

October 15, 1997

Mr. James W. Langenbach, Vice President
and Director, TMI
GPU Nuclear Corporation
P.O. Box 480
Middletown, PA 17057

SUBJECT: THREE MILE ISLAND - ISSUANCE OF AMENDMENT RE: DECAY HEAT REMOVAL
SYSTEM LEAKAGE LIMIT (TAC NO. M99333)

Dear Mr. Langenbach:

The Commission has issued the enclosed Amendment No.205 to Facility Operating License No. DPR-50 for the Three Mile Island Nuclear Station, Unit No. 1, (TMI-1) in response to your application dated July 30, 1997, as supplemented September 19, and September 24, 1997.

The amendment reduces the maximum allowable leakage from the decay heat removal system from 6.0 gallons per hour (gph) to 0.6 gph. The review of the requested revision of a postulated design basis loss-of-coolant accident in the Updated Final Safety Analysis Report is deferred until the response to our September 24, 1997, letter is received.

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original signed by:

Bart C. Buckley, Senior Project Manager
Project Directorate I-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-289

Enclosures: 1. Amendment No. 205 to DPR-50
2. Safety Evaluation

cc w/encls: See next page

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Three Mile Island Nuclear Station, Unit No. 1

cc:

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DATED: October 15, 1997

AMENDMENT NO. 205 TO FACILITY OPERATING LICENSE NO. DPR-50 THREE MILE ISLAND

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

METROPOLITAN EDISON COMPANY

JERSEY CENTRAL POWER & LIGHT COMPANY

PENNSYLVANIA ELECTRIC COMPANY

GPU NUCLEAR CORPORATION

DOCKET NO. 50-289

THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 205
License No. DPR-50

1. The Nuclear Regulatory Commission (the Commission or NRC) has found that:
 - A. The application for amendment by GPU Nuclear Corporation, et al. (the licensee) dated July 30, 1997, as supplemented September 19, and September 24, 1997, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.c.(2) of Facility Operating License No. DPR-50 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 205, are hereby incorporated in the license. GPU Nuclear Corporation shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance, to be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Ronald B. Eaton, Acting Director
Project Directorate I-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: October 15, 1997

ATTACHMENT TO LICENSE AMENDMENT NO. 205

FACILITY OPERATING LICENSE NO. DPR-50

DOCKET NO. 50-289

Replace the following pages of the Appendix A, Technical Specifications, with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change.

Remove

4-45

Insert

4-45

4.5.4 DECAY HEAT REMOVAL SYSTEM LEAKAGE

Applicability

Applies to Decay Heat Removal System leakage.

Objective

To maintain a low leakage rate from the Decay Heat Removal System to prevent significant off-site exposures.

Specification

- 4.5.4.1 The maximum allowable leakage from the Decay Heat Removal System components as measured during refueling tests in Specification 4.5.4.2 shall not exceed 0.6 gallons per hour.*
- 4.5.4.2 During each refueling period the following tests of the Decay Heat Removal System shall be conducted to determine leakage:
- a. The portion of the Decay Heat Removal System, except as specified in "b", that is outside containment shall be leak tested either by use in normal operation or by hydrostatically testing at 350 psig.
 - b. Piping from the Reactor Building Sump to the Decay Heat Removal System pump suction isolation valve shall be pressure tested at no less than 55 psig.
 - c. Visual inspection shall be made for leakage from components of the system. Leakage shall be measured by collection and weighing or by another equivalent method.

***Note:** GPUN Letter No. 6710-97-2425-1, dated September 19, 1997, commits to limiting the total leakage from the accident recirculation portions of the Decay Heat, Building Spray and Make-Up systems to the UFSAR 0.6 gph licensing basis value.

Bases

The leakage rate limit for the Decay Heat Removal System is a judgement value based on ensuring that its components can be expected to operate for an extended period (200 days or more) after a loss-of-coolant accident without significant leakage (Reference 1). The test pressure achieved either by normal system operation or by hydrostatic testing (350 psig) provides an adequate margin over the highest pressure within the system after a design basis accident. Similarly, the test pressure for the recirculation lines from the reactor building sump to the decay heat system (55 psig) is the design pressure of the reactor building.

REFERENCES:

- (1) UFSAR, Section 6.4.4 - "Design Basis Leakage" and Table 6.4-3 - "Leakage Quantities to the Auxiliary Building"
- (2) UFSAR, Section 14.2.2.5(d) - "Effects of Engineered Safeguards Leakage During Maximum Hypothetical Accident"



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 205 TO FACILITY OPERATING LICENSE NO. DPR-50

METROPOLITAN EDISON COMPANY

JERSEY CENTRAL POWER & LIGHT COMPANY

PENNSYLVANIA ELECTRIC COMPANY

GPU NUCLEAR CORPORATION

THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 1

DOCKET NO. 50-289

1.0 INTRODUCTION

By letter dated July 30, 1997, and supplemented by letters dated September 19, and September 24, 1997, GPU Nuclear, Inc. requested changes to the Technical Specifications (Appendix A to Facility Operating License No. DPR-50) for the Three Mile Island Nuclear Station, Unit 1, (TMI-1/TS) and revisions to the Three Mile Island Unit 1 Updated Final Safety Analysis Report (TMI-1/UFSAR). The requested changes are related to (1) the maximum allowable total leakage from the accident recirculation portions of the Decay Heat, Building Spray, and Makeup systems, and (2) revision of a postulated design basis loss-of-coolant accident (LOCA) analysis in the TMI-1/UFSAR. The September 19, and September 24, 1997, submittals did not affect the initial no significant hazards consideration determination.

2.0 EVALUATION

The requested maximum allowable total leakage limit would decrease the current leakage limit of 6.0 gallons per hour (gph) from the Decay Heat Removal System components in the TMI-1/TS Section 4.5.4 to 0.6 gph. The proposed change also adds a footnote to TS Section 4.5.4 that limits the combined total leakage from the accident recirculation portions of the Decay Heat, Building Spray, and Makeup systems to 0.6 gph. This requested change of allowable total leakage to 0.6 gph would conform with that used in the current licensing basis accident analyses in the TMI-1 Updated Final Safety Analysis. The accident recirculation systems would include the accident recirculation portions of the Decay Heat, Building Spray, and Make-up systems outside of the containment.

The requested change is a more restrictive limitation for leakage from systems recirculating contaminated fluids outside of containment during a LOCA than the current TS. Also, the requested change makes the TS consistent with the design basis analyses in UFSAR Section 14.2.2.5. The change will provide

assurance that the dose reference values given in 10 CFR 100 of 300 rem to the thyroid and 25 rem to the whole body are met. Therefore, the proposed change in the TS is acceptable.

The review of the requested revision of a postulated design basis LOCA analysis in the TMI-1/UFSAR is deferred until the licensee provides a complete evaluation of TMI-1 control room habitability for the staff's review. In an NRC letter to the licensee dated September 24, 1997, the staff requested that the licensee provide an analysis of the control room operator thyroid dose that addresses the full spectrum of design basis accidents, including the large break LOCA and main steam line break accident within 6 months from the date of the letter.

3.0 SUMMARY CONCLUSION

Based on our review, the staff finds that the licensee's proposal to reduce the maximum allowable total leakage from the Decay Heat Removal System to 0.6 gph is acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

This amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC 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 the amendment involves no significant hazards consideration, and there has been no public comment on such finding (62 FR 45458). Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). 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.

6.0 CONCLUSION

The Commission 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, (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.

Principal Contributors: Jay Lee
Bart Buckley

Date: October 15, 1997