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Mr. T. Gary Broughton, Vice President  
and Director - TMI-1  
GPU Nuclear Corporation  
Post Office Box 480  
Middletown, Pennsylvania 17057

Dear Mr. Broughton:

SUBJECT: ISSUANCE OF AMENDMENT - TSCR NO. 219 (TAC NO. M85006)

The Commission has issued the enclosed Amendment No. 172 to Facility Operating License No. DPR-50 for the Three Mile Island Nuclear Station, Unit No. 1, (TMI-1) in response to your letter dated November 12, 1992.

The amendment revises the Technical Specifications to reflect changes that evolved in Section XI of the ASME Code and in the NRC's regulations and Revised Standard Technical Specifications (RSTS). The most significant of these changes is a revision to the operational testing frequency for the emergency feedwater system pumps from monthly to quarterly as specified in the current editions of the ASME Code and the RSTS. The two other changes are (1) redefinition of how the 10-year inservice inspection interval is to be divided into three subintervals, and (2) separation of the inservice inspection requirements from the inservice testing requirements to reflect a similar recent change in 10 CFR 50.55a.

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

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. 172 to DPR-50
- 2. Safety Evaluation

cc w/enclosures:  
See next page

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*citation errors corrected  
on clipped pages*

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NAME	<i>SMorris</i>	<i>RHernan</i>	<i>JStolz</i>	<i>JHill</i>	
DATE	<i>3/22/93</i>	<i>3/22/93</i>	<i>3/24/93</i>	<i>3/25/93</i>	<i>1/1</i>

*DFO 1*

Mr. T. Gary Broughton  
GPU Nuclear Corporation

Three Mile Island Nuclear Station,  
Unit No. 1

cc:

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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. 172  
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 November 12, 1992, 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.172 , 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 60 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: March 30, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 172

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 an amendment number and contain vertical lines indicating the area of change.

Remove

4-11  
4-13  
4-52  
4-52a

Insert

4-11  
4-13  
4-52  
4-52a

## 4.2 REACTOR COOLANT SYSTEM INSERVICE INSPECTION AND TESTING

### Applicability

This technical specification applies to the inservice inspection (ISI) and inservice testing (IST) of the reactor coolant system pressure boundary and portions of other safety oriented system pressure boundaries.

### Objective

The objective of the ISI and IST programs is to provide assurance of the continuing integrity of the reactor coolant system while at the same time minimizing radiation exposure to personnel in the performance of inservice inspections and tests.

### Specification

- 4.2.1 ISI of ASME Code Class 1, Class 2, and Class 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the NRC.
- 4.2.2 IST of ASME Code Class 1, Class 2 and Class 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(f), except where specific written relief has been granted by the NRC.
- 4.2.3 (Deleted)
- 4.2.4 The accessible portions of one reactor coolant pump motor flywheel assembly will be ultrasonically inspected within the first ISI period, two reactor coolant pump motor flywheel assemblies within the first two ISI periods and all four by the end of the 10 year inspection interval. However, the U.T. procedure is developmental and will be used only to the extent that it is shown to be meaningful. The extent of coverage will be limited to those areas of the flywheel which are accessible without motor disassembly, i.e., can be reached through the access ports. Also, if radiation levels at the lower access ports are prohibitive, only the upper access ports will be used.

Bases

Specifications 4.2.1 and 2 ensure that inservice inspection of ASME Code Class 1, 2 and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves will be performed in accordance with a periodically updated version of Section XI of the ASME Boiler and Pressure Vessel Code and Addenda as required by 10 CFR 50, paragraphs 55a(f) and 55a(g). Relief from any of the above requirements has been provided in writing by the NRC and is not a part of these technical specifications.

## 4.9 DECAY HEAT REMOVAL CAPABILITY - PERIODIC TESTING

### Applicability

Applies to the periodic testing of systems or components which function to remove decay heat.

### Objective

To verify that systems/components required for decay heat removal are capable of performing their design function.

### Specification

- 4.9.1 Emergency Feedwater System - Periodic Testing (Reactor Coolant System Temperature greater than 250°F.)
- 4.9.1.1 Verify each EFW Pump is tested in accordance with the requirements and acceptance criteria of the ASME Section XI Inservice Test Program.
- 4.9.1.2 During testing of the EFW System when the reactor is in STARTUP, HOT STANDBY or POWER OPERATION, if one steam generator flow path is made inoperable, a dedicated qualified individual who is in communication with the control room shall be continuously stationed at the affected EFW local manual valves. On instruction from the Control Room Operator, the individual shall realign the valves from the test mode to their operational alignment.
- 4.9.1.3 At least once per 31 days, each EFW System flowpath valve from both CSTs to the OTSGs via the motor driven pumps and the turbine driven pump shall be verified to be in the required status.
- 4.9.1.4 On a refueling interval basis:
- a) Verify that each EFW pump starts automatically upon receipt of an EFW test signal.
  - b) Verify that each EFW control valve responds upon receipt of an EFW test signal.
  - c) Verify that each EFW control valve responds in manual control from the control room and remote shutdown panel.
- 4.9.1.5 Prior to start-up, following a refueling shutdown or a cold shutdown greater than 30 days, conduct a test to demonstrate that the motor driven EFW pumps can pump water from the condensate tanks to the Steam Generators.

4.9.1.6 Acceptance Criteria

These tests shall be considered satisfactory if control board indication and visual observation of the equipment demonstrates that all components have operated properly except for the tests required by Specification 4.9.1.1.

4.9.2 Decay Heat Removal Capability - Periodic Testing (Reactor Coolant System Temperature 250°F or less).\*

4.9.2.1 On a daily basis, verify operability of the means for decay heat removal required by specification 3.4.2 by observation of console status indication.

\* These requirements supplement the requirements of 4.5.2.2 and 4.5.4.

Bases

ASME Section XI specifies requirements and acceptance standards for the testing of nuclear safety related pumps. The quarterly EFW pump test frequency specified by the ASME Section XI Code will be sufficient to verify that the turbine-driven and both motor-driven EFW pumps are operable. Compliance with the normal acceptance criteria assures that the EFW pumps are operating as expected. The surveillance requirements ensure that the overall EFW System functional capability is maintained.

Daily verification of the operability of the required means for decay heat removal ensures that sufficient decay heat removal capability will be maintained.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 172 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 November 12, 1992, GPU Nuclear Corporation (GPUN/licensee) proposed a Technical Specification (TS) change in the operational testing frequency for the emergency feedwater (EFW) system pumps from monthly to quarterly (TS 4.9.1.1). The licensee has also proposed two additional changes: (1) redefinition of how the 10-year inservice inspection (ISI) interval is to be divided into three subintervals, and (2) separation of the inservice inspection requirements from the inservice testing (IST) requirements.

2.0 EVALUATION

The IST requirements for commercial nuclear power plants is specified in Section XI of the ASME Boiler and Pressure Vessel Code (the Code). When the Three Mile Island, Unit 1 (TMI-1) TS were revised to reflect a monthly safety-related pump testing frequency, the applicable edition of the Code was the 1974 Edition through the Summer of 1975 Addenda. Beginning with the 1980 Edition of the Code, the Code-specified test frequency for safety-related pumps was changed to quarterly. However, the licensee elected to continue monthly testing of the EFW pumps. Experience over the past several years has shown that the EFW pumps are very reliable and have not shown degradation or failure tendencies. In addition, recent probabilistic risk analyses have concluded that the contribution of EFW pump failure to core damage frequency is smaller than that of other safety related pumps that have been tested on a quarterly frequency for several years.

The licensee has proposed changes to the operational testing frequency requirements for the three EFW system pumps. Currently, the pumps are tested monthly; this change will specify that the tests be performed quarterly as specified in Article IWP-3400, Section XI of the 1980 Edition of the Code. The change would also be in accordance with CFR 50.55a(f), Inservice Testing. The Code states, "an inservice test shall be run on each pump nominally every three months during normal plant operation." The Code does not specify when,

within the 3-month period, each redundant pump within a given system is to be tested. The Revised Standard Technical Specifications (RSTS) for Babcock & Wilcox (B&W) plants specify that EFW pumps should be tested quarterly on a staggered test basis. The RSTS does not, however, specify staggered testing for other safety-related pumps covered by the Code. The licensee proposes testing the three EFW pumps once per quarter but not necessarily on a staggered basis. The safety implications of testing all pumps within a short period of time during the 3-month period (e.g, within the first week of each quarter) compared to testing on a "staggered" basis was evaluated and no net safety benefit was apparent either way. The staff also reviewed the licensee's plant surveillance procedures for EFW pump testing. The staff judged that the licensee's proposal is reasonable and within the intent of the Code and the RSTS.

The proposed change in testing frequency will not change the testing method, acceptance criteria for the test, nor will the change result in the performance of any new tests. The EFW pumps are always in standby service and are operated only for testing or in the event of loss of feedwater flow from the normal feedwater pumps. The EFW pumps are not operated during plant startup or shutdown to control steam generator level as they are in other plant designs. Beneficial aspects of testing the pumps less frequently include less wear on the pumps for the purpose of operational testing and a reduction in the total amount of slightly radioactive steam released via the steam-driven EFW pump which discharges directly to atmosphere, even though this amount is already very small and insignificant from a safety standpoint.

The licensee also proposed editorial changes to reflect recent changes to 10 CFR 50.55a (57 FR 34666) which separated IST requirements from the ISI requirements in paragraph 50.55a(g). The IST requirements are now located in paragraph 50.55a(f), which was previously labeled "reserved." These changes are reflected in the proposed amendment.

The licensee also proposed an administrative change which reflects the fact that the applicable ASME Section XI Edition no longer divides the 10-year inspection interval into three equal periods of three and a third years. The 1986 Edition of Section XI divides the 10-year period into 36 months, 48 months, and 36 months.

The staff concludes that the proposed changes are consistent with current regulatory requirements and represent an improvement in the quality of the TS. Therefore, the staff finds the changes to be acceptable.

### 3.0 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.

#### 4.0 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. 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 (57 FR 61113). 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 the amendment.

#### 5.0 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 Contributor: J. Zimmerman

Date: March 30, 1993