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Docket Nos. 50-280
and 50-281

POSTED

50-281
SURRY 2
AMENDMENT NO. 128
TO DPR-37

Mr. W. R. Cartwright
Vice President - Nuclear
Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, Virginia 23060

SEE CORRECTION LETTER OF 6/29/89

Dear Mr. Cartwright:

SUBJECT: SURRY UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: INSERVICE INSPECTION AND TESTING REQUIREMENTS (TAC NOS. 56910 AND 56911)

The Commission has issued the enclosed Amendment No. 128 to Facility Operating License No. DPR-32 and Amendment No. 128 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 in response to your application transmitted by letter dated February 14, 1979, ad supplemented September 21, 1982, August 30, 1985, April 11, 1988 and May 12, 1989.

These amendments remove obsolete inservice inspection and testing requirements and replace them with more up-to-date NRC-approved requirements specified in 10 CFR 50.55a(g).

In addition, two changes which you originally requested in the above submittals have previously been granted. Amendment Nos. 110 and 110, dated November 21, 1986, deleted the inservice inspection requirement for reactor vessel closure head cladding. Amendment Nos. 114 and 114, dated November 17, 1987, replaced a requirement to perform a partial closure test of the main steam line trip valves with a requirement to perform a full closure test.

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. 128 to DPR-32
2. Amendment No. 128 to DPR-37
3. Safety Evaluation

cc w/enclosures:
See next page

[ISSUE OF AMEND/SURRY 1&2]

LA:PDII-2	PM:PDII-2 BCB	D:PDII-2	RII BCB for	OGC	EMTB	EMEB
*DMiller	BBuckley/jd	HBerkow	EGirard	MYoung	*CYCheng	*TMarsh
05/2/89	05/17/89	05/ /89	05/17/89	05/19/89	05/5/89	05/16/89

Mr. W. R. Cartwright
Virginia Electric and Power Company

Surry Power Station

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

May 24, 1989

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-280

SURRY POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 128
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 February 14, 1979, as supplemented September 21, 1982, August 30, 1985, April 11, 1988 and May 12, 1989, 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. 128 , 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 the date of its issuance.

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: May 24, 1989

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

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-281

SURRY POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 128
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 February 14, 1979, as supplemented September 21, 1982, August 30, 1985, April 11, 1988 and May 12, 1989, 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. 128 , 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 the date of its issuance.

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: May 24, 1989

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 128 FACILITY OPERATING LICENSE NO. DPR-32

AMENDMENT NO. 128 FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NOS. 50-280 AND 50-281

Revise Appendix A as follows:

Remove Pages	Insert Pages
TS ii	TS ii
TS iii	TS iii
TS 3.1-4	TS 3.1-4
TS 3.6-1	TS 3.6-1
TS 3.6-2	TS 3.6-2
---	TS 3.6-7
TS 4.0-1	TS 4.0-1
---	TS 4.0-2
---	TS 4.0-3
---	TS 4.0-4
TS 4.1-9b	TS 4.1-9b
TS 4.1-11	TS 4.1-11
TS 4.1-12	TS 4.1-12
TS 4.2-1	TS 4.2-1
TS 4.2-2	TS 4.2-2
TS 4.2-3	TS 4.2-3
TS 4.2-4	TS 4.2-4
TS 4.2-5	TS 4.2-5
TS 4.2-6	TS 4.2-6
TS 4.2-7	TS 4.2-7
TS 4.2-8 through TS 4.2-35	TS 4.2-8
TS 4.3-1	TS 4.3-1
TS 4.3-2	TS 4.3-2
TS 4.3-3	TS 4.3-3
TS 4.3-4	---
TS 4.5-1	TS 4.5-1
TS 4.5-2	TS 4.5-2
TS 4.5-3	TS 4.5-3
TS 4.5-4	TS 4.5-4
TS 4.5-5	---
TS 4.5-6	---
TS 4.11-1	TS 4.11-1
TS 4.11-2	TS 4.11-2
TS 4.11-3	---
TS 4.11-4	---

CORRECTION LETTER OF 6/29/89

TECHNICAL SPECIFICATION
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TECHNICAL SPECIFICATION
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b. Three valves shall be operable when 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.

c. Valve lift settings shall be maintained at 2485 psig ± 1 percent. *

4. Reactor Coolant Loops

Loop stop valves shall not be closed in more than one loop unless the Reactor Coolant System is connected to the Residual Heat Removal System and the Residual Heat Removal System is operable.

5. Pressurizer

a. The reactor shall be maintained subcritical by at least 1% until the steam bubble is established and the necessary sprays and at least 125 KW of heaters are operable.

b. With the pressurizer inoperable due to inoperable pressurizer heaters, restore the inoperable heaters within 72 hours or be in at least hot shutdown within 6 hours and the reactor coolant system temperature and pressure less than 350°F and 450 psig, respectively, within the following 12 hours.

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* The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

3.6 TURBINE CYCLE

Applicability

Applies to the operating status of the Main Steam and Auxiliary Feed Systems.

Objective

To define the conditions required in the Main Steam System and Auxiliary Feed System for protection of the steam generator and to assure the capability to remove residual heat from the core during a loss of station power.

Specification

A. A unit's Reactor Coolant System temperature or pressure shall not exceed 350°F or 450 psig, respectively, or the reactor shall not be critical unless the five main steam line code safety valves associated with each steam generator in unisolated reactor coolant loops are operable with lift setting as specified in Table 3.6-1A and 3.6-1B.

B. To assure residual heat removal capabilities, the following conditions shall be met prior to the commencement of any unit operation that would establish reactor coolant system conditions of 350°F and 450 psig which would preclude operation of the Residual Heat Removal System.

   1. Two motor driven auxiliary feedwater pumps shall be operable, and one of three auxiliary feedwater pumps for the opposite unit shall be available.*

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* Available means (1) operable except for automatic initiation instrumentation, (2) offsite or emergency power source may be inoperable in cold shutdown, and (3) it is capable of being used with the opening of the cross-connect.

2. A minimum of 96,000 gallons of water shall be available in the tornado missile protected condensate storage tank to supply emergency water to the auxiliary feedwater pump suctions. A minimum of 60,000 gallons of water shall be available in the tornado protected condensate storage tank of the opposite unit to supply emergency water to the auxiliary feedwater pump suction of that unit.

3. All main steam line code safety valves, associated with steam generators in unisolated reactor coolant loops, shall be operable with lift setting as specified in Table 3.6-1A and 3.6-1B.

C. Prior to reactor power exceeding 10%, the steam driven auxiliary feedwater pump shall be operable.

D. System piping, valves, and control board indication required for the operation of the components enumerated in Specifications 3.6.B.1, 3.6.B.2, 3.6.B.3, and 3.6.C shall be operable with the system piping, valves, and control board indication required for the operation of the opposite unit auxiliary feedwater pump available.*

E. The iodine - 131 activity in the secondary side of any steam generator, in an unisolated reactor coolant loop, shall not exceed 9 curies. Also, the specific activity of the secondary coolant system shall be ≤ 0.10 μCi/cc DOSE EQUIVALENT I-131. If the specific activity of the secondary coolant system exceeds 0.10 μCi/cc DOSE EQUIVALENT I-131, the reactor shall be shut down and cooled to 500°F or less within 6 hours after detection and in the cold shutdown condition within the following 30 hours.

* Available means (1) operable except for automatic initiation instrumentation, (2) offsite or emergency power source may be inoperable in cold shutdown, and (3) it is capable of being used with the opening of the cross-connect.

TABLE 3.6-1A

UNIT 1
MAIN STEAM SAFETY VALVE LIFT SETTING

VALVE NUMBER	LIFT SETTING *#	ORIFICE SIZE
SV-MS-101A, B, C	1085 psig	7.07 sq. in.
SV-MS-102A, B, C	1095 psig	16 sq. in.
SV-MS-103A, B, C	1110 psig	16 sq. in.
SV-MS-104A, B, C	1120 psig	16 sq. in.
SV-MS-105A, B, C	1135 psig	16 sq. in.

TABLE 3.6-1B

UNIT 2
MAIN STEAM SAFETY VALVE LIFT SETTING

VALVE NUMBER	LIFT SETTING *#	ORIFICE SIZE
SV-MS-201A, B, C	1085 psig	7.07 sq. in.
SV-MS-202A, B, C	1095 psig	16 sq. in.
SV-MS-203A, B, C	1110 psig	16 sq. in.
SV-MS-204A, B, C	1120 psig	16 sq. in.
SV-MS-205A, B, C	1135 psig	16 sq. in.

* The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

\# The as found condition shall be ± 3% and the as left condition shall be ± 1%.

4.0 SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements provide for testing, calibrating, or inspecting those systems or components which are required to assure that operation of the units or the station will be as prescribed in the preceding sections.

4.0.2 Surveillance Requirement specified time intervals may be adjusted plus or minus 25 percent to accommodate normal test schedules.

4.0.3 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2, and 3 components shall be applicable as follows:

a. Inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).

b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

ASME Boiler and Pressure Vessel Code and Applicable Addenda Terminology for Inservice Inspection and Testing Activities	Required Frequencies for Performing Inservice Inspection and Testing Activities
Monthly	At least once per 31 days
Quarterly or Every 3 Months	At least once per 92 days
Cold Shutdown	At least once per CSD
Refueling Shutdown	At least once per RSD

c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for pump and valve testing only. Extensions for inservice inspection of components will be to the requirements of Section XI of the ASME Boiler and Pressure Vessel Code.

d. Performance of the above inservice inspection and testing activities shall be in addition to other specified Surveillance Requirements.

e. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

Bases

This specification provides that surveillance activities necessary to insure the Limiting Conditions for Operation are met and will be performed during all operating conditions for which the Limiting Conditions for Operation are applicable.

The provisions of this specification provide allowable tolerances for performing surveillance activities beyond those specified in the nominal surveillance interval. These tolerances are necessary to provide operational flexibility because of scheduling and performance considerations. The phrase "at least" associated with a surveillance frequency does not negate this allowable tolerance value and permits the performance of more frequent surveillance activities.

This specification ensures that inservice inspection, repairs, and replacements of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves will be performed in accordance with a periodically updated version of Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a. Specific relief from portions of the above requirements has been provided in writing by the Commission and is not a part of these Technical Specifications.

This specification includes a clarification of the frequencies for performing the inservice inspection and testing activities required by Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda. This clarification is provided to ensure consistency in surveillance intervals throughout these Technical Specifications and to remove any ambiguities relative to the frequencies for performing the required inservice inspection and testing activities.

Under the terms of this specification, the more restrictive requirements of the Technical Specifications take precedence over the ASME Boiler and Pressure Vessel Code and applicable Addenda. For example, the Technical Specification definition of operable does not grant a grace period before a device that is not capable of performing its specified function is declared inoperable and takes precedence over the ASME Boiler and Pressure Vessel Code provision which allows a valve to be incapable of performing its specified function for up to 24 hours before being declared inoperable.

TABLE 4.1-2A

MINIMUM FREQUENCY FOR EQUIPMENT TESTS

	Description	Test	Frequency	FSAR Section Reference
1.	Control Rod Assemblies	Rod drop times of all full length rods at hot conditions	Each refueling shutdown or after disassembly or maintenance requiring the breach of the Reactor Coolant System integrity	7
2.	Control Rod Assemblies	Partial movement of all rods	Every 2 weeks	7
3.	Refueling Water Chemical Addition Tank	Functional	Each refueling shutdown	6
4.	Pressurizer Safety Valves	Setpoint	Per TS 4.0.3	4
5.	Main Steam Safety Valves	Setpoint	Per TS 4.0.3	10
6.	Containment Isolation Trip	* Functional	Each refueling shutdown	5
7.	Refueling System Interlocks	* Functional	Prior to refueling	9.12
8.	Service Water System	* Functional	Each refueling shutdown	9.9
9.	Fire Protection Pump and Power Supply	Functional	Monthly	9.10
10.	Primary System Leakage	* Evaluate	Daily	4
11.	Diesel Fuel Supply	* Fuel Inventory	5 days/week	8.5
12.	Boric Acid Piping Heat Tracing Circuits	* Operational	Monthly	9.1
13.	Main Steam Line Trip Valves	Functional (Full Closure)	Before each startup (TS 4.7)	10

TABLE 4.1-3A

UNIT 1

MINIMUM FREQUENCIES FOR FLUSHING SENSITIZED PIPE

Flush Flow Path - General Description	Minimum Flush Duration	Frequency	Remarks
1. From C.S. Pump CS-P-1A to M.O. Isolation Valves	15 minutes	Monthly	Run separately or run in conjunction with or immediately after pump test required by Specification 4.5.A.1
2. From C.S. Pump CS-P-1B to M.O. Isolation Valves	20 minutes	Monthly	Run separately or run in conjunction with or immediately after pump test required by Specification 4.5.A.1
3. From L.H.S.I. Pump, SI-P-1A, Discharge Line to MOV 1-863A	20 minutes	Monthly	Run separately or run in conjunction with or immediately after pump test required by Specification 4.11.B.1
4. S.I. line, from charging pump discharge loop fill header to containment missile barrier, for flow to:			Flushes to be performed only when R.C. System pressure is > 1500 psig
a. R.C. hot leg loop 1	15 minutes	Monthly	
b. R.C. hot leg loop 2	10 minutes	Monthly	
c. R.C. hot leg loop 3	15 minutes	Monthly	
5. S.I. line, from charging pump discharge header to containment missile barrier, for flow to:			Flushes to be performed only when R.C. System pressure is > 1500 psig
a. R.C. cold leg loop 1	5 minutes	Monthly	
b. R.C. cold leg loop 2	5 minutes	Monthly	
c. R.C. cold leg loop 3	5 minutes	Monthly	

TABLE 4.1-3B

UNIT 2
MINIMUM FREQUENCIES FOR FLUSHING SENSITIZED PIPE

Flush Flow Path - General Description	Minimum Flush Duration	Frequency	Remarks
1. From C.S. Pump 2-CS-P-1A to M.O. Isolation Valves	20 minutes	Monthly	Run separately or run in conjunction with or immediately after pump test required by Specification 4.5.A.1
2. From C.S. Pump 2-CS-P-1B to M.O. Isolation Valves	15 minutes	Monthly	Run separately or run in conjunction with or immediately after pump test required by Specification 4.5.A.1
3. From L.H.S.I. Pump, 2-SI-P-1A, Discharge Line to MOV 2-863A	20 minutes	Monthly	Run separately or run in conjunction with or immediately after pump test required by Specification 4.11.B.1
4. 6" S.I. line, from L.H.S.I. pumps to containment missile barrier, for flow to:			Flushes to be performed only when R.C. System pressure is > 500 psig. Run separately or run in conjunction with or immediately after pump test required by Specification 4.11.B.1
a. R.C. hot leg loop 1	35 minutes	Monthly	
b. R.C. hot leg loop 2	35 minutes	Monthly	
c. R.C. hot leg loop 3	35 minutes	Monthly	
5. S.I. line, from charging pump discharge header to containment missile barrier, for flow to:			Flushes to be performed only when R.C. System pressure is > 1500 psig
a. R.C. cold leg loop 1	5 minutes	Monthly	
b. R.C. cold leg loop 2	5 minutes	Monthly	
c. R.C. cold leg loop 3	5 minutes	Monthly	

4.2 AUGMENTED INSPECTIONS

Applicability

Applies to inservice inspections which augment those required by ASME Section XI.

Objective

To provide the additional assurance necessary for the continued integrity of important components involved in safety and plant operation.

Specifications

A. Inspections shall be performed as specified in T.S. Table 4.2-1. Nondestructive examination techniques and acceptance criteria shall be in compliance with the requirements of TS 4.0.3.

B. The normal inspection interval is 10 years.

C. Detailed records of each inspection shall be maintained to allow a continuing evaluation and comparison with future inspections.

Bases

The inspection program for ASME Section XI of the ASME Boiler and Pressure Vessel Code limits its inspection to ASME Code Class 1, 2, and 3 components and supports. Certain components, under Miscellaneous Inspections in this section, were added because of no corresponding code requirement. This added requirement provides the inspection necessary to insure the continued integrity of these components.

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

Item 2.1

ASME Class 1 sensitized stainless steel piping will be inspected at three times the frequency required by the Code. Visual inspections will be conducted, while the piping is pressurized by the procedures defined in Table 4.1-3 of Technical Specification 4.1 concerning flushing of sensitized stainless steel piping.

Item 2.2

Sensitized stainless steel piping designated ASME Class 2 or not subject to Section XI of the ASME Code, will undergo visual and surface examination.

The containment and recirculation spray rings, which are located in the overhead of the containment, will be visually inspected. Additionally, sections of the piping will be examined by liquid penetrant inspection when the piping is visually inspected. At least 25 percent of the examinations shall have been completed by the expiration of one-third of the inspection interval and at least 50 percent shall have been completed by the expiration of two-thirds of the inspection interval. The remaining examinations shall be completed by the end of the inspection interval.

All other piping included in Item 2.2 will be visually inspected at least every two years. Sections of this piping will be examined by liquid penetrant inspection when the piping is visually inspected. For the required visual inspection, the piping will be pressurized by the procedures defined in Table 4.1-3 of Technical Specification 4.1 concerning flushing of sensitized stainless steel piping.

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TABLE 4.2-1

SECTION A. MISCELLANEOUS INSPECTIONS

Item No.	Required Examination Area	Required Examination Methods	Tentative Inspection During 10-Year Interval	Remarks
1.1	Materials Irradiation Surveillance	Tensile and Charpy V notch (wedge open loading) and dosimetry as necessary to insure surveillance	Capsules shall be removed and examined after 10 years. (See Notes 1 and 2)	Capsule #1 = First refuelin Capsule #2 = At five years Capsule #3 = At 10 years Capsule #4 = At 20 years Capsule #5-8 = Are spares for complementary or duplicate testing.
1.2	Low Head SIS piping located in valve pit	Visual	Non-applicable	This pipe shall be visually inspected at each refueling shutdown.

Note 1: 1 year corresponds to 1 year effective full power operation.

Note 2: The results obtained from these examinations shall be used to update Figure 3.1-1 as required.

TABLE 4.2-1

SECTION A. MISCELLANEOUS INSPECTIONS

Item No.	Required Examination Area	Required Examination Methods	Tentative Inspection During 10-Year Interval	Remarks
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	100% of blades every 5 years	None

SECTION B. SENSITIZED STAINLESS STEEL

Item No.	Required Examination Area	Required Examination Methods	Tentative Inspection During 10-Year Interval	Remarks
2.1.1	Circumferential and longitudinal pipe welds and branch pipe connections larger than 4 inches in diameter	Visual and Volumetric	By the end of the interval, a cumulative 75% of the circumferential welds in the piping system would have been examined, including one foot on any longitudinal weld on either side of the butt welds	A minimum of 5% of the welds will be examined every 1-2/3 years (generally each normal refueling outage). See Transcript of Hearing (pp. 303--34) and Initial Decision (p.7, p.10)
2.1.2	Circumferential and longitudinal pipe welds and branch pipe connections	Visual	By the end of the interval a cumulative 100% of the welds and pipe branch connections would be examined a minimum of three times	A minimum of 50% of the welds will be examined every 1-2/3 years (generally, each normal refueling outage). See Transcript of Hearing (pp. 303-304) and Initial Decision (p.7, p.10)

TABLE 4.2-1

SECTION B. SENSITIZED STAINLESS STEEL

Item No.	Required Examination Area	Required Examination Methods	Tentative Inspection During 10-Year Interval	Remarks
2.1.3	Socket welds and pipe branch connections welds 4 inches in diameter and smaller	Visual and Surface	By the end of the interval, a cumulative 75% of the circumferential welds in the piping system and 75% of the pipe branch connections welded joints would be examined.	A minimum of 5% of the circumferential welds and 5% of the pipe branch connection welded joints will be examined every 1-2/3 years (generally each normal refueling outage). See Transcript of Hearing (pp. 303-304) and Initial Decision (p.7, p. 10).
2.2.1	Containment and Recirculation	Visual and Surface	(See Remarks)	At least 25 percent of the examinations shall have been completed by the expiration of one-third of the inspection interval and at least 50 percent 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 examination will include 6 patches (each 9 inches square) evenly distributed around each spray ring.

TABLE 4.2-1

SECTION B. SENSITIZED STAINLESS STEEL (continued)

Item No.	Required Examination Area	Required Examination Methods	Tentative Inspection During 10-Year Interval	Remarks
2.2.2	Remaining sensitized stainless steel piping	Visual and Surface	(See Remarks)	The piping would be inspected every two years. The inspection will include 100% of the piping by visual examination. Surface examination will include a strip one inch wide and one foot long located on each piping bend.

(Pages TS 4.2-8 through TS 4.2-35 have been deleted)

4.3 ASME CODE CLASS 1, 2, AND 3 SYSTEM PRESSURE TESTS

Applicability

Applies to requirement for ASME Code Class 1, 2, and 3 System Pressure Tests. In this context, closed is defined as the state of system integrity which permits pressurization and subsequent normal operation after the system has been opened.

Objective

To specify requirements for ASME Code Class 1, 2, and 3 System Pressure Tests following normal operation, modification, or repair. The pressure-temperature limits for Reactor Coolant System tests will be in accordance with Figure 3.1-1.

Specification

A. Inservice inspection, which includes system pressure testing, of ASME Code Class 1, 2, and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the NRC pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).

B. Each time the Reactor Coolant System is closed, the system will be leak tested at a test pressure of not less than the nominal operating pressure +100 psi in conformance with NDT requirements.

BASIS

System pressure testing is performed in order to insure integrity of the system. For normal opening the integrity of the system, in terms of strength, is unchanged. If, for example, the Reactor Coolant System does not leak at the nominal operating pressure plus 100 psi, it will be assumed leaktight for normal operation.

The testing is based on 10 CFR 50.55a and performed pursuant to Section XI of the ASME Code for inservice inspection of Class 1, 2, and 3 components.

(Pages TS 4.3-3 and TS 4.3-4 have been deleted)

4.5 SPRAY SYSTEMS TESTS

Applicability

Applies to the testing of the Spray Systems.

Objective

To verify that the Spray Systems will respond promptly and perform their design function, if required.

Specification

A. Each containment spray subsystem shall be demonstrated operable:

1. By verifying, that on recirculation flow, each containment spray pump performs satisfactorily when tested in accordance with Specification 4.0.3.

2. By verifying that each motor-operated valve in the containment spray flow path performs satisfactorily when tested in accordance with Specification 4.0.3.

3. At least once per 5 years, coincident with the closest refueling outage, by performing an air or smoke flow test and verifying each spray nozzle is unobstructed.

4. Coincident with the containment spray pump test described in Specification 4.5.A.1, by verifying that no particulate material clogs the test spray nozzles in the refueling water storage tank.

B. Each recirculation spray subsystem shall be demonstrated operable:

1. By verifying each recirculation spray pump performs satisfactorily when tested in accordance with Specification 4.0.3.

2. By verifying that each motor-operated valve in the recirculation spray flow paths performs satisfactorily when tested in accordance with Specification 4.0.3.
3. At least once per 5 years, coincident with the closest refueling outage, by performing on air or smoke flow test and verifying each spray nozzle is unobstructed.

C. Each weight-loaded check valve in the containment spray and outside containment recirculation spray subsystems shall be demonstrated operable at least once per 18 months, during shutdown, by cycling the valve one complete cycle of full travel and verifying that each valve opens when the discharge line of the pump is pressurized with air and seats when a vacuum is applied.

Basis

The flow testing of each containment spray pump is performed by opening the normally closed valve in the containment spray pump recirculation line returning water to the refueling water storage tank. The containment spray pump is operated and a quantity of water recirculated to the refueling water storage tank. The discharge to the tank is divided into two fractions; one for the major portion of the recirculation flow and the other to pass a small quantity of water through test nozzles which are identical with those used in the containment spray headers. The purpose of the recirculation through the test nozzles is to assure that there are no particulate material in the refueling water storage tank small enough to pass through pump suction strainers and large enough to clog spray nozzles.

Due to the physical arrangement of the recirculation spray pumps inside the containment, it is impractical to flow-test them periodically. These pumps are capable of being operated dry for 60 seconds and it can be determined that the pump shafts are turning by rotation sensors which indicate in the Main

Control Room. Motor current is indicated on an ammeter in the Control Room, and will be compared with readings recorded during preoperational tests to ascertain that no degradation of pump operation has occurred. The recirculation spray pumps outside the containment have the capability of being dry-run and flow tested. The test of an outside recirculation spray pump is performed by closing the suction line valve and the isolation valve between the pump discharge and the containment penetration. This allows the pump casing to be filled with water and the pump to recirculate water through a test line from the pump discharge to the pump casing.

With a system flush conducted to remove particulate matter prior to the installation of spray nozzles and with corrosion resistant nozzles and piping, it is not considered credible that a significant number of nozzles would plug during the life of the unit to reduce the effectiveness of the subsystems; therefore provisions to air-test the nozzles every 5 years, coinciding with the closest refueling outage, is suff ient to indicate that plugging of the nozzles has not occurred.

The spray nozzles in the refueling water storage tank provide means to ensure that there is no particulate matter in the refueling water storage tank and the containment spray subsystems which could plug or cause deterioration of the spray nozzles. The nozzles in the tank are identical to those used on the containment spray headers.

The flow test of the containment spray pumps and recirculation to the refueling water storage will indicate any plugging of the nozzles by a reduction of flow through the nozzles.

REFERENCES

FSAR Section 6.3.1, Containment Spray Pumps
FSAR Section 6.3.1, Recirculation Spray Pumps

(Pages TS 4.5-4, TS 4.5-5, and TS 4.5-6 have been deleted)

4.11 SAFETY INJECTION SYSTEM TESTS

Applicability

Applies to operational testing of the Safety Injection System.

Objective

To verify that the Safety Injection System will respond promptly and perform its design functions, if required.

Specification

A. The safety injection system shall be demonstrated operable:

1. By verifying, that on recirculation flow, each low head safety injection pump performs satisfactorily when tested in accordance with Specification 4.0.3.
2. By verifying, that on recirculation flow, each charging pump performs satisfactorily when tested in accordance with Specification 4.0.3.
3. By verifying that each motor-operated valve in the safety injection flow path performs satisfactorily when tested in accordance with Specification 4.0.3
4. At least once per 18 months, during shutdown, by:
    a. Verifying that each automatic valve in the flow path actuates to its correct position on a safety injection test signal. The charging and low head safety injection pumps may be immobilized for this test.
    b. Verifying that each of the charging and safety injection pump circuit breakers actuate to its correct position on a safety injection test signal. The charging and low head safety injection pumps may be immobilized for this test.

Basis

Complete system tests cannot be performed when the reactor is operating because a safety injection signal causes containment isolation. The method of assuring operability of these systems is therefore to combine system tests to be performed during refueling shutdowns, with more frequent component tests, which can be performed during reactor operation.

The system tests demonstrate proper automatic operation of the Safety Injection System. A test signal is applied to initiate automatic operation action and verification is made that the components receive the safety injection signal in the proper sequence. The test may be performed with the pumps blocked from starting. The test demonstrates the operation of the valves, pump circuit breakers, and automatic circuitry.

During reactor operation, the instrumentation which is depended on to initiate safety injection is checked periodically, and the initiating circuits are tested in accordance with Specification 4.1. In addition, the active components (pumps and valves) are to be periodically tested to check the operation of the starting circuits and to verify that the pumps are in satisfactory running order. The test interval is determined in accordance with ASME Section XI. The accumulators are a passive safeguard. In accordance with Specification 4.1, the water volume and pressure in the accumulators are checked periodically.

Reference

FSAR Section 6.2, Safety Injection System

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 128 TO FACILITY OPERATING LICENSE NO. DPR-32

AND AMENDMENT NO. 128 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 February 14, 1979, as supplemented September 21, 1982, August 30, 1985, April 11, 1988 and May 12, 1989, the Virginia Electric and Power Company (the licensee) requested amendments to Facility Operating License Nos. DPR-32 and DPR-37, issued to the licensee for operation of the Surry Nuclear Power Station, Units 1 and 2 (SPS-1&2), respectively.

Two previous amendments have been granted to SPS-1&2 by the Commission which were similar to those evaluated herein. They were Amendment Nos. 110 and 110 dated November 21, 1986, which deleted the inservice inspection requirement for the reactor vessel closure head cladding, and Amendment Nos. 114 and 114 dated November 17, 1987, which replaced a requirement to perform a partial closure test of the main steam line trip valves with a requirement to perform a full closure test. Both were originally included in the request for the change evaluated here but were subsequently evaluated separately in order to expedite their approval.

The proposed amendment removes obsolete inservice inspection and testing requirements that were incorporated in the SPS-1&2 Technical Specifications (TS) when the units were originally licensed, and replaces them with more up-to-date NRC-approved requirements specified in 10 CFR 50.55a(g). Since 10 CFR 50.55a(g) was already considered applicable to all nuclear plant licensees, the net result of the changes to the SPS-1&2 TS is deletion of requirements no longer deemed beneficial and the elimination of confusion that may result from conflicts between the inservice inspection and testing specified by the SPS-1&2 TS and that specified in 10 CFR 50.55a(g). Elimination of such conflicts is required by 10 CFR 50.55a(g)(5)(ii).

Certain augmented inservice inspections were included in the SPS-1&2 TS because of plant-specific concerns, for example, inspections performed with regard to questionable construction welding practices. The NRC staff's evaluation examined the proposed amendment to assure that the changes did not eliminate any augmented inservice inspections.

The staff encouraged the licensee to utilize NRC Standard Technical Specification (STS) wording from NUREG-0452 in their proposed changes to facilitate NRC evaluation and provide increased uniformity with the TS of other nuclear plants.

By letters dated April 11, 1988 and May 12, 1989, the licensee provided (1) rewording and reformatting for some TS changes for clarification and consistency with the STS, (2) updates to some TS to reflect amendments issued and regulatory changes and (3) supplemental information concerning the proposed TS changes. The staff has determined that this additional information does not substantially alter the action noticed or change the initial no significant hazards consideration determination.

2.0 DISCUSSION AND EVALUATION

The staff's evaluation of the changes to the TS is as follows:

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TS pages ii and iii have been updated to correct various titles. In addition, minor editorial changes have been made. These changes are administrative in nature and therefore the staff finds these changes acceptable.

TS 3.1.A.3.c

This change adds a note that defines pressurizer safety valve "lift setting" pressure. The definition is identical with that given in the NRC STS and is acceptable to the NRC staff.

TS 3.6, Tables 3.6-1A and 3.6-1B

Lift setting pressure requirements for main steam code safety valves were added. This is in accordance with the STS and is acceptable to the NRC staff. In addition, in Tables 3.6-1A and 3.6-1B the licensee included a footnote indicating that "as found" lift settings would be acceptable if they were within ±3% of the lift setting pressures specified in the table. This differs from the STS which specifies ±1%. "As left" settings were specified to be ±1%, which is consistent with the STS. By submittal dated May 12, 1989, the licensee provided supplemental information supporting the acceptability range of ±3% and concluded that the accident analyses would still meet the acceptance criteria given in the Updated Final Safety Analysis Report with the ±3% tolerance. Based on this submittal, the staff has determined that the ±3% "as found" tolerance is acceptable. The NRC staff has similarly accepted this ±3% tolerance for other plants (e.g., for Palisades in a November 14, 1988 evaluation).

TS 4.0

The change to this TS adds wording which specifies that inservice inspection and testing is to be performed in accordance with the revision of ASME Section XI required by 10 CFR 50.55a(g). As the change is essentially consistent with the STS and provides that the inspection and testing is to be in accordance with the NRC approved requirements, it is acceptable to the NRC staff.

TS 4.1, Table 4.1-2A, Items (4) and (5)

Test frequencies for pressurizer and main steam safety valves are changed to reference TS 4.0.3 of Section 4.0. This, by reference to 10 CFR 50.55a(g), imposes NRC-approved ASME Section XI test frequency requirements. Thus, it is acceptable to the staff.

TS 4.1, Table 4.1-3A, Items (1) through (3) and Table 4.1-3B, Items (1) through (4)

These tables give flushing requirements for certain piping. In the current TS they specify monthly flushing to be conducted along with or immediately after pump testing. The changes proposed permit pump testing and flushing to be separated. The staff finds no technical need for associating pump tests with flushing and considers the changes acceptable. The licensee instituted the changes such that monthly flushing would be retained when pump testing is switched to a quarterly frequency in accordance with ASME Section XI requirements imposed by 10 CFR 50.55a(g).

TS 4.2, Table 4.2-1, Items (1.1) through (2.2.2)

These changes replace obsolete non-plant specific inservice inspections with current NRC-approved inspection requirements. In all but one instance, the proposed changes involve providing reference to current NRC-approved ASME Section XI requirements specified through 10 CFR 50.55a(g). The one exception involves reactor coolant pump flywheel inspections and, in that case, the licensee utilizes reference to a NRC Regulatory Guide, consistent with Standard Technical Specification wording. This reference is acceptable to the staff.

Special inservice testing requirements originally included in the TS because of concerns specific to the Surry plant are retained in the amendment without substantive alteration. The staff has determined that the changes made are acceptable.

TS 4.3

This change replaces obsolete ASME Section XI inservice inspection and test requirements with those currently approved by the NRC and referenced in 10 CFR 50.55a(g). Requirements not originally based on ASME Section XI were retained unchanged. Therefore, the staff finds the changes acceptable.

TS 4.5

This change replaces monthly inservice testing of spray system pumps and valves with the quarterly testing permitted by the NRC-approved ASME Section XI requirements specified in 10 CFR 50.55a(g). This is consistent with testing requirements in the STS, and is acceptable. Special testing not clearly associated with standard inservice testing addressed by ASME Section XI was retained in the amendment without significant alteration.

The change from monthly to quarterly testing of pumps does reduce the frequency of associated test spraying through the refueling water storage tank test spray nozzles - a test which aids in assuring that the spray fluid does not contain particles which would clog spray nozzles. This test is not ordinarily performed by licensees, as most plants do not have the capability to perform the test and rely solely on the normal Section XI pump and valve tests. A significant pump test differential pressure or reduced flow from clogging of screens (i.e., filters) is an indication of oversize particles, thus the pump test provides a test against particles that might clog spray nozzles. Therefore, the NRC approval of quarterly spray pump testing for other plants logically applies to the pump testing and test spraying at Surry, and is therefore acceptable.

TS 4.11

The only substantive changes involve replacing monthly testing of certain safety injection system pumps and valves with quarterly testing through reference to the NRC-approved ASME Section XI requirements specified in 10 CFR 50.55a(g). This is consistent with current practices accepted by the NRC, is included in the STS, and is acceptable.

4.0 SUMMARY

The NRC staff found that the changes discussed above represent removal of obsolete requirements and replacement with requirements that are technically consistent with those currently acceptable and prescribed in the STS and 10 CFR 50.55a(g). Therefore, the staff finds the proposed changes regarding the inservice testing and inspection requirements acceptable.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change in the installation or use of the facilities components located within the restricted areas as defined in 10 CFR Part 20. The staff has determined that these 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. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). These amendments also relate to changes in administrative requirements. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). 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

We have 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, and (2) 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.

Dated: May 24, 1989

Principal Contributor:
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