

November 30, 1988

Docket No. 50-289

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

Dear Mr. Hukill:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. 67827)

The Commission has issued the enclosed Amendment No. 146 to Facility Operating License No. DPR-50 for the Three Mile Island Nuclear Station, Unit No. 1, in response to your letter dated April 4, 1988.

The amendment removes details of the TMI-1 fire protection program from the Technical Specifications in accordance with Generic Letter No. 86-10 and revises License Condition 2.c.4. In addition, all pages of the Facility Operating License have been re-typed for appearance purposes including deletion of an obsolete footnote.

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. 146 to DPR-50
2. Safety Evaluation

cc w/enclosures:
See next page

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GPU Nuclear Corporation

Three Mile Island Nuclear Station,
Unit No. 1

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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. 146
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 April 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. 146, are hereby incorporated in the license. GPU Nuclear Corporation shall operate the facility in accordance with the Technical Specifications.

(4) Fire Protection

GPU Nuclear Corp. shall implement and maintain in effect all provisions of the Fire Protection Program as described in the Updated FSAR for TMI-1.

Changes may be made to the Fire Protection Program without prior approval by the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. Temporary changes to specific fire protection features which may be necessary to accomplish maintenance or modifications are acceptable provided that interim compensatory measures are implemented.

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: November 30, 1988

ATTACHMENT TO LICENSE AMENDMENT NO.146

FACILITY OPERATING LICENSE NO. DPR-50

DOCKET NO. 50-289

Replace the following pages of the Facility Operating License and 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.

<u>Remove</u>	<u>Insert</u>
<u>License</u>	
1 thru 4.c	1 thru 7
<u>Technical Specifications</u>	
iii	iii
iv	iv
3-86 thru 3-94	3-86
4-72 thru 4-76A	4-72



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

METROPOLITAN EDISON COMPANY

JERSEY CENTRAL POWER AND LIGHT COMPANY

PENNSYLVANIA ELECTRIC COMPANY

GPU NUCLEAR CORPORATION
(Three Mile Island Nuclear Station, Unit 1)

DOCKET NO. 50-289

FACILITY OPERATING LICENSE

1. The Atomic Energy Commission (the Commission) having found that:
 - a. The application for license filed by the Metropolitan Edison Company, Jersey Central Power and Light Company, the Pennsylvania Electric Company, (the owners) 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 1 and all required notifications to other agencies or bodies have been duly made;
 - b. Construction of the Three Mile Island Nuclear Station, Unit 1 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-40, the application, as amended, the provisions of the Act and the rules and regulations of the Commission;
 - c. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - d. There is reasonable assurance: (1) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public, and (2) that such activities will be conducted in compliance with the rules and regulations of the Commission;
 - e. GPU Nuclear Corporation is technically qualified and the owners are financially qualified to engage in the activities authorized by this operating license in accordance with the rules and regulations of the Commission;

- f. The owners have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
 - g. The issuance of this operating license will not be inimical to the common defense and security or to the health and safety of the public;
 - h. After weighing the environmental, economic, technical, and other benefits of the facility against environmental costs and considering available alternatives, the issuance of Facility Operating License No. DPR-50 is in accordance with 10 CFR Part 50, Appendix D, of the Commission's regulations and all applicable requirements of said Appendix D have been satisfied; and
 - i. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70, including 10 CFR Section 30.33, 40.32, 70.23 and 70.31.
2. Facility Operating License No. DPR-50 is hereby issued to the Metropolitan Edison Company, Jersey Central Power and Light Company, Pennsylvania Electric Company and GPU Nuclear Corporation to read as follows:
- a. This license applies to the Three Mile Island Nuclear Station, Unit 1, a pressurized water reactor and associated equipment (the facility), owned by the Metropolitan Edison Company, Jersey Central Power and Light Company, Pennsylvania Electric Company and operated by GPU Nuclear Corporation. The facility is located in Dauphin County, Pennsylvania, and is described in the "Final Safety Analysis Report" as supplemented and amended (Amendments 1 through 47) and the Environmental Report as supplemented and amended (Amendments 1 and 2).
 - b. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) GPU Nuclear Corporation, pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility; and Metropolitan Edison Company, Jersey Central Power and Light Company, Pennsylvania Electric Company to possess the facility in accordance with the procedures and limitations set forth in this license;

- (2) GPU Nuclear Corporation, pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess and use at any time any byproduct, source and special nuclear material as reactor fuel, sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required for reactor operation;
 - (3) GPU Nuclear Corporation, pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis, testing, instrument calibration, or associated with radioactive apparatus or components;
 - (4) GPU Nuclear Corporation, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- c. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level
GPU Nuclear Corporation is authorized to operate the facility at steady state reactor core power levels not in excess of 2568 megawatts thermal.
 - (2) Technical Specifications
The Technical Specifications contained in Appendix A, as revised through Amendment No. are hereby incorporated in the license. The GPU Nuclear Corporation shall operate the facility in accordance with the Technical Specifications.

(3) Physical Protection

The license shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain safeguards information protected under 10 CFR 73.21, are entitled: "Three Mile Island, Units 1 and 2, Modified Amended Physical Security Plan," with revisions submitted through July 8, 1988; "Three Mile Island, Units 1 and 2, Security Personnel Training and Qualification Plan," with revisions submitted through November 28, 1986; and "Three Mile Island, Units 1 and 2, Safeguards Contingency Plan," with revision submitted through June 20, 1986. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

(4) Fire Protection

GPU Nuclear Corp. shall implement and maintain in effect all provisions of the Fire Protection Program as described in the Updated FSAR for TMI-1.

Changes may be made to the Fire Protection Program without prior approval by the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. Temporary changes to specific fire protection features which may be necessary to accomplish maintenance or modifications are acceptable provided that interim compensatory measures are implemented.

(5) The licensee shall implement a secondary water chemistry monitoring program to inhibit steam generator tube degradation. This program shall include:

- a. Identification of a sampling schedule for the critical parameters and control points for these parameters;
- b. Identification of the procedures used to measure the values of the critical parameters;

- c. Identification of process sampling points;
- d. Procedure for the recording and management of data;
- e. Procedures defining corrective actions of off control point chemistry conditions; and
- f. A procedure identifying (1) the authority responsible for the interpretation of the data, and (2) the sequence and timing of administrative events required to initiate corrective action.

(6) Inservice Testing

1. The licensee may proceed with and is required to implement the Inservice Testing Program which satisfies the requirements of 10 CFR 50.55(a) in accordance with the supporting staff Safety Evaluation dated
2. The licensee may proceed with and is required to complete the modifications necessitated by the Inservice Testing Program.
3. The licensee shall propose alternatives to inservice tests, with appropriate justification for each of the items listed in Table 2.2 of the supporting staff Safety Evaluation dated August 3, 1981, by the dates indicated in Table 2.2.

(7) Aircraft Movements

Sixty (60) days following the report on aircraft movements at the Harrisburg International Airport for the calendar year 1984 pursuant to Technical Specification 6.9.1.B.2.b, a report shall be submitted updating the aircraft crash probability analysis presented by Metropolitan Edison Company to the Atomic Safety and Licensing Appeal Board in the Three Mile Island, Unit No. 2 operation license proceeding (Docket No. 50-320). Such report shall utilize current data on aircraft movements at the Harrisburg International Airport and updated national aerial crash rates and shall be based on the same methodology presented by Metropolitan Edison Company as accepted by the Appeal Board in ALAB-692. Following receipt of such report NRC will, after discussion with GPU Nuclear Corporation, determine the need for further periodic aircraft crash probability analyses.

(8) Repaired Steam Generators

In order to confirm the leak-tight integrity of the Reactor Coolant System, including the steam generators, operation of the facility shall be in accordance with the following:

1. Prior to initial criticality, GPU Nuclear Corporation shall submit to NRC the results of the steam generator hot test program and a summary of its management review.
2. GPU Nuclear Corporation shall confirm baseline primary-to-secondary leakage rate established during the steam generator hot test program. If leakage exceeds the baseline leakage rate by more than 0.1 gpm, the facility shall be shut down and leak tested. If any increased leakage above baseline is due to defects in the tube free span, the leaking tube(s) shall be removed from service. The baseline leakage shall be re-established, provided that the leakage limit of Technical Specification 3.1.6.3 is not exceeded.
3. GPU Nuclear Corporation shall complete its post-critical test program at each power range (0-5%, 5%-50%, 50%-100%) in conformance with the program described in Topical Report 008, Rev. 3, and shall have available the results of that test program and a summary of its management review, prior to ascension from each power range and prior to normal power operation.
4. GPU Nuclear Corporation shall conduct eddy-current examinations, consistent with the extended inservice inspection plan defined in Table 3.3-1 of NUREG-1019, either 90 calendar days after reaching full power, or 120 calendar days after exceeding 50% power operation, whichever comes first. In the event of plant operation for an extended period at less than 50% power, GPU Nuclear Corporation shall provide an assessment at the end of 180 days of operation at power levels between 5% and 50%, such assessment to contain recommendations and supporting information as to the necessity of a special eddy-current testing (ECT) shutdown before the end of the refueling cycle. (The NRC staff will evaluate that assessment and determine the time of the next eddy-current examination, consistent with the other provisions of the license conditions.) In the absence of such an assessment, a special ECT shutdown shall take place before an additional 30 days of operation at power above 5%.

5. GPU Nuclear Corporation shall provide routine reporting of the long-term corrosion "lead tests" test results on a quarterly basis as well as more timely notification if adverse corrosion test results are discovered.

(9) Long Range Planning Program

The "Plan for the Long Range Planning Program for the Three Mile Island Nuclear Station - Unit 1" (the Plan) submitted by GPUN letter C311-88-2030 dated March 16, 1988 is approved.

- a. The Plan shall be followed by the Licensee from and after May 27, 1988.
- b. The Category A schedule shall not be changed without prior approval from the NRC. Categories B and C schedules may be changed without prior approval by NRC.

This license is effective as of the date of issuance and shall expire at midnight, May 18, 2008.

FOR THE ATOMIC ENERGY COMMISSION

Original Signed by
A. Giambusso

A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

Attachment: Appendix A
Technical Specifications

Date of Issuance: April 19, 1974

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Amendment No. 32, 101, 146

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Amendment No. 32, 101, 146



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 146 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 April 4, 1988, GPU Nuclear Corporation (the licensee) proposed that the existing license condition on fire protection be replaced with the standard condition noted in Generic Letter 86-10 and also proposed changes to the Appendix A Technical Specifications (TS) for Three Mile Island Nuclear Station, Unit No. 1. The proposed changes would remove requirements for fire detection systems, fire suppression systems, fire barriers, and fire brigade staffing requirements as recommended by Generic Letter 86-10. The administrative control requirements of the TS already contain requirements for the Fire Protection Program that are similar to requirements for other programs implemented by license condition. Guidance on proposed changes to TS was provided to all power reactor licensees and applicants by Generic Letter 88-12, dated August 2, 1988.

BACKGROUND

Following the fire at the Browns Ferry Nuclear Power Plant on March 22, 1975, the Commission undertook a number of actions to ensure that improvements were implemented in the Fire Protection Programs for all power reactor facilities. Because of the extensive modification of Fire Protection Programs and the number of open issues resulting from staff evaluations, a number of revisions and alterations occurred in these programs over the years. Consequently, licensees were requested by Generic Letter 86-10 to incorporate the final NRC-approved Fire Protection Program in their Final Safety Analysis Reports (FSARs). In this manner, the Fire Protection Program -- including the systems, the administrative and technical controls, the organization, and other plant features associated with fire protection -- would have a status consistent with that of other plant features described in the FSAR. In addition, the Commission concluded that a standard license condition, requiring compliance with the provisions of the Fire Protection Program as described in the FSAR, should be used to ensure uniform enforcement of fire protection requirements. Finally, the Commission stated that with the requested actions, licensees may request an amendment to delete the fire protection TS that would now be unnecessary.

The licensees for the Callaway and Wolf Creek plants submitted lead-plant proposals to remove fire protection requirements from their TS. This action was an industry effort to obtain NRC guidance on an acceptable format for license amendment requests to remove fire protection requirements from TS.

Additionally, in the licensing review of new plants, the staff has approved applicant requests to remove fire protection requirements from TS issued with the operating license. Thus, on the basis of the lead-plant proposals and the staff's experience with TS for new licenses, Generic Letter 88-12 was issued to provide guidance on removing fire protection requirements from TS.

EVALUATION

Generic Letter 86-10 recommended the removal of fire protection requirements from the TS. Although a comprehensive Fire Protection Program is essential to plant safety, the basis for this recommendation is that many details of this program that are currently addressed in TS can be modified without affecting nuclear safety. Such modifications can be made provided that there are suitable administrative controls over these changes. These details, that are presently included in TS and which are removed by this amendment, do not constitute performance requirements necessary to ensure safe operation of the facility and, therefore, do not warrant being included in TS. At the same time, suitable administrative controls ensure that there will be careful review and analysis by competent individuals of any changes in the Fire Protection Program including those technical and administrative requirements removed from the TS to ensure that nuclear safety is not adversely affected. These controls include: (1) the TS administrative controls that are applicable to the Fire Protection Program; (2) the license condition on implementation of, and subsequent changes to, the Fire Protection Program; (3) the 10 CFR 50.59 criteria for evaluating changes to the Fire Protection Programs as described in the FSAR.

The specific details relating to fire protection requirements removed from TS by this amendment include those specifications for fire detection systems, fire suppression systems, fire barriers, and fire brigade staffing requirements. The administrative control requirements (TS Section 6.8) include Fire Protection Program implementation as an element for which written procedures must be established, implemented, and maintained. Additionally, TS Section 6.5 assigns organizational responsibility for preparation, review, approval and audit of these procedures via the GPU Nuclear Review and Approval Matrix.

The TS changes proposed by the licensee are in accordance with the guidance provided by Generic Letters 86-10 and 88-12, as addressed in the items below.

- (1) Specification 3.18.1, Fire Detection Instrumentation, its associated Surveillance Requirements, and Bases were removed.
- (2) Specifications 3.18.2 through 3.18.6 Fire Suppression Systems, their associated Surveillance Requirements, and Bases were removed.

- (3) Specification 3.18.7, Fire Barriers, its associated Surveillance Requirements, and Bases were removed.

As required by Generic Letter 86-10, the licensee confirmed that the NRC-approved Fire Protection Program has been incorporated into the FSAR. Also, the licensee has proposed that the existing licensing condition on the Fire Protection Program be replaced with the standard condition noted in Generic Letter 86-10.

The licensee confirmed that the operational conditions, remedial actions, and test requirements associated with the removed fire protection TS have been included in the Fire Protection Program incorporated into the updated FSAR which also includes, by reference, Administrative Procedure AP-1038 "Administrative Controls-Fire Protection Program." This is in accordance with the guidance of Generic Letter 88-12.

On the basis of its review of the above items, the staff concludes that the licensee has met the guidance of Generic Letter 88-10 and Generic Letter 88-12. Therefore, the staff finds the proposed changes acceptable.

ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted areas as defined in 10 CFR Part 20. The 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 off site, and that there is no significant increase in individual or cumulative occupational exposure. The staff has determined that the amendment involves no significant-hazards consideration, and there has been no public comment on such finding. Accordingly, the 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: Dennis J. Kubicki
Thomas G. Dunning
Ronald W. Hernan

Dated: November 30, 1988