JUN. 28 1976

Dockets Nos.: 50-280
and 50-281

Virginia Electric & Power Company
ATTN: Mr. W. L. Proffitt
Senior Vice President
P. O. Box 26666
Richmond, Virginia 23261

Gentlemen:

In response to your application dated March 31, 1976, the Commission has issued the enclosed Amendments No. 17 to Facility Operating Licenses No. DPR-32 and DPR-37 for the Surry Power Station, Unit Nos. 1 and 2. You were previously notified of these license amendments by telephone and by telecopy on March 31, 1976.

These amendments revise the gaseous effluent release Technical Specifications.

We are concerned that Virginia Electric & Power Company did not take positive action in sufficient time to prevent Technical Specification 3.11.B.2, relating to the release of radioactive gaseous effluents, from being exceeded. Your Station records of cumulative releases and your experience with previous steam generator tube leaks should have alerted you in sufficient time to avoid reaching the limit. In order to continue to provide protection to the health and safety of the public, minimize unscheduled shutdowns at the Surry Station and to avoid requests on your part for expedited Technical Specification changes, we recommend that you initiate the necessary actions to avoid such events assuming that steam generator tube leaks will occur in the future.

OFFICE ➤						
SURNAME ➤						
DATE ➤						

Copies of the Safety Evaluation, Environmental Impact Appraisal, and the Federal Register Notice are also enclosed.

Sincerely,

Original signed by

Robert W. Reid, Chief
Operating Reactors Branch No. 4
Division of Operating Reactors

Enclosures:
1. Amendment No. 17 to DPR-32
2. Amendment No. 17 to DPR-37
3. Safety Evaluation
4. Environmental Impact Appraisal
5. Federal Register Notice

cc: See next page

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cc w/enclosures:
Michael W. Maupin, Esquire
Hunton, Williams, Gay & Gibson
P. O. Box 1535
Richmond, Virginia 23213

Swem Library
Co-lege of William & Mary
Williamsburg, Virginia 23185

Mr. Sherlock Holmes, Chairman
Board of Supervisors of Surry County
Surry County Courthouse
Surry, Virginia 23683

cc w/enclosures & incoming:
Ms. Susan T. Wilburn
Commonwealth of Virginia
Council on the Environment
P. O. Box 790
Richmond, Virginia 23206

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

VIRGINIA ELECTRIC & POWER COMPANY

DOCKET NO. 50-280

SURRY POWER STATION UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 17
License No. DPR-32

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Virginia Electric & Power Company (the licensee) dated March 31, 1976, 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; and

   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.

2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert W. Reid, Chief
Operating Reactors Branch No. 4
Division of Operating Reactors

Date of Issuance:
June 28, 1976

ATTACHMENT TO LICENSE AMENDMENT NO. 17

FACILITY OPERATING LICENSE NO. DPR-32

DOCKET NO. 50-280

Replace page 3.11-3 of the Technical Specifications with the attached revised page bearing the same number. The changed area on this page is shown by a marginal line.

A-1 above are met.

B. Gaseous Wastes

1. The controlled release rates of gaseous and airborne particulate wastes originating from station operation shall be limited as follows:

$$\frac{\Sigma Q_i}{(MPC)_i} \leq 2.0 \times 10^5 \frac{m^3}{sec}$$

where Q_i is the controlled release rate (curies per second) of any radioisotope i and $(MPC)_i$, in unit of microcuries per cubic centimeter is defined in Column 1, Table II of Appendix B to 10 CFR 20, except that for halogen and particulate isotopes with half-lives greater than 8 days, the values of $(MPC)_i$ shall be reduced by a factor of 700.

2. The release rates of activity shall not exceed 16 percent of those specified in paragraph B.1. above when averaged over any calendar quarter or 10 percent of those specified in paragraph B.1. above when averaged over any 12 consecutive months.

3. The release rate of Iodine 131, when averaged over any calendar quarter shall be such that if continued at the same release rate for a year would not exceed 0.9 curies per year.

4. Gaseous waste gross and particulate activity and flow rate shall be continuously monitored and recorded during release of radioactive gaseous wastes to the process vent.

5. During release of radioactive gaseous waste to the process vent, the following conditions shall be met:

   a. At least one process vent blower shall be operating.

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

VIRGINIA ELECTRIC & POWER COMPANY

DOCKET NO. 50-281

SURRY POWER STATION UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 17
License No. DPR-37

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Virginia Electric & Power Company (the licensee) dated March 31, 1976, 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; and

   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.

2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert W. Reid, Chief
Operating Reactors Branch No. 4
Division of Operating Reactors

Date of Issuance:
June 28, 1976

ATTACHMENT TO LICENSE AMENDMENT NO. 17

FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NO. 50-281

Replace page 3.11-3 of the Technical Specifications with the attached revised page bearing the same number. The changed area on this page is shown by a marginal line.

A-1 above are met.

B. Gaseous Wastes

1. The controlled release rates of gaseous and airborne particulate wastes originating from station operation shall be limited as follows:

$$\frac{\Sigma Q_i}{(MPC)_i} \leq 2.0 \times 10^5 \frac{m^3}{sec}$$

where Q_i is the controlled release rate (curies per second) of any radioisotope i and $(MPC)_i$, in unit of microcuries per cubic centimeter is defined in Column 1, Table II of Appendix B to 10 CFR 20, except that for halogen and particulate isotopes with half-lives greater than 8 days, the values of $(MPC)_i$ shall be reduced by a factor of 700.

2. The release rates of activity shall not exceed 16 percent of those specified in paragraph B.1. above when averaged over any calendar quarter or 10 percent of those specified in paragraph B.1. above when averaged over any 12 consecutive months.

3. The release rate of Iodine 131, when averaged over any calendar quarter shall be such that if continued at the same release rate for a year would not exceed 0.9 curies per year.

4. Gaseous waste gross and particulate activity and flow rate shall be continuously monitored and recorded during release of radioactive gaseous wastes to the process vent.

5. During release of radioactive gaseous waste to the process vent, the following conditions shall be met:

   a. At least one process vent blower shall be operating.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENTS NO. 17 TO LICENSES NOS. DPR-32 AND DPR-37

VIRGINIA ELECTRIC & POWER COMPANY

SURRY POWER STATION UNITS 1 AND 2

DOCKET NOS. 50-280 AND 50-281

Introduction

By telephone contact followed up by a letter on March 31, 1976, Virginia Electric and Power Company (VEPCO) (the licensee) proposed to change the Technical Specifications for the Surry Power Station Unit Nos. 1 and 2. The licensee requested that Section B.2 of Technical Specification 3.11, "Effluent Release," be changed so that the release rate of gaseous activity would be averaged over a calendar year rather than over periods of 12 consecutive months. The licensee is experiencing difficulty meeting this limiting condition, as presently written, because of releases of iodine associated with steam generator tube leakage during the past twelve months. We conclude that the change proposed of simply changing the time frame for the specification is not appropriate but that some relief can be granted by increasing the release limit from 8% to 10% of the 10 CFR Part 20 limits. The licensee concurred with this change.

Evaluation

The major consideration entering into our evaluation of this proposed Technical Specification change was the impact on the health and safety of the public of the increase of the permissible dose from 8% to 10% of the 10 CFR Part 20 limit. However, since a major portion of the effluent releases are due to the consequences of steam generator tube leakages, we also evaluated the licensee's program to minimize such leakage.

Impact of Dose Increase on Public

Our evaluation of increasing the annual gaseous technical specification limit from 8% to 10% of the 10 CFR Part 20 unrestricted area radioactive material concentrations considered the impact of the increased releases upon the public. The impact on the health and safety of the public will be insignificant because of the extremely low levels of radioactivity involved The present Technical Specifications limited the plant to releasing 0.072

curies per year of equivalent Iodine-131 whereas the new specification will permit yearly releases of 0.092 curies per year. The impact of these releases upon the health and safety of the public are negligible because both are small fractions of permissible Federal Radiation Protection Standards (10 CFR Part 20). The present Surry Technical Specifications are based upon dose calculations which assume that a hypothetical grass-cow-man radioiodine pathway exists at the plant site boundary. In actuality the nearest cow to the plant is approximately three (3) miles away thus providing additional conservatism to doses which are already a small fraction of 10 CFR Part 20. The Final Environmental Statement for the Surry Power Station, dated May 1972 and June 1972, evaluated releases of radioactive materials from the station at levels approximately 10 times higher (0.9 curies of Iodine-131) than the proposed specification changes. These higher releases were concluded to be acceptable.

Steam Generator Tube Leakage

The licensee has undertaken many programs aimed at detecting or minimizing tube leakage. The detection or surveillance programs are designed to detect a tube before it leaks and permit the licensee to plug the defective tube. The programs are as follows:

1. Extensive eddy current testing and visual inspection of the tubes have been conducted to establish the current condition of the tubes and plug defective tubes.

2. Tube sections have been removed from Surry Unit No. 1 for analyses.

3. VEPCO plans to remove a section of a tube support plate with several tubes intact, from Surry Unit No. 2 for extensive analysis to seek the basic cause of leaks.

4. VEPCO has conducted a "sludge lancing" program in the steam generators to remove potential corrodents.

5. Recently, when leaking tubes were detected, they were always located in the severely dented area of the tube array. Not only were the leaking tubes plugged but in addition the 40 or more additional tubes in the severely dented area were plugged.

6. VEPCO has performed extensive maintenance on the main turbine condensers in order to increase their leak integrity, thus preventing inleakage of corrosive river water.

7. VEPCO is evaluating plans to minimize gaseous releases in the future through modifications to the steam generator blowdown system.

Due to the above previously concluded programs and plans for future surveillance, we conclude that at present the licensee is taking reasonable action to minimize effluent releases through steam generator tube leaks.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the change does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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.

Dated: June 28, 1976

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

ENVIRONMENTAL IMPACT APPRAISAL BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENTS NO. 17 TO LICENSES NOS. DPR-32 AND DPR-37

VIRGINIA ELECTRIC AND POWER COMPANY

SURRY POWER STATION UNITS 1 AND 2

DOCKETS NOS. 50-280 and 50-281

INTRODUCTION

By telephone contact followed up by a letter on March 31, 1976, Virginia Electric and Power Company (the licensee) proposed to change the Technical Specifications for the Surry Power Station Units 1 and 2. The licensee requested that Section B.2 of Technical Specification 3.11, "Effluent Release", be changed so that the release rate of gaseous activity would be averaged over a calendar year rather than over periods of 12 consecutive months. The licensee is experiencing difficulty meeting this limiting condition, as presently written, because of releases of iodine associated with steam generator tube leakage during the past twelve months. We authorized the licensee on March 31, 1976, to increase his gaseous effluent release Technical Specification 3.11 from 8% to 10% as requested.

ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION

The revised radioactive effluent limiting conditions for operation will not significantly change the quantities or types of radioactivity discharged to the environment from the Surry Power Station. The environmental impact of the radioactive gaseous effluents will be within those described in the Final Environmental Statements because the revised release limit will still be well within those considered in the Final Environmental Statements. The revised limit is still only about 8% of the yearly iodine release rate considered in the FES, and so the anticipated doses would be substantially less than that set forth in the FES. Furthermore, the 8% limit in the Technical Specifications was based on providing flexibility with respect to releases based on doses derived from the location of a grass-cow-child iodine pathway at the site boundary. When the actual location of the nearest cow (approximately 3 miles away) is considered, as is indicated to be appropriate by Appendix I to 10 CFR Part 50, the actual doses computed are substantially less than those that were calculated on the basis of a cow at the site boundary.

We anticipate that when an evaluation in accordance with Appendix I is completed, that it will demonstrate that the limits approved by this action will meet the requirements of Appendix I to 10 CFR Part 50, with margin.

We expect to develop Technical Specifications based on Appendix I in the near future. Thereafter, we will complete our final evaluation of compliance of the Surry Units Nos. 1 and 2 facilities with the provisions of Appendix I.

Until the above described actions are completed, we have concluded that it is appropriate to increase the allowable releases as authorized herein.

CONCLUSION AND BASIS FOR NEGATIVE DECLARATION

On the basis of the foregoing analysis, it is concluded that there will be no significant environmental impact attributable to the proposed action other than has already been predicted and described in the Final Environmental Statements for Surry Power Station Units 1 and 2 issued in May 1972 and January 1973, respectively.

The Commission has further concluded that no environmental impact statement for the proposed action need be prepared and that a negative declaration to this effect is appropriate.

Dated: June 28, 1976

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKETS NOS. 50-280 AND 50-281

VIRGINIA ELECTRIC & POWER COMPANY

NOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY OPERATING LICENSES

AND

NEGATIVE DECLARATION

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendments No. 17 to Facility Operating Licenses Nos. DPR-32 and DPR-37 issued to Virginia Electric & Power Company (the licensee) for operation of the Surry Power Station, Units 1 and 2, located in Surry County, Virginia. The amendments were effective March 31, 1976.

The amendments revise the gaseous effluent release Technical Specifications.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has prepared an environmental impact appraisal for the revised Technical Specifications and has concluded that an environmental impact statement for this particular action is not warranted because there will be no environmental impact attributable to the action other than that which has already been predicted and described in the Commission's Final Environmental Statements for Surry Power Station Units 1 and 2 published in May, 1972 and June, 1972, respectively, and that a negative declaration to this effect is appropriate.

For further details with respect to this action, see (1) the application for amendments dated March 31, 1976, (2) Amendments No. 17 to Licenses Nos. DPR-32 and DPR-37, (3) the Commission's related Safety Evaluation, and (4) the Commission's Environmental Impact Appraisal. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C., and at the Swem Library, College of William and Mary, Williamsburg, Virginia.

A copy of items (2), (3) and (4) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 28th day of June, 1976.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert W. Reid, Chief
Operating Reactors Branch No. 4
Division of Operating Reactors