

November 24, 1992

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 FOR THREE MILE ISLAND NUCLEAR STATION,
UNIT NO. 1 (TAC NO. M83358)

The Commission has issued the enclosed Amendment No. 166 to Facility Operating License No. DPR-50 for the Three Mile Island Nuclear Station, Unit No. 1. The amendment consists of changes to the Technical Specifications in response to your applications transmitted by letter dated December 3, 1991.

This amendment revises the Technical Specifications sections addressing the Heat Balance Calibration definition and the action statement in the event that one of the redundant narrow range containment water level instruments should become inoperable. The TMI-1 Technical Specifications Heat Balance Calibration definition is updated to the equivalent Standard Babcock & Wilcox Technical Specifications definition. The containment water level instrument action statement is revised to recognize that each channel contains both a narrow and wide range transmitter, allowing the revised action statements to address the failure of a single instrument.

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. 166 to DPR-50
2. Safety Evaluation

cc w/enclosures:
See next page

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Mr. T. Gary Broughton
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. 166
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 December 3, 1991, 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.

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. 166, 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: November 24, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 166

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

1-4
1-4a
3-40d
3-40e

Insert

1-4
3-40d
3-40e

1.5.2 CHANNEL TEST

A CHANNEL TEST shall be the injection of a simulated signal into the channel as close to the sensor as practical to verify OPERABILITY, including alarm and/or trip functions.

1.5.3 CHANNEL CHECK

A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrumentation channels measuring the same parameter.

1.5.4 CHANNEL CALIBRATION

An instrument CHANNEL CALIBRATION is a test, and adjustment (if necessary), to establish that the channel output responds with acceptable range and accuracy to known values of the parameter which the channel measures or an accurate simulation of these values. Calibration shall encompass the entire channel, including equipment actuation, alarm, or trip and shall be deemed to include the channel test.

1.5.5 HEAT BALANCE CHECK

A HEAT BALANCE CHECK is a comparison of the indicated neutron power and core thermal power.

1.5.6 HEAT BALANCE CALIBRATION

A HEAT BALANCE CALIBRATION is an adjustment of the power range channel amplifiers output based on the core thermal power determination.

TABLE 3.5-3

POST ACCIDENT MONITORING INSTRUMENTATION

<u>FUNCTION</u>	<u>INSTRUMENTS</u>	<u>REQUIRED NUMBER OF CHANNELS</u>	<u>MINIMUM NUMBER OF CHANNELS</u>	<u>ACTION</u>
1.	High Range Noble Gas Effluent			
	a. Condenser Vacuum Pump Exhaust (RM-A5-Hi)	1	1	A
	b. Condenser Vacuum Pump Exhaust (RM-G25)	1	1	A
	c. Auxiliary and Fuel Handling Building Exhaust (RM-A8-Hi)	1	1	A
	d. Reactor Building Purge Exhaust (RM-A9-Hi)	1	1	A
	e. Reactor Building Purge Exhaust (RM-G24)	1	1	A
	f. Main Steam Lines Radiation (RM-G26/RM-G27)	1 each OTSG	1 each OTSG	A
2.	Containment High Range Radiation (RM-G22/G-23)	2	2	A
3.	Containment Pressure	2	1	B
4.	Containment Water Level			
	a. Containment Flood (LT-806/807)	2	1	B
	b. Containment Sump (LT-804/805)	1	0	C
5.	Containment Hydrogen	2	1	B
6.	Wide Range Neutron Flux	2	1	A
7.	Reactor Coolant System Cold Leg Water Temperature (TE-959, 961; TI-959A, 961A)	2	1	A
8.	Reactor Coolant System Hot Leg Water Temperature (TE-958, 960; TI-958A, 960A)	2	1	A
9.	Reactor Coolant System Pressure (PT-949, 963; PI-949A, 963)	2	1	A
10.	Steam Generator Pressure (PT-950, 951, 1180, 1184; PI-950A, 951A, 1180, 1184)	2/OTSG	1/OTSG	A
11.	Condensate Storage Tank Water Level (LT-1060, 1061, 1062, 1063; LI-1060, 1061, 1062, 1063)	2/Tank	1/Tank	A

TABLE 3.5-3 (Continued)

ACTIONS

- A. With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirements:
 - 1. either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or
 - 2. prepare and submit a Special Report within 30 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- B.
 - 1. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Channels OPERABLE requirements, restore the inoperable channel(s) to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours.
 - 2. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements, restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.
- C. Restore the inoperable sump level instrument to OPERABLE status prior to startup following the COLD SHUTDOWN subsequent to its inoperability declaration.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 166 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 December 3, 1991, GPU Nuclear Corporation (the licensee) submitted a request for a change to the Three Mile Island Nuclear Station, Unit No. 1 (TMI-1) Technical Specifications. The requested changes would revise the Heat Balance Calibration definition and the action statement in the event that one of the redundant narrow range containment water level instruments should become inoperable. The first change updates the TMI-1 Technical Specifications to the current Heat Balance Calibration definition in Standard Babcock & Wilcox (B&W) Technical Specifications by deleting the primary and secondary heat balance weighting formulae for determination of core thermal power. The second change deletes the need for a reactor shutdown on the loss of one of the redundant narrow range containment water level instruments. The containment water level instrument action statement in Technical Specification Table 3.5-3 is revised to recognize that each channel contains both a narrow and wide range transmitter. The revised action statement addresses the failure of a single instrument.

2.0 EVALUATION

The Heat Balance Calibration definition change updates the TMI-1 Technical Specifications to the equivalent of the Standard B&W Technical Specifications definition. The heat balance calculation (heat balance) is a calorimetric method to determine the reactor core's thermal power. The heat balance is used to calibrate the nuclear instruments and to confirm operation within the rated thermal power specified in the license as defined by Technical Specification section 1.1, "Rated Power." The revision to the definition deletes information from the definition associated with the primary and secondary heat balance weighting factors and institutes a calorimetric process approved in Standard B&W Technical Specifications. Elimination of the weighting factors in the calorimetric calculation maintains maximum allowable contribution to the maximum power level measurement error to less than or equal to the two percent as required in the TMI-1 Final Safety Analysis Report (FSAR).

The Containment Water Level Instrument action statement is revised to delete the need for a reactor shutdown on a loss of the redundant narrow range containment water level instruments. This change does not change the existing hardware configuration or plant surveillance and operating procedures. The Technical Specification Table 3.5-3, Accident Monitoring Instrumentation, is revised to recognize that each one of the two redundant channels contains both a narrow (containment sump level) and wide (containment flood level) range transmitter. Listing the instruments individually permits the identification of the number of channels of narrow and wide range instruments that should be in operation and allows separate action statements for both instrumentation ranges. The action statement for the wide range instrument remains consistent with the current Technical Specifications. Deferring action to restore sump level instrumentations to an operable status during the next refueling outage period is consistent with the intent of Standard B&W Technical Specifications. The containment sump level instrumentations are identified as Regulatory Guide 1.97 Category 2 instruments. The sump water level indication is not relied upon to mitigate or limit the effects of an accident. The sump level is only used by plant operation staff as indication to maintain the Reactor Building sump level between the high and low alarms. A nonsafety-related independent sump level system consisting of limit switches for different level indications is available as an alternate means for gross indication when both sump level instrumentations are not available.

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 off site, 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 24670). 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: Francis Young

Date: November 24, 1992