

April 1, 1992

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Docket Nos. 50-280
and 50-281

Posted

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

Amdt. 167 to DPR-37

Dear Mr. Stewart:

SUBJECT: SURRY UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: ACTION STATEMENT FOR INOPERABLE AIR HANDLING UNITS (TAC NOS. M87210 AND M87211)

The Commission has issued the enclosed Amendment No. 168 to Facility Operating License No. DPR-32 and Amendment No. 167 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 January 22, 1992, as supplemented March 9, 1992.

These amendments permit an upgrade to the main control room and emergency switchgear room air conditioning system by allowing the non-outage installation of chilled water connections for future installation of two new 50% capacity chillers.

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,

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. 168 to DPR-32
- 2. Amendment No. 167 to DPR-37
- 3. Safety Evaluation

cc w/enclosures:
See next page

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NAME :DKJ:Wier) :FR:Ina: :BBuckley :HBerkow) :CBachmann : CMcCracken:

DATE :3/16/92 : 3/16/92: 3/16/92 : 3/23/92: 3/26/92 : 3/19/92 :

OFFICIAL RECORD COPY

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Surry Power Station

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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. 168
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 January 22, 1992, as supplemented March 9, 1992, 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.

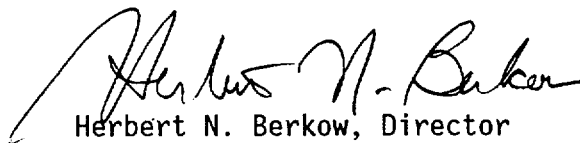
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-32 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 168, 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 expire on June 30, 1992.

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: April 1, 1992



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

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-281

SURRY POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 167
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 January 22, 1992, as supplemented March 9, 1992, 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.

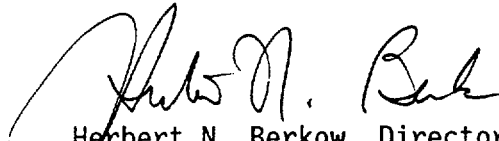
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-37 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 167, 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 expire on June 30, 1992.

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: April 1, 1992

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 168 TO FACILITY OPERATING LICENSE NO. DPR-32

AMENDMENT NO. 167 TO FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NOS. 50-280 AND 50-281

Revise Appendix A as follows:

Remove Pages

3.23-1
3.23-2
3.23-3
3.23-4
3.23-5

Insert Pages

3.23-1
3.23-2
3.23-3
3.23-4
- -

3.23 MAIN CONTROL ROOM AND EMERGENCY SWITCHGEAR ROOM VENTILATION AND AIR CONDITIONING SYSTEMS

Applicability

Applies to the main control room (MCR) and emergency switchgear room (ESGR) air conditioning system and emergency ventilation system.

Objective

To specify requirements to ensure the proper function of the main control and emergency switchgear room air conditioning system and emergency ventilation system.

Specification

- A. Both trains of the main control and emergency switchgear rooms' emergency ventilation system shall be operable whenever either unit is above cold shutdown.
- B. With one train of the main control and emergency switchgear room emergency ventilation system inoperable for any reason, return the inoperable train to a operable status within 7 days or be in at least Hot Shutdown within the next 6 hours and in Cold Shutdown within the following 48 hours.
- C. The main control and emergency switchgear room air conditioning system shall be operable as delineated in the following:

- *1. Chiller Refrigeration Units

- a. Chillers 1-VS-E-4A, 4B, and 4C must be operable whenever either unit is above Cold Shutdown.

- * This interim specification is necessary until the air conditioning system modifications are completed. Following completion of the permanent modifications, a revised air conditioning system specification will be submitted.

- b. If one chiller becomes inoperable, return the inoperable chiller to operable status within seven (7) days or bring both units to Hot Shutdown within the next six (6) hours and be in Cold Shutdown within the following 30 hours.

2. Air Handling Units (AHU)

- a. Unit 1 air handling units, 1-VS-AC-1, 1-VS-AC-2, 1-VS-AC-6, and 1-VS-AC-7, must be operable whenever Unit 1 is above Cold Shutdown.

- 1. If one* Unit 1 AHU becomes inoperable, return the inoperable AHU to operable status within seven (7) days or bring Unit 1 to Hot Shutdown within the next six (6) hours and be in Cold Shutdown within the following 30 hours.

- b. Unit 2 air handling units, 2-VS-AC-8, 2-VS-AC-9, 2-VS-AC-6, and 2-VS-AC-7 must be operable whenever Unit 2 is above Cold Shutdown.

- 1. If one* Unit 2 AHU becomes inoperable, return the inoperable AHU to operable status within seven (7) days or bring Unit 2 to Hot Shutdown within the next six (6) hours and be in Cold Shutdown within the following 30 hours.

* The MCR and ESGR Air Conditioning System upgrade project includes the installation of two additional chillers. It is necessary to remove each train of chilled water from service for seven days to complete the installation of the chilled water connections for the additional chillers. The modifications will require planned entries into Action Statement 3.23.C.2 with one inoperable AHU in the MCR and one inoperable AHU in the ESGR of each unit to complete. These modified action statement will only be used for the installation of the chilled water connections in the MRC and ESGR Air Conditioning System and will expire June 30, 1992.

Basis

When the supply of compressed bottled air is depleted, the main control room and emergency switchgear room emergency ventilation system is manually started to continue to maintain the control room pressure at the design positive pressure so that leakage is outleakage. One train of the main control room emergency ventilation consists of one fan powered from an independent emergency power source.

The main control and emergency switchgear room emergency ventilation system is designed to filter the intake air to the control room pressure envelope, which consists of the control room, relay rooms, and emergency switchgear rooms during a LOCA.

High efficiency particulate air (HEPA) filters are installed before the charcoal adsorbers to prevent clogging of the iodine adsorbers. The charcoal adsorbers are installed to reduce the potential intake of radio-iodine to the control room. The in-place test results should indicate a system leaktightness of less than 1 percent bypass leakage for the charcoal adsorbers and a HEPA efficiency of at least 99.5 percent removal of DOP particulates. The laboratory carbon sample test results should indicate a radioactive methyl iodide removal efficiency of at least 95 percent for expected accident conditions. The control room dose calculations assume only 90 percent iodine removal efficiency for the air passing through the charcoal filters. Therefore, if the efficiencies of the HEPA filters and charcoal adsorbers are as specified, at the temperatures, flow rates and velocities within the design values of the system, the resulting doses will be less than the allowable levels stated in Criterion 19 of the General Design Criteria for Nuclear Power Plants, Appendix A to 10 CFR Part 50.

If the system is found to be inoperable, there is no immediate threat to the control room, and reactor operation may continue for a limited period of time while repairs are being made. If the system cannot be repaired within the specified time, procedures are initiated to establish conditions for which the filter system is not required.

The Main Control Room (MCR) and Emergency Switchgear Room (ESGR) Air Conditioning System cools the control room, the control room annex and the Units 1 and 2 emergency switchgear rooms. The air conditioning system includes three chillers (1-VS-E-4A, 4B, and 4C) and eight air handling units (1-VS-AC-1, 2, 6, 7 and 2-VS-AC-6, 7, 8, and 9).

Interim modifications were completed on the MCR and ESGR Air Conditioning System to address interim failure and increased cooling requirements for the ESGRs. Permanent modifications will include replacement of the MCR and ESGR AHUs and installation of additional chiller capacity to restore original design flexibility.

Units 1 and 2 MCR and ESGR AHUs have been replaced in the initial phases of the permanent modification, restoring redundancy to the AHU portion of the original system design. As a result, the following MCR and ESGR equipment is required to operate to maintain design temperature under maximum heat load conditions:

- Two chillers
- One Unit 1 MCR AHU and one Unit 1 ESGR AHU
- One Unit 2 MCR AHU and one Unit 2 ESGR AHU

In addition to the equipment restrictions above, a fire watch will be required during this interim period in both unit's ESGR and MER #3 to address Appendix R considerations.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 168 TO FACILITY OPERATING LICENSE NO. DPR-32
AND AMENDMENT NO. 167 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 January 22, 1992, as supplemented March 9, 1992, Virginia Electric and Power Company (the licensee) requested a change to the Technical Specifications (TS) Section 3.23.C.2. The proposed TS change would allow planned entries into the 7-day action statement of TS 3.23.C.2 with one inoperable air handling unit (AHU) in the main control room (MCR) and one inoperable AHU in the emergency switchgear room (ESGR) in each unit from the same chilled water train to permit installation of chilled water connections for the two additional 50% chillers to be installed by the licensee in 1992. This change would allow the completion of the permanent upgrade modification of the MCR and ESGR air conditioning (AC) system during 1992. The March 9, 1992 letter provided supplemental information that did not change the initial proposed no significant hazard consideration determination.

2.0 BACKGROUND

The licensee determined by testing that the MCR and ESGR AC system was not adequate to handle unrecognized additional heat loads over an extended period of time. Interim modifications were proposed by the licensee, approved by the staff, and implemented at the site in 1989. The licensee has replaced, during subsequent outages, all related AHUs with larger capacity units, restoring the AHU portion of the MCR and ESGR AC system to two 100% redundant trains.

3.0 EVALUATION

The MCR and ESGR AC system is a shared system that cools the Surry Units 1 and 2 main control rooms, emergency switchgear rooms, and relay rooms. The system was originally designed to consist of two 100% capacity trains. Currently, each train contains one chiller refrigeration unit and four AHUs. The AHU units are allocated to the Unit 1 MCR, Unit 1 ESGR and the Unit 2 MCR, and Unit 2 ESGR. The ESGRs include the relay rooms. A third chiller is available as a maintenance swing chiller.

The licensee has completed, during previous outages, the replacement of the four AHUs to provide the original capability of two redundant 100% capacity units. Upon installation of the two additional chillers, this will complete the permanent modifications to the MCR and ESGR AC system to account for unrecognized additional heat loads and satisfy the original AC system design basis.

The current TS address the availability of the specific AHU but do not account for the increased ventilation capacity due to the recent installation of new AHUs. The improved AHUs are capable of providing the design base ventilation (cooling) requirements with one AHU inoperable for each component. The TS also require entry into a 7-day action statement when any one of the four AHUs or any one chiller becomes inoperable.

Installation of the additional chillers is scheduled as non-outage work in 1992. To install the chilled water piping connections for the new chillers, each train of the MCR and ESGR must be sequentially isolated and partially drained. This action will take one of the three chillers, two of the four AHUs for Unit 1, and two of the four AHUs for Unit 2 out of service for a period of 7 days. The remaining two chillers and four AHUs will continue to provide 100% cooling capacity for the Unit 1 and 2 MCRs and ESGRs.

The licensee has in place redundant 100% capacity AHUs for each space to assure that the ventilation capacity requirements are always maintained by the capacity of the new AHUs. Therefore, the redundancy and the capacity of the upgraded AHU configuration assures the staff that the margin of safety is not reduced during the entry into this proposed action statement. Also, Unit 1 is currently in a refueling outage and by completing the modifications during the Unit 1 outage, application of the proposed TS change would be limited to entries into the associated action statement for Unit 2 only. Therefore, upon loss of any of the two Unit 2 AHUs, or upon loss of one of the two remaining chillers, Unit 2 would be required to shut down unless the failed component could be repaired within 6 hours.

The proposed amendments would revise the TS to allow planned entries into the 7-day action statement to implement the above-cited piping modifications. Moreover, the proposed revision is not limited to two entries and if difficulties are encountered during the modifications, the action statement can be exited and subsequently reentered to complete the modifications in that train of chilled water. The proposed TS change, in the form of a footnote, will expire on June 30, 1992.

4.0 SUMMARY

Based on its evaluation, the staff concludes that the proposed TS change is acceptable and appropriate in order to implement the planned permanent modifications and meet the original design basis criteria of the MCR and ESGR AC systems.

5.0 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.

6.0 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 (57 FR 6041). 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.

7.0 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: F. Rinaldi

Date: April 1, 1992