

May 27, 1986

DMB 016

Docket No. 50-289

Mr. Henry D. Hukill, Vice President
and Director - TMI-1
GPU Nuclear Corporation
P. O. Box 480
Middletown, Pennsylvania 17057

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TMI Site Pouch

Dear Mr. Hukill:

SUBJECT: AMENDMENT NO. 118 TO FACILITY OPERATING LICENSE NO. DPR-50

The Commission has issued the enclosed Amendment No. 118 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 5, 1981, as revised April 5, 1983, July 10, 1984, and October 2, 1985.

This amendment removes the current reactor vessel material surveillance requirements from the TSs for TMI-1. Appendix H to 10 CFR 50 requires that each reactor vessel material surveillance program be approved on a case-by-case basis by the Director, Office of Nuclear Reactor Regulation (NRR). Signature approval for this program has been delegated to the Project Director level in NRR. By this letter, we are approving your request that TMI-1 be considered part of the integrated materials surveillance program as documented in B&W Topical Report BAW-1543, Rev. 2A.

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

Sincerely,

***ORIGINAL SIGNED BY
JOHN F. STOLZ***

John F. Stolz, Project Director
PWR Project Directorate #6
Division of PWR Licensing-B

Enclosures:

1. Amendment No. 118 to DPR-50
2. Safety Evaluation

cc w/enclosures:

See next page

*See previous white for concurrences.

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JGoldberg*
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May 27, 1986

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and Director - TMI-1
GPU Nuclear Corporation
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Dear Mr. Hukill:

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Atomic Safety & Licensing Appeal
Board Panel (8)
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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-2-

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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. 118
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 5, 1981, as revised April 5, 1983, July 10, 1984, and October 2, 1985, 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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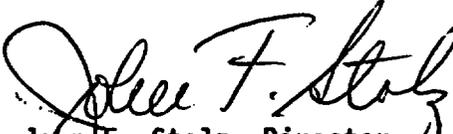
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.c.(2) of Facility Operating License No. DPR-50 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 118, 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, Director
PWR Project Directorate #6
Division of PWR Licensing-B

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 27, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 118

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

vi
4-11
4-12
4-12a
4-13
4-27a

Insert

vi
4-11
4-12
--
4-13

LIST OF TABLES

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3.5-1	Instruments Operating Conditions	3-29
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3.5-3	Post Accident Monitoring Instrumentation	3-40d
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3.23-1	Radiological Environmental Monitoring Program	3-122
3.23-2	Reporting Levels for Radioactivity Concentration in Environmental Samples	3-126
4.1-1	Instrument Surveillance Requirements	4-3
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4.22-2	Radioactive Gaseous Waste Sampling & Analysis Program	4-106
4.23-1	Maximum Values for the Lower Limits of Detection (LLD)	4-118

4.2 REACTOR COOLANT SYSTEM INSERVICE INSPECTION

Applicability

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

Objective

The objective of this inservice inspection program 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.

Specification

- 4.2.1 Inservice Inspection 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 Inservice Testing 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(g), 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 3-1/3 years, two within 6-2/3 years, 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.

4.2.5 (Deleted)

4.2.6 (Deleted)

4.2.7 A surveillance program for the pressure isolation valves between the primary coolant system and the low pressure injection system shall be as follows:

1. Periodic leakage testing^(a) at test differential pressure greater than 150 psid shall be accomplished for the valves listed in Table 3.1.6.1 for the following conditions:
 - (a) prior to achieving hot shutdown after returning the valve to service following maintenance repair or replacement work, and
 - (b) prior to achieving hot shutdown following a cold shutdown of greater than 72 hours duration unless testing has been performed within the previous 9 months.
2. Whenever integrity of a pressure isolation valve listed in Table 3.1.6.1 cannot be demonstrated, the integrity of the other remaining valve in each high pressure line having a leaking valve shall be determined and recorded daily. In addition, the position of one other valve located in the high pressure piping shall be recorded daily.

(a)

To satisfy ALARA requirements, leakage may be measured indirectly (as from the performance of pressure indicators) if accomplished in accordance with approved procedures and supported by computations showing that the method is capable of demonstrating valve compliance with the leakage criteria.

Basen

- a. 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 50.55a(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.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 118 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

By letter dated June 5, 1981, as revised April 5, 1983, July 10, 1984, and October 2, 1985, GPU Nuclear Corporation (GPU or the licensee) requested amendment to the Technical Specifications (TSs) appended to Facility Operating License No. DPR-50 for the Three Mile Island Nuclear Station, Unit No. 1 (TMI-1). The proposed amendment would change the TSs by removing the TSs related to the Reactor Vessel Materials Surveillance Program.

DISCUSSION

The proposed amendment deletes those sections and pages of the present TMI-1 TSs containing the reporting requirements, bases, and schedule for withdrawal of the TMI-1 reactor vessel surveillance capsules. In lieu of the TS requirements, the licensee indicates that their surveillance program will comply with the requirements in B&W Topical Report BAW-1543, Rev. 2A, and 10 CFR 50, Appendix H.

10 CFR 50, Appendix H, was revised in the Federal Register on May 27, 1983, and became effective on July 26, 1983. The requirements for an integrated surveillance program are documented in Section II.C of this revision of Appendix H. This section of Appendix H requires that each surveillance program be approved on a case-by-case basis by the Director, Office of Nuclear Reactor Regulation (NRR). Signature approval for this program has been delegated to the Project Director level in NRR.

TMI-1 is participating in the B&W Integrated Reactor Vessel Surveillance Program, which is documented in B&W Topical Report BAW-1543, Rev. 2A. A March 13, 1985 letter from C.O. Thomas to J.H. Taylor contained the staff review of the Topical Report. The staff concluded that the B&W integrated surveillance program, documented in Topical Report BAW 1543, Rev. 2A, meets the criteria in Section II.C of 10 CFR 50, Appendix H.

Radiation damage is a function of neutron fluence and the amounts of residual

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elements (copper, nickel and phosphorus) in the material. Hence, an acceptable surveillance program must withdraw capsules at neutron fluence intervals representing the life of TMI-1 and must contain material that will monitor the effect of neutron irradiation on the limiting material in the TMI-1 reactor vessel. The required amount of neutron fluence to be received by each capsule in the surveillance program is documented in ASTM E 185-82.

According to B&W Topical Report BAW-1543, Rev. 2A, there will be at least five TMI-1 surveillance capsules that will be irradiated in the Crystal River Unit 3 Nuclear Generating Plant, and they will be withdrawn at neutron fluence ($E > 1 \text{ MeV}$) varying from $1.07 \times 10^{18} \text{ n/cm}^2$ to $1.3 \times 10^{18} \text{ n/cm}^2$. The withdrawal schedule for the TMI-1 capsules in B&W Topical Report BAW-1543, Rev. 2A, meets, to the extent practical, the requirements in ASTM E 185-82. The weld metal in the capsules is identified as WF 25. The limiting weld metal in the TMI-1 reactor vessel beltline is identified as WF 8. Weld metals WF 25 and WF 8 were prepared using the same type of filler wire and flux but different heats and lots. Since these weld metals are from different heats and lots, the amounts of residual elements in each weld will be different. However, the amounts of residual elements for each of the weld metals is reported in Babcock & Wilcox Topical Report BAW-1799, "B&W 177-FA Reactor Vessel Beltline Weld Chemistry Study", dated July 1983. By comparing the amounts of radiation damage predicated by the Regulatory Guide 1.99 to that observed for the capsule material, we will be able to effectively monitor radiation damage to the TMI-1 reactor vessel beltline.

EVALUATION

The capsule withdrawal schedule meets, to the extent practical, the requirements in ASTM E 185-82 and the TMI-1 capsule weld metal will monitor the effect of neutron irradiation on the limiting weld metal in the TMI-1 reactor vessel beltline.

Based on the staff's approval of B&W Topical Report BAW-1543, Rev. 2A, and the above conclusion, we recommend approval of the integrated materials surveillance program as documented in B&W Topical Report BAW-1543, Rev. 2A, for TMI-1.

Since the licensee has agreed to comply with B&W Topical Report BAW-1543, Rev. 2A, and the requirements in 10 CFR 50, Appendix H, it is acceptable to delete the reporting requirements, bases, and withdrawal schedule for the TMI-1 reactor vessel surveillance capsules from the TMI-1 TS.

ENVIRONMENTAL CONSIDERATION

This amendment involves changes in surveillance requirements and reporting requirements. We have 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 published a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding. 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.

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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: May 27, 1986

Principal Contributor: B. Elliot