

March 1, 1999

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

Distribution:  
See next page

SUBJECT: SURRY UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS - REVISED  
EMERGENCY DIESEL GENERATOR (EDG) START/LOAD TIME TESTING  
AND RATINGS (TAC NOS. MA4128 AND MA4129)

Dear Mr. O'Hanlon:

The Commission has issued the enclosed Amendment No. 218 to Facility Operating License No. DPR-32 and Amendment No. 218 to Facility Operating License No. DPR-37 for the Surry Power Station, Unit Nos. 1 and 2, respectively. The amendments change the Technical Specifications (TS) in response to your application transmitted by letter dated November 4, 1998.

These amendments revise the TS to change EDG start and load time testing requirements in TS 4.6.A.1.b. The TS Basis Section 3.16 is also revised to reflect the basis for the new TS requirements. The TS changes are in a conservative direction, and are being made to bring the TS and the Updated Final Safety Analysis Report into conformance with each other.

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:

Gordon E. Edison, Senior Project Manager  
Project Directorate II-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket Nos. 50-280 and 50-281

Enclosures:

1. Amendment No. 218 to DPR-32
2. Amendment No. 218 to DPR-37
3. Safety Evaluation

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cc w/encls: See next page

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

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Sincerely,

A handwritten signature in black ink that reads "Gordon E. Edison".

Gordon E. Edison, Senior Project Manager  
Project Directorate II-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket Nos. 50-280 and 50-281

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2. Amendment No. 218 to DPR-37
3. Safety Evaluation

cc w/encls: See next page

Mr. J. P. O'Hanlon  
Virginia Electric and Power Company

Surry Power Station

cc:

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Board of Supervisors of Surry County  
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State Health Commissioner  
Office of the Commissioner  
Virginia Department of Health  
P.O. Box 2448  
Richmond, Virginia 23218

DATED: March 1, 1999

AMENDMENT NO. 218 TO FACILITY OPERATING LICENSE NO. DPR-32 - SURRY UNIT 1  
AMENDMENT NO. 218 TO FACILITY OPERATING LICENSE NO. DPR-37 - SURRY UNIT 2

Docket File

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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. 218  
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 November 4, 1998, 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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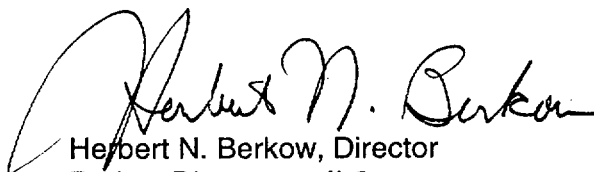
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-32 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 218 , 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: March 1, 1999



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. 218  
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 November 4, 1998, 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.

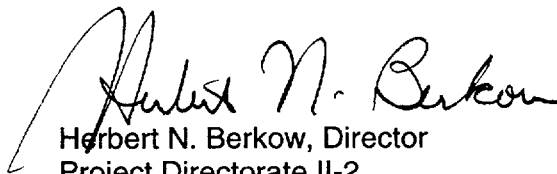
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-37 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 218 , 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: March 1, 1999



ATTACHMENT TO

LICENSE AMENDMENT NO. 218 TO FACILITY OPERATING LICENSE NO. DPR-32

LICENSE AMENDMENT NO. 218 TO FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NOS. 50-280 AND 50-281

Remove Pages

TS 3.16-3

TS 4.6-2

Insert Pages

TS 3.16-3

TS 4.6-2

2. If a primary source is not available, the unit may be operated for seven (7) days provided the dependable alternate source can be operable within 8 hours. If specification A-4 is not satisfied within seven (7) days, the unit shall be brought to the cold shutdown condition.
3. One battery may be inoperable for 24 hours provided the other battery and battery chargers remain operable with one battery charger carrying the DC load of the failed battery's supply system. If the battery is not returned to operable status within the 24 hour period the reactor shall be placed in the hot shutdown condition. If the battery is not restored to operable status within an additional 48 hours, the reactor shall be placed in the cold shutdown condition.
4. A train of the opposite unit's emergency power system as required by Section 3.16.A.8 above may be inoperable for a period not to exceed 14 days. During this 14 day period, the following limitations apply:
  - a) If the offsite power source becomes unable to energize the opposite unit's operable train, operation may continue provided its associated emergency diesel generator is energizing the operable train.
  - b) If the opposite unit's operable train's emergency diesel generator becomes unavailable, operation may continue for 72 hours provided the offsite power source is energizing the opposite unit's operable train.
  - c) Return of the originally inoperable train to operable status allows the second inoperable train to revert to the 14 day limitation.

If the above conditions are not met, the reactor shall be brought to hot shutdown conditions within 6 hours and cold shutdown condition within the following 30 hours.

- C. The continuous running electrical load supplied by an emergency diesel generator shall be limited to 2750 KW.

#### Basis

The Emergency Power System is an on-site, independent, automatically starting power source. It supplies power to vital unit auxiliaries if a normal power source is not available. The Emergency Power System consists of three diesel generators for two units. One generator is used exclusively for Unit 1, the second generator for Unit 2, and the third generator functions as a backup for either Unit 1 or 2. The diesel generators have a cumulative 2,000 hour rating of 2750 KW. The actual loads using conservative

- b. Automatic start of each diesel generator, load shedding, and restoration to operation of particular vital equipment, initiated by a simulated loss of off-site power together with a simulated safety injection signal. Testing will demonstrate load shedding and load sequencing initiated by a simulated loss of off-site power following a simulated engineered safety features signal. Testing will also demonstrate that the loss of voltage and degraded voltage protection is defeated whenever the emergency diesel is the sole source of power to an emergency bus and that this protection is automatically reinstated when the diesel output breaker is opened. This test will be conducted during reactor shutdown for refueling to assure that the diesel generator will start and accept load in less than or equal to 10 seconds after the engine starting signal.
- c. Availability of the fuel oil transfer system shall be verified by operating the system in conjunction with the monthly test.
- d. Each diesel generator shall be given a thorough inspection once per 18 months utilizing the manufacturer's recommendations for this class of stand-by service.

## 2. Acceptance Criteria

The above tests will be considered satisfactory if all applicable equipment operates as designed.

### B. Fuel Oil Storage Tanks for Diesel Generators

1. A minimum fuel oil storage of 35,000 gal shall be maintained on-site to assure full power operation of one diesel generator for seven days.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 218 TO FACILITY OPERATING LICENSE NO. DPR-32  
AND AMENDMENT NO. 218 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 November 4, 1998, Virginia Electric and Power Company (the licensee) proposed changes to the Surry Power Station, Units 1 and 2, Technical Specifications (TS) and TS Basis. Specifically, during a review performed by the licensee, a discrepancy between the emergency diesel generator (EDG) start and load testing time discussed in the TS and the Updated Final Safety Analysis Report (UFSAR) was identified. In addition, the need for clarification and correction of the EDG ratings in a TS Basis was also identified. Further, it was determined that changes to the TS, TS Basis, and the UFSAR were necessary for consistency and correctness.

2.0 EVALUATION

Section 4.6 of the Surry TS and the TS Basis for Specification 3.16 are revised to clarify surveillance requirements and to correct and bring about consistency in the wording of the TS, TS Basis, and UFSAR.

TS 4.6.A.1.b

This TS surveillance test regarding automatic starting of each EDG, load shedding and restoration to operation of particular vital equipment initiated by a simulated loss of offsite power together with a simulated safety injection signal, is revised to read that the test will be conducted during reactor shutdown for refueling to assure that the diesel generator "will start and accept load in less than or equal to 10 seconds" rather than "will start within 10 sec and assume load in less than 30 sec" after the engine starting signal.

The proposed change replaces the current surveillance requirement for the EDG to start within 10 seconds and assume load in "less than 30 seconds" with the correct design basis requirement to start and accept load in "less than or equal to 10 seconds." The proposed change to TS 4.6.A.1.b does not affect the time in which an EDG is required to start and accelerate to the set of conditions necessary for the EDG to accept load. However, the proposed change does conservatively alter the TS time requirement for the EDG to begin to

accept load. The change eliminates a surveillance requirement value that has no safety or design basis significance and replaces it with a more stringent value that is addressed in accident analysis discussions and is the correct value to be applied as a technical specification requirement. The change does not affect the operation or testing of an EDG because the current surveillance testing procedures require the EDG to start and pick up load within 10 seconds which is consistent with the proposed change. Thus, this proposed TS change has no impact on the operation or design of the EDGs, their support equipment and systems, or the existing surveillance testing of that equipment and is acceptable.

#### TS Basis 3.16

The discussion of diesel generator ratings is revised to "The diesel generators have a cumulative 2,000-hour rating of 2750 kW" rather than "a continuous 2,000-hour rating of 2750 kW and a two hour rating of 2850 kW."

The current TS 3.16 Basis notes that the diesel generators have a continuous 2,000-hour rating of 2750 kW and a two-hour rating of 2850 kW. The reference to the 2750 kW 2,000-hour rating is appropriate for the diesel service application of providing post-accident emergency power, but the terminology is being changed from continuous 2,000-hour rating to cumulative 2,000-hour rating for consistency with the rating nomenclature of the manufacturer. The actual emergency loads, using conservative ratings for accident conditions, require approximately 2,320 kW. The 2850 kW two-hour rating is an inappropriate rating for the Surry diesel service application since performance testing of these units only addresses the 2,000-hour rating and the limit on this testing is 2750 kW. Thus, the reference to the two-hour rating of 2850 kW is deleted from the TS Basis and the UFSAR. Based on the reasons provided for the noted clarification and correction, the identified changes to the TS Basis 3.16 are 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 changes a surveillance requirement. 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 (64 FR 4161). 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: F. Ashe

Date: March 1, 1999