

April 11, 1991

Docket No. 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 UNIT 2 - ISSUANCE OF AMENDMENT RE: MAIN CONTROL ROOM AND
EMERGENCY SWITCHGEAR ROOM AIR HANDLING UNITS (TAC NO. 79728)

The Commission has issued the enclosed Amendment No. 151 to Facility Operating License No. DPR-37 for the Surry Power Station, Unit No. 2. The amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated February 6, 1991.

The amendment eliminates the present operational restrictions on the main control room and emergency switchgear room air handling units, which were imposed by Amendment No. 129 dated May 30, 1989.

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. 151 to DPR-37
- 2. Safety Evaluation

cc w/enclosures:
See next page

OFC :	LA:PD22	PM:PD22	D:PD22	<i>[Signature]</i>	SPLB	:
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

April 11, 1991

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Virginia Electric and Power Company
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Bart C. Buckley

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. 151 to DPR-37
2. Safety Evaluation

cc w/enclosures:
See next page

DATED: April 11, 1991

AMENDMENT NO. 151 TO FACILITY OPERATING LICENSE NO. DPR-37 - SURRY UNIT 2

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B. Buckley
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Wanda Jones, P-130A
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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. 50-281

SURRY POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 151
License No. DPR-37

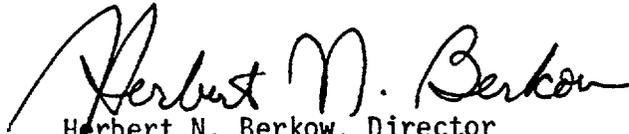
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated February 6, 1991, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's 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. 151, 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 the date of issuance and will be implemented within 30 days following completion of installation and post-modification testing of the four air handling units, or prior to Surry, Unit 2 restart, whichever occurs sooner.

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 11, 1991

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 151 FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NO. 50-281

Revise Appendix A as follows:

Remove Pages

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

Insert Pages

TS 3.23-1
TS 3.23-2
TS 3.23-3
TS 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.

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.

The MCR and ESGR AHUs have been replaced in the initial phases of the permanent modification. Currently, two of three MCR and ESGR Air Conditioning System chillers are required to operate to maintain design temperatures under maximum heat load conditions. As such, all three chillers must be operable with either Unit above Cold Shutdown. Additional chiller capacity will be installed as part of the permanent modifications to restore original design flexibility.

In addition to the equipment restrictions above, a fire watch will be required during this interim period in both units' 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. 151 TO FACILITY OPERATING LICENSE NO. DPR-37
VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION, UNIT NO. 2
DOCKET NO. 50-281

1.0 INTRODUCTION

By letter dated February 6, 1991, Virginia Electric and Power Company (the licensee) requested changes to the Technical Specifications (TS) Section 3.23, "Main Control Room and Emergency Switchgear Room Ventilation and Air Conditioning Systems." The proposed changes would eliminate the present operational restrictions on the Unit 2 main control room (MCR) and emergency switchgear room (ESGR) air handling units. These operational restrictions were an interim measure imposed by a previous specification change (License Amendment No. 129) approved by the staff on May 30, 1989. The interim operational restrictions were removed from the Unit 1 TS (Amendment No. 145) on October 11, 1990 following upgrading of the Unit 1 four air handling units.

2.0 EVALUATION

The MCR and ESGR air conditioning system is a shared system that cools the Surry Unit 1 and Unit 2 main control rooms, emergency switchgear rooms, and relay rooms. The system was originally designed to consist of two 100 percent capacity trains. Each train contains one chiller refrigeration unit and four air handling units (AHU) - a dedicated AHU for each of the areas served, i.e., the Unit 1 MCR, Unit 2 MCR, Unit 1 ESGR and Unit 2 ESGR (the ESGR includes the relay rooms). A third chiller is provided as a maintenance swing chiller.

As identified in the staff's May 30, 1989 evaluation, the licensee determined by testing that each air conditioning train did not provide the required 100 percent heat removal capacity. As an interim measure, modifications to the existing equipment were made to meet the system design basis. The interim modifications required the operation of two air handling units in each emergency switchgear room and two chillers to maintain ESGR temperatures under design heat load conditions. As a result of these interim modifications, interim limiting conditions for operation were also required to address different failure modes.

Permanent modifications are being made to the Unit 2 AHUs such that each AHU for Unit 2 will be capable of 100 percent heat removal capacity in accordance with the original design basis. These modifications will be complete prior to restart from the April 1991 refueling outage. The proposed TS change reflects the permanent modifications and restores the Unit 2 specification to

its initial operating restrictions, i.e., with one Unit 2 AHU inoperable, operation of Unit 2 may continue for up to 7 days. The proposed TS change would remove the interim operating restrictions which allow a Unit 2 MCR AHU to be inoperable for up to 7 days but require two ESGR AHU drive motors to be operable for each AHU unit and require Unit 2 shutdown within 6 hours whenever an ESGR AHU becomes inoperable.

3.0 SUMMARY

Based on its evaluation, the staff concludes that the proposed TS change is conservative and in accordance with the permanent modifications to meet the original design basis criteria of the MCR and ESGR air conditioning systems. The proposed 7-day limiting condition for operation (LCO) with one AHU inoperable is consistent with other engineered safety features LCOs for the Surry plant and with the original Surry MCR and ESGR specification. The staff, therefore, concludes that the proposed change is acceptable.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

This amendment changes 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 amendment involves 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding (56 FR 9388). Accordingly, this amendment meets 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 this amendment.

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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: B. Buckley
W. LeFave

Date: April 11, 1991