



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 144 TO FACILITY OPERATING LICENSE NO. NPF-3

TOLEDO EDISON COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

DOCKET NO. 50-346

1.0 INTRODUCTION

By letter dated June 16, 1989 (Ref. 1), as amended by letter dated August 21, 1989 (Ref. 2), Toledo Edison Company (the licensee) proposed changes to the Technical Specifications (TS) for the Davis-Besse plant. The proposed changes would modify specifications having cycle-specific parameter limits by replacing the values of those limits with a reference to the 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. Guidance on the proposed changes was developed by NRC on the basis of the review of a lead-plant proposal submitted on the Oconee plant docket by Duke Power Company. This guidance was provided to all power reactor licensees and applicants by Generic Letter 88-16, dated October 4, 1988 (Ref. 3).

2.0 EVALUATION

The licensee's proposed changes to the TS are in accordance with the guidance provided by Generic Letter 88-16 and are addressed below.

- (1) The Definitions section of the TS was modified to include a definition of the Core Operating Limits Report that requires cycle/reload-specific parameter limits to be established on a unit-specific basis in accordance with an NRC approved methodology that maintains 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 a reference to the COLR that provides these limits.

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(a) Specification 3.1.3.1, Action c.2e

The statement concerning rod position limits has been revised to explicitly cite the COLR.

(b) Specification 3/4.1.3.6

The regulating rod group position limits for this specification are provided in the COLR.

(c) Specification 3.1.3.7

The control rod assembly location and group for this specification are provided in the COLR.

(d) Specification 3.1.3.8

The power level cut-off for xenon reactivity for this specification is specified in the regulating rod position limits provided in the COLR.

(e) Specification 3.1.3.9

The axial power shaping rods insertion limits are provided in the COLR.

(f) Specification 3/4.2.1

The axial power imbalance limits for this specification are provided in the COLR.

(g) Specification 3.2.4

The quadrant power tilt limits for this specification are provided in the COLR.

The bases of affected specifications have been modified by the licensee to include appropriate references to the COLR. Based on its review, the staff concludes that the changes to these bases are acceptable.

- (3) Specification 6.9.1.7 was added to the reporting requirements of the Administrative Controls section of the TS. This specification requires that the COLR be submitted, upon issuance, to the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector. The report provides the values of cycle-specific parameter limits that are applicable for the current fuel cycle. Furthermore, these specifications require that the values of these limits be established using NRC approved methodologies and be consistent with all applicable limits of the safety analysis. The approved methodologies are the following:

- (a) BAW-10122A Rev. 1, "Normal Operating Controls," May 1984.
- (b) BAW-10116A, "Assembly Calculations and Fitted Nuclear Data," May 1977.
- (c) BAW-10117P-A, "Babcock & Wilcox Version of PDQ User's Manual," January 1977.
- (d) BAW-10118A, "Core Computational Techniques and Procedures," December 1979.
- (e) BAW-10124A, "FLAME 3 - A Three-Dimensional Nodal Code for Calculating Core Reactivity and Power Distributions," August 1976.
- (f) BAW-10125A, "Verification of Three-Dimensional FLAME Code," August 1976.
- (g) BAW-10152A, "NOODLE - A Multi-Dimensional Two-Group Reactor Simulator," June 1985.
- (h) BAW-10119, "Power Peaking Nuclear Reliability Factors," June 1977.
- (i) The methodology for Rod Program received NRC approval in the Safety Evaluation Report dated September 1989.

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.

On the basis of the review of the above items, the NRC staff concludes that the licensee provided an acceptable response to those items as addressed in the NRC guidance in Generic Letter 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 is administrative in nature and there is no impact on plant safety as a consequence. Accordingly, the staff finds that the proposed changes are acceptable.

As part of the implementation of Generic Letter 88-16, the staff has also reviewed a sample COLR that was provided by the licensee. On the basis of this review, the staff concludes that the format and content of the sample COLR are acceptable.

In addition to implementing the COLR in accordance with Generic Letter 88-16, the licensee presented a methodology for rod program for review. The methodology discusses the criteria and rationale used to determine the designation and location of the control rods in the shutdown, regulating, and axial power shaping rod banks. The control rod designations and locations for each rod group are specified by Specification 3.1.3.7 and provided in the COLR. On the basis of its review, the staff concludes that the methodology for rod program is acceptable.

The staff has reviewed the request by the Toledo Edison Company to modify the Technical Specifications of the Davis-Besse plant that would remove the specific values of some cycle-dependent parameters from the specifications and place the values in a Core Operating Limits Report that would be referenced by the specification. Based on this review, the staff concludes that these Technical Specification modifications are acceptable. It also concludes that the rod program methodology is acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or a change to a surveillance requirement. The staff has determined that the amendment involves 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). This amendment also involves changes in record-keeping, reporting or administrative procedures or requirements. Accordingly, with respect to these items, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR §51.22(c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

4.0 CONCLUSION

The staff 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

5.0 REFERENCES

1. Letter (#1668) from D.C. Shelton (TECo) to NRC, dated June 16, 1989.
2. Letter (#1691) from D.C. Shelton (TECo) to NRC, dated August 21, 1989.
3. Generic Letter 88-16, "Removal of Cycle-Specific Parameter Limits from Technical Specifications," dated October 4, 1988.

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Dated: January 11, 1990