor coolant pressure boundary as defined in 10 CFR 50.2(v) and this record will serve to reflect the significance which the Board attaches to this phase of all future inspections.

The Staff finds that the proposed TS changes to the licensee's augmented inspection program for sensitized stainless steel are consistent with the licensee's commitments and the ASLB's Initial Decision authorizing issuance of an operating license for Surry and are otherwise 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 (58 FR 46241). 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: L. Banic

Date: February 18, 1994