

June 11, 1998

Mr. J.P. O'Hanlon
Senior Vice President - Nuclear
Virginia Electric and Power Company
5000 Dominion Blvd.
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**SUBJECT: SURRY UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE:
CLARIFICATION OF REFUELING INTERVAL SURVEILLANCE FREQUENCY
(TAC NOS. MA0364 AND MA0365)**

Dear Mr. O'Hanlon:

The Commission has issued the enclosed Amendment No. 213 to Facility Operating License No. DPR-32 and Amendment No. 213 to Facility Operating License No. DPR-37 for the Surry Power Station, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TS) in response to your application transmitted by letter dated December 18, 1997.

These amendments revise the TS to clarify the terminology used for describing equipment surveillances performed on a refueling interval frequency, and to use consistent wording.

In two cases the proposed changes are denied. These two exceptions, TS 4.6.A.1.b and 4.6.C.1.e, do not include required specific Mode restrictions and could not be approved at this time. If appropriate revisions are submitted, these two exceptions could be found to be acceptable at a later time.

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

This completes our effort on this issue and we are, therefore, closing out TAC Nos. MA0364 and MA0365.

Sincerely,

Original signed by:

Gordon E. Edison, Senior Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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P PDR

Docket Nos. 50-280 and 50-281

Enclosures:

1. Amendment No. 213 to DPR-32
2. Amendment No. 213 to DPR-37
3. Safety Evaluation

cc w/enclosures:

See next page

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OFFICE	PM:PDII-1:DRPE	LA:PDII-1:DRPE	E	BC:OTSB	OGC	AD:PDII
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DATE	5/27/98	5/27/98		5/27/98	6/19/98	6/19/98

Mr. J. P. O'Hanlon
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Surry Power Station

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DATED: June 11, 1998

AMENDMENT NO. 213 TO FACILITY OPERATING LICENSE NO. DPR-32 - SURRY UNIT 1
AMENDMENT NO. 213 TO FACILITY OPERATING LICENSE NO. DPR-37 - SURRY UNIT 2

Docket File

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

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-280

SURRY POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

**Amendment No. 213
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 December 18, 1997, 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. 213 , 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



Pap-Tsin Kuo, Acting Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 11, 1998



**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. 213
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 December 18, 1997, 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. 213 , 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



Pao-Tsin Kuo, Acting Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 11, 1998

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 213 TO FACILITY OPERATING LICENSE NO. DPR-32

AMENDMENT NO. 213 TO FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NOS. 50-280 AND 50-281

Revise Appendix A as follows:

Remove Pages

TS 4.1-1
TS 4.1-3
TS 4.1-5
TS 4.1-8c
TS 4.1-9a
TS 4.1-9b
TS 4.1-9c
TS 4.1-9d
TS 4.2-3
TS 4.2-4
TS 4.5-2
TS 4.5-3
TS 4.6-2
TS 4.6-3
TS 4.6-4
TS 4.11-3
TS 4.12-1
TS 4.12-2
TS 4.12-3
TS 4.12-4
TS 4.17-3
TS 4.17-6
TS 4.17-8
TS 4.20-1
TS 4.20-2
TS 4.20-3
TS 4.20-4

Insert Pages

TS 4.1-1
TS 4.1-3
TS 4.1-5
TS 4.1-8c
TS 4.1-9a
TS 4.1-9b
TS 4.1-9c
TS 4.1-9d
TS 4.2-3
TS 4.2-4
TS 4.5-2
TS 4.5-3
TS 4.6-2
TS 4.6-3
TS 4.6-4
TS 4.11-3
TS 4.12-1
TS 4.12-2
TS 4.12-3
TS 4.12-4
TS 4.17-3
TS 4.17-6
TS 4.17-8
TS 4.20-1
TS 4.20-2
TS 4.20-3
TS 4.20-4

4.1 OPERATIONAL SAFETY REVIEW

Applicability

Applies to items directly related to safety limits and limiting conditions for operation.

Objective

To specify the minimum frequency and type of surveillance to be applied to unit equipment and conditions.

Specification

- A. Calibration, testing, and checking of instrumentation channels and interlocks shall be performed as detailed in Tables 4.1-1, 4.1-1A, and 4.1-2.
- B. Equipment tests shall be performed as detailed in Table 4.1-2A and as detailed below.
 1. In addition to the requirements of 4.0.5, each Pressurizer PORV and block valve shall be demonstrated OPERABLE by:
 - a. Performing a complete cycle of each PORV with the reactor coolant average temperature $>350^{\circ}\text{F}$ once per 18 months.
 - b. Performing a complete cycle of the solenoid air control valve and check valves on the air accumulators in the PORV control system once per 18 months.
 - c. Operating each block valve through one complete cycle of travel at least once per 92 days. This surveillance is not required if the block valve is closed in accordance with 3.1.6.a, b, or c.

Other channels are subject only to the "drift" errors induced within the instrumentation itself and, consequently, can tolerate longer intervals between calibration. Process systems instrumentation errors resulting from drift within the individual instruments are normally negligible.

During the interval between periodic channel tests and daily check of each channel, a comparison between redundant channels will reveal any abnormal condition resulting from a calibration shift, due to instrument drift of a single channel.

During the periodic channel test, if it is deemed necessary, the channel may be tuned to compensate for the calibration shift. However, it is not expected that this will be required at any fixed or frequent interval.

Thus, minimum calibration frequencies of once-per-day for the nuclear flux (power level) channels, and once per 18 months for the process system channels are considered acceptable.

Testing

The minimum testing frequency for those instrument channels connected to the safety system is based on an average unsafe failure rate of $2/5 \times 10^{-6}$ failure/hr per channel. This is based on operating experience at conventional and nuclear units. An unsafe failure is defined as one which negates channel operability and which, due to its nature, is revealed only when the channel is tested or when it attempts to respond to a proper signal.

The refueling water storage tank is sampled weekly for Cl^- and/or F^- contaminations. Weekly sampling is adequate to detect any inleakage of contaminated water.

The control room ventilation system is required to establish a positive differential pressure in the control room for one hour following a design basis loss-of-coolant accident using a bottled air supply as the source of air. The ability of the system to meet this requirement is tested by pressurizing the control room using the ventilation system fans and comparing the volume of air required to that stored. The test is conducted once per 18 months normally coinciding with the refueling outage of either Unit 1 or Unit 2.

TABLE 4.1-1(Continued)
MINIMUM FREQUENCIES FOR CHECK, CALIBRATIONS AND TEST OF INSTRUMENT CHANNELS

<u>Channel Description</u>	<u>Check</u>	<u>Calibrate</u>	<u>Test</u>	<u>Remarks</u>
43. Engineered Safeguards Actuation Interlocks				
a. Reactor trip, P-4	N.A.	N.A.	R	
b. Pressurizer pressure, P-11	N.A.	R	R	
c. Low, low T _{avg} , P-12	N.A.	R	R	

S - Each Shift

M - Monthly

D - Daily

P - Prior to each startup if not done within the previous week

N.A. - Not Applicable

R - Once per 18 months

Q - Every 90 effective full power days

* See Specification 4.1.D

TABLE 4.1-2
ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>
1. Auxiliary Feedwater Flow Rate	P		R
2. Inadequate Core Cooling Monitor	M		R
3. PORV Position Indicator (Primary Detector)	M		R
4. PORV Position Indicator (Backup Detector)	M		R
5. PORV Block Valve Position Indicator	M		R
6. Safety Valve Position Indicator	M		R
7. Safety Valve Position Indicator (Backup Detector)	M		R
8. Containment Pressure	M		R
9. Containment Water Level (Narrow Range)	M		R
10. Containment Water Level (Wide Range)	M		R
11. Containment High Range Radiation Monitor	M	Q	R
12. Process Vent High Range Effluent Monitor	M	Q	R
13. Ventilation Vent High Range Effluent Monitor	M	Q	R
14. Main Steam High Range Radiation Monitor	M	Q	R
15. Auxiliary Feedwater Pump Turbine Exhaust Radiation Monitor	M	Q	R
16. Recirculation Spray Heat Exchanger Service Water Outlet Radiation Monitors	M	Q(1)	R

(1) Channel Functional testing shall include the associated sample pump.

M - Monthly

P - Prior to each startup if not done within the previous week

Q - Quarterly

R - Once per 18 months

TABLE 4.1-2A
MINIMUM FREQUENCY FOR EQUIPMENT TESTS

<u>DESCRIPTION</u>	<u>TEST</u>	<u>FREQUENCY</u>	<u>FSAR SECTION REFERENCE</u>
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. Once per 18 months	7
2. Control Rod Assemblies	Partial movement of all rods	Quarterly	7
3. Refueling Water Chemical Addition Tank	Functional	Once per 18 months	6
4. Pressurizer Safety Valves	Setpoint	Per TS 4.0.5	4
5. Main Steam Safety Valves	Setpoint	Per TS 4.0.5	10
6. Containment Isolation Trip	* Functional	Once per 18 months	5
7. Refueling System Interlocks	* Functional	Prior to refueling	9.12
8. Service Water System	* Functional	Once per 18 months	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. Deleted			
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

Amendment Nos. 213 and 213

TS 4.1-9b

TABLE 4.1-2A(CONTINUED)
MINIMUM FREQUENCY FOR EQUIPMENT TESTS

<u>DESCRIPTION</u>	<u>TEST</u>	<u>FREQUENCY</u>	<u>FSAR SECTION REFERENCE</u>
14a. Service Water System Valves in Line Supplying Recirculation Spray Heat Exchangers	Functional	Once per 18 months	9.9
b. Service Water System Valves Isolating Flow to Non-essential loads on Intake Canal Low Level Isolation	Functional	Once per 18 months	9.9
15. Control Room Ventilation System	* Ability to maintain positive pressure for 1 hour using a volume of air equivalent to or less than stored in the bottled air supply	Once per 18 months	9.13
16. Reactor Vessel Overpressure Mitigating System (except backup air supply)	Functional & Setpoint	Prior to decreasing RCS temperature below 350°F and monthly while the RCS is < 350°F and the Reactor Vessel Head is bolted	4.3
	CHANNEL CALIBRATION	Once per 18 months	
17. Reactor Vessel Overpressure Mitigating System Backup Air Supply	Setpoint	Once per 18 months	4.3
18. Power-Operated Relief Valve Control System	Functional, excluding valve actuation	Monthly	4.3
	CHANNEL CALIBRATION	Once per 18 months	

Amendment Nos. 213 and 213

TS 4.1-9c

TABLE 4.1-2A(CONTINUED)
MINIMUM FREQUENCY FOR EQUIPMENT TESTS

<u>DESCRIPTION</u>	<u>TEST</u>	<u>FREQUENCY</u>	<u>UFSAR SECTION REFERENCE</u>
19. Primary Coolant System	Functional	1. Periodic leakage testing(a)(b) on each valve listed in Specification 3.1.C.7a shall be accomplished prior to entering POWER OPERATION after every time the plant is placed in COLD SHUTDOWN for refueling, after each time the plant is placed in COLD SHUTDOWN for 72 hours if testing has not been accomplished in the preceding 9 months, and prior to returning the valve to service after maintenance, repair or replacement work is performed.	
20. Containment Purge MOV Leakage	Functional	Semi-Annual (Unit at power or shutdown) if purge valves are operated during interval(c)	
21. Containment Hydrogen Analyzers	a. CHANNEL FUNCTIONAL TEST b. CHANNEL CALIBRATION	Once per 92 days Once per 18 months	
	1. Sample gas used: One volume percent ($\pm 0.25\%$) hydrogen, balance nitrogen Four volume percent ($\pm 0.25\%$) hydrogen, balance nitrogen		
	2. CHANNEL CALIBRATION will include startup and operation of the Heat Tracing System		
22. RCS Flow	Flow $\geq 273,000$ gpm	Once per 18 months	14
23. Delete			
(a)	To satisfy ALARA requirements, leakage may be measured indirectly (as from the performance of pressure indicators) if accomplished in accordance with approved procedures and supported by computations showing that the method is capable of demonstrating valve compliance with the leakage criteria.		
(b)	Minimum differential test pressure shall not be below 150 psid.		
(c)	Refer to Section 4.4 for acceptance criteria.		
*	See Specification 4.1.D.		

Amendment Nos. 213 and 213

TS 4.1-9d

TABLE 4.2-1

SECTION A. MISCELLANEOUS INSPECTIONS

<u>Item No.</u>	<u>Required Examination Area</u>	<u>Required Examination Methods</u>	<u>10-Year Interval Inspection</u>	<u>Remarks</u>
1.1	Deleted			
1.2	Low Head SIS piping located in valve pit	Visual	Non-applicable	This pipe shall be visually inspected once per 18 months.
1.3	Primary Pump Flywheel	See remarks	See remarks	Examination to be conducted in accordance with regulatory position C.4.b of regulatory guide 1.14 Rev. 1, August 1975
1.4	Low Pressure Turbine Rotor	Visual and Magnetic Particle or Dye Penetrant	See remarks	100% of blades every six operating years. Inspections are normally performed concurrent with LP turbine rotor disk and hub inspections.

Amendment Nos. 213 and 213

TABLE 4.2-1(continued)

SECTION B. SENSITIZED STAINLESS STEEL

<u>Item No.</u>	<u>Required Examination Area</u>	<u>Required Examination Methods</u>	<u>10-Year Interval Inspection</u>	<u>Remarks</u>
2.1.1	Class 1 circumferential, longitudinal, branch pipe connection, and socket welds	As required by T.S. 4.0.5	The welds examined by volumetric or surface techniques shall be conducted at three times the frequency required by T.S. 4.0.5	A minimum of 5% of the welds shall be examined once per 18 months. At least 75% of the total population of welds shall be examined each interval. The same welds may be selected in subsequent intervals for examination. See Note 1.
2.1.2	Class 2 circumferential, longitudinal, branch pipe connection, and socket welds	As required by T.S. 4.0.5	The welds examined by volumetric or surface techniques shall be conducted at three times the frequency required by T.S. 4.0.5	A minimum of 2.5% of the welds shall be examined once per 18 months. At least 22.5% of the total population of welds shall be examined each interval. The same welds may be selected in subsequent intervals for examination. See Note 1.
2.1.3	Class 1 and Class 2 sensitized stainless steel pieces	Visual (VT-2) as required by T.S. 4.0.5	As required by T.S. 4.0.5	In addition to the Code required examinations the affected piping shall be visually (VT-2) examined during the flushing requirements of T.S. Tables 4.1-3A and 4.1-3B.

Amendment Nos. 213 and 213

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 10 years, coincident with the closest refueling outage, by performing an 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 once per 18 months 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 once per 18 months 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.

Due to the physical arrangement of the recirculation spray pumps inside the containment, it is impractical to flow-test them other than during a unit outage. Flow testing of these pumps requires the physical modification of the pump discharge piping and the erection of a temporary dike to contain recirculated water. The length of time required to setup for the test, perform the test, and then reconfigure the system for normal operation is prohibitive to performing the flow-test on even the cold shutdown frequency. Therefore, the flow-test of the inside containment recirculation spray pumps will be performed once per 18 months during a unit outage.

The inside containment recirculation spray pumps are capable of being operated dry for approximately 60 seconds without significantly overheating and/or degrading the pump bearings. During this dry pump check, it can be determined that the pump shafts are turning by rotation sensors which indicate in the Main Control Room. In addition, motor current will be compared with an established reference value to ascertain that no degradation of pump operation has occurred.

- b. Automatic start of each diesel generator, load shedding, and restoration to operation of particular vital equipment, initiated by a simulated loss of off-site power together with a simulated safety injection signal. Testing will demonstrate load shedding and load sequencing initiated by a simulated loss of off-site power following a simulated engineered safety features signal. Testing will also demonstrate that the loss of voltage and degraded voltage protection is defeated whenever the emergency diesel is the sole source of power to an emergency bus and that this protection is automatically reinstated when the diesel output breaker is opened. This test will be conducted during reactor shutdown for refueling to assure that the diesel generator will start within 10 sec and assume load in less than 30 sec after the engine starting signal.
- c. Availability of the fuel oil transfer system shall be verified by operating the system in conjunction with the monthly test.
- d. Each diesel generator shall be given a thorough inspection once per 18 months utilizing the manufacturer's recommendations for this class of stand-by service.

2. Acceptance Criteria

The above tests will be considered satisfactory if all applicable equipment operates as designed.

B. Fuel Oil Storage Tanks for Diesel Generators

1. A minimum fuel oil storage of 35,000 gal shall be maintained on-site to assure full power operation of one diesel generator for seven days.

C. Station Batteries**1. Tests and Frequencies**

- a. The specific gravity, electrolytic temperature, cell voltage of the pilot cell in each battery, and the D.C. bus voltage of each battery shall be measured and recorded weekly.
- b. Each month the voltage of each battery cell in each battery shall be measured to the nearest 0.01 volts and recorded.
- c. Every 3 months the specific gravity of each battery cell, the temperature reading of every fifth cell, the height of electrolyte of each cell, and the amount of water added to any cell shall be measured and recorded.
- d. Twice a year, during normal operation, the battery charger shall be turned off for approximately 5 min and the battery voltage and current shall be recorded at the beginning and end of the test.
- e. During the normal refueling shutdown each battery shall be subjected to a simulated load test without battery charger. The battery voltage and current as a function of time shall be monitored.
- f. Once per 18 months connections shall be checked for tightness and anti-corrosion coating shall be applied to the interconnections.

2. Acceptance Criteria

- a. Each test shall be considered satisfactory if the new data when compared to the old data indicate no signs of abuse or deterioration.

- b. The load test in (d) and (e) above shall be considered satisfactory if the batteries perform within acceptable limits as established by the manufacturers discharge characteristic curves.

D. EMERGENCY DIESEL GENERATOR BATTERIES

1. Tests and Frequencies

- a. The specific gravity, electrolytic temperature, cell voltage of the pilot cell in each battery and the D.C. bus voltage of each battery shall be measured and recorded weekly.
- b. Each month the voltage of each battery cell in each battery shall be measured to the nearest 0.01 volts and recorded.
- c. Every 3 months the specific gravity of each battery cell, the temperature reading of every fifth cell, the height of electrolyte of each cell, and the amount of water added to any cell shall be measured and recorded.
- d. Once per 18 months, each battery shall be subjected to a normal load or simulated load test without battery charger. The battery voltage and current as a function of time shall be monitored.
- e. Once per 18 months, connections shall be checked for tightness and anti-corrosion coating shall be applied to interconnections.

2. Acceptance Criteria

- a. Each test shall be considered satisfactory if the new data when compared to the old data indicate no signs of abuse or deterioration.
- b. The load test in (d) above shall be considered satisfactory if the batteries perform within acceptable limits as established by the manufacturers discharge characteristic curves.

- c. Power may be restored to any valve or breaker referenced in Specifications 4.11.C.4.a and 4.11.C.4.b for the purpose of testing or maintenance provided that not more than one valve has power restored at one time, and the testing and maintenance is completed and power removed within 24 hours.
5. Once per 18 months by:
- a. Verifying that each automatic valve capable of receiving a safety injection signal, actuates to its correct position upon receipt of a safety injection test signal. The charging and low head safety injection pumps may be immobilized for this test.
 - b. Verifying that each charging pump and safety injection pump circuit breaker actuates to its correct position upon receipt of a safety injection test signal. The charging and low head safety injection pumps may be immobilized for this test.
 - c. Verifying, by visual inspection, that each low head safety injection pump suction inlet from the containment sump is free of debris that could degrade system operation. Perform each refueling outage and/or after major maintenance activities in the containment.

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 unit outages, with more frequent component tests, which can be performed during reactor operation.

4.12 AUXILIARY VENTILATION EXHAUST FILTER TRAINS

Applicability

Applies to the testing of safety-related air filtration systems.

Objective

To verify that leakage efficiency and iodine removal efficiency are within acceptable limits.

Specifications

A. Tests and Frequency

1. Each redundant filter train circuit shall be operated every month if it has not already been in operation.
2. Once per 18 months, the operability of the entire safety-related portion of the auxiliary ventilation system shall be demonstrated.
3. Auxiliary ventilation system exhaust fan flow rate through each filter train in the LOCA mode of operation shall be determined initially, after any structural maintenance on the HEPA filter or charcoal adsorber housings, once per 18 months, or after partial or complete replacement of the HEPA filters or charcoal adsorbers.

The procedure for determining the air flow rate shall be in accordance with Section 9 of the ACGIH Industrial Ventilation document and Section 8 of ANSI N510-1975.

4. A visual inspection of the filter train and associated components shall be conducted before each in-place air flow distribution test, DOP test, or activated charcoal adsorber leak test in accordance with the intent of Section 5 of ANSI N510-1975.

5. An air distribution test across the prefilter bank shall be performed initially and after any major modification, major repair, or maintenance of the air cleaning system affecting the filter bank flow distribution. The air distribution test shall be performed with an anemometer located at the downstream side and at the center of each carbon filter.
6. In-place cold DOP tests for HEPA filter banks shall be performed:
 - a. Initially;
 - b. Once per 18 months;
 - c. Following painting, fire, or chemical release in any ventilation zone communicating with the system;
 - d. After each complete or partial replacement of the HEPA filter cells; and
 - e. After any structural maintenance on the filter housing.

The procedure for in-place cold DOP tests shall be in accordance with ANSI N510-1975, Section 10.5 or 11.4. The flow rate during the in-place cold DOP tests shall be 36,000 CFM \pm 10 percent. The flow rate shall be determined by recording the flow meter reading in the control room.

7. In-place halogenated hydrocarbon leakage tests for the charcoal adsorber bank shall be performed:
 - a. Initially;
 - b. Once per 18 months;

- c. Following painting, fire, or chemical release in any ventilation zone communicating with the system;
- d. After each complete or partial replacement of charcoal adsorber trays; and
- e. After any structural maintenance of the filter housing.

The procedure for in-place halogenated hydrocarbon leakage tests shall be in accordance with ANSI N510-1975, Section 12.5. The flow rate during the in-place halogenated hydrocarbon leakage tests shall be 36,000 CFM \pm 10 percent. The flow rate shall be determined by recording the flow meter reading in the control room.

8. Laboratory analysis on in-place charcoal samples shall be performed:
- a. Initially, whenever a new batch of charcoal is used to fill adsorbers trays;
 - b. Once per 18 months;
 - c. After 720 hours of system operation; and
 - d. Following painting, fire, or chemical release in any ventilation zone communicating with the system or after any structural maintenance on the HEPA filter or charcoal adsorber housings.

The procedure for iodine removal efficiency tests shall follow ASTM D3803. The test conditions shall be in accordance with those listed in Specification 4.12.B.7.

9. The pressure drop across the HEPA filter and adsorber banks shall be checked:
 - a. Initially;
 - b. Once per 18 months thereafter for systems maintained in a standby status and after 720 hours of system operation; and
 - c. After each complete or partial replacement of filters or adsorbers.

B. Acceptance Criteria

1. The minimum period of air flow through the filters shall be 15 minutes per month.
2. The system operability test of Specification 4.12.A.2 shall demonstrate automatic start-up, shutdown and flow path alignment.
3. The air flow rate determined in Specification 4.12.A.3 shall be:
 - a. 36,000 cfm \pm 10 percent with system in the LOCA mode of operation.
 - b. The ventilation system shall be adjusted until the above limit is met.
4. Air distribution test across the prefilter-bank shall show uniformity of air velocity within \pm 20 percent of average velocity. The ventilation system shall be adjusted until the limit is met.

4. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the action requirements of Specification 3.20 shall be met.

C. Functional Tests

1. Once per 18 months, a representative sample of 10% of the total of each type snubber used in the plant shall be functionally tested using either an in-place test machine or a bench test.
2. The representative sample selected for functional testing shall include the various configurations, operating environments and the range of size and capacity of snubbers. This representative sample shall not, to the extent practicable, include those snubbers tested in a previous representative sample.
3. At least 25% of the snubbers in the representative sample shall include snubbers from the following three categories:
 - a. the first snubber away from each reactor vessel nozzle,
 - b. snubbers within 5 feet of heavy equipment (valve, pump, turbine, motor, etc),
and
 - c. snubbers within 10 feet of the discharge from a safety relief valve.

- c. Snubber release rate, where required, is within the specified range in compression and tension. For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement shall be verified.

F. Snubber Service Life Monitoring

1. A record of the service life of each snubber, the date at which the designated service life commences, and the installation and maintenance records on which the designated service life is based shall be maintained as required by the Virginia Electric and Power Company Operational Quality Assurance Program Topical Report.
2. Concurrent with the first inservice visual inspection and at least once per 18 months thereafter, the installation and maintenance records for each snubber shall be reviewed to verify that the indicated service life has not been exceeded or will not be exceeded prior to the next scheduled snubber service life review. If the indicated service life will be exceeded prior to the next scheduled snubber service life review, the snubber service life shall be reevaluated or the snubber shall be replaced or reconditioned so as to extend its service life beyond the date of the next scheduled service life review. This reevaluation, replacement or reconditioning shall be indicated in the records.

To provide assurance of snubber functional reliability, a representative sample of the installed snubbers will be functionally tested once per 18 months. Functional testing is to be in accordance with the ASME Section XI Inservice Inspection program approved by the NRC. Observed failures of these sample snubbers shall require functional testing of additional units.

Hydraulic snubbers and mechanical snubbers may each be treated as a different entity for the above surveillance programs.

The service life of a snubber is evaluated via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubber, seal replaced, spring replaced, in high radiation area, in high temperature area, etc...). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life. The requirements for the maintenance of records and the snubber service life review are not intended to affect plant operation.

4.20 CONTROL ROOM AIR FILTRATION SYSTEM

Applicability

Applies to the testing of safety-related air filtration systems of the control room and relay room.

Objective

To verify that leakage efficiency and iodine removal efficiency are within acceptable limits.

Specification

A. Tests and Frequency

1. The control room air filtration system flow rate test shall be performed:
 - a. Initially;
 - b. Once per 18 months;
 - c. Following painting, fire, or chemical release in any ventilation zone communicating with the system during system operation;
 - d. After each complete or partial replacement of the HEPA filter or charcoal adsorbers; and
 - e. After any structural maintenance the HEPA filter or charcoal adsorber housings; and
 - f. After any major modification or repair of the air cleaning system.

2. The procedure for determining the air flow rate shall be in accordance with Section 9 of the ACGIH Industrial Ventilation document and Section 8 of ANSI N510-1975. A visual inspection of the filter train and its associated components shall be conducted before each in-place airflow distribution test, DOP test, or activated charcoal adsorber leak test in accordance with the intent of Section 5 of ANSI N510-1975.
3. In-place cold DOP tests for HEPA filter banks shall be performed:
 - a. Initially;
 - b. Once per 18 months;
 - c. Following painting, fire, or chemical release in any ventilation zone communicating with the system during system operation;
 - d. After each complete or partial replacement of the HEPA filter cells; and
 - e. After any structural maintenance of the filter housing.
4. The procedure for in-place cold DOP tests shall be in accordance with ANSI N510-1975, Section 10.5 or 11.4. The flow rate during this test shall be that value determined under Specification 4. 20. A. 1 and shall be within the range specified in Specification 4. 20. B. 1.

5. In-place halogenated hydrocarbon leakage tests for the charcoal adsorber bank shall be performed:
 - a. Initially;
 - b. Once per eighteen months;
 - c. Following painting, fire, or chemical release in any ventilation zone communicating with the system during system operation;
 - d. After each complete or partial replacement of charcoal adsorber trays; and
 - e. After any structural maintenance on the filter housing.
6. The procedure for in-place halogenated hydrocarbon leakage tests shall be in accordance with ANSI N510-1975 Section 12.5. The flow rate during this test shall be that value determined under Specification 4.20.A.1 and shall be within the range specified in Specification 4.20.B.1.
7. Laboratory analysis on charcoal samples shall be performed:
 - a. Initially, whenever a new batch of charcoal is used to fill adsorber trays;
 - b. Once per eighteen months;
 - c. After 720 hours of system operation; and
 - d. Following painting, fire, or chemical release in any ventilation zone communicating with the system during system operation.

8. The procedure for iodine removal efficiency tests shall follow ASTM D3803. The test conditions shall be in accordance with those listed in Specification 4. 20. B. 4.
9. The pressure drop across the HEPA filter and adsorber banks shall be checked:
 - a. Initially;
 - b. Once per 18 months; and
 - c. After each complete or partial replacement of filters or adsorbers.
10. Each filter train circuit shall be operated every month. Filter Train Operation shall be initiated manually from the control room.

B. Acceptance Criteria

1. Fan flow tube test shall show a flow rate through any single filter train of 1000 ± 10 percent cfm.
2. In-place cold DOP tests on HEPA filters shall show greater than or equal to 99.5 percent DOP removal. Leaking sources shall be identified, repaired and retested. Any HEPA filter found defective shall be replaced.
3. In-place halogenated hydrocarbon leakage tests on charcoal adsorber banks shall show greater than or equal to 99 percent halogenated hydrocarbon removal. Leakage sources shall be identified, repaired and retested.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 213 TO FACILITY OPERATING LICENSE NO. DPR-32
AND AMENDMENT NO. 213 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 December 18, 1997, the Virginia Electric and Power Company proposed Technical Specifications (TS) changes to Surry Power Station Units 1 and 2 to clarify the intent of the terminology used for describing equipment surveillances conducted on refueling interval frequencies. The intent of the proposed clarification to the refueling interval surveillances was to be consistent with the specified frequency provided in Revision 1 of NUREG-1431, "Standard Technical Specifications, Westinghouse Plants," dated April 1995.

The TS establish surveillance requirements for systems and components directly related to safety limits and limiting conditions for operation. These requirements ensure that the systems/components will perform their intended plant function consistent with safe plant operation and as assumed by the safety analyses. Section 4 of the Surry TS, and the associated Bases, specify the type of surveillance to be performed for systems/components and the minimum performance frequency. The surveillance intervals range from hours, days, months, and quarters to refueling frequencies.

The Surry Units 1 and 2 TS were issued in 1972 and 1973, respectively, and are customized specifications since they pre-date the Standard Technical Specifications format. The original issue of the Surry TS used various terms to refer to refueling interval surveillances; i.e., "each refueling," "each refueling shutdown," "once per refueling cycle," "refueling interval" and similar variations in reference to refueling interval surveillance frequencies. Use of these various terms has caused confusion because it was not clear if the surveillances were intended to be performed when a unit was shut down for refueling, during the REFUELING SHUTDOWN Mode, or at a refueling interval frequency.

2.0 EVALUATION

The staff reviewed the proposed amendment to licenses DPR-32 and DPR-37, clarifying the terminology used for describing equipment surveillances conducted in refueling interval frequencies. The proposed changes to Section 4 of the Surry TS, and the associated Bases, were revised to clarify the intent of the refueling interval surveillances and to use consistent

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wording, i.e. "once per 18 months." In addition, minor typographical errors were also corrected, and an obsolete reference was deleted.

The staff finds that with two exceptions, the proposed clarification to the Surry TS refueling interval surveillances is acceptable and the terminology for describing equipment surveillances on refueling interval frequencies provides adequate clarification. The proposed changes to the Surry TS are consistent with the specified frequencies provided in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants," Revision 1 dated April 1995. The two exceptions, TS 4.6.A.1.b and 4.6.C.1.e, do not include Standard Technical Specification (STS) Mode restrictions. During the development of Standard Technical Specifications (NUREG-1431), NRC staff held discussions with the industry regarding the imposition of operating mode restrictions on emergency power surveillance testing. The result of these discussions, is that specific mode restrictions were imposed for certain emergency power surveillance tests as provided in TS 3.8 of the STS. The existing Surry TS currently impose refueling shutdown requirements for the performance of TS 4.6.A.1.b and 4.6.C.1.e. Since the existing Surry TS requirements for these two specifications are more consistent with the STS shutdown mode restrictions (as opposed to a higher power operating mode), the proposed changes for these two TS (to eliminate restrictions for performing these surveillances) are denied at this time. The licensee has indicated that they will revise their request for these two changes and resubmit them at a later time.

Based on the above evaluation, the staff concludes that the proposed changes to the Surry TS, Section 4.0, clarify the terminology used to describe refueling interval frequencies and provide consistent wording of the TS for these equipment surveillances. These TS changes will not increase the surveillance intervals, and the surveillance intervals will continue to validate system/component availability and performance. Relative to the TS changes, there was no change in the technical basis for the TS; there is only a clarification of intent of the TS. Therefore, with the exception of TS 4.6.A.1.b and 4.6.C.1.e, these proposed changes to the TS are acceptable.

3.0 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.

4.0 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 change 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 (63 FR 25118). 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.

5.0 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: M. Reardon

Date: June 11, 1998