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GPU Nuclear Corporation

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February 19, 1987 5211-87-2020

U.S. Nuclear Regulatory Commission Attn: Document Control Desk Washington, DC 20555

Dear Sir:

Three Mile Island Nuclear Station Unit 1 (TMI-1) Operating License No. DPR-50 Docket No. 50-289 Inservice Testing (IST) of Pumps and Valves

GPUN's letter of December 24, 1986 provided a response in Attachment 1 to each of the open issues which were identified in the NRC's October 3, 1986 Safety Evaluation Report (SER) regarding IST for the second ten-year IST interval. Our letter was in response to the meeting in Bethesda on October 27, 1986 where we had discussed the SER open issues with the NRC staff. As a result of our conference call with the NRC and EG&G Idaho on January 15, 1987, it appears that additional commitments are required in order to resolve four of these issues (I. through IV., which are discussed below) prior to startup for Cycle 6 operation. One additional issue involves some disagreement over the frequency of check valve disassembly for inspection purposes. However, the disassembly inspections that are being performed during the current outage will ensure compliance with the SER for Cycle 6 operation. A report of the inspection results will be submitted to the NRC for further consideration. These results should provide additional information to strengthen the position that a longer inspection interval should be granted for future inspections. The purpose of this letter is to provide additional commitments and to request interim relief for a reasonable amount of time sufficient to implement procedures and complete modifications.

As requested by NRC in the conference call on January 15, 1987, GPUN acknowledges the apparent inconsistency in our December 24, 1986 submittal regarding the PORV, RC-RV2. This valve was listed as a Category C valve in one location of the transmittal while it appeared in a list where the limiting stroke times of power operated valves were given. We had not considered RC-RV2 a Category B valve since it does not fit the definition of a Category B valve. RC-RV2 is power actuated but not power operated. We understand that GPUN's test program as described in our letter of December 24, 1986, which is essentially a test program for a Category B valve, is acceptable to the NRC. If the test program which has been implemented is acceptable, then the question of valve category is purely academic.

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It should be noted that GPUN has installed a spectacle flange between EF-V4 and EF-V5. Therefore, the relief requested from quarterly testing for EF-V4 and EF-V5 is no longer needed. Attachment 1 includes the revised pages from our December 24, 1986 submittal which reflect the deletion of this request.

The four issues which need to be resolved are addressed as follows:

ISSUES I. & II. - Quarterly flow test of the four Boric Acid and Boric Acid Recycle pumps (CA-PIA/B and WDL-PI3A/B)

Ref.: SER Appendix D, Items D.1.2 and D.1.4

GPUN's IST program includes tests of CA-PIA/B and WDL-PI3A/B each refueling interval. Therefore, this issue amounts to the frequency of pump testing.

We have been unable to resolve this issue because we have maintained that the determination of practicality in accordance with 10 CFR 50.55a should not require plant modifications in order to perform the tests in question. We also believe that we had previously achieved technical resolution on this issue by commiting to additional testing of WDL-Pl3A/B.

Although the NRC has pointed out that alternative test methods might be acceptable in lieu of plant modifications, we have been unable to determine an alternate test method that would not result in undesirable changes in boron concentration, power reduction, or excessive radwaste generation. Therefore, in order to resolve this issue, GPUN intends to complete the modifications necessary to perform quarterly tests of CA-PIA/B and WDL-PI3A/B.

GPUN requests interim relief from the quarterly test frequency for these pumps until such time that these modifications can be completed. GPUN intends to complete these modifications as discussed below. In the interim the current test program is adequate to ensure operability.

ISSUE III. - Spent Fuel Cooling System Valves

Ref.: SER Appendix D, Item D.1.20

NRC has stated that providing a safety grade source of makeup water to the spent fuel pools would be an acceptable alternative to adding these valves to the IST program. GPUN believes that sufficient redundant and diverse (non-safety related) means are available for makeup to the Spent Fuel Pool. We also believe that the tests of additional Spent Fuel Cooling System valves will present an unnecessary burden on the operator. However, in order to resolve this issue, GPUN is including tests of the Spent Fuel Cooling System valves in the IST program as shown on the revised page 36 of 38 from Table B-1 of GPUN's submittal dated December 24, 1986 (See Attachment 1). The addition of these valves to the IST program will be sufficient to resolve this issue.

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ISSUE IV. - Diesel Generator Fuel Oil Transfer Pumps

Ref.: SER Appendix D, Item D.1.23

NRC's letter of October 3, 1986 raised this issue for the first time in the SER. We do not believe that the ASME Section XI Code was intended to be applied to air and fuel oil systems. However, in order to resolve this issue, GPUN intends to either install flow instrumentation or tank level indication that will allow the calculation of flow rate. This will allow quarterly flow tests of the Diesel Generator Fuel Oil Transfer Pumps. As discussed in the October 27, 1986 meeting with the NRC staff, we request that the NRC's safety evaluation grant relief from the Code requirements for measuring $\triangle P$, P_i , and testing for a 5 minute run time.

GPUN requests interim relief from flow testing these pumps in accordance with the Code until such time that this modification can be completed. GPUN intends to complete this modification as discussed below. GPUN's operational surveillance program includes a weekly test to ensure that the Diesel Generator Fuel Oil Transfer pumps will start. This is in addition to the monthly Diesel Generator testing which proves the ability to maintain the level in the day tank. In the interim, these tests should be adequate to ensure operability of the Diesel Generator Fuel Oil Transfer pumps.

IMPLEMENTATION SCHEDULE FOR ISSUES I, II, AND IV

Recognizing the desire by the NRC to have these modifications installed as soon as practical, GPUN has begun to evaluate the specifics of these changes. In order to be ready for Cycle 7R installation, which is scheduled for mid 1988, the GPUW planning process (which embodies the elements of the Integrated Living Schedule Program) requires engineering to be complete six months prior to the outage so detailed planning and procurement can be performed. It does not appear reasonable therefore to expect these projects to be defined, specifications prepared, the projects estimated and funded, engineering totally completed, long lead materials procured, and installation packages released for detailed planning and implementation all by the end of 1987 to support 7R. GPUN therefore plans to implement the changes associated with satisfying Issues I, II and IV by the end of refueling outage Cycle 8R. If, as further details develop, it becomes apparent an earlier schedule is feasible and is consistent with other planned effort, this work would be accelerated.

As stated in our letter of December 24, 1986, a period of six months is needed in order to incorporate procedural changes necessary to implement changes to the IST program. Therefore, interim relief for a period of six months from the date of this letter is requested in order to implement the test program for Spent Fuel Cooling System valves.

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We believe that the commitments contained in this letter in addition to the commitments and additional information which have already been provided to the NRC is sufficient to resolve the NRC staff's concerns regarding IST for the second ten-year IST interval. In light of these new commitments, GPUN requests a supplement to the SER granting that relief requested in our letter of December 24, 1986, except for the items discussed above and granting the relief requested in this letter.

Sincerely,

Vice President & Director, TMI-1

HDH/MRK/spb

Attachment

cc: J. Stolz, USNRC T. Murley, USNRC F. Young, USNRC J. Thoma, USNRC

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TABLE B-1 THREE MILE ISLAND UNIT NO. 1 PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

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SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
SPENT FUEL COOLING SYSTEM (1D-ISI-FD-018)	SF-V1	DIAPH.	8"	DIAPH.	3	В	т	Q
	SF-V2	DIAPH.	8"	DIAPH.	3	В	т	Q
	SF-V4	DIAPH.	8"	DIAPH.	3	В	т	Q
	SF-V5	DIAPH.	8"	DIAPH.	3	В	Т	Q
	SF - V7	СНЕСК	8"		3	С	F	Q
	SF-V8	CHECK	8"		3	С	F	Q
	SF-V11	DIAPH.	8"	DIAPH.	3	В	т	Q
	SF-V12	DIAPH.	8"	DIAPH.	3	В	T	Q
	SF-V14	DIAPH.	8"	DIAPH.	3	В	т	Q
	SF-V15	DIAPH.	8"	DIAPH.	3	В	T	Q
	SF-V23	GATE	8"	MANUAL	2	А	L/-(1)	R/-
	SF-V50	CHECK	8"		3	С	F	Q
	SF-V51	CHECK	8"		3	С	F	Q

Footnote:

(1)

This CIV is passive (a closed valve whose function is to remain closed). Therefore, this valve is exempted from the quarterly functional stroke requirement of IWV-3412 per NRC staff guidelines since no meaningful information would be gained.

TABLE B-1 THREE MILE ISLAND UNIT NO. 1 PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

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SYSTEM/ (ISI DRAWING NO.) VALVE NO.	ТҮРЕ	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
EMERG. FEED	EF-V3(1)							
(1D-ISI-FD-009)	EF-V4	GATE	6"	MOTOR	3	В	т	Q
(1D-ISI-FD-010)	EF-V5	GATE	6"	MOTOR	3	В	T	Q
	EF-VIIA/B	CHECK	4"		3	С	F	RC(2)(II)
	EF-V12A/B	CHECK	6"		2	С	F	RC(II)
	EF-V13	CHECK	6"		3	С	P/F	Q/RC(II)
	EF-V19A/B	СНЕСК	1-1/2	"	3	С	F	Q
	EF-V21	CHECK	2"		3	С	F	Q
	EF-V30A-D(3)	CONTROL	3"	PNEU.	3	В	T/FS	Q/Q

Footnote:

- (1) The internals of EF-V3 have been removed by DRF 039002 during the Eddy Current Outage in March 1986. Therefore, EF-V3 has been deleted from the IST Program.
- (2) EF-VIIA/B are the discharge check valves on EF-P2A/B. EF-P2A/B is tested on recirculation with the OTSGs isolated from EF-P2A/B by EF-VIOA/B. The recirculation line is upstream of EF-VIIA/B; therefore, there is no flow through EF-VIIA/B. It is not possible to initiate flow through EF-VIIA/B on a quarterly frequency due to the limited number of thermal cycles allowed for the Auxiliary Feedwater Nozzles.
- (3) TMI-1 is adding redundant EF-V30 control valves. Therefore, EF-V30C and D are being added to the IST program upon their placement into service.

TABLE B-2 THREE MILE ISLAND - UNIT NO. 1 PERIODIC INSERVICE INSPECTION PROGRAM - VALVES REQUEST FOR RELIEF FROM ASME CODE SECTION XI REQUIREMENTS

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SPECIFIC REQUESTS FOR RELIEF

I. Category B - Valves That Will Be Tested Only During Refueling Outages

A. Valve Identification

Valve Name and Function

Reactor Bldg. Sump Recirc. Suction

Valve Number

DH-V6A/B

B. ASME Code Section XI Requirement From Which Relief is Requested

Paragraph IWV-3412(a) states that valves that cannot be operated during normal plant operation shall be full-stroke exercised during each cold shutdown. In case of frequent cold shutdowns these valves need not be exercised more often than once every three months.

C. Basis for Requesting Relief

Prior to cycling DH-V6A and B the Reactor Building Sump must be drained, then blank flanges weighing ~ 140 lbs. must be installed in the sump on the piping leading to DH-V6A/B. In order to install the blank flange, considerable time and effort is required (i.e., maintenance personnel must enter the sump to install the blank flanges. After the test the blank flanges must be removed. There are no isolation valves other than DH-V6A/B that isolate the Reactor Building Sump from the DH System. The blank flanges are installed to prevent water in the DH piping from flooding the Reactor Building when DH-V6A/B is opened for stroke timing. If the blank flanges were not installed, water would flow through the 14" line for ~ 140 seconds while DH-V6A/B is opened and then closed. Because of ALARA concerns (~ 300 MR for installation and removal of the flanges), the proper frequency for stroke timing DH-V6A/B is refueling. Therefore, it is impractical to test DH-V6A/B on a cold shutdown frequency. In addition, a refueling interval stroke time test since 1978 has not shown any problem with DH-V6A/B.

TABLE B-2 THREE MILE ISLAND - UNIT NO. 1 PERIODIC INSERVICE INSPECTION PROGRAM - VALVES REQUEST FOR RELIEF FROM ASME CODE SECTION XI REQUIREMENTS

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II. <u>Category C - Valves Which Will be Full Stroke Tested Following A Refueling or A Cold Shutdown When</u> Cold Shutdown Exceeds 30 Days.

A. Valve Identification

Valve Name and Function

Condensate Storage Tank to EF Water Pumps Motor Driven EF Water Pump Discharge EF Water Pumps to OTSG Turbine Driven EF Water Pump Discharge

B. ASME Code Section XI Requirement From Which Relief is Requested

Paragraph IWV-3522 states that check valves that cannot be operated during normal plant operation shall be full-stroke exercised during each cold shutdown. In case of frequent cold shutdowns these valves need not be exercised more often than once every three months.

Valve Number

CO-V16A/B

EF-V11A/B

EF-V12A/B

EF-V13