March 12, 1993

Docket Nos. 50-280
and 50-281

Distribution
See next page

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: UPGRADING OF SECTION 4.0 OF THE TECHNICAL SPECIFICATIONS (TAC NOS. M82194/ M82195)

The Commission has issued the enclosed Amendment No. 175 to Facility Operating License No. DPR-32 and Amendment No. 174 to Facility Operating License No. DPR-37 for the Surry Power Station. The amendments consist of changes in response to your application dated August 4, 1992, as supplemented January 14, 1993.

These amendments allow the entry into an action statement due to a missed surveillance to be delayed for 24 hours, and requires the completion of the surveillance requirements of a limiting condition for operation prior to changing operational conditions. In addition, exceptions to certain requirements of Section 4.0 to Generic Letter 87-09 are also approved.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission biweekly Federal Register notice.

Sincerely,

(Original Signed By)

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

Enclosures:
1. Amendment No. 175 to DPR-32
2. Amendment No. 174 to DPR-37
3. Safety Evaluation

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cc/w enclosures: See next page

Document Name - SUTS.4

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NAME	:ETana	:BBuckley	:CGrimes	: HBerkow	:	:
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Mr. W. L. Stewart
Virginia Electric and Power Company

Surry Power Station

cc:
Michael W. Maupin, Esq.
Hunton and Williams
Riverfront Plaza, East Tower
951 E. Byrd Street
Richmond, Virginia 23219

Mr. Michael R. Kansler, Manager
Surry Power Station
Post Office Box 315
Surry, Virginia 23883

Senior Resident Inspector
Surry Power Station
U.S. Nuclear Regulatory Commission
Post Office Box 166, Route 1
Surry, Virginia 23883

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

Dr. W. T. Lough
Virginia State Corporation Commission
Division of Energy Regulation
Post Office Box 1197
Richmond, Virginia 23209

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street N.W., Suite 2900
Atlanta, Georgia 30323

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

Attorney General
Supreme Court Building
101 North 8th Street
Richmond, Virginia 23219

Mr. M. L. Bowling, Manager
Nuclear Licensing & Programs
Innsbrook Technical Center
Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, Virginia 23060

DATED: March 12, 1993

AMENDMENT NO. 175 TO FACILITY OPERATING LICENSE NO. DPR-32 - SURRY UNIT 1
AMENDMENT NO. 174 TO FACILITY OPERATING LICENSE NO. DPR-37 - SURRY UNIT 2

Docket File
NRC & Local PDRs
PDII-2 Reading
S. Varga, 14/E/4
G. Lainas, 14/H/3
H. Berkow
E. Tana
B. Buckley
OGC
D. Hagan, 3302 MNBB
G. Hill (8), P-137
Wanda Jones, MNBB-7103
C. Grimes, 11/F/23
ACRS (10)
OPA
OC/LFMB
M. Sinkule, R-II

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

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-280

SURRY POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 175
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 August 4, 1992, as supplemented January 14, 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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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. 175 , 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: March 12, 1993

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

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-281

SURRY POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 174
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 August 4, 1992, as supplemented January 14, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-37 is hereby amended to read as follows:

   (B) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 174 , 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: March 12, 1993

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 175 TO FACILITY OPERATING LICENSE NO. DPR-32

AMENDMENT NO. 174 TO FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NOS. 50-280 AND 50-281

Revise Appendix A as follows:

Remove Pages	Insert Pages
TS 3.12-3	TS 3.12-3
TS 3.12-4	TS 3.12-4
TS 4.0-1	TS 4.0-1
TS 4.0-2	TS 4.0-2
TS 4.0-3	TS 4.0-3
TS 4.0-4	TS 4.0-4
- -	TS 4.0-5
- -	TS 4.0-6
- -	TS 4.0-7
- -	TS 4.0-8
TS 4.1-6	TS 4.1-6
TS 4.1-8b	TS 4.1-8b
TS 4.1-9b	TS 4.1-9b
TS 4.2-1	TS 4.2-1
TS 4.4-2	TS 4.4-2
TS 4.5-1	TS 4.5-1
TS 4.5-2	TS 4.5-2
TS 4.7-1	TS 4.7-1
TS 4.8-1	TS 4.8-1
TS 4.8-2	TS 4.8-2
TS 4.10-1	TS 4.10-1
TS 4.11-1	TS 4.11-1
TS 4.17-1	TS 4.17-1

B. Power Distribution Limits

1. At all times except during low power physics tests, the hot channel factors defined in the basis meet the following limits:

$F_Q(Z) \leq 2.32/P \times K(Z)$ for $P > 0.5$

$F_Q(Z) \leq 4.64 \times K(Z)$ for $P \leq 0.5$

$F^N_{\Delta H} \leq 1.56\,[1 + 0.3\,(1-P)]$ for three loop operation

$\leq 1.55\,[1 + 0.2\,(1-P)]$ for two loop operation

where P is the fraction of RATED POWER at which the core is operating, K(Z) is the function given in TS Figure 3.12-8, and Z is the core height location of F_Q.

2. Prior to exceeding 75% power following each core loading and during each effective full power month of operation thereafter, power distribution maps using the movable detector system shall be made to confirm that the hot channel factor limits of this specification are satisfied. For the purpose of this confirmation:

a. The measurement of total peaking factor F_Q^{Meas} shall be increased by eight percent to account for manufacturing tolerances, measurement error and the effects of rod bow. The measurement of enthalpy rise hot channel factor $F^N_{\Delta H}$ shall be compared directly to the limit specified in Specification 3.12.B.1. If any measured hot channel factor exceeds its limit specified under Specification 3.12.B.1, the reactor power and high neutron flux trip setpoint shall be reduced until the limits under Specification 3.12.B.1 are met. If the hot channel factors cannot be brought to within the limits of $F_Q(Z) \leq 2.32/P \times K(Z)$ and $F^N_{\Delta H} \leq 1.56$ within 24 hours, the Overpower ΔT and Overtemperature ΔT trip setpoints shall be similarly reduced.

b. The provisions of Specification 4.0.4 are not applicable.

3. The reference equilibrium indicated axial flux difference (called the target flux difference) at a given power level P_O is that indicated axial flux difference with the core in equilibrium xenon conditions (small or no oscillation) and the control rods more than 190 steps withdrawn. The target flux difference at any other power level P is equal to the target value at P_O multiplied by the ratio P/P_O. The target flux difference shall be measured at least once per equivalent full power quarter. The target flux difference must be updated during each effective full power month of operation either by actual measurements or by linear interpolation using the most recent value and the value predicted for the end of the cycle life. The provisions of Specification 4.0.4 are not applicable.

4. Except as modified by Specifications 3.12.B.4.a, b, c, or d below, the indicated axial flux difference shall be maintained within a ± 5% band about the target flux difference (defines the target band on axial flux difference).

   a. At a power level greater than 90 percent of rated power, if the indicated axial flux difference deviates from its target band, within 15 minutes either restore the indicated axial flux difference to within the target band or reduce the reactor power to less than 90 percent of RATED POWER.

   b. At a power level no greater than 90 percent of RATED POWER,

      (1) The indicated axial flux difference may deviate from its target band for a maximum of one hour (cumulative) in any 24-hour period provided the flux difference is within the limits shown on TS Figure 3.12-10.

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 Failure to perform a surveillance requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the operability requirements for a Limiting Condition for Operation. The time limits of the Action Statement requirements are applicable at the time it is identified that a surveillance requirement has not been performed. The Action Statement requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the Action Statement requirements are less than 24 hours. Surveillance requirements do not have to be performed on inoperable equipment.

4.0.4 Entry into an operational condition shall not be made unless the surveillance requirement(s) associated with a Limiting Condition of Operation has been performed within the stated surveillance interval or as otherwise specified. This provision shall not prevent passage through or to operational conditions as required to comply with Action Statement requirements.

4.0.5 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

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

4.0.2 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.

4.0.3 This specification establishes the failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by the provisions of Specification 4.0.2, as a condition that constitutes a failure to meet the operability requirements for a Limiting Condition for Operation. Under the provisions of this specification, systems and components are assumed to be OPERABLE when surveillance requirements have been satisfactorily performed within the specified time interval. However, nothing in this provision is to be construed as implying that systems or components are OPERABLE when they are found or known to be inoperable although still meeting the surveillance requirements. This specification also clarifies that the Action Statement requirements are applicable when Surveillance Requirements have not been completed within the allowed surveillance interval and that the time limits of the Action Statement requirements apply from the point in time it

is identified that a surveillance has not been performed and not at the time that the allowed surveillance interval was exceeded. Completion of the surveillance requirement within the allowable outage time limits of the Action Statement requirements restores compliance with the requirements of Specification 4.0.3. However, this does not negate the fact that the failure to have performed the surveillance within the allowed surveillance interval, defined by the provisions of Specification 4.0.2, was a violation of the operability requirements of a Limiting Condition for Operation. Further, the failure to perform a surveillance within the provisions of Specification 4.0.2 is a violation of a Technical Specification requirement and is, therefore, a reportable event under the requirements of 10 CFR 50.73(a)(2)(i)(B) because it is a condition prohibited by the plant's Technical Specifications.

If the allowable outage time limits of the Action Statement requirements are less than 24 hours or a shutdown is required to comply with Action Statement requirements, e.g., Specification 3.0.1, a 24 hour allowance is provided to permit a delay in implementing the Action Statement requirements. This provides an adequate time limit to complete surveillance requirements that have not been performed. The purpose of this allowance is to permit the completion of a surveillance before a shutdown is required to comply with Action Statement requirements or before other remedial measures would be required that may preclude completion of a surveillance. The basis for this allowance includes consideration for plant conditions, adequate planning, availability of personnel, the time required to perform the surveillance, and the safety significance of the delay in completing the required surveillance. This

provision also provides a time limit for the completion of surveillance requirements that become applicable as a consequence of condition changes imposed by Action Statement requirements and for completing surveillance requirements that are applicable when an exception to the requirements of Specification 4.0.4 is allowed. If a surveillance is not completed within the 24 hour allowance, the time limits of the Action Statement requirements are applicable at that time. When a surveillance is performed within the 24 hour allowance and the surveillance requirements are not met, the time limits of the Action Statement requirements are applicable at the time that the surveillance is terminated.

Surveillance requirements do not have to be performed on inoperable equipment because the Action Statement requirements define the remedial measures that apply. However, the surveillance requirements have to be met to demonstrate that inoperable equipment has been restored to OPERABLE status.

4.0.4 This specification establishes the requirement that all applicable surveillances must be met before entry into an operational condition specified in the applicability statement. The purpose of this specification is to ensure that system and component operability requirements or parameter limits are met before entry into a condition for which these systems and components ensure safe operation of the facility. This provision applies to changes in operational conditions associated with plant shutdown as well as startup.

Under the provisions of this specification, the applicable surveillance requirements must be performed within the specified surveillance interval to ensure that the Limiting Conditions for Operation are met during initial plant startup or following a plant outage.

Exceptions to Specification 4.0.4 allow performance of surveillance requirements associated with a Limiting Condition for Operation after entry into the applicable operational condition.

When a shutdown is required to comply with Action Statement requirements, the provisions of Specification 4.0.4 do not apply because this would delay placing the facility in a lower condition of operation.

4.0.5 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 4.1-1

MINIMUM FREQUENCIES FOR CHECK, CALIBRATIONS AND TEST OF INSTRUMENT CHANNELS

Channel Description	Check	Calibrate	Test	Remarks
1. Nuclear Power Range	S	D(1,5) Q(3,5) R(4)	M(2)	1) Against a heat balance standard, above 15% RATED POWER 2) Signal at ΔT; bistable action (permissive, rod stop, trip) 3) Upper and lower chambers for symmetric offset by means of the movable incore detector system 4) Neutron detectors may be excluded from CHANNEL CALIBRATION 5) The provisions of Specification 4.0.4 are not applicable
2. Nuclear Intermediate Range (below P-10 setpoint)	*S	R(2,3)	P(1)	1) Log level; bistable action (permissive, rod stop, trip) 2) Neutron detectors may be excluded from CHANNEL CALIBRATION 3) The provisions of Specification 4.0.4 are not applicable
3. Nuclear Source Range (below P-6 setpoint)	*S	R(2,3)	P(1)	1) Bistable action (alarm, trip) 2) Neutron detectors may be excluded from CHANNEL CALIBRATION 3) The provisions of Specification 4.0.4 are not applicable
4. Reactor Coolant Temperature	*S	R	M(1) M(2)	1) Overtemperature ΔT 2) Overpower ΔT
5. Reactor Coolant Flow	S	R	M	
6. Pressurizer Water Level	S	R	M	
7. Pressurizer Pressure (High & Low)	S	R	M	
8. 4 KV Voltage and Frequency	N.A.	R	M	
9. Analog Rod Position	*S(1,2) (4)	R	M(3)	1) With step counters 2) Each six inches of rod motion when data logger is out of service 3) Rod bottom bistable action 4) N.A. when reactor is in HOT, INTERMEDIATE OR COLD SHUTDOWN

TABLE 4.1-1 (Continued)

MINIMUM FREQUENCIES FOR CHECK, CALIBRATIONS AND TEST OF INSTRUMENT CHANNELS

Channel Description	Check	Calibrate	Test	Remarks
39. Steam/Feedwater Flow and Low S/G Water Level	S	R	M(1)	1) The provisions of Specification 4.0.4 are not applicable.
40. Intake Canal Low (See Footnote 1)	D	R	M(1), Q(2)	1) Logic Test 2) Channel Electronics Test
41. Turbine Trip and Feedwater Isolation				
a. Steam generator water level high	S	R	M	
b. Automatic actuation logic and actuation relay	N.A.	R	M(1)	1) Automatic actuation logic only, actuation relays tested each refueling
42. Reactor Trip System Interlocks				
a. Intermediate range neutron flux, P-6	N.A.	R(1)	M(2,3)	1) Neutron detectors may be excluded from the calibration
b. Low reactor trips block, P-7	N.A.	R(1)	M(2,3)	2) With power greater than or equal to the interlock setpoint, the required test shall consist of verifying that the interlock is in the required state by observing the permissive annunciator window
c. Power range neutron flux, P-8	N.A.	R(1)	M(2,3)	
d. Power range neutron flux, P-10	N.A.	R(1)	M(2,3)	
e. Turbine impulse pressure	N.A.	R	R	3) The provisions of Specification 4.0.4 are not applicable.

Footnote 1:

Check — Consists of verifying for an indicated intake canal level greater than 23'-6" that all four low level sensor channel alarms are not in an alarm state.

Calibration — Consists of uncovering the level sensor and measuring the time response and voltage signals for the immersed and dry conditions. It also verifies the proper action of instrument channel from sensor to electronics to channel output relays and annunciator. Only the two available sensors on the shutdown unit would be tested.

Tests
1) The logic test verifies the three out of four logic development for each train by using the channel test switches for that train.
2) Channel electronics test verifies that electronics module responds properly to a superimposed differential millivolt signal which is equivalent to the sensor detecting a "dry" condition.

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	Prior to reactor criticality: a. For all rods following each removal of the reactor vessel head, b. For specially affected individual rods following any maintenance on or modification to the control rod drive system which could affect the drop time of those specific rods, and c. Each REFUELING SHUTDOWN.	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) The provisions of Specification 4.0.4 are not applicable.	10

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 4.0.5.

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.

b. The leakage rate test will be performed at a pressure of at least 39.2 psig (P_a).

c. The measured leakage rate L_{am} shall not exceed 75% of the design basis accident leakage rate (L_a) of 0.1 weight percent per 24 hours at pressure P_a.

2. Type B and C tests will be performed at a pressure of at least 39.2 psig (P_a) in accordance with the provisions of Appendix J, Section III.B and C. Also, within 72 hours after use of the personnel airlock, the seals will be tested at least at the peak calculated accident pressure to verify that they are properly sealed.

C. Acceptance Criteria

Type A, B, and C tests will be considered to be satisfactory if the acceptance criteria delineated in Appendix J, Sections III.A.5(b), III.B.3, and III.C.3 are met.

D. Retest Schedule

The retest schedules for Type A, B, and C tests will be in accordance with Section III.D of Appendix J.

E. Inspection and Reporting of Tests

Inspection and reporting of tests will be in accordance with Section V of Appendix J.

F. The provisions of Specification 4.0.2 are not applicable.

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 4.0.5.

2. By verifying that each motor-operated valve in the containment spray flow path performs satisfactorily when tested in accordance with Specification 4.0.5.

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 4.0.5.

2. By verifying that each motor-operated valve in the recirculation spray flow paths performs satisfactorily when tested in accordance with Specification 4.0.5.
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. At least once each refueling outage by verifying that total system uncollected leakage from valves, flanges, and pumps located outside containment does not exceed 964 cc/hr.

C. Each weight-loaded check valve in the containment spray and outside containment recirculation spray subsystems shall be demonstrated OPERABLE at least once each refueling period, 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.

D. A visual inspection of the containment sump and the inside containment recirculation spray pump wells and the engineered safeguards suction inlets shall be performed at least once each refueling period and/or after major maintenance activities in the containment. The inspection should verify that the containment sump and pump wells are free of debris that could degrade system operation and that the sump components (i.e., trash racks, screens) are properly installed and show no sign of structural distress or excessive corrosion.

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.

4.7 MAIN STEAM LINE TRIP VALVES

Applicability

Applies to periodic testing of the main steam line trip valves.

Objective

To verify the ability of the main steam line trip valves to close upon signal.

Specification

A. Tests and Frequencies

1. Each main steam line trip valve shall be tested for full closure before each startup, unless a satisfactory test has been conducted within the previous 24 hours. The provisions of Specification 4.0.4 are not applicable.

B. Acceptance Criteria

1. A full closure test of a main steam line trip valve shall be considered satisfactory if the following criteria are met:

   a. T1 less than or equal to 4.0 seconds and
   b. T2 less than or equal to 5.0 seconds

   where

4.8 AUXILIARY FEEDWATER SYSTEM

Applicability

Applies to periodic testing requirements of the Auxiliary Feedwater System.

Objective

To verify the operability of the auxiliary steam generator feedwater pumps and their ability to respond properly when required.

Specification

A. Tests and Frequencies

1. Each motor driven auxiliary steam generator feedwater pump shall be flow tested for at least 15 minutes on a monthly basis to demonstrate its operability.

2. The turbine driven auxiliary steam generator feedwater pump shall be flow tested for at least 15 minutes on a monthly basis to demonstrate its operability. The provisions of Specification 4.0.4 are not applicable.

3. The auxiliary steam generator feedwater pump discharge valves shall be exercised on a monthly basis.

4a. Within 72 hours prior to temperature and pressure exceeding 350°F and 450 psig respectively, the motor driven auxiliary feedwater pumps shall be flow tested from the 110,000 gallon above ground condensate storage tank to the steam generators.

4b. Within 72 hours after achieving reactor criticality, the steam turbine driven auxiliary feedwater pump shall be flow tested from the 110,000 gallon above ground condensate storage tank to the steam generators. The provisions of Specification 4.0.4 are not applicable.

5. During periods of extended reactor shutdown, the testing requirements of Specification A.1, 2, and 3 may be modified as follows:

   a. Only one of the three auxiliary steam generator feedwater pumps shall be flow tested for at least 15 minutes on a monthly basis to demonstrate its operability provided the required components are tested prior to startup.

   b. The auxiliary steam generator feedwater pump discharge valves of the pump tested in 5a shall be exercised on a monthly basis provided all the discharge valves are tested prior to startup.

B. Acceptance Criteria

These tests, except the system flow test, shall be considered satisfactory if control board indication and subsequent visual observation of the equipment demonstrate that all components have operated and sequenced properly.

4.10 REACTIVITY ANOMALIES

Applicability

Applies to potential reactivity anomalies.

Objective

To require evaluation of applicable reactivity anomalies within the reactor.

Specification

A. Following a normalization of the computed boron concentration as a function of burnup, the actual boron concentration of the coolant shall be compared monthly with the predicted value. If the difference between the observed and predicted steady-state concentrations reaches the equivalent of one percent in reactivity, an evaluation as to the cause of the discrepancy shall be made and reported to the Nuclear Regulatory Commission per Section 6.6 of these Specifications. The provisions of Specification 4.0.4 are not applicable.

B. During periods of POWER OPERATION at greater than 10% of RATED POWER, the hot channel factors identified in Section 3.12 shall be determined during each effective full power month of operation using data from limited core maps. If these factors exceed their limits, an evaluation as to the cause of the anomaly shall be made. The provisions of Specification 4.0.4 are not applicable.

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 4.0.5.

2. By verifying, that on recirculation flow, each charging pump performs satisfactorily when tested in accordance with Specification 4.0.5.

3. By verifying that each motor-operated valve in the safety injection flow path performs satisfactorily when tested in accordance with Specification 4.0.5.

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.

4.17 SHOCK SUPPRESSORS (SNUBBERS)

Applicability

Applies to all hydraulic and mechanical shock suppressors (snubbers) which are required to protect the Reactor Coolant System and other safety-related systems. Snubbers excluded from this inspection are those installed on non-safety-related systems and then only if their failure or failure of the system on which they are installed would have no adverse effect on any safety-related system.

Objective

To specify the minimum frequency and type of surveillance to be applied to the hydraulic and mechanical snubbers required to protect the Reactor Coolant System and other safety-related systems.

Specification

Each snubber shall be demonstrated OPERABLE by performing the following augmented inservice inspection program and the requirements of Specification 4.0.5. As used in this specification, "type of snubber" shall mean snubbers of the same design and manufacturer, irrespective of capacity.

A. Visual Inspections

1. Snubbers are categorized as inaccessible or accessible during reactor operation. Each of these categories (inaccessible and accessible) may be inspected independently according to the schedule determined by Table 4.17-1. The visual inspection interval of each category of snubber shall be determined based upon the criteria provided in Table 4.17-1.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 175 TO FACILITY OPERATING LICENSE NO. DPR 32

AND AMENDMENT NO. 174 TO FACILITY OPERATING LICENSE NO. DPR 37

DOCKET NOS. 50-280 AND 50-281

1.0 INTRODUCTION

By letter dated August 4, 1992, the Virginia Electric and Power Company, the licensee, requested amendments to Facility Operating License Nos. DPR-32 and DPR-37 for the Surry Power Station Units 1 and 2. The proposed amendment would change the plant Technical Specifications (TS) based on the recommendations provided by the staff in Generic Letter (GL) 87-09 related to the applicability of limiting conditions for operations (LCO) and the surveillance requirements of TS 3.0 and 4.0. Subsequently, by letter dated January 14, 1993, the licensee requested withdrawal of the proposed revisions to TS 3.0.4 (numbered 3.0.3 for the Surry Power Station) that were submitted in the August 4, 1992, amendment application which did not change the proposed no significant hazards consideration determination. Specifically, the licensee has requested the following revisions to TS 4.0.3 and TS 4.0.4 as follows:

Specification 4.0.3 is revised to incorporate a 24-hour delay in implementing Action Requirements when a surveillance has not been performed within its surveillance interval and the Action Requirements provide a restoration time that is less than 24 hours.

Specification 4.0.4 is revised to clarify that "This provision shall not prevent passage through or to OPERATIONAL CONDITIONS as required to comply with Action Requirements."

Exceptions to certain requirements of Section 4.0 are proposed and are described below. Finally, words defined in the TS are being capitalized throughout to be consistent with NUREG-0452, Revision 4, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors."

2.0 DESCRIPTION OF CHANGE

- ", above 15% RATED POWER" is being added to Remark 1) on TS Table 4.1-1 Item 1 in order to clarify the reactor power level required for nuclear instrumentation testing. (page TS 4.1-6)

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- An exception to TS 4.0.4 is being added to Remark 1) to TS Table 4.1-1 Item 39 and Remark 3) to Item 42 regarding Steam/Feedwater Flow and Low S/G Water Level and Reactor Trip System Interlocks. (page TS 4.1-8b)

- An exception to TS 4.0.4 is being added to TS Table 4.1-2A Item 13 regarding Main Steam Line Trip Valves. (page TS 4.1-9b)

- An exception to TS 4.0.4 is being added to TS 4.7.A.1 regarding Main Steam Line Trip Valves. (page TS 4.7-1)

- An exception to TS 4.0.4 is being added to TS 4.8.A.2 and 4.8.A.4b regarding Auxiliary Feedwater System. (pages TS 4.8-1 and TS 4.8-2)

- An exception to TS 4.0.4 is being added to TS 4.10.A and 4.10.B regarding Reactivity Anomalies. (page TS 4.10-1)

- An exception to TS 4.0.4 is being added to TS 3.12.B.2 and 3.12.B.3 regarding Power Distribution Limits. (pages TS 3.12-3 and 4)

- TS 4.0.3 and 4.0.4 and the associated Bases Statements are being added in accordance with GL 87-09. The existing TS 4.0.3 is being renumbered TS 4.0.5. This change requires repagination of TS Section 4.0 in its entirety. (pages TS 4.0-1 through TS 4.0-8)

- An exception to TS 4.0.4 is being added to TS Table 4.1-1 Items 1, 2, 3, 39, and 42. (pages TS 4.1-6 and TS 4.1-8B)

- The reference to existing TS 4.0.3 in TS 4.2.A is being renumbered to TS 4.0.5 as noted above. (page TS 4.2-1)

- The footnotes regarding deferral of Type C testing for Units 1 and 2 are being deleted from TS 4.4.B.2 and 4.4.D since these provisions expired on December 31, 1990, and April 30, 1991, respectively. An exception to TS 4.0.2 is being added as TS 4.4.F regarding Containment Tests. (page TS 4.4-2)

- The references to existing TS 4.0.3 in TS 4.5.A.1, 4.5.A.2, 4.5.B.1, 4.5.B.2, 4.11.A.1, 4.11.A.2, 4.11.A.3, and 4.17 are being renumbered to TS 4.0.5 as noted above. (pages TS 4.5-1, TS 4.5-2, TS 4.11-1, and TS 4.17-1)

2.1 DISCUSSION OF CHANGE

Surveillance Requirements - TS 4.0.2

TS Section 4.0.2 permits surveillance time intervals to be adjusted plus or minus 25 percent to accommodate normal test schedules. For TS Section 4.4 on containment leakage testing, the test interval is specified by 10 CFR 50, Appendix J, which does not permit such adjustment. Accordingly, the provisions of TS 4.0.2 are being specifically excluded from TS 4.4 as a clarification consistent with 10 CFR 50, Appendix J.

Surveillance Requirements - TS 4.0.3

The present wording of "Surveillance Requirements" does not address the consequences of failure to perform surveillance requirements within the allowed surveillance interval. Specifying the operability requirements and time limit applicability serves to clarify the intent of the specification. Revised TS 4.0.3 also permits delaying the requirement of an Action Statement for up to 24 hours to permit the completion of a surveillance that has not been performed within its surveillance interval and the allowable outage time limits of the Action Statement are less than 24 hours or require a shutdown.

As discussed in GL 87-09, it is overly conservative to assume that systems or components are immediately inoperable because a surveillance requirement has not been performed. The majority of surveillances confirm that the tested system or component is within requirements and operable. When a surveillance is missed, it is this positive verification of operability that has not been confirmed by the performance of the required surveillance. Because the allowable outage time limits of some Action Statements do not provide an appropriate time limit for performing a missed surveillance before shutdown requirements may apply, the TS should include a time limit that would allow a delay of the required actions to permit the performance of the missed surveillance. This time limit should be based on considerations of plant conditions, adequate planning, availability of personnel, the time required to perform the surveillance, as well as the safety significance of the delay in completion of the surveillance. GL 87-09 states that, based on these considerations, 24 hours is an acceptable time limit for completing a missed surveillance when the allowable outage times of the Action Statements are less than this time limit or when shutdown Action Statements apply. GL 87-09 concludes that the 24-hour time limit adequately balances the risks associated with an allowance for completing the surveillance within this period against the risks associated with the potential for a plant upset and challenge to safety systems when the alternative is a shutdown to comply with Action Statements before the surveillance can be completed.

Surveillance Requirements - TS 4.0.4

The present wording of "Surveillance Requirements" does not address the requirement to perform surveillances associated with an LCO prior to entering into an operational condition that the LCO applies to.

Specifying these requirements serves to clarify the intent of the specification. Also included in the specification is the provision which allows passage through or to operational conditions as required to comply with Action Statement requirements. As discussed in GL 87-09, the potential for a plant upset and challenge to safety systems may be heightened if surveillances are performed during actions to initiate a shutdown in order to comply with Action Statement requirements. It is not the intent of TS 4.0.4 to prevent passage through or to operational conditions in order to comply with Action Statement requirements and it should not apply when condition changes are imposed by Action Statement requirements. Exceptions to TS 4.0.4 are proposed for those surveillance requirements which must be performed after entry into the applicable operational condition.

Deletion of TS 4.4 footnotes concerning 10 CFR 50, Appendix J, Type C testing represents an administrative change. The deferral provisions of these footnotes expired on December 31, 1990, and April 30, 1991, for Units 1 and 2, respectively, in accordance with the NRC exemptions issued on June 22, 1990, and September 26, 1990.

3.0 EVALUATION

The changes proposed by the licensee have been reviewed considering the limitations set forth in GL 87-09 for TS 4.0.3 and 4.0.4 as follows:

Specification 4.0.3

In GL 87-09 the staff stated that it is overly conservative to assume that systems or components are inoperable when a surveillance requirement has not been performed, because the vast majority of surveillances demonstrate that systems or components, in fact, are operable. Because the allowable outage time limits of some Action Requirements do not provide an appropriate time limit for performing a missed surveillance before shutdown requirements apply, the TS should include a time limit that would allow a delay of the required actions to permit the performance of the missed surveillance.

This time limit should be based on considerations of plant conditions, adequate planning, availability of personnel, the time required to perform the surveillance, as well as the safety significance of the delay in completion of the surveillance. After reviewing possible limits, the staff concluded that, based on these considerations, 24 hours would be an acceptable time limit for completing a missed surveillance when the allowable outage times of the Action Requirements are less than this time limit or when shutdown Action Requirements apply. The 24-hour time limit would balance the risks associated with an allowance for completing the surveillance within this period against the risks associated with the potential for a plant upset and challenge to safety systems when the alternative is a shutdown to comply with Action Requirements before the surveillance can be completed.

This limit does not waive compliance with Specification 4.0.3. Under Specification 4.0.3, the failure to perform a surveillance requirement will continue to constitute noncompliance with the operability requirements of an LCO and to bring into play the applicable Action Requirements.

Based on the above, the following change to Specification 4.0.3 is acceptable:

> Failure to perform a surveillance requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the operability requirements for a Limiting Condition for Operation. The time limits of the Action Statement requirements are applicable at the time it is identified that a surveillance requirement has not been performed. The Action Statement requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the Action Statement requirements are less than 24 hours. Surveillance requirements do not have to be performed on inoperable equipment.

Specification 4.0.4

TS 4.0.4 prohibits entry into an OPERATIONAL CONDITION or other specified condition until all required surveillances have been performed. This could cause an interpretation problem when OPERATIONAL CONDITION changes are required in order to comply with ACTION statements. Specifically, two possible conflicts between TS 4.0.3 and TS 4.0.4 could exist. The first conflict arises because TS 4.0.4 prohibits entry into an operational mode or other specified condition when surveillance requirements have not been performed within the specified surveillance interval. The licensee-proposed modification to resolve this conflict involves the revision to TS 4.0.3 to permit a delay of up to 24 hours in the application of the Action Requirements, as explained above, and a clarification of TS 4.0.4 to allow passage through or to operational modes as required to comply with Action Requirements. The second potential conflict between TS 4.0.3 and TS 4.0.4 arises because an exception to the requirements of TS 4.0.4 is allowed when surveillance requirements can only be completed after entry into a mode or condition. However, after entry into this mode or condition, the requirements of TS 4.0.3 may not be met because the surveillance requirements may not have been performed within the allowable surveillance interval.

The licensee proposes to resolve these conflicts by providing the following clarifying statement to TS 4.0.4:

> This provision shall not prevent passage through or to operational conditions as required to comply with Action Statement requirements.

The NRC staff has provided in GL 87-09 a clarification that: (a) it is not the intent of TS 4.0.3 that the Action Requirements preclude the performance of surveillances allowed under any exception to TS 4.0.4; and (b) that the

delay of up to 24 hours in TS 4.0.3 for the applicability of Action Requirements provides an appropriate time limit for the completion of surveillance requirements that become applicable as a consequence of any exception to TS 4.0.4.

Consequently, the NRC staff finds the proposed changes to TS 4.0.4 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 and changes surveillance requirements. 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 (57 FR 37573). 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: March 12, 1993