

October 31, 1984

DMB 016

Docket No. 50-289

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TBarnhart-4

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TMI Site Pouch

Dear Mr. Hukill:

SUBJECT: AMENDMENT NO. 102 TO FACILITY OPERATING LICENSE NO. DPR-50

The Commission has issued the enclosed Amendment No. 102 to Facility Operating License No. DPR-50 for the Three Mile Island Nuclear Station, Unit No. 1 (TMI-1). This amendment consists of changes to the Technical Specifications (TSs) in response to your letter dated June 4, 1984, as supplemented August 8, 1984.

This amendment corrects a clerical error in TS 3.6.7 by changing "Hot Standby" to "Hot Shutdown"; adds a comment to TS Table 4.1-1 to include independent testing of the shunt trip and undervoltage trip features; deletes TS 6.15 on environmental qualification that has been superseded by 10 CFR 50.49; and replaces TS 6.16 "Iodine Monitoring Program" with TS 6.16 "Post Accident Sampling Programs NUREG-0737 (II.B.3, II.F.1.2)" to cover iodine monitoring and add Particulate Sampling, Reactor Coolant Sampling and Containment Atmosphere Sampling.

A copy of our Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's next Monthly Federal Register Notice.

Sincerely,

*ORIGINAL SIGNED BY
JOHN F. STOLZ*

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Enclosures:

- 1. Amendment No. 102
- 2. Safety Evaluation

cc w/enclosures:
See next page

*See previous white for concurrences.

ORB#4:DL
RIngram*
10/17/84

ORB#4:DL *DL*
OThompson;cf
10/23/84

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10/17/84

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Dear Mr. Hukill:

SUBJECT: AMENDMENT NO. TO FACILITY OPERATING LICENSE NO. DPR-50

The Commission has issued the enclosed Amendment No. to Facility Operating License No. DPR-50 for the Three Mile Island Nuclear Station, Unit No. 1 (TMI-1). This amendment consists of changes to the Technical Specifications (TSs) in response to your letter dated June 4, 1984, as supplemented August 8, 1984.

This amendment corrects a clerical error in TS 3.6.7 by changing "Hot Standby" to "Hot Shutdown"; adds a comment to TS Table 4.1-1 to include independent testing of the shunt trip and undervoltage trip features; deletes TS 6.15 on environmental qualification that has been superseded by 10 CFR 50.49; and revises TS 6.16 to cover the Post Accident Sampling Program by adding Particulate Sampling, Reactor Coolant Sampling and Containment Atmosphere Sampling. We also deleted the first six lines of page 6-23 which are superseded by this amendment. The change on page 6-23 was inadvertently omitted from your submittal.

A copy of our Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's next Monthly Federal Register Notice.

Sincerely,

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Enclosures:

- 1. Amendment No.
- 2. Safety Evaluation

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

METROPOLITAN EDISON COMPANY
JERSEY CENTRAL POWER AND 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. 102
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 licensees) dated June 4, 1984, as supplemented August 8, 1984, 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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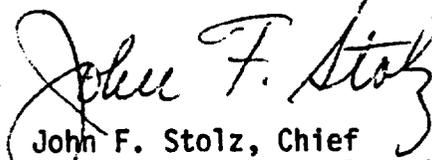
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.c.(2) of Facility Operating License No. DPR-50 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 102, 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.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 31, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 102

FACILITY OPERATING LICENSE NO. DPR-50

DOCKET NO. 50-289

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Remove

3-41

4-3

6-22

6-23

Insert

3-41

4-3

6-22

6-23

3.6 REACTOR BUILDING

Applicability

Applies to the containment integrity of the reactor building.

Objective

To assure containment integrity

Specifications

- 3.6.1 Containment integrity, as defined in Section 1.7, shall be maintained whenever all three of the following conditions exist:
- a. Reactor coolant pressure is 300 psig or greater.
 - b. Reactor coolant temperature is 200°F or greater.
 - c. Nuclear Fuel is in the core.
- 3.6.2 Containment integrity shall be maintained when both the reactor coolant system is open to the containment atmosphere and a shutdown margin exists that is less than that for a refueling shutdown.
- 3.6.3 Positive reactivity insertions which would result in a reduction in shutdown margin to less than 1% $\Delta k/k$ shall not be made by control rod motion or boron dilution unless containment integrity is being maintained.
- 3.6.4 The reactor shall not be critical when the reactor building internal pressure exceeds 2.0 psig or 1.0 psi vacuum.
- 3.6.5 Prior to criticality following refueling shutdown, a check shall be made to confirm that all manual containment isolation valves which should be closed are closed and are conspicuously marked.
- 3.6.6 If, while the reactor is critical, a reactor building isolation valve is determined to be inoperable in a position other than the required position, the other reactor building isolation valve in the line shall be tested to insure operability. If the inoperable valve is not restored within 48 hours, the operable valve will be closed or the reactor shall be brought to the cold shutdown condition within an additional 24 hours.
- 3.6.7 The hydrogen recombiner shall be operable during REACTOR CRITICAL, HOT STANDBY and POWER OPERATION. With the hydrogen recombiner inoperable, restore the recombiner to operable status or bring the reactor to HOT SHUTDOWN within seven (7) days.

**TABLE 4.1-1
INSTRUMENT SURVEILLANCE REQUIREMENTS**

<u>CHANNEL DESCRIPTION</u>	<u>CHECK</u>	<u>TEST</u>	<u>CALIBRATE</u>	<u>REMARKS</u>
1. Protection Channel Coincidence Logic	NA	M	NA	
2. Control Rod Drive Trip Breaker	NA	M	NA	Includes independent testing of shunt trip and undervoltage trip features.
3. Power Range Amplifier	D(1)	NA	(2)	(1) When reactor power is greater than 15%. (2) When above 15% reactor power run a heat balance check once per shift. Heat Balance calibration shall be performed whenever heat balance exceeds indicated neutron power by more than two percent.
4. Power Range Channel	S	M	M(1)(2)	(1) When reactor power is greater than 60% verify imbalance using incore instrumentation. (2) When above 15% reactor power calculate axial offset upper and lower chambers after each startup if not done within the previous seven days.
5. Intermediate Range Channel	S(1)	P	NA	(1) When in service.
6. Source Range Channel	S(1)	P	NA	(1) When in service.
7. Reactor Coolant Temperature Channel	S	M	R	
8. High Reactor Coolant Pressure Channel	S	M	R	
9. Low Reactor Coolant Pressure Channel.	S	M	R	

4-3

Amendment No. 46, 102

- c. documentation that the changes have been reviewed and approved pursuant to 6.8.2.
2. Shall become effective upon review and approval by GPUNC Management.

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

6.14.1 The ODCM shall be approved by the Commission prior to implementation.

6.14.2 GPU Nuclear Corporation initiated changes to the ODCM:

1. Shall be submitted to the NRC in the Semiannual Radioactive Effluent Release Report for the period in which the changes were made. This submittal shall contain:
 - a. sufficiently detailed information to justify the changes without benefit of additional or supplemental information;
 - b. a determination that the changes did not reduce the accuracy or reliability of dose calculations or setpoint determinations; and
 - c. documentation that the changes have been reviewed and approved pursuant to 6.8.2.
2. Shall become effective upon review and approval by GPUNC Management.

6.15 Deleted

6.16 POST-ACCIDENT SAMPLING PROGRAMS NUREG 0737 (II.B.3, II.F.1.2)

Programs which will ensure the capability to accurately sample and analyze vital areas under accident conditions have been implemented.

The following programs have been established:

1. Iodine and Particulate Sampling
2. Reactor Coolant Sampling
3. Containment Atmosphere Sampling

Each program shall be maintained and shall include the following:

1. Training of personnel,
2. Procedures, and
3. Provisions for maintenance of sampling and analysis equipment.

6.17 MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS

6.17.1 GPU Nuclear Corporation initiated safety related changes to the radioactive waste system (liquid, gaseous and solid):

1. Shall be reported to the Commission in the Annual Report (Specification 6.9.1B) for the period in which the evaluation was reviewed. The discussion of each change shall contain:
 - a. A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR 50.59;
 - b. Sufficient detailed information to totally support the reason for the change without benefit of additional or supplemental information;
 - c. A detailed description of the equipment, components and processes involved and the interfaces with other plant systems;
 - d. An evaluation of the change which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the license application and amendments thereto;
 - e. An evaluation of the change which shows the expected maximum exposures to individuals in the unrestricted area and to the general population that differ from those previously estimated in the license application and amendments thereto;
 - f. A comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period prior to when the changes are to be made;
 - g. An estimate of the exposure to plant operating personnel as a result of the change; and
 - h. Documentation of the fact that the change was reviewed and



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 102 TO FACILITY OPERATING LICENSE NO. DPR-50

METROPOLITAN EDISON COMPANY
JERSEY CENTRAL POWER AND LIGHT COMPANY
PENNSYLVANIA ELECTRIC COMPANY
GPU NUCLEAR CORPORATION

THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 1

DOCKET NO. 50-289

Introduction

In a letter dated June 4, 1984, the licensee has requested four changes to the Technical Specifications (TSs), as follows:

1. Revise TS 3.6.7 to state "...bring the reactor to HOT SHUTDOWN within seven (7) days."
2. Revise TS Table 4.1-1, Instrument Surveillance Requirements, Item 2, Control Rod Drive Trip Breaker, by adding the remark "Includes shunt trip features."
3. Delete TS 6.15, Environmental Qualification.
4. Replace TS 6.16, Iodine Monitoring Program, with a new Section 6.16, Post-Accident Sampling Programs, to include programs for Iodine and Particulate Sampling, Reactor Coolant Sampling and Containment Atmosphere Sampling.

We discussed the proposed changes with the licensee, and by the licensee's letter dated August 8, 1984, the proposed changes were revised to improve clarity as follows:

- a) TS Table 4.1-1, the additional remark was changed to "Includes independent testing of shunt trip and undervoltage trip features."
- b) TS 6.15 was revised to include in the title, "... (II.B.3 and II.F.1.2)"; in line 1, "...to accurately sample and analyze..."; in line 4, "1. Iodine and Particulate Sampling."

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Evaluation

1. The revision which changes "HOT STANDBY" to "HOT SHUTDOWN" is obviously a correction of a clerical error because the reactor is already permitted to be in HOT STANDBY mode before entering the action statement that requires bringing the reactor to a safer mode if the hydrogen recombiner is inoperable. Accordingly, we find this change acceptable.
2. The revision to Table 4.1-1, as modified by the licensee's letter dated August 8, 1984, is a change that resulted from our review of Item 4.3 of Generic Letter 83-28 dated July 8, 1983, "Required Actions Based on Generic Implications of the Salem ATWS Events." In our Safety Evaluation of Item 4.3, "Reactor Trip System Reliability - Automatic Actuation of the Shunt Trip Attachment for B&W Plants," dated July 12, 1984, we concluded that the licensee should revise the TSs to specifically require independent testing of the shunt trip and undervoltage trip features. This proposed change meets the NRC staff's requirements on Item 4.3 and therefore is acceptable.
3. The TSs on Environmental Qualification, Section 6.15, refer to actions to be completed in 1980 and 1982 that have been superseded by regulations under 10 CFR 50.49, "Environmental qualification of electrical equipment...". Therefore, we concur in the licensee's assessment that this is an administrative change that updates the TSs, and we find this proposed change acceptable.
4. The current TS 6.16 includes only iodine monitoring. The proposed TS 6.16 will expand this section to include other post-accident monitoring programs, namely particulate sampling, reactor coolant sampling and containment atmosphere sampling. The need to revise the TSs on these issues was addressed in the NRC staff's Generic Letter (GL 83-37), sent to All Pressurized Water Reactor Licensees, dated November 1, 1983. Staff guidance for preparation of TSs for NUREG-0737 items scheduled after December 31, 1981, was included as Attachment 1 to GL 83-37, including Item (2) Post-Accident Sampling (II.B.3) and Item (5) Sampling and Analysis of Plant Effluents (II.F.1.2). The licensee has addressed these two items in the TS change request dated June 4, 1984.

The proposed TS follows GL 83-37 guidance by referencing the programs in the administrative controls section of the TS and including the suggested details provided in GL 83-37. Therefore, we find this proposed change acceptable.

Environmental Consideration

This amendment involves a change in the use of a facility component located within the restricted area as defined in 10 CFR Part 20. This amendment also relates to changes in recordkeeping, reporting, or administrative procedures or requirements. 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 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) and (10). 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 the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: October 31, 1984

The following NRC personnel have contributed to this Safety Evaluation:
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