

Posted  
Amdt. 102  
to DPR-37

August 26, 1985

Docket Nos. 50-280  
and 50-281

Distribution  
ORB#1 RDG  
Gray file  
HThompson  
DNeighbors  
OELD  
EJordan  
JPartlow  
WJones  
ACRS (10)  
RDiggs

Docket file  
NRC PDR  
L PDR  
CParrish  
TChan  
LHarmon  
BGrimes  
TBarnhart (8)  
MVirgilio  
OPA, CMiles  
MChatterton

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.102 to Facility Operating License No. DPR-32 and Amendment No. 102to 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 May 13, 1985.

These amendments revise Technical Specification Section 5.3 to modify the description of the fuel assemblies so that reconstituted assemblies may be placed into the core.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular monthly Federal Register notice.

Sincerely,

/s/JDNeighbors

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

Enclosures:

1. Amendment No. 102 to DPR-32
2. Amendment No. 102 to DPR-37
3. Safety Evaluation

cc: w/enclosures  
See next page

ORB#1:DL  
CParrish  
08/1/85

ORB#1:DL  
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08/1/85

ORB#1:DL  
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08/1/85

OELD  
J. G. [unclear]  
08/1/85

AD:OR:DL  
GLainas  
08/1/85

subject to  
noted addition  
on notice  
8/13/85

Revised  
JG

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

Surry Power Station

cc:

Mr. Michael W. Maupin  
Hunton and Williams  
Post Office Box 1535  
Richmond, Virginia 23213

Attorney General  
Supreme Court Building  
101 North 8th Street  
Richmond, Virginia 23219

Mr. Robert F. Saunders, Manager  
Surry Power Station  
Post Office Box 315  
Surry, Virginia 23883

Donald J. Burke, Resident Inspector  
Surry Power Station  
U.S. Nuclear Regulatory Commission  
Post Office Box 166, Route 1  
Surry, Virginia 23883

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

W. T. Lough  
Virginia Corporation Commission  
Division of Energy Regulation  
Post Office Box 1197  
Richmond, Virginia 23209

Mr. J. H. Ferguson  
Executive Vice President - Power  
Virginia Electric and Power Company  
Post Office Box 26666  
Richmond, Virginia 23261

Regional Administrator, Region II  
U.S. Nuclear Regulatory Commission  
Suite 2900  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303

James B. Kenley, M.D., Commissioner  
Department of Health  
109 Governor Street  
Richmond, Virginia 23219



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. 102  
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 May 13, 1985, 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. 102, 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: August 26, 1985



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. 102  
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 May 13, 1985, 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. 102, 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: August 26, 1985

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 102 FACILITY OPERATING LICENSE NO. DPR-32

AMENDMENT NO. 102 FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NOS. 50-280 AND 50-281

Revise Appendix A as follows:

Remove Page

TS 5.3-1

Insert Page

TS 5.3-1

### 5.3 REACTOR

#### Applicability

Applies to the reactor core, Reactor Coolant System, and Safety Injection System.

#### Objective

To define those design features which are essential in providing for safe system operations.

#### Specifications

##### A. Reactor Core

1. The reactor core contains approximately 176,200 lbs of uranium dioxide in the form of slightly enriched uranium dioxide pellets. The pellets are encapsulated in Zircaloy-4 tubing to form fuel rods. All fuel rods are pressurized with helium during fabrication. The reactor core is made up of 157 fuel assemblies. Each fuel assembly contains 204 fuel rods except for fuel assemblies which may be reconstituted to replace leaking fuel rods with non-fueled rods (e.g. zircaloy or stainless steel).
2. The average enrichment of the initial core is 2.51 weight percent of U-235. Three fuel enrichments are used in the initial core. The highest enrichment is 3.12 weight percent of U-235.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 102 TO FACILITY OPERATING LICENSE NO. DPR-32  
AND AMENDMENT NO. 102 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

Introduction

By letter dated May 13, 1985, Virginia Electric and Power Company (the licensee) requested amendments to License Nos. DPR-32 and DPR-37 for the Surry Power Station, Units 1 and 2 (Surry 1/2). The proposed change would revise Technical Specification Section 5.3 to modify the description of the fuel assemblies so that reconstituted assemblies may be placed into the core.

Discussion and Evaluation

The licensee is pursuing fuel assembly reconstitution as a means to utilize the remaining energy in fuel assemblies which contain a small number of leaking (approximately 1-4) fuel rods. The leaking fuel rods will be replaced with dummy rods. Evaluations have been performed to verify that fuel rod removal and dummy rod replacement meet all existing fuel assembly design requirements and safety criteria.

Specific areas that were addressed in the evaluation are 1) the reconstitution process, 2) the storage of defective fuel rods, 3) local nuclear peaking resulting from replacement of fuel rods with dummy Zircaloy rods, 4) local thermal hydraulic effects, and 5) reload safety limits.

The dummy rods inserted in place of defective fuel rods do not make a significant change to the assembly mechanical characteristics. Calculations performed to determine the impact of reconstituted fuel assemblies on future core reload analyses indicated minor changes in local power peaking. Core reload designs will explicitly incorporate the impact of any reconstituted assemblies and established design criteria will be followed.

The failed rods will be removed to a fuel rod canister. Thermal-hydraulic evaluations have shown that there will be sufficient cooling within a completely filled canister. Criticality analyses have demonstrated subcriticality in the most reactive configuration.

Since the reconstituted fuel assemblies satisfy the same design criteria as the original fuel assemblies and use of the assemblies will not result in a change to existing safety criteria and design limits, we find this Technical Specification change, as submitted by the licensee, to be acceptable.

#### Environmental Consideration

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.

#### Conclusion

We have 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, 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.

Dated: August 26, 1985

#### Principal Contributors:

M. Chatterton  
J. D. Neighbors  
T. Chan