

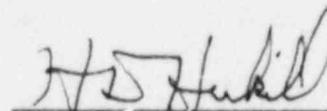
METROPOLITAN EDISON COMPANY
JERSEY CENTRAL POWER & LIGHT COMPANY
AND
PENNSYLVANIA ELECTRIC COMPANY
THREE MILE ISLAND NUCLEAR STATION, UNIT 1

Operating License No. DPR-50
Docket No. 50-289
Technical Specification Change Request No. 180

This Technical Specification Change Request is submitted in support of Licensee's request to change Appendix A to Operating License No. DPR-50 for Three Mile Island Nuclear Station, Unit 1. As a part of this request, proposed replacement pages for Appendix A are also included.

GPU NUCLEAR CORPORATION

BY:



Vice President & Director, TMI-1

Sworn and Subscribed
to before me this 12th
day of January, 1988.

Sharon P. Brown
Notary Public

SHARON P. BROWN, Notary Public
INCORPORATED 1970, DAUPHIN COUNTY
MY COMMISSION EXPIRES JUNE 12, 1989
Member, Pennsylvania Association of Notaries

I. Technical Specification Change Request (TSCR) No. 180

GPUN requests that the following changed replacement pages be inserted into the existing Technical Specifications:

Revised pages: 4-1, 4-2, 4-10, 5-6 and 5-7.

These replacement pages are attached to this TSCR.

II. Reason For Change

The change in maximum allowable fuel enrichment for new fuel storage at TMI-1 being proposed herein is in support of cycle 7 operation and subsequent cycles of operation which currently plan to use fuel loadings of higher enrichment. These fuel loadings of higher enrichment would allow for longer operational cycle lengths.

III. Safety Evaluation Justifying The Change

The proposed Technical Specifications incorporate appropriate surveillance and design requirements to allow for the storage of fuel with an enrichment not to exceed 4.3 w/o U-235 in the TMI-1 New Fuel Storage Vault, Fuel Transfer Canal, Spent Fuel Pool "A" and Spent Fuel Pool "B". The attached criticality safety analysis verifies that the higher enriched fuel can be stored in these locations without exceeding the NRC guidelines on $K_{\text{effective}}$ under normal and accident conditions. To ensure that the NRC guidelines on $K_{\text{effective}}$ are met at all times, two (2) special restrictions are required. These restrictions appear below:

1. The restriction to leave twelve (12) storage locations in the New Fuel Storage Vault vacant (aligned in two rows of six locations each; transverse row numbers four and eight) of fissile or moderating material. The restriction will ensure that the NRC Standard Review Plan (NUREG 0800) Section 9.1.1 requirements for reactivity under hypothetical conditions of low density "optimum" moderation are met by allowing for the necessary additional neutron leakage.
2. The restriction to maintain at least 600 ppm soluble boron in the Spent Fuel Pool "A" and the Fuel Transfer Canal during new fuel movements in or over the pool or canal when new fuel is being stored in the pool or canal. This will ensure that the maximum reactivity is less than the NRC maximum allowed reactivity value for the postulated accident condition of a misplaced fuel assembly located outside the rack but immediately adjacent to a fuel assembly within the rack.

Technical Specification Section 5.4.1(a) is being revised to indicate that 4.3 w/o U-235 new fuel can be stored in the new fuel storage vault or spent fuel pools without exceeding a $K_{\text{effective}}$ of .95. The currently existing Section 5.4.1(a) requires that a $K_{\text{effective}}$ of less than .9 be maintained. The .9 $K_{\text{effective}}$ criteria was the NRC pre-1978 limit based on the fact that uncertainties were not considered in the criticality analyses. However, the current NRC guidelines on $K_{\text{effective}}$ for new fuel storage (NRC Standard Review Plan 9.1.1) require the consideration of uncertainties in criticality analyses and therefore the required $K_{\text{effective}}$ is increased appropriately. The proposed Technical Specification Section 5.4.1(a) recognizes the revised criteria.

Technical Specification Section 5.4.1(a) is being revised to indicate the two (2) restrictions concerning new fuel storage. In addition to the revision to 5.4.1(a), the two (2) restrictions will be included in the appropriate plant procedures.

Technical Specification Section 5.4.1(a) also is being revised to identify the proper fuel rack nominal center-to-center spacings for the Spent Fuel Pool "B" racks.

Technical Specification Section 5.4.1(b) is being revised to indicate a restriction concerning new fuel manipulation in the fuel transfer canal when new fuel is being stored there. In addition to the revision to 5.4.1(b), the restriction will be included in the appropriate plant procedures.

Technical Specification Section 5.4.2(d) is being revised to add a note indicating that, of the 66 storage locations in the new fuel vault racks, twelve (12) of the locations are required to be vacant of fissile or moderating material.

Technical Specification Section 5.4.2(f) is being revised to specify the maximum allowable grams of U-235 per axial centimeter of fuel assembly. This change is necessary to support the increase to 4.3 w/o U-235 new fuel.

Technical Specification Section 4.1 Bases is being revised to include a discussion concerning a minimum boron concentration for the Spent Fuel Pool.

Technical Specification Table 4.1-3 is being revised to check that the boron concentration is greater than or equal to 660 ppmb.

IV. No Significant Hazards Considerations

GPUN has determined that the Technical Specification Change Request poses no significant hazards as defined by the NRC in 10 CFR 50.92.

1. Operation of the facility in accordance with the proposed amendment would not involve a significant increase in the probability of occurrence or consequences of an accident previously evaluated. There are no design basis events in TMI-1 FSAR Chapter 14 or elsewhere which are affected by this proposed amendment. Also, an analysis has been performed and has demonstrated that the NRC criticality requirements for the storage of new fuel have been met under both normal and abnormal conditions.
2. Operation of the facility in accordance with the proposed amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated. The only event of concern with respect to storage of new fuel is criticality and as mentioned in item (1) above, an analysis has demonstrated that the proposed amendment would not result in any kind of criticality event.
3. Operation of the facility in accordance with the proposed amendment would not involve a significant reduction in a margin of safety. The safety criteria contained in the Technical Specification Bases are not impacted by this proposed amendment.

The Commission has provided guidelines pertaining to the application of the three (3) standards by listing specific examples in 48 FR 14870. The proposed amendment is considered to be in the same category as example (vi) of amendments that are considered not likely to involve significant hazards considerations in that the result of this proposed amendment is clearly within all acceptance criteria with respect to the Standard Review Plan.

V. Implementation

It is requested that the amendment authorizing this change become effective no later than May 1, 1988. This is needed to support the receipt of new fuel at TMI-1 for cycle 7 operation. Delay beyond this date could adversely impact the scheduled TMI-1 refueling outage and the shipment of damaged TMI-2 fuel offsite.

VI. Amendment Fee (10 CFR 170.21)

Pursuant to the provisions of 10 CFR 170.21, attached is a check for \$150.00.