October 27, 1994

Mr. J. P. O'Hanlon
Senior Vice President - Nuclear
Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, Virginia 23060

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SUBJECT: SURRY UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: RECIRCULATION SPRAY HEAT EXCHANGERS SERVICE WATER OUTLET RADIATION MONITORS (TAC NOS. M88070 AND M88071)

Dear Mr. O'Hanlon:

The Commission has issued the enclosed Amendment No. 193 to Facility Operating License No. DPR-32 and Amendment No. 193 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 October 19, 1993.

These amendments will add operability requirements, action statements, and surveillance requirements for the recirculation spray heat exchanger service water outlet radiation monitors. Also, surveillance requirements for several post-accident monitoring instruments are being reinstated.

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 efforts on this issue and we are, therefore, closing out TAC Nos. M88070 and M88071.

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. 193 to DPR-32
2. Amendment No. 193 to DPR-37
3. Safety Evaluation

cc w/enclosures:
See next page

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cc:

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

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

Mr. David Christian, Manager
Surry Power Station
Post Office Box 315
Surry, Virginia 23883

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

Senior Resident Inspector
Surry Power Station
U.S. Nuclear Regulatory Commission
5850 Hog Island Road
Surry, Virginia 23883

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

DATED: October 27, 1994

AMENDMENT NO. 193 TO FACILITY OPERATING LICENSE NO. DPR-32 - SURRY UNIT 1
AMENDMENT NO. 193 TO FACILITY OPERATING LICENSE NO. DPR-37 - SURRY UNIT 2

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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. 193
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 October 19, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

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

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

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

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

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

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 193 , 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

Mohan C. Thadani, Acting 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: October 27, 1994

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

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-281

SURRY POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 193
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 October 19, 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. 193 , 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

Mohan C. Thadani, Acting 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: October 27, 1994

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 193 TO FACILITY OPERATING LICENSE NO. DPR-32

AMENDMENT NO. 193 TO FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NOS. 50-280 AND 50-281

Revise Appendix A as follows:

Remove Pages	Insert Pages
TS 3.7-7	TS 3.7-7
TS 3.7-29	TS 3.7-29
TS 4.1-9a	TS 4.1-9a

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 gaseous 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 gaseous 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. The potential liquid effluent release paths via the service water discharge from the recirculation spray heat exchangers are equipped with radiation monitors to detect leakage of recirculated containment sump fluid. These radiation monitors and the associated sample pumps are required to operate during the recirculation heat removal phase following a loss of coolant accident in order to detect a passive failure of a recirculation spray heat exchanger tube. 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 analyzers are shared by Units 1 and 2 with instrumentation to indicate and record the hydrogen concentration. Each

TABLE 3.7-6

ACCIDENT MONITORING INSTRUMENTATION

	Instrument	Total No. Of Channels	Minimum OPERABLE Channels
1.	Auxiliary Feedwater Flow Rate	1 per S/G	1 per S/G
2.	Inadequate Core Cooling Monitor		
	a. Reactor Vessel Coolant Level Monitor	2	1
	b. Reactor Coolant System Subcooling Margin Monitor	2	1
	c. Core Exit Thermocouples	2 (Note 2)	1 (Note 2)
3.	PORV Position Indicator	2/valve	1/valve
4.	PORV Block Valve Position Indicator	1/valve	1/valve
5.	Safety Valve Position Indicator (Primary Detector)	1/valve	1/valve
6.	Safety Valve Position Indicator (Backup Detector)	1/valve	0
7.	Containment Pressure	2	1
8.	Containment Water Level (Narrow Range)	2	1
9.	Containment Water Level (Wide Range)	2	1
10.	Containment High Range Radiation Monitor	2	1 (Note 1, b and c only)
11.	Process Vent High Range Effluent Monitor	2	2 (Note 1, a, b, and c)
12.	Ventilation Vent High Range Effluent Monitor	2	2 (Note 1, a, b, and c)
13.	Main Steam High Range Radiation Monitors (Units 1 and 2)	3	3 (Note 1, a, b, and c)
14.	Aux. Feed Pump Steam Turbine Exhaust Radiation Monitor	1	1 (Note 1, a, b, and c)
15.	Recirculation Spray Heat Exchanger Service Water Outlet Radiation Monitors	1 per RSHX	1 per RSHX (Note 1, a, b, and c)

Note 1: With the number of operable channels less than required by the Minimum OPERABLE Channels requirements
- a. Initiate the preplanned alternate method of monitoring the appropriate parameter(s), within 72 hours
- b. Either restore the inoperable channel to operable status within 7 days of the event, or
- c. Prepare and submit a Special Report to the commission pursuant to specification 6.2 within 30 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to operable.

Note 2: A minimum of 2 core exit thermocouples per quadrant are required for the channel to be operable.

TABLE 4.1-2

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	INSTRUMENT	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION
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 - Refueling

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 193 TO FACILITY OPERATING LICENSE NO. DPR-32

AND AMENDMENT NO. 193 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 October 19, 1993, Virginia Electric and Power Company (the licensee) requested Technical Specification (TS) changes which would add specific operability and surveillance requirements for the Recirculation Spray Heat Exchanger (RSHX) service water outlet radiation monitors. Although these monitors (four per unit) do not have any actuation function, they do serve to detect leakage of radioactive containment sump fluid into the Service Water System if there is a breach in a break in RSHX integrity. As such, the licensee has categorized them as accident monitoring instrumentation and classified them as Regulatory Guide 1.97 Type C Category 2 instruments.

Finally, the licensee has also proposed TS changes which would serve to reinstate surveillance requirements for accident monitoring instruments into TS's. These requirements were inadvertently relocated when Radioactive Effluent Technical Specifications were moved to the Offsite Dose Calculation Manual (ODCM).

2.0 EVALUATION

In the event of a design basis accident at Surry Units 1 or 2, four RSHX's are available. These heat exchangers, located inside containment, are cooled by the Service Water System. Service water outlet radiation monitors are provided to detect leakage of radioactive containment sump fluid into the Service Water System; while these monitors do not provide a protection or control function, they do indicate the potential, or actual breach of the barriers to fission product release. As such, the RSHX service water outlet radiation monitors have been classified as Regulatory Guide 1.97 Type C, Category 2 instruments by the licensee. Consequently, these monitors are considered as accident monitoring instruments. While these monitors and associated sample pumps are not required for either the Recirculation Spray System or the Service Water Systems to accomplish their safety related function, they do serve to identify a breach of a fission product barrier. The output of these monitors is displayed on individual ratemeters and recorded on the radiation monitoring panel recorders in the Main Control Room.

While these monitors do not provide a protection or control function, they do have Main Control Room alarms and annunciators to guide proper operator action to isolate the potential release path. The staff has reviewed the TS changes proposed by the licensee for the RSHX Service Water Outlet Radiation Monitor and has found that the licensee has proposed appropriate operability requirements, surveillance requirements, and reporting requirements. In addition, the TS changes proposed by the licensee provide that a pre-planned alternative method of monitoring be implemented with less than the minimum number of operable channels.

Consequently, the staff finds the TS changes proposed by the licensee with respect to the RSHX service water outlet radiation monitors are acceptable.

Finally, the licensee has proposed TS changes which would re-establish surveillance requirements for certain post-accident monitoring instruments. These TS surveillance requirements were incorporated as part of the Radioactive Effluent Technical Specifications (RETS). However, when RETS were subsequently removed from the TS, surveillance requirements for post-accident radiation monitors were inadvertently deleted.

The licensee, in its current application, has proposed adding surveillance requirements for the affected post-accident radiation monitors to TS Table 4.1.2. The tests and frequencies proposed are unchanged from those in effect before they were inadvertently deleted from the TS's. Consequently, the staff finds this proposed change is acceptable as an administrative change implementing a previously reviewed and approved staff position.

3.0 SUMMARY

Based on the foregoing, the staff concludes that the TS changes proposed by the licensee with respect to the RSHX service water outlet radiation monitors are acceptable.

In addition, the staff concludes that the licensee has proposed TS changes for post-accident monitoring instrumentation which would restore TS's which had been applicable and were subsequently inadvertently deleted. These changes are acceptable as an administrative change.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Virginia State official was notified of the proposed issuance of the amendments. The State official had no comment.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types,

of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding (58 FR 67864). 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: K. Eccleston

Date: October 27, 1994