



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 189 TO FACILITY OPERATING LICENSE NO. DPR-32  
AND AMENDMENT NO. 189 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 July 2, 1993, as supplemented December 10, 1993, Virginia Electric and Power Company (the licensee) proposed changes to the Technical Specifications (TS) for the Surry Power Station Units 1 and 2. The proposed changes would modify specifications having cycle-specific parameter limits by replacing the values of those limits with a reference to a Core Operating Limits Report (COLR) for the values of those limits. The proposed changes also include the addition of the COLR to the Definitions section and to the reporting requirements of the Administrative Controls section of the TS. The December 10, 1993, submittal did not expand the scope of the original application and did not change the proposed no significant hazards determination. Guidance on the proposed changes was developed by NRC and provided to all power reactor licensees and applicants by Generic Letter (GL) 88-16, dated October 4, 1988.

2.0 EVALUATION

The proposed changes to the TS are in accordance with the guidance provided by GL 88-16 and are addressed below.

- (1) The definition section of the TS was modified to include a definition of the COLR that requires cycle/reload-specific parameter limits to be established on a unit-specific basis in accordance with NRC-approved methodologies that maintain the limits of the safety analysis. The definition notes that plant operation within these limits is addressed by individual specifications.
- (2) The following specifications were revised to replace the values of cycle-specific parameter limits with reference to the COLR that provides these limits.
  - (a) Specifications 3.1.E and 5.3.A.6.b

The moderator temperature coefficient (MTC) limits for this specification are specified in the COLR and the maximum upper limit for the MTC is specified in the TS.

- (b) Specifications 3.12.A.2 and 3.12.A.3

The control bank insertion limits for this specification are specified in the COLR.

- (c) Specification 3.12.B.1

The heat flux hot channel factor ( $F_q$ ) limits at rated thermal power and the normalized  $F_q$  limit as a function of core height  $K(Z)$  for this specification are specified in the COLR.

- (d) Specification 3.12.B.2

The nuclear enthalpy rise hot channel factor ( $F_{AH}^N$ ) limit for this specification is specified in the COLR.

The bases of affected specifications have been modified by the licensee to include appropriate reference to the COLR. Based on our review, we conclude that the changes to these bases are acceptable.

- (3) Specification 6.2.C is revised to include the COLR under the reporting requirements of the Administrative Control section of the TS. This specification requires that the COLR be submitted, upon issuance, to the Resident Inspector. The report provides the values of cycle-specific parameter limits that are applicable for the current fuel cycle. Furthermore, this specification requires that the NRC-approved methodologies be used in establishing the values of these limits for the relevant specifications and that the values be consistent with all applicable limits of the safety analysis. The approved methodologies are the following:

- (a) VEP-FRD-42, Rev. 1-A, "Reload Nuclear Design Methodology," September 1986 (Methodology for TS 3.1.E and TS 5.3.A.6.b - Methodology Temperature Coefficient; TS 3.12.A.2 and 3.12.A.3 - Control Bank Insertion Limit; TS 3.12.B.1 and TS 3.12.B.2 - Heat Flux Hot Channel Factor and Nuclear Enthalpy Rise Hot Channel Factor).

- (b) WCAP-9220-P-A, Rev. 1 "Westinghouse ECCS Evaluation Model - 1981 Version," February 1982 (Methodology for TS 3.12.B.1 and TS 3.12.B.2 - Heat Flux Hot Channel Factor).
- (c) WCAP-9561-P-A, ADD. 3, Rev. 1, "BART A-1: A Computer Code for the Best Estimate Analysis of Reflood Transients-Special Report: Thimble Modeling in W ECCS Evaluation Model," July 1986 (Methodology for TS 3.12.B.1 and TS 3.12.B.2 - Heat Flux Hot Channel Factor).
- (d) WCAP-10266-P-A, Rev. 2, "The 1981 Version of the Westinghouse ECCS Evaluation Model Using the BASH Code," March 1987 (Methodology for TS 3.12.B.1 and TS 3.12.B.2 - Heat Flux Hot Channel Factor).
- (e) WCAP-10079-P-A, "NOTRUMP, A Nodal Transient Small Break and General Network Code" August 1985 (Methodology for TS 3.12.B.1 and TS 3.12.B.2 - Heat Flux Hot Channel Factor).
- (f) VEP-NE-2-A, "Statistical DNBR Evaluation Methodology," June 1987 (Methodology for TS 3.12.B.1 and TS 3.12.B.2 - Nuclear Enthalpy Rise Hot Channel Factor).
- (g) VEP-NE-3-A, "Qualification of the WRB-1 CHF Correlation in the Virginia Power COBRA Code," July 1990 (Methodology for TS 3.12.B.1 and TS 3.12.B.2 - Nuclear Enthalpy Rise Hot Channel Factor).

Finally, the specification requires that all changes in cycle-specific parameter limits be documented in the COLR before each reload cycle or remaining part of a reload cycle and submitted upon issuance to NRC, prior to operation with the new parameter limits. Furthermore, the licensee should identify the applicable specifications to be relocated to the COLR under each approved methodology cited above.

On the basis of the review, the NRC staff concludes that the licensee provided an acceptable response to the items in GL 88-16 on modifying cycle-specific parameter limits in TS. Because plant operation continues to be limited in accordance with the values of cycle-specific parameter limits that are established using NRC-approved methodologies, the NRC staff concludes that this change has no impact on plant safety. Accordingly, the staff finds that the proposed changes are acceptable.

### 3.0 SUMMARY

We have reviewed the request by the licensee to revise the TS of the Surry Power Station Units 1 and 2 by removing the specific values of some cycle-dependent parameters from the TS and placing the values in a COLR referenced by the specifications. Based on the review, we conclude that these revisions 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. The amendment also relates to changes in recordkeeping, reporting, or administrative procedures or requirements. 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 (58 FR 41519). Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and (10). 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.

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