



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 148

TO FACILITY OPERATING LICENSE NO. DPR-65

NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

DOCKET NO. 50-336

1.0 INTRODUCTION

By application for license amendment dated June 26, 1990 (Ref. 1), as amended by letter dated August 1, 1990 (Ref. 2), Northeast Nuclear Energy Company (the licensee) requested changes to the Technical Specifications (TS) for Millstone Nuclear Power Station, Unit 2. The proposed change would revise Technical 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 of the TS 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).

The August 1, 1990 submittal provided clarifications to the TS to provide consistency in the format, parameters and terminology of the TS. The changes did not alter the proposed action or affect the initial no significant hazards determination noticed in the Federal Register on July 25, 1990.

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 definition 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 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 a reference to the COLR that provides these limits.
  - (a) Specification 3/4.1.1.1

With RCS T<sub>avg</sub> greater than 200°F, the minimum shutdown margin for this specification is specified in the COLR.

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(b) Specification 3/4.1.1.2

With RCS T<sub>avg</sub> less than or equal to 200°F, the minimum shutdown margin for this specification is specified in the COLR.

(c) Specification 3/4.1.1.4

The moderator temperature coefficient (MTC) limits for this specification are specified in the COLR and the upper limit still remains in the MTC technical specification.

(d) Specification 3/4.1.3.6

The regulating CEA insertion limits for this specification are specified in the COLR.

(e) Specification 3/4.2.1

The linear heat rate limits, including heat generated in the fuel, clad and moderator, for this specification are specified in the COLR.

(f) Specification 3/4.2.3

The total integrated radial peaking factor -  $F^T$  limits at rated thermal power for this specification are specified in the COLR.

(g) Specification 3/4.2.6

The limits for cold leg temperature, pressurizer pressure, reactor coolant flow rate and axial shape corresponding to the DNB margin for this specification are 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 6.9.1.7 is revised to add the Core Operating Limits Report to the reporting requirements of the Administrative Control 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) XN-75-27(A), latest Revisions and Supplements, "Exxon Nuclear Neutronics Design Methods for Pressurized Water Reactors," Exxon Nuclear Company.
- (b) XN-NF-84-73(P), latest Revision and Supplements, "Exxon Nuclear Methodology for Pressurized Water Reactors: Analysis of Chapter 15 Events," Exxon Nuclear Company.
- (c) XN-NF-82-21(A), latest Revision and Supplements, "Application of Exxon Nuclear Company PWR Thermal Margin Methodology to Mixed Core Configurations," Exxon Nuclear Company.
- (d) XN-84-93(A), latest Revision and Supplements, "Steamline Break Methodology for PWR's," Exxon Nuclear Company.
- (e) XN-75-32(A), Supplements 1, 2, 3, and 4, "Computational Procedure for Evaluation Rod Bow," Exxon Nuclear Company.
- (f) XN-NF-82-49(A), latest Revision, "Exxon Nuclear Company Evaluation Model EXEM PWR Small Break Model," Exxon Nuclear Company.
- (g) EXEM PWR Large Break LOCA Evaluation Model as defined by:
  - XN-NF-82-20(A), latest Revision and Supplements, "Exxon Nuclear Company Evaluation Model EXEM/PWR ECCS Model Updates," Exxon Nuclear Company.
  - XN-NF-82-07(A), latest Revision, "Exxon Nuclear Company ECCS Cladding Swelling and Rupture Model," Exxon Nuclear Company.
  - XN-NF-81-58(A), latest Revision, "RODEX2 Fuel Rod Thermal-Mechanical Response Evaluation Model," Exxon Nuclear Company.
  - XN-85-16(A), Volume 1 and Supplements, Volume 2 latest Revision and Supplements, "PWR 17x17 Fuel Cooling Test Program," Exxon Nuclear Company.
  - XN-NF-85-105(A), and Supplements, "Scaling of FCTF Based Reflood Heat Transfer Correlation for Other Bundle Designs," Exxon Nuclear Company.

- (h) XN-NF-78-44(A), latest Revision, "Generic Control Rod Ejection Analysis," Exxon Nuclear Company.

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.

We have reviewed the request by the Northeast Nuclear Energy Company to modify the Technical Specifications of the Millstone Unit No. 2 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 specifications. Based on this review, we conclude that these Technical Specification modifications are acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATION

The amendment changes 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. We have 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 staff has previously published a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). The amendment also involves changes to reporting or recordkeeping requirement. According, these changes 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 the amendment.

### 4.0 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 (3) the issuance of the 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 (B13544) from E. J. Mrocza (NNECO) to NRC, dated June 26, 1990.
2. Letter (B13598) from E. J. Mrocza (NNECO) to NRC, dated August 1, 1990.
3. Generic Letter 88-16, "Removal of Cycle-Specific Parameter Limits from Technical Specifications," dated October 4, 1988.

Dated: October 12, 1990

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