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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

AMENDMENT NO. 26 TO FACILITY OPERATING LICENSE NO. DPR-50

METROPOLITAN EDISON COMPANY
JERSEY CENTRAL POWER AND LIGHT COMPANY
PENNSYLVANIA ELECTRIC COMPANY

THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 1

DOCKET NO. 50-289

Introduction

By letter dated March 9, 1977, Metropolitan Edison Company (the licensee) requested amendment of Appendix A to Operating License No. DPR-50 for Three Mile Island Nuclear Station, Unit No. 1 (TMI-1). This proposed amendment would extend the period of applicability of the present limits on the reactor coolant system pressure and system heatup and cooldown rates from 1.84 effective full power years (EFPY) to 2 EFPY.

Discussion

Section 3.1.2 (Pressurization, Heatup and Cooldown Limitations) of the TMI-1 Appendix A Technical Specifications contains an inconsistency. Specifically, Section 3.1.2.1 states that Figures 3.1-1 and 3.1-2, which define the pressure limits for the reactor coolant system during heatup and cooldown, are limiting for the first 1.7×10^6 thermal megawatt days of operation. Based on the licensed power of the reactor (2535 MWt) this is equivalent to about 1.84 EFPY. Section 3.1.2.4, however, states that these figures shall be updated within 2 EFPY. Thus, there is a gap of about 0.16 EFPY during which no limits are specified.

The licensee, by letter dated February 23, 1977, requested amendment of the TMI-1 Technical Specifications in the form of revised Figures 3.1-1 and 3.1-2 which would be applicable over the first 6 EFPY of operation. In support of this request the licensee enclosed Babcock and Wilcox Report No. BAW-1439, "Analysis of Capsule TMI-1E from Metropolitan Edison Company Three Mile Island Nuclear Station, Unit No. 1" which included the results of tests on reactor vessel surveillance specimens and neutron dosimetry data. This report and the licensee's request for revised Figures 3.1-1 and 3.1-2 are currently under review.

In order to remedy the current defect in the TMI-1 Technical Specifications, pending completion of the above review, the licensee's present request is to change Section 3.1.2.1 of the Technical Specifications so that the present

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Figures 3.1-1 and 3.1-2 are applicable for 2 EFPY instead of 1.7×10^6 thermal megawatt days. The licensee states that this is justified because based on the data presented in BAW-1439 the actual fast neutron exposure (E>1.0Mev) received by the reactor vessel is significantly lower than assumed in deriving the limit of 1.7×10^6 thermal megawatt days.

Evaluation

We have examined the basis for the present limit as given in the TMI-1 Technical Specification and find that it is based on a design fast neutron flux (E>1.0 Mev) at the reactor vessel wall of 3.1×10^{10} n/cm^2-sec at a reference power of 2568MWt. At the licensed power of 2535 MWt, this corresponds to a fast neutron flux of about 3.06×10^{10} n/cm^2-sec. We have also examined the dosimetry data given in BAW-1439 and find that based on these data the actual fast neutron flux (E>1.0 Mev) at the reactor vessel wall at the licensed power level will be about 1.68×10^{10} n/cm^2-sec over the first 10 EFPY of operation. The actual exposure rate, therefore, will be about 55% of the rate assumed in establishing the period of applicability of Figures 3.1-1 and 3.1-2.

Inasmuch as the requested change in the period of applicability from 1.84 to 2 EFPY represents an increase of only about 8.6% and the dosimetry data support a much larger increase (up to 180%), we conclude that the requested change is acceptable.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment 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 amendment 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: March 16, 1977

1586 270

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-289

METROPOLITAN EDISON COMPANY
JERSEY CENTRAL POWER AND LIGHT COMPANY
PENNSYLVANIA ELECTRIC COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 26 to Facility Operating License No. DPR-50, issued to Metropolitan Edison Company, Jersey Central Power and Light Company and Pennsylvania Electric Company (the licensees), which revised Technical Specifications for operation of the Three Mile Island Nuclear Station, Unit No. 1 (the facility) located in Dauphin County, Pennsylvania. The amendment is effective as of its date of issuance.

This amendment changes the provisions of the Technical Specifications to extend the period of applicability of the present limits on the reactor coolant system pressure and system heatup and cooldown rates from 1.84 effective full power years (EFPY) to 2 EFPY.

The application for the amendment 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 amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

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DUPLICATE

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated March 7, 1977, (2) Amendment No. 26 to License No. DPR-50, and (3) the Commission's related Safety Evaluation. 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 Government Publications Section, State Library of Pennsylvania, Box 1601 (Education Building), Harrisburg, Pennsylvania.

A copy of items (2) and (3) 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 16th day of March 1977.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

1586 272