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Docket No. 50-289

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

Dear Mr. Hukill:

The staff is reviewing your July 10, 1984 submittal on inservice testing of pumps and valves (IST) for the second 120-month interval. In order to complete our review we and our consultants, EG&G Idaho, need additional information or clarification of your IST program, as outlined in the enclosure. We request that you meet with the staff and discuss your responses. The personnel who attend should be able to provide technical expertise and commitments on the part of GPUN since the staff's final safety evaluation will be based on the results of the meeting.

The meeting has been scheduled for two days, August 20 and 21, 1985, in room P-114, Phillips Building, 7920 Norfolk Avenue, Bethesda, Maryland beginning at 10 a.m. Mr. Robert Knight of your office has agreed to this schedule. For further assistance, contact the project manager, Owen Thompson (301) 492-7471.

Sincerely,
"ORIGINAL SIGNED BY
JOHN F. STOLZ"

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

Enclosure:
As Stated

cc w/enclosure:
See next page

ORB#4:DL	ORB#4:DL	ORB#4:DL
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Washington, D.C. 20555

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

Docketing and Service Section
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

THREE MILE ISLAND, UNIT 1
VALVE TESTING PROGRAM

A. General Questions and Comments

1. Provide the limiting value of full-stroke time for each power operated valve in the IST program.

2. Are all valves that are Appendix J, Type C, leak tested included in the IST program and categorized A or A/C?

3. All Category A&B active valves must be stroke timed during quarterly testing unless specific relief is requested from the stroke timing requirements of Section XI.

B. Core Flooding System

1. In reference to valves CF-V4A/B, the NRC position is that a sample disassembly program of inspection is an acceptable means of full-stroke exercising check valves and should be performed at each refueling outage.

2. How are valves CF-V5A/B full-stroke exercised during cold shutdowns?

C. Chemical Sampling and OTSG Chemical Cleaning System

1. What is the purpose of valve CA-V29 located in the lower left hand corner of Drawing FD-020?

D. Chemical Addition and Waste Disposal System

1. What is the purpose of the chemical addition penetration No. 307? Why is valve CA-V192 identified as a passive valve while valve CA-V189 is not?

2. Does valve CA-V134 perform any function important to safety?

E. Control Building Chilled Water System

1. Do any of the temperature control valves shown on Drawing FD-011 have a required fail-safe positon?

F. Emergency Feedwater and Feedwater Systems

1. Provide a more detailed technical justification for not full-stroke exercising valves CO-V16A and CO-V16B during each cold shutdown.

G. Decay Heat Removal System

1. Review the safety function of valves DH-V1, DH-V2, and DH-V3 to determine if they should be categorized A.

2. Provide a more detailed technical justification for not full-stroke exercising valves DH-V1 and DH-V2 quarterly.

3. Review the safety function of valves DH-V4A and DH-V4B to determine if they should be categorized A.

4. Review the safety function of valves DH-V6A and DH-V6B to determine if they should be categorized A. Provide a more detailed technical justification for not full-stroke exercising these two valves during power operation or cold shutdown.

5. How are valves DH-V14A and DH-V14B partial-stroke exercised quarterly? What alternate methods have been investigated to full-stroke exercise these valves at the Code specified frequency?

6. Provide a more detailed technical justification for not full-stroke exercising valves DH-V16A and DH-V16B during cold shutdowns.

7. Review the safety function of valves DH-V22A and DH-V22B to determine if they should be categorized A/C.

8. Provide a detailed technical justification for not full-stroke exercising valves DH-V22A and DH-V22B quarterly. How are these valves full-stroke exercised during cold shutdowns while upstream valves DH-V16A and DH-V16B are only partial-stroke exercised?

9. What is the safety function of valves DH-V38A and DH-V38B?

10. Review the safety function of valves DH-V59A and DH-V59B to determine if they should be included in the IST program.

H. River Water System

1. Review the safety function of valves DR-V6A, DR-V6B, DR-V7A, and DR-V7B to determine if they should be included in the IST program.

I. Emergency Feedwater and Feedwater Systems

1. How is the EF-V3 partial-stroke exercised quarterly? Provide a detailed technical justification for not full-stroke exercising this valve at the Code specified frequency. Have the internals been removed from this valve?

2. Provide a more detailed technical justification for not full-stroke exercising valves EF-V11A, EF-V11B, EF-V12A, EF-V12B, and EF-V13 during each cold shutdown. How is valve EF-V13 partial-stroke exercised quarterly?

3. Review the safety function of the following valves to determine if they should be included in the IST program.

Category B	Category C
EF-V1A	EF-V17A
EF-V1B	EF-V17B
EF-V2A	EF-V21
EF-V2B	

J. Nuclear Services Closed Cycle Cooling Water System

1. Provide a more detailed technical justification for not full-stroke exercising valves EF-V4 and EF-V5 during cold shutdowns.

K. Diesel Generator Jacket, Air, and Gear Box Lube Oil Cooler Coolant System

1. How are check valves EG-V32A/A, EG-V32A/B, EG-V32B/A, and EG-V32B/B individually verified to full-stroke exercise quarterly?

2. Do valves EG-V31A, EG-V31B, EG-V47A, and EG-V47B have a required fail-safe position?

L. Penetration Fluid Block, Penetration Pressurization, and Hydrogen Recombiner Systems

1. When is the Fluid Block System expected to be disabled and the valves listed removed from the IST program? If these valves remain in the IST program and leakage is important to performing their safety function, they must be categorized A/C.

M. Emergency Feedwater and Feedwater Systems

1. Provide the specific technical justification for not verifying valves FW-V12A and FW-V12B closed during cold shutdown and refueling outages. What alternate methods have been considered to verify operability of these valves?

N. Hydrogen Purge System and Miscellaneous Penetrations

1. How are the following valves fail-safe tested?

HM-V1A	HM-V3A
HM-V1B	HM-V3B
HM-V2A	HM-V4A
HM-V2B	HM-V4B

O. Penetration Fluid Block, Penetration Pressurization, and Hydrogen Recombiner Systems

1. How are valves HR-V22A, HR-V22B, HR-V23A, and HR-V23B fail-safe tested?

P. Intermediate Cooling System

1. What is the safety function of valves IC-V1A and IC-V1B?

2. How are valves IC-V2, IC-V3, IC-V4, and IC-V6 partial-stroke exercised during power operation? What are the consequences of valve failure while full-stroke exercising these valves during power operation?

Q. Main Steam System and Drainage

1. Provide a detailed technical justification for not full-stroke exercising valves MS-V1A, MS-V1B, MS-V1C, and MS-V1D during power operation.

2. What are the consequences of valve failure in the open position while full-stroke exercising valves MS-V4A and MS-V4B during power operation?

3. What alternate methods have been investigated for full-stroke exercising valves MS-V9A and MS-V9B? Are these valves exercised individually? Do these valves perform a safety function in the closed position?

4. Review the safety function of the following valves to determine if they should be included in the IST program and categorized as indicated.

Category B	Category C
AS-V4	MS-V22A
MS-V8A	MS-V22B
MS-V8B	
MS-V6	

R. Make-up and Purification System - Letdown Portion

1. What is the safety function of valves MU-V1A and MU-V1B?

2. Provide a detailed technical justification for not full-stroke exercising valves MU-V2A, MU-V2B, and MU-V3 quarterly during power operation.

3. Does partial-stroke exercising MU-V3, which normally full-strokes in less than 1 second, present any operational complications due to isolation of the letdown flow?

4. Provide a detailed technical justification for not full-stroke exercising valves MU-V25 and MU-V26 quarterly during power operation.

5. What is the safety function of valve MU-V51?

6. Review the safety function of the following valves to determine if they should be included in the IST program.

Category B	Category C
MU-V11A	MU-V47
MU-V11B	

S. Make-up and Purification System - Make-up Portion

1. Provide a more detailed technical justification for not full-stroke exercising valves MU-V14A and MU-V14B open quarterly and during cold shutdowns.

2. Is thermal shock to the injection nozzles a consideration when full-stroke exercising valves MU-V16A, MU-V16B, MU-V16C, and MU-V16D during power operation? Are these valves presently being leak-rate tested as containment isolation valves?

3. Provide a more detailed technical justification for not full-stroke exercising valves MU-V73A, MU-V73B, and MU-V73C quarterly during power operation and cold shutdown.

4. Provide a more detailed technical justification for not full-stroke exercising the following valves quarterly during power operation and cold shutdowns. Do any of these valves perform a containment isolation or pressure boundary isolation function?

MU-V86A	MU-V107A
MU-V86B	MU-V107B
MU-V94	MU-V107C
MU-V95	MU-V107D
MU-V220	

5. What is the safety function of valves MU-V116 and MU-V219? Does valve MU-V219 perform a containment isolation function?

6. What is the safety function of valve MU-V217?

7. Review the safety function of valve MU-V112 to determine if it should be included in the IST program.

T. Nitrogen Supply System

1. Is there another containment isolation valve associated with NI-V27 on the nitrogen line at penetration 307?

U. River Water System

1. What is the safety function of valves NR-V4A and NR-V4B?

2. Review the safety function of the following valves to determine if they should be included in the IST program and categorized as indicated.

Category B	Category C
NR-V6	NR-V22A
NR-V2	NR-V22B
NR-V19	NR-V22C
NR-V18	NR-V29

V. Nuclear Service Closed Cycle Cooling Water System

1. Provide the specific technical justification for not full-stroke exercising valves NS-V4, NS-V15, and NS-V35 during power operation.

2. How is valve NS-V11 full-stroke exercised closed (its safety position) quarterly during power operation?

3. Are valves NS-V52A/B/C and NS-V53A/B/C leak tested to Appendix J requirements to demonstrate their containment isolation function?

4. Do any of the following valves have a required fail-safe positon?

NS-V55A	cooling water to control building
NS-V55B	coolers
NS-V48A	cooling water to control building
NS-V48B	air conditioning

W. River Water System

1. Review the safety function of valves RR-V10A, RR-V10B, RR-V12A, and RR-V12B to determine if they should be included in the IST program.

X. Nuclear Services Closed Cycle Cooling Water System

1. Review the safety function of the following valves to determine if they should be categorized A.

RR-V3A	RR-V4B
RR-V3B	RR-V4C
RR-V3C	RR-V4D
RR-V4A	

2. Provide a more detailed technical justification for not full-stroke exercising the following valves quarterly during power operation and cold shutdowns.

RR-V8A
RR-V8B
RR-V9A
RR-V9B
RR-V9C

3. Provide the P&ID that shows valve RR-V9D.

4. Review the safety function of valves NS-V12 and RR-V6 to determine if they should be included in the IST program.

Y. Reactor Building R/Q/C System

1. What is the purpose of this system?

2. Is valve RB-V7 motor operated as indicated in the IST program or pneumatic as indicated on the ISI Boundary sketch.

3. Provide the specific technical justification for not full-stroke exercising valves RB-V7 and RB-V2A quarterly during power operation.

4. Review the safety function of valve RB-V2 to determine if it should be included in the IST program.

Z. Reactor Building Spray System

1. Review the safety function of the following valves to determine if they should be categorized as indicated.

Category A	Category A/C
BS-V1A	BS-V30A
BS-V1B	BS-V30B

2. How are valves BS-V30A and BS-V30B partial-stroke exercised quarterly? In reference to full-stroke exercising these valves, the NRC position is that a sample disassembly program of inspection is an acceptable means of full-stroke exercising check valves and should be performed at each refueling outage.

3. How are valves BS-V23A and BS-V23B full-stroke exercised quarterly?

4. In reference to valves BS-V52A and BS-V52B, the NRC position is that a sample disassembly program of inspection is an acceptable means of full-stroke exercising check valves and should be performed at each refueling outage.

5. Are there any vacuum breakers that perform a safety function installed on the sodium hydroxide tank?

AA. Reactor Coolant System

1. What is the safety function of valves RC-V1 and RC-V3?

2. Review the safety functions of valves RC-V4 and RC-V23 to determine if they should be categorized A and A/C respectively.

3. Is RC-RV2 utilized for low-temperature overpressurization protection of the RCS at TMI-1?

BB. Spent Fuel Coolant System

1. Review the safety function of the following valves to determine if they should be included in the IST program.

Category B	Category C
SF-V1/2/3/4/5/6	SF-47
	SF-48
SF-V11/12/13/14/15/16	SF-V50
	SF-V51

CC. River Water System

1. Review the safety function of the following valves to determine if they should be included in the IST program and categorized as indicated.

Category B	Category C
SW-V24A	SW-V6A
SW-V24B	SW-V6B
SW-V23A	SW-V8A
SW-V23B	SW-V8B

DD. Miscellaneous Questions and Comments

1. Provide a more detailed technical justification for not full-stroke exercising the valves and testing the pumps identified in Relief Request IV and Pump Note 12, respectively, during cold shutdowns.

2. Provide an explanation of the alternate test methods that have been investigated to verify operability of main feedwater check valves FW-V12A and FW-V12B. (Reference Relief Request X).

3. Since Technical Specification required testing is typically utilized to verify system operability and Section XI required testing is utilized to verify individual component operability, then testing in accordance with Technical Specifications may not meet the requirements of Section XI. Therefore, provide the specific technical justification for not testing components identified in Relief Request III whose function is important to safety at the Code specified frequency.

4. Are the boric acid recycle pumps and/or boric acid pumps utilized to establish the proper boron concentration in the RCS when approaching cold shutdown conditions?

5. Provide a detailed technical justification for not full-stroke exercising and stroke timing the following valves quarterly in accordance with Section XI.

WDL-V49	WDL-V89
WDL-V50	WDL-V90
WDL-V61	WDL-V91
WDL-V62	WDL-V92

PUMP TESTING PROGRAM

A. Emergency Feedwater and Feedwater System

1. Is instrumentation available to allow measurement of flow (Q) while testing the EFW pumps? (Note 9 does not agree with Section XI, 1980 Edition.)

B. Nuclear Service River Water System

1. Do plant heat loads during cold shutdowns require operation of more than one nuclear service river water pump? Can individual pump flow rates be measured at that time?

C. Nuclear Service Closed Cooling Water System

1. Do plant heat loads during cold shutdowns require operation of more than one nuclear service closed cooling water pump? Can individual pump flow rates be measured at that time?

D. Reactor Building Emergency Cooling System

1. Provide the P&ID that shows the flow path utilized during reactor building emergency cooling pump quarterly testing.

2. Provide the specific technical justification for not performing the reactor building emergency cooling pump complete Section XI testing during cold shutdowns instead of refueling outages.

E. Screen Wash System

1. In reference to the pump flow measurement, the present NRC position is that lack of installed instrumentation is not sufficient justification for not performing the required Section XI testing.