

January 3, 1989

Docket No. 50-289

Mr. Henry D. Hukill, Vice President  
and Director - TMI-1  
GPU Nuclear Corporation  
P. O. Box 480  
Middletown, Pennsylvania 17057

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Dear Mr. Hukill:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. 68208)

The Commission has issued the enclosed Amendment No. 148 to Facility Operating License No. DPR-50 for the Three Mile Island Nuclear Station, Unit No. 1, in response to your letter dated May 4, 1988.

The amendment revises the listing of components subject to 10 CFR Part 50, Appendix J leak testing to conform to recent piping modifications made on containment penetration No. 417.

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

Sincerely,

original signed by

Ronald W. Hernan, Senior Project Manager  
Project Directorate I-4  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 148 to DPR-50
- 2. Safety Evaluation

cc w/enclosures:  
See next page

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Mr. Henry D. Hukill  
GPU Nuclear Corporation

Three Mile Island Nuclear Station,  
Unit No. 1

cc:

G. Broughton  
O&M Director, TMI-1  
GPU Nuclear Corporation  
Post Office Box 480  
Middletown, Pennsylvania 17057

Richard Conte  
Senior Resident Inspector (TMI-1)  
U.S.N.R.C.  
Post Office Box 311  
Middletown, Pennsylvania 17057

Richard J. McGoey  
Manager, PWR Licensing  
GPU Nuclear Corporation  
100 Interpace Parkway  
Parsippany, New Jersey 70754

Regional Administrator, Region I  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, Pennsylvania 19406

C. W. Smyth  
TMI-1 Licensing Manager  
GPU Nuclear Corporation  
Post Office Box 480  
Middletown, Pennsylvania 17057

Robert B. Borsum  
Babcock & Wilcox  
Nuclear Power Generation Division  
Suite 525  
1700 Rockville Pike  
Rockville, Maryland 20852

Ernest L. Blake, Jr., Esq.  
Shaw, Pittman, Potts & Trowbridge  
2300 N Street, N.W.  
Washington, D.C. 20037

Governor's Office of State Planning  
and Development  
ATTN: Coordinator, Pennsylvania  
State Clearinghouse  
Post Office Box 1323  
Harrisburg, Pennsylvania 17120

Sally S. Klein, Chairman  
Dauphin County Commissioner  
Dauphin County Courthouse  
Front and Market Streets  
Harrisburg, Pennsylvania 17120

Thomas M. Gerusky, Director  
Bureau of Radiation Protection  
Pennsylvania Department of  
Environmental Resources  
Post Office Box 2063  
Harrisburg, Pennsylvania 17120

Kenneth E. Witmer, Chairman  
Board of Supervisors  
of Londonderry Township  
25 Roslyn Road  
Eilzabethtown, PA 17022

Docketing and Service Section  
Office of the Secretary  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555



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

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. 148  
License No. DPR-50

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by GPU Nuclear Corporation, et al. (the licensee) dated May 4, 1988, 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 paragraphs 2.c.(2) and 2.c.(4) of Facility Operating License No. DPR-50 are hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 148, 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



John F. Stolz, Director  
Project Directorate I-4  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: January 3, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 148

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 area of change.

Remove

4-32

4-33

Insert

4-32

4-33

detection tests. Sufficient data and analysis shall be included to show that a stabilized leak rate was attained and to identify all significant required correction factors such as those associated with humidity and barometric pressure, and all significant errors such as those associated with instrumentation sensitivities and data scatter. This report shall be titled Reactor Containment Building Integrated Leak Rate Test and shall be submitted to the AEC within 3 months of the test.

#### 4.4.1.2 Local Leakage Rate Tests

##### 4.4.1.2.1 Scope of Testing

a. The local leak rate shall be measured for the following components using a type "B" test as defined in 10 CFR 50, Appendix J.

1. Personnel air lock door gaskets and other seals
2. Emergency air lock door gaskets and other seals
3. The resilient seals on the equipment hatch and fuel transfer tube blind flanges
4. Blind flanges on penetration No. 414 (L.R. Pressure Sensing)
5. Reactor Building Purge valves (AH-V1A, B, C, and D)
6. Blind flanges on both ends of pipe through the following penetrations:
  - 6.1 No. 104 (S/G drains)
  - 6.2 No. 105 (S/G cleaning)
  - 6.3 No. 106 (S/G cleaning)
  - 6.4 No. 210 (S/G annulus drains)
  - 6.5 No. 211 (S/G annulus drains)
  - 6.6 No. 241 (Incore Inst. Transfer Tube)
  - 6.7 No. 415 (L.R. Test Bleed Line)
  - 6.8 No. 416 (L.R. Test Bleed Line)
  - 6.9 No. 417 (L.R. Test Supply Line)

b. The local leak rate shall be measured for the following isolation valves using a type "C" test as defined in 10 CFR 50, Appendix J.

1. CA-V1, 2, 3, 13 (Primary Sampling)  
CA-V189, 192 (Reclaimed Water)  
CA-V4A, 4B, 5A, 5B (Secondary Sampling)
2. CF-V2A, 2B, 12A, 12B, 19A, 19B, 20A, 20B (Core Flood)
3. CM-V1, 2, 3, 4 (Containment Monitoring)
4. DH-V64, 69 (Decay Heat)
5. HP-V1, 6 (Hydrogen Purge)

6. HR-2A, 2B, 4A, 4B, 22A, 22B, 23A, 23B (Hydrogen Recombiner)
7. IA-V6, 20 (Instrument Air)
8. IC-V2, 3, 4, 6, 16, 18 (Intermediate Cooling)
9. LR-V4, 5, 6, 10 (Leak Rate Test)
10. MU-V2A, 2B, 3, 18, 20, 25, 26, 116 (Make up and Purification)
11. NI-V27 (Nitrogen)
12. NS-V4, 11, 15, 35 (Nuclear Services Closed Cooling)
13. RB-V2A, 7 (R.B. Industrial Cooling System)
14. SA-V2, 3 (Service Air)
15. SF-V23 (Spent Fuel Cooling)
16. WDG-V3, 4 (Waste Gas Header)
17. WDL-V303, 304 (Waste Disposal Liquid)
18. WDL-V534, 535 (R.B. Sump Gravity Drains)

#### 4.4.1.2.2 Conduct of Tests

- a. Local leak rate tests shall be performed pneumatically at a pressure of not less than  $P_a$ , with the following exception: The access hatch door seal test shall normally be performed at 10 psig and the test every six months specified in 4.4.1.2.5.b shall be performed at a pressure not less than  $P_a$ .
- b. Acceptable methods of testing are halogen gas detection, pressure decay, pneumatic flow measurement or equivalent.
- c. The pressure for a valve test shall be applied in the same direction as that when the valve would be required to perform its safety function unless it can be determined that the direction will provide equivalent or more conservative results.
- d. Valves to be tested shall be closed by normal operation and without any preliminary exercising or adjustments.

#### 4.4.1.2.3 Acceptance Criteria

The combined leakage from all items listed in 4.4.1.2.1, shall not exceed  $.6 L_a$  (the maximum allowable leakage rate at  $P_a$ ).



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-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

INTRODUCTION

By letter dated May 4, 1988, GPU Nuclear Corporation (the licensee) proposed changes to Section 4.4.1.2 of the facility Technical Specifications (TS) concerning local leakage rate testing as required by Appendix J to 10 CFR Part 50. Specifically, the licensee proposed deleting two valves from and adding a blind flange to the list of components to be tested as the result of physical modifications to containment penetration No. 417.

EVALUATION

Appendix J provides for preoperational and periodic verification by tests of the leak-tight integrity of the primary reactor containment and systems and components which penetrate containment of water-cooled power reactors. Three types of testing are specified. Type A testing measures the overall integrated containment leakage rate. Type B testing measures the leakage rate of individual components whose design incorporates resilient seals, gaskets or sealant compounds including blind flanges. Type C testing measures the leakage rate through containment isolation valves. The components and valves that must be leak tested by Type B and Type C tests are listed in TS Sections 4.4.1.2.1.a and 4.4.1.2.1.b, respectively.

During the 7R refueling outage in June-August 1988, the licensee modified containment penetration No. 417 such that a new blind (and spectacle) flange provides containment isolation formerly provided by isolation valves LR-VI and LR-V49. The modification of containment penetration No. 417 results in a piping configuration which meets 10 CFR Part 50 Appendix A (General Design Criteria) Criterion 56. The new piping configuration inside containment consists of a single 6" blind flange. The two leakage paths outside containment consist of a single 6" spectacle flange and a 1" test connection valve in series with a blind flange. This modification will result in a more ideal containment barrier in that blind/spectacle flanges were added to the penetration piping configuration. Blind flanges and spectacle flanges provide a superior leak tight seal to that of the leakage protection provided by valves.

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Following modification to containment penetration No. 417, Type B tests were conducted on the spectacle and blind flange that became part of the containment penetration boundary. The addition of these flanges to the TS listing will not affect the test requirements because these tests are required by NRC regulation regardless of the TS listing. The addition of these components to the list provided in section 4.4.1.2.1.a will only bring the technical specification list up to date to show these components. On completion of the modification to containment penetration No. 417, valves LR-V1 and LR-V49 still remain within the piping configuration. The new piping configuration does not prohibit performing Type C tests of LR-V1 and LR-V49 in accordance with TS 4.4.1.2.1.b; however these tests are not required by Appendix J because LR-V1 and LR-V49 no longer serve the function of a containment isolation valve. Therefore, Type C test requirements for LR-V1 and LR-V49 can be deleted.

The staff considers the changes proposed in the licensee's May 4, 1988 letter to be administrative in nature and acceptable as proposed.

#### ENVIRONMENTAL CONSIDERATION

The 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. 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 Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. 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 this amendment.

#### 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: Ronald W. Hernan

Dated: January 3, 1989