

August 6, 1993

Docket Nos. 50-280
and 50-281

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Mr. W. L. Stewart
Senior Vice President - Nuclear
Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, Virginia 23060

Dear Mr. Stewart:

SUBJECT: SURRY UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: CONTAINMENT
HYDROGEN ANALYZERS (TAC NOS. M86332 AND M86333)

The Commission has issued the enclosed Amendment No. 181 to Facility Operating License No. DPR-32 and Amendment No. 181 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 April 21, 1993.

These amendments provide clarification of the design response time of the containment hydrogen analyzers and delete a channel check for the analyzers.

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

Sincerely,
(Original Signed By)
Bart C. Buckley, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 181 to DPR-32
2. Amendment No. 181 to DPR-37
3. Safety Evaluation

cc w/enclosures:
See next page

Document Name - SU86332.AMD

OFC	:LA:PDII-2	:PM:PDII-2	:D:PDII-2	: OGC	: HFB	: OTSB	rec'd 7/15
NAME	: E. Tana	: B. Buckley	: H. Be...	: C. Mancini	: J. WERMIEL	: C. I. Grimes	
DATE	: 6/4/93	: 6/4/93	: 6/12/93	: 6/30/93	: 6/10/93	: 7/20/93	

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Surry Power Station

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DATED: August 6, 1993

AMENDMENT NO. 181 TO FACILITY OPERATING LICENSE NO. DPR-32 - SURRY UNIT 1
AMENDMENT NO. 181 TO FACILITY OPERATING LICENSE NO. DPR-37 - SURRY UNIT 2

Docket File

NRC & Local PDRs

PDII-2 Reading

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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. 181
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 April 21, 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. 181, 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: August 6, 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. 181
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 April 21, 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. 181, 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: August 6, 1993

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 181 TO FACILITY OPERATING LICENSE NO. DPR-32

AMENDMENT NO. 181 TO FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NOS. 50-280 AND 50-281

Revise Appendix A as follows:

Remove Pages

TS 3.7-7

TS 3.7-8

TS 4.1-9c

TS 4.1-9d

Insert Pages

TS 3.7-7

TS 3.7-8

TS 4.1-9c

TS 4.1-9d

steam line pressure setting limit is set below the full load operating pressure. The safety analysis shows that these settings provide protection in the event of a large steam line break.(3)

Accident Monitoring Instrumentation

The operability of the accident monitoring instrumentation in Table 3.7-6 ensures that sufficient information is available on selected plant parameters to monitor and assess these variables during and following an accident. On the pressurizer PORVs, the pertinent channels consist of redundant limit switch indication. The pressurizer safety valves utilize an acoustic monitor channel and a downstream high temperature indication channel. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1975, and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short Term Recommendations." Potential accident effluent release paths are equipped with radiation monitors to detect and measure concentrations of noble gas fission products in plant gaseous effluents during and following an accident. The effluent release paths monitored are the process vent stack, ventilation vent stack, main steam safety valve and atmospheric dump valve discharge and the AFW pump turbine exhaust. These monitors meet the requirements of NUREG 0737.

Instrumentation is provided for monitoring (and controlling) the concentrations of potentially explosive gas mixtures in the Waste Gas Holdup System. The operability and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63 and 64 of Appendix A to 10 CFR Part 50.

Containment Hydrogen Analyzers

Indication of hydrogen concentration in the containment atmosphere can be provided in the control room over the range of zero to ten percent hydrogen concentration under accident conditions.

These redundant, qualified hydrogen analyzers are shared by Units 1 and 2 with instrumentation to indicate and record the hydrogen concentration. Each

hydrogen analyzer is designed with the capability to obtain an accurate sample within 30 minutes after initiation of safety injection.

A transfer switch is provided for Unit 1 to use both analyzers or for Unit 2 to use both analyzers. In addition, each unit's hydrogen analyzer has a transferable emergency power supply from Unit 1 and Unit 2. This will ensure redundancy for each unit.

Indication of Unit 1 and Unit 2 hydrogen concentration is provided on the Unit 1 Post Accident Monitoring panel and the Unit 2 Post Accident Monitoring panel, respectively. Hydrogen concentration is also recorded on qualified recorders. In addition, each hydrogen analyzer is provided with an alarm for trouble/high hydrogen content. These alarms are located in the control room.

The supply lines installed from the containment penetrations to the hydrogen analyzers have Category I Class IE heat tracing applied. The heat tracing system receives the same transferable emergency power as is provided to the containment hydrogen analyzers. The heat trace system is de-energized during normal system operation. Upon receipt of a SIS, after a preset time delay, heat tracing is energized to bring the piping process temperature to $250 \pm 10^{\circ}\text{F}$. Each heat trace circuit is equipped with an RTD to provide individual circuit readout, over-temperature alarm, and control the circuit to maintain the process temperatures.

The hydrogen analyzer heat trace system is equipped with high temperature, loss of D.C. power, loss of A.C. power, loss of control power, and failure of automatic initiation alarms.

Non-Essential Service Water Isolation System

The operability of this functional system ensures that adequate intake canal inventory can be maintained by the Emergency Service Water Pumps. Adequate intake canal inventory provides design service water flow to the recirculation spray heat exchangers and other essential loads (e.g., control room area chillers, charging pump lube oil coolers) following a design basis loss of coolant accident with a coincident loss of offsite power. This system is common to both units in that each of the two trains will actuate equipment on each unit.

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	Each Refueling Shutdown	9.9
b. Service Water System Valves Isolating Flow to Non-essential loads on Intake Canal Low Level Isolation	Functional	Each Refueling Shutdown	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	Each Refueling Shutdown	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
17. Reactor Vessel Overpressure Mitigating System Backup Air Supply	Setpoint	Each Refueling Shutdown	4.3

TABLE 4.1-2A (CONTINUED)

MINIMUM FREQUENCY FOR EQUIPMENT TESTS

<u>DESCRIPTION</u>	<u>TEST</u>	<u>FREQUENCY</u>	<u>FSAR SECTION REFERENCE</u>
18. 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 condition after every time the plant is placed in the cold shutdown condition for refueling, after each time the plant is placed in cold shutdown condition 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.	
19. Containment Purge MOV Leakage	Functional	Semi-Annual (Unit at power or shutdown) if purge valves are operated during interval ^(c)	
20. Containment Hydrogen Analyzers	a. Channel Functional Test b. Channel Calibration Test 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 test will include startup and operation of the Heat Tracing System	Once per 31 days Once per 92 days on staggered basis	
21. RCS Flow	Flow $\geq 273,000$ gpm	Once per refueling cycle	14
22. RWST Parameters	a. Temperature $\leq 45^\circ\text{F}$ b. Volume $\geq 387,100$ gallons	Once per shift Once per shift	

(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.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 181 TO FACILITY OPERATING LICENSE NO. DPR-32
AND AMENDMENT NO. 181 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 April 21, 1993, the Virginia Electric and Power Company (the licensee) proposed changes to the Technical Specifications (TS) for the Surry Power Station, Unit Nos. 1 and 2. The changes would provide clarification of the design response time of the containment hydrogen analyzers and delete an unnecessary channel check for the analyzers. Minor administrative changes are also included in the proposed change.

2.0 Proposed Technical Specification Changes

The Basis Section of TS 3.7 is being revised to note that the containment hydrogen analyzers can provide continuous indication during accident conditions, and that each hydrogen analyzer is designed with the capability to obtain an accurate sample within 30 minutes after initiation of a safety injection. Also, the discussion of the hydrogen analyzer heat tracing is being revised to delete the reference to the capability of the heat tracing to bring the hydrogen analyzer process piping to the appropriate operating temperature within 20 minutes.

TS Table 4.1-2A is being revised to delete the requirement in Item 20a to perform a channel check of the containment hydrogen analyzers every 12 hours. Items 20b and 20c will be renumbered as 20a and 20b, respectively, and new Item 20b is being revised editorially for clarity.

TS Table 4.1-2A, Items 16 and 17, are being revised to add Section 4.3 under the FSAR Reference Section header in the table to reflect the Updated Final Safety Analysis Report section that discusses the reactor vessel overpressure mitigation system.

TS Table 4.1-2A, Item 18, is being revised to add a superscript that was inadvertently deleted by TS Amendment 84/83. Superscript (b) notes the minimum differential pressure allowed for the Primary Coolant System periodic valve leakage testing discussed in Item 18.

TS Table 4.1-2A, Items 14a and b, 15 and 17, are being revised to designate their testing frequency as "Each Refueling Shutdown" for consistency in terminology.

3.0 EVALUATION

The Surry Power Station utilizes two qualified hydrogen analyzers which are shared by units 1 and 2. The purpose of the hydrogen analyzers is to provide continuous indication in the control room of hydrogen concentration in the containment atmosphere under accident conditions. Under normal conditions, continuous monitoring of hydrogen concentration in the containment atmosphere is not required and the hydrogen analyzers are maintained in the standby mode. Assurance that the hydrogen analyzers will function when needed is provided by the monthly functional check and the quarterly calibration which conforms with the Westinghouse Standard TS. Therefore, it is unnecessary to perform a channel check every 12 hours during normal plant operations. The analyzers installed at the Surry station have the capability of obtaining an accurate sample of the containment atmosphere within 30 minutes after initiation of safety injection. Therefore, the staff finds the proposed changes acceptable. The other changes are administrative and are also 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 change the 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 (58 FR 30202). 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: T. Farnholtz

Date: August 6, 1993