

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. 127

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 *H. S. Hubil*
Director, TMI-1

Sworn and subscribed
to before me this *20th*
day of *June*, 1983.

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Darla Jean Berry
Notary Public

DARLA JEAN BERRY, NOTARY PUBLIC
MIDDLETOWN BORO. DAUPHIN COUNTY
MY COMMISSION EXPIRES JUNE 17, 1985
Member, Pennsylvania Association of Notaries

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF

DOCKET NO. 50-289
LICENSE NO. DPR-50

GPU NUCLEAR CORPORATION

This is to certify that a copy of Technical Specification Change Request No. 127 to Appendix A of the Operating License for Three Mile Island Nuclear Station Unit 1, has, on the date given below, been filed with the U. S. Nuclear Regulatory Commission and been served on the chief executives of Londonderry Township, Dauphin County, Pennsylvania; Dauphin County, Pennsylvania; and the Pennsylvania Department of Environmental Resources, Bureau of Radiation Protection, by deposit in the United States mail, addressed as follows:

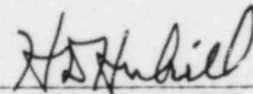
Mr. Jay H. Kopp, Chairman
Board of Supervisors of
Londonderry Township
R. D. #1, Geyers Church Road
Middletown, PA 17057

Mr. John E. Minnich, Chairman
Board of County Commissioners
of Dauphin County
Dauphin County Courthouse
Harrisburg, PA 17120

Mr. Thomas Gerusky, Director
Penna. Dept. of Environmental Resources
Bureau of Radiation Protection
P.O. Box 2063
Harrisburg, PA 17120

GPU NUCLEAR CORPORATION

BY


Director, TMI-1

DATED: June 20, 1983

I. Technical Specification Change Request No. 127

The Licensee requests that the attached changed pages replace the following pages of the existing Technical Specifications:

2-2, 2-9, 3-34 and Figure 3.5-2G.

II. Reason for Change Request

Since the time that TMI-1 has been shutdown by order on July 2, 1979, information has been received from our NSS supplier which would result in changes to the existing Technical Specifications. These include the following areas:

a. Centerline Fuel Melt Limit (editorial)

The Tech Specs bases on page 2-2 incorrectly retained the Cycle 4 centerline fuel melt limit of 19.6 kw/ft. The CFM limit is 20.15 kw/ft for Cycle 5. The Cycle 5 core no longer contains any of the earlier design fuel assemblies (19.6 kw/ft CFM) but consists entirely of the newer Mark B4 assemblies with a 20.15 kw/ft CFM limit (See Cycle 5 Reload Report Table 4-2).

b. Flux to Pump Trip Setpoint for 2 pump operation (change for convenience)

The nuclear power-based pump monitor RFS trip setpoint for two-pump operation (one pump in each loop) specified in Table 2.3.1 of the Cycle 5 Technical Specifications is proposed to be reduced from 91% to 55% of rated power. The existing 91% setpoint was established by the original FSAR analyses for TMI-1. An evaluation accounting for changes in DNBR-related design factors since Cycle 1 has shown that the 91% limit would remain conservative for Cycle 5 operation and was justified for all previous cycles. The GPUN decision to reduce the setpoint to 55% rated power is based on B&W's recommendation for 177 FA plants with redundant pump monitors. The reduced setpoint will provide a consistent bases for any future B&W analyses and is consistent with the setpoint at other B&W plants. This change will not significantly impact anticipated operation of the unit.

c. Quadrant Tilt Instrumentation (Administrative)

Tech Spec sections 3.5.2.4 (b) and (c) on quadrant tilt have been rewritten so that quadrant tilt is always determined by the most accurate detector system available. The out of core detector system is more accurate than the minimum incore system. This does not represent a change in the existing allowable tilt limits for any of the detector systems.

d. LOCA kw/ft Limits (safety)

See Safety Evaluation below.

III. Safety Evaluation Justifying Change

Initial conditions for the TMI-1, Cycle 5 ECCS analysis were established using the approved TAFY (BAW 10044) fuel performance code. Early in 1980 B&W found a potential non-conservatism in the prediction of peak cladding temperature during a LOCA because the TAFY assumption of instantaneous fuel pellet densification resulted in unrealistically low internal fuel rod pressure early in life. To offset this difficulty, B&W proposed a reduction in the LOCA kw/ft limits at the lower core elevations (2,4,6 feet) for the first 50 EFPD of operation (See B&W letters, Taylor to Rubenstein, dated September 5, 1980). The proposed reduced limits reflect a direct comparison, without tradeoffs, of TAFY calculations with the newer approved TACO-1 (BAW-10087P-A) fuel code that incorporates a mechanistic densification model as required by the staff. Therefore, the current TAFY analysis, coupled with the revised LOCA kw/ft limits, provides conservative LOCA predictions relative to the as-approved TACO-1 code for exposures from 0 to 42,000 MWD/MtU. Furthermore, the TAFY analysis provides conservative fuel rod internal pressure predictions relative to TACO-1 over the same exposure range. The staff reviewed and accepted B&W's proposal for using TAFY with the reductions in local power limits in the ECCS analysis (See NRC letter, Rubenstein to Taylor, dated October 28, 1980).

The new accepted bounding values for allowable LOCA Peak linear heat rates are given below:

<u>Core Elevation, ft.</u>	<u>Allowable Peak LHR, First 50 EFPD kw/ft.</u>	<u>Allowable Peak LHR, Balance of Cycle kw/ft.</u>
2	14.5	15.5
4	16.1	16.6
6	17.5	18.0
8	17.0	17.0
10	16.0	16.0

A revised Figure 3.5-2G of the TMI-1, Cycle 5 Technical Specifications is enclosed.

The Cycle 5 Technical Specification operating limits on rod index, APSR position, and axial power imbalance covering the 0-50 EFPD period were investigated and verified to bound the interim LOCA kw/ft limits. As a result of the additional margin in the Cycle 5 Technical Specifications, which were purposely set with the intent of bounding future cycles, there was margin available without changing the other Technical Specifications for the first 50 EFPD of Cycle 5.

IV. Significant Hazards Considerations Evaluation

The operation of TMI-1 in accordance with this Tech Spec Change Request would not:

- a) involve a significant increase in the probability of occurrence or the consequences of an accident previously evaluated since this change adds greater conservatism based on newer models, thereby enhancing safety.
- b) create the possibility for an accident or malfunction of a new or different kind of accident from any accident previously evaluated since this change is bounded by more conservative analyses.
- c) involve a significant reduction in the margin of safety since again more conservative analyses is used as the primary source. Therefore, there are no unreviewed safety questions or significant safety hazards associated with this change.

V. Amendment Class (10 CFR 170)

The Licensee has determined that this change involves a single safety issue. Therefore, a check for \$4,000 is enclosed.

VI. Implementation

Because of the nature of the change it is requested that the implementation of the resulting amendment occur immediately.