

December 22, 1993

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. 231 (TAC NO. M88061)

The Commission has issued the enclosed Amendment No. 181 to Facility Operating License No. DPR-50 for the Three Mile Island Nuclear Station, Unit No. 1, in response to your letter dated August 24, 1993.

The amendment changes the plant Technical Specifications to adopt the Standard Specification provision that allows a period up to 24 hours to complete a surveillance requirement upon the discovery that the surveillance has been missed.

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. 181 to DPR-50
2. Safety Evaluation

cc w/enclosures:
See next page

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NAME	SNorris	CChung	RHernan	JStoltz	CPW	
DATE	12/13/93	12/13/93	12/13/93	12/13/93	12/14/93	1/1

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 22, 1993

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and Director - TMI-1
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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

Enclosures:

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See next page

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. 20555-0001

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. 181
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 August 24, 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.

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. 181 , 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: December 22, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 181

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

4-1
--
4-2
4-2a
--

Insert

4-1
4-1a
4-2
4-2a
4-2b

4. SURVEILLANCE STANDARDS

- 4.0.1 During Reactor Operational Conditions for which a Limiting Condition for Operation (LCO) does not require a system/component to be operable, the associated surveillance requirements do not have to be performed. Prior to declaring a system/component operable, the associated surveillance requirement must be current. Failure to perform a surveillance within the specified Frequency shall be failure to meet the LCO except as provided in 4.0.2.
- 4.0.2 If it is discovered that a surveillance was not performed within its specified frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified frequency, whichever is less. This delay period is permitted to allow performance of the Surveillance.

Bases

This specification establishes the flexibility to defer declaring affected equipment inoperable or an affected variable outside the specified limits when a surveillance has not been completed within the specified frequency. A delay period of up to 24 hours applies from the point in time that it is discovered that the required surveillance has not been performed and not at the time that the specified frequency was not met.

The delay period provides an adequate time to complete surveillances that have been missed. This delay period permits the completion of a surveillance before complying with required actions or other remedial measures that might preclude completion of the surveillance.

The basis for this delay period includes consideration of unit conditions, adequate planning, availability of personnel, the time required to perform the surveillance, the safety significance of the delay in completing the required surveillance, and the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the requirements.

When a surveillance with a frequency based not on time intervals, but upon specified unit conditions or operational situations, is discovered not to have been performed when specified, this provision allows the full delay period of 24 hours to perform the surveillance.

Failure to comply with specified surveillance frequencies is expected to be an infrequent occurrence. Use of the delay period is not intended to be used as an operational convenience to extend surveillance intervals.

If a surveillance is not completed within the allowed delay period, then the equipment is considered inoperable or the variable is considered outside the specified limits and the completion times of the required actions for the applicable LCO conditions begin

Bases (Contd.)

immediately upon expiration of the delay period. If a surveillance is failed within the delay period, then the equipment is inoperable, or the variable is outside the specified limits and the completion times of the required actions for the applicable LCO conditions begin immediately upon failure of the surveillance.

Completion of the surveillance within the delay period allowed by this specification, or within the completion time of the actions, restores compliance.

4.1 OPERATIONAL SAFETY REVIEW

Applicability

Applies to items directly related to safety limits and limiting conditions for operation.

Objective

To specify the minimum frequency and type of surveillance to be applied to unit equipment and conditions.

Specification

- 4.1.1 The minimum frequency and type of surveillance required for reactor protection system, engineered safety feature protection system, and heat sink protection system instrumentation when the reactor is critical shall be as stated in Table 4.1-1.
- 4.1.2 Equipment and sampling test shall be performed as detailed in Tables 4.1-2 and 4.1-3.
- 4.1.3 Each post accident monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the check, test and calibration at the frequencies shown in Table 4.1-4.

Bases

Check

Failures such as blown instrument fuses, defective indicators, or faulted amplifiers which result in "upscale" or "downscale" indication can be easily recognized by simple observation of the functioning of an instrument or system. Furthermore, such failures are, in many cases, revealed by alarm or annunciator action. Comparison of output and/or state of independent channels measuring the same variable supplements this type of built-in surveillance. Based on experience in operation of both conventional and nuclear systems, when the unit is in operation, the minimum checking frequency stated is deemed adequate for reactor system instrumentation.

The 600 ppmb limit in Item 4, Table 4.1-3 is used to meet the requirements of Section 5.4. Under other circumstances the minimum acceptable boron concentration would have been zero ppmb.

Calibration

Calibration shall be performed to assure the presentation and acquisition of accurate information. The nuclear flux (power range) channels amplifiers shall be checked and calibrated if necessary, every shift against a heat balance standard. The frequency of heat balance checks will assure that the difference between the out-of-core instrumentation and the heat balance remains less than 4%.

Bases (Contd.)

Channels subject only to "drift" errors induced within the instrumentation itself can tolerate longer intervals between calibrations. Process system instrumentation errors induced by drift can be expected to remain within acceptance tolerances if recalibration is performed at the intervals of each refueling period.

Substantial calibration shifts within a channel (essentially a channel failure) will be revealed during routine checking and testing procedures.

Thus, minimum calibration frequencies set forth are considered acceptable.

Testing

On-line testing of reactor protection channels is required monthly on a rotational basis. The rotation scheme is designed to reduce the probability of an undetected failure existing within the system and to minimize the likelihood of the same systematic test errors being introduced into each redundant channel (Reference 1).

The rotation schedule for the reactor protection channels is as follows:

- a) Channels A, B, C & D Before Startup, when shutdown greater than 24 hours and
- b) Monthly with one channel being tested per week on a continuous sequential rotation.

The reactor protection system instrumentation test cycle is continued with one channel's instrumentation tested each week. Upon detection of a failure that prevents trip action in a channel, the instrumentation associated with the protection parameter failure will be tested in the remaining channels. If actuation of a safety channel occurs, assurance will be required that actuation was within the limiting safety system setting.

The protection channels coincidence logic, the control rod drive trip breakers and the regulating control rod power SCRs electronic trips, are trip tested monthly. The trip test checks all logic combinations and is to be performed on a rotational basis. The logic and breakers of the four protection channels and the regulating control rod power SCRs shall be trip tested prior to startup when the reactor has been shutdown for greater than 24 hours.

Discovery of a failure that prevents trip action requires the testing of the instrumentation associated with the protection parameter failure in the remaining channels.

For purposes of surveillance, reactor trip on loss of feedwater and reactor trip on turbine trip are considered reactor protection system channels.

Bases (Contd.)

The equipment testing and system sampling frequencies specified in Table 4.1-2 and Table 4.1-3 are considered adequate to maintain the equipment and systems in a safe operational status.

REFERENCE

- (1) UFSAR, Section 7.1.2.3(d) - "Periodic Testing and Reliability"



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 181 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 August 24, 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 allow a period of 24 hours to complete a surveillance requirement upon the discovery that the surveillance has been missed. The request states that these changes are needed to avoid unnecessary shutdowns caused by inadvertently exceeding a surveillance interval. Pertinent Bases are also revised to clarify the criteria for incorporating portions of the newly revised STS (NUREG-1430) into the licensee's plant Technical Specifications.

2.0 EVALUATION

NRC Generic Letter (GL) 87-09 proposed model TSs to provide certain improvements including establishment of a delay period in surveillance requirement (SR) applicability up to 24 hours to complete a missed surveillance. This proposal was incorporated into the newly revised Standard Technical Specification (STS) (NUREG-1430). STS SR 3.0.1 and SR 3.0.3 state that if it is discovered that a surveillance test was not performed within the required interval, then "compliance with the requirement to declare the LCO [limiting condition for operation] not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is less. This delay period is permitted to allow performance of the Surveillance." This SR eliminates unnecessary shutdowns caused by exceeding a surveillance interval. By incorporating this into the TMI-1 TSs, the licensee can also avoid misunderstandings concerning violations and licensee event report (LER) requirements.

(1) Revision of a TS Section on page 4-1 into TS Sections 4.0.1 and 4.0.2

The incorporation of the newly revised STS SR 3.0.1 and SR 3.0.3 into the TMI-1 TS is reflected in this revision. Analysis by the licensee showed that this change would alleviate the possibility of violations and LER requirements and eliminate unnecessary shutdowns due to an exceeded surveillance interval. This change is consistent with the revised STS.

Based on above, we conclude the revision of TS Section 4.1 to be acceptable.

(2) Addition of Bases Section for TS Section 4.0.1 and 4.0.2

This Bases section is added to explain need for the newly incorporated TS Sections above. The STS Bases has been incorporated in its entirety with minor wording differences.

It is considered to be an administrative change in nature and is acceptable.

(3) Other changes on the TS pages 4-1, 4-2, and 4-2a

They are purely changes in page numbers due to addition and revision of (1) and (2) above.

They are simply editorial changes and are acceptable.

2.1 SUMMARY

The staff has reviewed the licensee's proposed TS changes to allow a delay period up to 24 hours to permit the performance of a missed surveillance and to add pertinent bases section to the changes. The staff concludes that the proposed changes satisfy its position and requirements in this area, and, therefore, 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 a requirement 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 amendment also relates to changes in recordkeeping, reporting, or administrative procedures or requirements. 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 (58 FR 59751). Accordingly, the 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 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: December 22, 1993