

February 25, 1991

Docket No. 50-289

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Dear Mr. Hukill:

SUBJECT: EXEMPTION TO 10 CFR PART 50, APPENDIX J, SECTION III.D.1(a)  
(TAC NO. 79186)

The Commission has issued the enclosed Exemption from certain requirements of Appendix J to 10 CFR Part 50 for the Three Mile Island Nuclear Station, Unit 1 (TMI-1), in response to your letter dated August 30, 1990. The subject regulation requires that "... a set of three Type A tests shall be performed, at approximately equal intervals during each 10-year service period. The third test of each set shall be conducted when the plant is shut down for the 10-year inservice inspections." The Exemption allows the continuation of the Type A tests but no longer requires that the third test of each set of three Type A tests be conducted during the same refueling outage that the 10-year inservice inspection is conducted. However, this Exemption does not alter the existing requirement in Section III.D.1(a) of Appendix J that three integrated leak rate tests be performed during each 10-year service period.

A copy of the enclosed Exemption is being filed with the Office of the Federal Register for publication.

Sincerely,



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

Enclosure:  
As stated

cc w/enclosure:  
See next page

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DOCUMENT NAME: TMI APPENDIX J EXEMPTION

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Three Mile Island Nuclear Station,  
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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of

GPU NUCLEAR CORPORATION, ET AL.

(Three Mile Island Nuclear Station  
Unit No. 1)

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Docket No. 50-289

EXEMPTION

I.

GPU Nuclear Corporation (GPUN/licensee) and three co-owners hold Facility Operating License No. DPR-50, which authorizes operation of the Three Mile Island Nuclear Station, Unit No. 1 (TMI-1) (the facility) at power levels not in excess of 2568 megawatts thermal. This license provides, among other things, that the facility is subject to all rules, regulations, and Orders of the Nuclear Regulatory Commission (the Commission or the staff) now or hereafter in effect.

The facility is a pressurized water reactor located at the licensee's site in Dauphin County, Pennsylvania.

II.

The licensee requested an exemption from the Commission's regulations in its letter dated August 30, 1990. The requested exemption is from a requirement in Appendix J to 10 CFR Part 50 which requires that certain surveillance tests be conducted during the same refueling outage as Inservice Inspections (ISI) required by 10 CFR 50.55a.

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The specific requirement is contained in Section III.D.1(a) of Appendix J, 10 CFR Part 50, and states that "after the preoperational leakage rate test [of containment], a set of three Type A tests shall be performed, at approximately equal intervals during each 10-year service period. The third test of each set shall be conducted when the plant is shut down for the 10-year plant inservice inspections." The Type A tests are defined in Section II.F of Appendix J as "tests intended to measure the primary reactor containment overall integrated leakage rate... at periodic intervals...." The 10-year inservice inspection is that series of inspections performed every 10 years in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and Addenda as required by 10 CFR 50.55a. The time and plant conditions required to perform the Type A integrated leakage rate tests (ILRTs) necessitates that they be performed during refueling outages. The time interval between ILRTs should be about 40 months (3 1/3 years) based on performing three such tests during each 10-year service period. Since refueling outages do not necessarily occur coincident with a 40-month interval, a permissible variation of 10 months is typically authorized in the Technical Specifications (TSs) issued with an operating license to permit flexibility in scheduling the ILRTs. However, TMI-1 has no such limitation in the TSs.

TMI-1 has had a somewhat unique history in terms of ILRTs, partly as the result of the long shutdown period following the accident at TMI-2. For example, the ISI schedule was interrupted from early 1979 to late 1985 (78 months) during this mandated shutdown period. The first 10-year ISI interval will therefore end in April 1991. Following the preoperational ILRT in 1974, periodic ILRTs were conducted in 1977 (which failed to meet the acceptance

criteria), 1978, 1981, 1984, 1986 and 1990. The past five tests met the leakage criteria. Therefore, TMI-1 has met the intent and requirements of Appendix J.

Due to the time and plant conditions required to conduct it, the 10-year ISI required by 10 CFR 50.55a also must be conducted during a refueling outage. This ISI will be performed during the eighth refueling outage starting in October 1991. If the requested exemption is not granted, Section III.D.1(a) of Appendix J would require an additional ILRT to be performed in October 1991, about 22 months after the previous ILRT. This interval would be considerably shorter than the interval of about 40 months implied in Appendix J. More importantly, this interval would not be consistent with either the intent or the underlying purpose of the rule which requires that these Type A tests "... be performed at approximately equal intervals during each 10-year service period." (Section III.D.1(a) of Appendix J).

The licensee addressed this issue in its exemption request in which it cites from Appendix J that "the purpose of the tests are to assure that (a) leakage through the primary reactor containment and systems and components penetrating primary containment shall not exceed allowable leakage rate values as specified in the technical specifications..." The licensee asserts and the NRC staff agrees that the Type A test conducted in January 1990 met the underlying purpose of the rule in that the required overall leak-tightness of the primary containment was demonstrated. Accordingly, it is not necessary to conduct another Type A test in the forthcoming refueling outage to meet the intent of the rule. Doing another ILRT in the forthcoming refueling outage would not add significantly to the assurance that the overall leakage rate of

the primary containment and its penetrations remain within the value specified in the TMI-1 TSs and would not meet the intent of the rule to conduct these tests at approximately equal (40 month) intervals as cited above.

On this basis, we find that the licensee has demonstrated that the "Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule..." [10 CFR 50.12(a)(2)(11)].

Each of these two tests (i.e., the Type A test and the 10-year ISI) is independent of each other and provides assurances of different plant characteristics. The Type A tests assure the required leak-tightness to demonstrate compliance with the guidelines of 10 CFR Part 100. The 10-year ISI provides assurance of the structural integrity of the structures, systems, and components in compliance with 10 CFR 50.55a. Accordingly, there is no safety-related concern associated with their coupling in the same refueling outage.

On this basis, the NRC staff finds that the licensee has demonstrated that there are special circumstances present as required by 10 CFR 50.12(a)(2). Further, the staff also finds that the uncoupling of the Type A test from the 10-year ISI will not present an undue risk to the public health and safety.

### III.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, an exemption is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest and hereby grants an exemption with respect to one of the requirements of 10 CFR Part 50, Appendix J, Section III.D.1(a):

The TMI-1 Technical Specifications may be revised to delete the requirement that the third ILRT be performed in conjunction with the 10-year inservice inspection. This Exemption does not alter the existing requirement that three ILRTs be performed during each 10-year service period.

Pursuant to 10 CFR 51.32, the Commission has determined that the issuance of the Exemption will have no significant impact on the environment ( 56 FR 2778 ).

This Exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Steven A. Varga, Director  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland  
this 25th day of February, 1991.