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

October 12, 1984

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Posted
Amot. 98

to DPR-37

Docket Nos. 50-280
and 50-281

Mr. W. L. Stewart
Vice President - Nuclear Operations
Virginia Electric and Power Company
Post Office Box 26666
Richmond, Virginia 23261

Dear Mr. Stewart:

The Commission has issued the enclosed Amendment No. 99 to Facility Operating License No. DPR-32 and Amendment No. 98 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 in response to your application transmitted by letter dated January 12, 1983, as supplemented April 3, 1984.

These amendments revise the Technical Specifications to address the availability of charging pump capability from the non-operating unit during one-unit operation.

These Technical Specifications were proposed as a result of NRC Fire Protection Safety Evaluation dated September 19, 1979, where we found that the installation of a cross-connect between the charging systems of the two units would provide an improvement to fire protection at Surry. Our letter dated November 24, 1980, further requested the licensee to provide these Technical Specifications. We have reviewed the proposed Technical Specifications and conclude that they address the requirement to have the charging pump of the non-operating unit available during one-unit operation, and is, therefore, acceptable.

These amendments involve a change in the installation or use of the facilities components located within the restricted areas as defined in 10 CFR 20. The staff has determined that these 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. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR Sec 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.

We have concluded, based on the considerations discussed above, that:
(1) there is reasonable assurance that the health and safety of the

Mr. W. L. Stewart

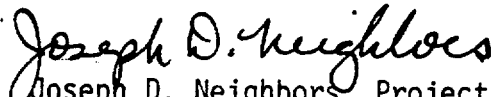
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public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

A Notice of Issuance will be included in the Commission's next regular monthly Federal Register notice.

Sincerely,



Joseph D. Neighbors, Project Manager
Operating Reactors Branch #1
Division of Licensing

Enclosures:

1. Amendment No. 99 to DPR-32
2. Amendment No. 98 to DPR-37
3. Safety Evaluation

cc: w/enclosures
See next page

Mr. W. L. Stewart
Virginia Electric and Power Company

Surry Power Station
Units 1 and 2

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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. 99
License No. DPR-32

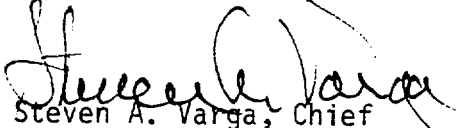
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company (the licensee) dated January 12, 1983, as supplemented April 3, 1984, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (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. 99 , 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 its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 12, 1984



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. 98
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 12, 1983, as supplemented April 3, 1984, 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. 98, 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 its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 12, 1984

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 99 FACILITY OPERATING LICENSE NO. DPR-32

AMENDMENT NO. 98 FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NOS. 50-280 AND 50-281

Revise Appendix A as follows:

<u>Remove Pages</u>	<u>Insert Pages</u>
3.2-1	3.2-1
3.2-2	3.2-2
3.2-3	3.2-3
3.2-4	3.2-4
3.2-5	3.2-5
	3.2-6

3.2 CHEMICAL AND VOLUME CONTROL SYSTEM

Applicability

Applies to the operational status of the Chemical and Volume Control System.

Objective

To define those conditions of the Chemical and Volume Control System necessary to ensure safe reactor operation.

Specification

- A. When fuel is in a reactor, there shall be at least one flow path to the core for boric acid injection. The minimum capability for boric acid injection shall be equivalent to that supplied from the refueling water storage tank.
- B. For one-unit operation, the reactor shall not be critical unless the following Chemical and Volume Control System conditions are met:
 1. Two charging pumps shall be operable and one charging pump from the opposite unit shall be available*.
 2. Two boric acid transfer pumps shall be operable.
 3. The boric acid tanks (tank associated with the unit plus the common tank) together shall contain a minimum of 6000 gallons of at least 7.0% (but not >8.5%) by weight boric acid solution at a temperature of at least 112°F.

*Available means (1) operable except for automatic initiation instrumentation, (2) offsite or emergency power source may be inoperable in cold shutdown, and (3) it is capable of being used for alternate shutdown with the opening of the charging pump cross-connect.

4. System piping and valves shall be operable to the extent of establishing two flow paths to the core; one flow path from the boric acid tanks to the charging pumps and a flow path from the refueling water storage tank to the charging pumps.
 5. Two channels of heat tracing shall be operable for the flow paths requiring heat tracing.
 6. System piping, valves and control board indication required for the operation of the two charging pumps in Specification 3.2.B.1 shall be operable, and system piping, valves and control board indication required for the operation of the opposite unit charging pump in Specification 3.2.B.1 shall be available*.
- C. For two-unit operation, the reactor shall not be critical unless the following Chemical and Volume Control System conditions are met:
1. Two charging pumps shall be operable per unit.
 2. Three boric acid transfer pumps shall be operable.
 3. When the common tank is in service, it shall be assigned to only one unit at a time. For that unit which has usage of the common tank, the boric acid tanks (unit's tank plus common tank) together shall contain a minimum of 6000 gallons of at least 7.0% (but not >8.5%) by weight boric acid solution at a temperature of at least 112°F.

*Available means (1) operable except for automatic initiation instrumentation, (2) offsite or emergency power source may be inoperable in cold shutdown, and (3) it is capable of being used for alternate shutdown with the opening of the charging pump cross-connect.

For that unit which does not have usage of the common tank, the unit's own tank shall contain a minimum of 6000 gallons of at least 7.0% (but not >8.5%) by weight boric acid solution at a temperature of at least 112°F.

When the common tank is assigned to one unit, valves shall be positioned to establish a flow path to that unit and prevent flow to the other unit.

4. System piping and valves shall be operable to the extent of establishing two flow paths to the core; one flow path from the boric acid tanks to the charging pumps and a flow path from the refueling water storage tank to the charging pumps.
 5. Two channels of heat tracing shall be operable for the flow paths requiring heat tracing.
- D. The requirements of Specifications 3.2.B and 3.2.C above may be modified to allow one of the following components to be inoperable at any one time. If the system is not restored within the time period specified, the reactor shall be placed in hot shutdown conditions. If the requirements of Specifications 3.2.B and 3.2.C are not satisfied within an additional 48 hours, the reactor shall be placed in the cold shutdown condition.
1. One of the stipulated boric acid transfer pumps may be inoperable for a period not to exceed 24 hours provided immediate attention is directed to making repairs.
 2. Two charging pumps may be inoperable subject to the provisions of Specification 3.3.B.
 3. One heat tracing circuit may be inoperable for a period not to exceed 24 hours provided immediate attention is directed to making repairs.

E. The requirements of Specifications 3.2.B.1 and 3.2.B.6, concerning the opposite unit's charging pumps and associated piping, valves and control board indications, may be modified to allow the following components to be unavailable.

1. The opposite unit's charging pumps may be unavailable for a period not to exceed 7 days provided immediate attention is directed to making repairs. If not available within 7 days, be in at least hot shutdown within the next 6 hours and in cold shutdown within the next 30 hours.
2. The cross tie piping, associated valves and control board instrumentation and controls may be unavailable for a period not to exceed 7 days provided immediate attention is directed to making repairs. If not available within 7 days, be in at least hot shutdown within the next 6 hours and in cold shutdown within the next 30 hours.

Basis

The Chemical and Volume Control System provides control of the Reactor Coolant System Boron inventory. This is normally accomplished by using boric acid transfer pumps which discharge to the suction of each unit's charging pumps. The Chemical and Volume Control System contains four boric acid transfer pumps. Two of these pumps are normally assigned to each unit but, valving and piping arrangements allow pumps to be shared such that three out of four pumps can service either unit. An alternate (not normally used) method of boration is to use the charging pumps taking suction directly from the refueling water storage tank. There are two sources of borated water available to the suction of the charging pumps through two different paths; one from the refueling water storage tank and one from the discharge of the boric acid transfer pumps.

- A. The boric acid transfer pumps can deliver the boric acid tank contents (7.0% solution of boric acid) to the charging pumps.

- B. The charging pumps can take suction from the volume control tank, the boric acid transfer pumps and the refueling water storage tank. Reference is made to Technical Specification 3.3.

The quantity of boric acid in storage from either the boric acid tanks or the refueling water storage tank is sufficient to borate the reactor coolant in order to reach cold shutdown at any time during core life.

Approximately 6000 gallons of the 7.0% solution of boric acid are required to meet cold shutdown conditions. Thus, a minimum of 6000 gallons in the boric acid tank is specified. An upper concentration limit of 8.5% boric acid in the tank is specified to maintain solution solubility at the specified low temperature limit of 112°F. For redundancy, two channels of heat tracing are installed on lines normally containing concentrated boric acid solution.

The Boric Acid Tank(s), which are located above the Boron Injection Tank(s), are supplied with level alarms which would annunciate if a leak in the system occurred.

For one-unit operation, it is required to maintain available one charging pump with a source of borated water on the opposite unit, the associated piping and valving, and the associated instrumentation and controls in order to maintain the capability to cross-connect the two unit's charging pump discharge headers. In the event the operating unit's charging pumps become inoperable, this permits the opposite unit's charging pump to be used to bring the disabled unit to cold shutdown conditions. Initially, the need for the charging pump cross-connect was identified during fire protection reviews.

REFERENCES

FSAR Sections 9.1 Chemical and Volume Control System

Amendment No.99 and No. 98