

August 1, 1994

Docket No. 50-289

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

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Dear Mr. Broughton:

SUBJECT: ISSUANCE OF AMENDMENT - TSCR NO. 211 (TAC NO. M81922)

The Commission has issued the enclosed Amendment No. 191 to Facility Operating License No. DPR-50 for the Three Mile Island Nuclear Station, Unit No. 1, in response to your letter dated July 15, 1993.

The amendment revises the TMI-1 Technical Specification (TS) Section 3.24 associated with Reactor Coolant Inventory Trending System (RCITS). The current TS Section 3.24 was only approved to the end of Cycle 8 of operation. At that time, the GPU Nuclear was required to submit a proposed amendment consistent with the Standard TS. The amendment uses the revised B&W Standard TS (NUREG-1430) as a basis.

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

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P PDR

Enclosures:

1. Amendment No. 191 to DPR-50
2. Safety Evaluation

cc w/enclosures:  
See next page

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Sincerely,

A handwritten signature in cursive script that reads "Ronald W. Hernan".

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

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cc w/enclosures:  
See next page

Mr. T. Gary Broughton  
GPU Nuclear Corporation

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Unit No. 1

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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. 191  
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 July 15, 1993, 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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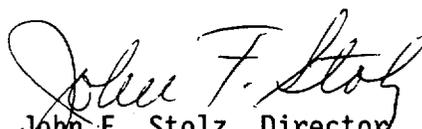
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.c.(2) of Facility Operating License No. DPR-50 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 191, 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: August 1, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 191

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

iii  
3-128  
3-129  
4-7a

Insert

iii  
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### 3.24 Reactor Vessel Water Level Indication

#### Applicability

Applies to the operability requirements for the Reactor Vessel Water Level Indication when the reactor is critical.

#### Objectives

To assure operability of the Reactor Vessel Water Level instrumentation which may be useful in diagnosing situations which could represent or lead to inadequate core cooling.

#### Specification

Two channels of the Reactor Vessel Water Level Instrumentation System shall be OPERABLE.

If one channel becomes INOPERABLE that channel shall be returned to OPERABLE within 30 days. If the channel is not restored within 30 days, details shall be provided in the Monthly Operating Report. These details shall include cause, action being taken and projected date for return to OPERABLE status.

With no channels OPERABLE, one channel shall be restored to OPERABLE status within 7 days. If at least one channel is not restored within 7 days, details shall be provided in the Monthly Operating Report. These details shall include cause, action being taken and projected date for return to OPERABLE status.

#### Bases

The Reactor Vessel Water Level Indication (Reference 1) provides indication of the trend in water inventory in the hot legs and reactor vessel during the approach to inadequate core cooling (ICC). In this manner additional information may be available to the operator to diagnose the approach of ICC and to assess the adequacy of responses taken to restore core cooling.

Each Reactor Vessel Water Level channel is comprised of a hot leg level indication and a reactor vessel level indication.

The system is required to be operable (as defined previously) when the plant is critical.

The system is an information system to aid the operator during the approach to inadequate core cooling. There is no regulatory limit for this system.

Inoperability of the system removes the availability of an information system. Other useful instrumentation for inadequate core cooling will be available. The Subcooling Margin Indication System is relied upon to determine subcooling margin when the reactor coolant pumps are operating or when natural circulation can be verified. When natural or forced circulation cannot be verified, the margin to saturation is determined by manual calculation, based on reactor coolant temperature (in-core thermocouples) and pressure indications available in the control room and steam tables. See Tech. Spec. 3.5.5.

The system is not a required system to mitigate evaluated accidents. It may be useful to have the system operable but there will be no adverse impact if it is not operable.

The LCO action statement provides the level of emphasis required for an information system.

The Reactor Vessel Water Level is a Regulatory Guide 1.97 Category 1 variable.

Reference

- (1) UFSAR, Update Section 7.3.2.2(c)10(d) - "Reactor Coolant Inventory Tracking System".
- (2) USNRC Regulatory Guide 1.97.

Amendment No. 78, 108, 124, 135, 137, 147, 175, 182, 191  
4-7a

TABLE 4.1-1 (Continued)

<u>CHANNEL DESCRIPTION</u>	<u>CHECK</u>	<u>TEST</u>	<u>CALIBRATE</u>	<u>REMARKS</u>
49. Saturation Margin Monitor	S(1)	M(1)	R	(1)When T <sub>ave</sub> is greater than 525°F.
50. Emergency Feedwater Flow Instrumentation	NA	M(1)	F	(1)When T <sub>ave</sub> is greater than 250°F.
51. Heat Sink Protection System				
a. EFW Auto Initiation Instrument Channels				(1)Includes logic test only.
1. Loss of Both Feedwater Pumps	NA	Q(1)	F	
2. Loss of All RC Pumps	NA	Q(1)	R	
3. Reactor Building Pressure	NA	Q	F	
4. OTSG Low Level	W	Q	R	
b. MFW Isolation OTSG Low Pressure	NA	Q	R	
c. EFW Control Valve Control System				
1. OTSG Level Loops	W	Q	R	
2. Controllers	W	NA	R	
d. HSPS Train Actuation Logic	NA	Q(1)	R	
52. Backup Incore Thermocouple Display	M(1)	NA	R	(1)When T <sub>ave</sub> is greater than 250°F.
53. Deleted				
54. Reactor Vessel Water Level	NA		NA	R



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 191 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 15, 1993, the GPU Nuclear Corporation (GPUN, the licensee) submitted a request for changes to the Three Mile Island Nuclear Station, Unit No. 1 (TMI-1) Technical Specifications (TS). The requested changes would revise the current TMI-1 TS to incorporate the B&W Standard TS (BWSTS) Limiting Condition for Operation for the Reactor Vessel Water Level (RVWL) Indication. This indication is a subsystem of the Reactor Coolant Inventory Trending System (RCITS). Because the other subsystem of the RCITS (the Void Fraction Tracking System) does not produce a Regulatory Guide 1.97 Category 1 parameter, it does not appear in the BWSTS and would therefore be removed from the TMI-1 TS along with its surveillance requirement. The requested change also removed a note regarding the fact that the present TS for RCITS was only applicable through the end of Cycle 8. The July 15, 1993, letter replaces, at the staff's request, an earlier application to modify the TMI-1 TS dated September 5, 1991.

The RCITS was installed in response to a December 10, 1982 Order for Modification of License from the Commission, which required installation of instrumentation for detecting inadequate core cooling (ICC) in accordance with NUREG-0737, Item II.F.2. On December 13, 1988, the Commission issued Amendment No. 147 to Facility Operating License No. DPR-50 for TMI-1 in response to the licensee's letter dated December 10, 1986. The amendment incorporated requirements for operability and calibration frequencies for the RCITS in TMI-1 TS Section 3.24. However, the TS Section 3.24 was only approved to the end of fuel cycle 8 because the staff was in the process of completely revising the BWSTS. A note in Amendment No. 147 required the licensee to propose a license amendment consistent with the generic staff position at that time at the end of fuel cycle 8, with the presumption that the final BWSTS would be approved by the staff by that time. The primary

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purpose of the note in the TS was to commit the licensee to request a change at the end of cycle 8. The licensee submitted a TS Change Request (TSCR) dated September 5, 1991 to delete the note in TS Section 3.24 believing that the remaining TS without the note would be the same as the final staff position on that section of the BWSTS. When the final BWSTS was issued in September 1992 as NUREG-1430, the staff's position was different than the TMI-1 TS. The staff therefore requested, by letter dated October 29, 1992, that GPUN resubmit its TSCR to be consistent with the final version of the B&W Standard TS, NUREG-1430. In response, the licensee resubmitted the revised request on July 15, 1993.

## 2.0 EVALUATION

The RCITS is comprised of two subsystems, one to indicate increasing coolant void fraction when one or more reactor coolant pumps (RCPs) are in operation (Void Fraction Trending System) and another to indicate reactor vessel water level in the hot leg piping and reactor vessel head area when no RCPs are in operation (RVWL Indication). Both subsystems are intended to provide the plant operators with an indication of approaching core uncovering due to loss of coolant inventory. In response to Regulatory Guide 1.97, the licensee has identified the RVWL Indication as a Category 1 system. The Void Fraction Trending Subsystem, does not produce a Regulatory Guide 1.97 parameter and it is deleted from the system description in TS 3.24, consistent with NUREG-1430. The RCITS is neither given credit nor required in the accidents evaluated in the TMI-1 Final Safety Analysis Report (FSAR). The system is not relied upon for reactor trip or initiation of any plant safety system. There will be no adverse impact if it is not operable. This system was required for all licensees, however, by the TMI Action Plan, NUREG-0737, following the 1979 reactor accident at TMI-2.

The previous evaluation by the staff, in conjunction with issuance of Amendment No. 147, demonstrated that the TMI-1 TS provided reasonable assurance that the RCITS information would be available to the operator to enhance the operator's ability to understand and manage transients and events when needed. At the time that amendment was issued, the staff sought to assure that the TMI-1 TS would be consistent with the generic revisions to the BWSTS then under development. Consequently, that amendment was approved only for a limited time. The NRC approved NUREG-1430 entitled "Standard Technical Specifications for Babcock and Wilcox Plants," on September 28, 1992. The BWSTS Limiting Condition for Operation for RVWL Indication indicates that two channels are required to be operable when the reactor is critical. If less than two channels are operable, specific actions are required. The staff's review of the licensee's current TS change request indicates that the change is consistent with NUREG-1430. The deletion of Void Fraction Trending Subsystem description from TS 3.24 is also acceptable and is consistent with NUREG-1430.

Based on the above, the staff concludes that the proposed changes to the TMI-1 TS are 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 requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts or types of 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 (59 FR 29626). 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: C. Chung

Date: August 1, 1994