Docket No. 50-354

Mr. Steven E. Miltenberger
Vice President and Chief Nuclear Officer
Post Office Box 236
Hancocks Bridge, New Jersey 08038

Dear Mr. Miltenberger:

SUBJECT: HOPE CREEK 1ST PROGRAM QUESTIONS AND COMMENTS
TAC #65730

Re: HOPE CREEK GENERATING STATION

We have completed a preliminary review of the Inservice Testing Program that Public Service Electric and Gas Company (PSE&G) has proposed for the Hope Creek Generating Station. During our review, we developed the enclosed set of questions and comments concerning the proposed program. We would like to meet with you in about two months to resolve these questions and comments. The meeting should be held at the Hope Creek site. Formal responses to these questions and comments prior to the meeting are not required; however, draft responses should be prepared for discussion in the meeting.

After you have reviewed the questions sufficiently to schedule the meeting with the staff, please contact us so that we can select a mutually acceptable date for the meeting.

Sincerely,

George W Rivenbark

George Rivenbark, Project Manager
Project Directorate I-2
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure:
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

April 1, 1988

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HOPE CREEK GENERATING STATION

PUMP AND VALVE INSERVICE TESTING PROGRAM

QUESTIONS AND COMMENTS

1. VALVE TESTING PROGRAM

A. General Questions and Comments

1. Cold shutdown testing of valves identified by the licensee is acceptable when the licensee commits to commence testing as soon as the cold shutdown condition is reached, but not later than 48 hours after shutdown, and continue until complete or the plant is ready to return to power. (See Generic Valve Relief Request No. I.)

2. The Code permits valves to be exercised during cold shutdowns where it is not practical to exercise them during plant operation providing those valves are specifically identified by the licensee and are full-stroke exercised during cold shutdowns. The NRC staff requires that the licensee provide a detailed technical justification for each valve that cannot be exercised quarterly that clearly explains the hazards involved (such as endangering personnel, equipment damage, or resulting in a plant trip) that would be encountered during that testing. The staff will then verify that it is not practical to exercise these valves and that the testing should be performed during cold shutdowns.

3. Provide a listing of the limiting values of full-stroke time for all power operated valves in the Hope Creek IST program for our review.

4. Provide a list of all valves that are Appendix J, Type C, leak rate tested and that are not included in the Hope Creek IST program and categorized "A" or "A/C".

5. Relief requests and cold shutdown justifications that reference the FSAR, Technical Specifications, and other documents should be expanded to provide a brief discussion of the applicable technical information contained in the referenced document. (See Relief Request V-06)

6. Excess flow check valves should be included in the IST program as Category A/C valves and tested in accordance with Section XI to the extent practical.

7. Category A, passive, valves should be identified in the IST program.

8. The IST program should include the required safety position and clearly identify the testing frequency of each valve.

9. Are individual leak rate limits assigned to <u>each</u> relief valve that is categorized A/C and Appendix J, Type C, leak rate tested?

10. The staff considers air operators on air operated testable check valves to be an operator rather than a mechanical exerciser, therefore, measuring opening torque is unnecessary. Relief Request V-17 is unnecessary as written, however, revision will be necessary if the test operator does not move the check valve disk to the full open position.

11. If the spent fuel pool cooling system performs a safety-related function, then the appropriate pumps and valves should be included in the IST program.

12. Those valves, if any, that perform both a containment isolation function and a pressure boundary isolation function must be leak tested to both Appendix J and Section XI requirements.

13. Relief requests must be specific in identifying the Section XI requirements from which relief is being sought.

B. Main Steam and Drains System
P&ID M-41-1, Sh. 1 and 2

1. How are valves 1-AB-V051 through -V058 verified to close during cold shutdowns?

2. If valves 1-AB-PAV-4500 and 1-AB-PAV-37 are simple check valves, then they must be tested in accordance with the requirements for Category C, active, check valves.

3. Why are valves 1-AB-PAV-4504A through -4504R categorized A/C while valves 1-AB-PAV-4505A through -4505D are categorized C ?

4. Those safety relief valves (1-AB-PSV-F013A through -F013R) which perform an ADS function are required to be categorized B/C and tested to the requirements of Section XI for both categories. Provide a more detailed technical justification for not full-stroke exercising these valves quarterly. How is stroke time measured when testing these valves?

5. Why are valves 1-AB-V043 through -V050 categorized A/C?

6. Provide a more detailed technical justification for not exercising valves 1-AB-V043 through -V050, and -V109 through -V114 closed during cold shutdowns when the containment is de-inerted.

7. Solenoid operated air control valves are considered to be part of the larger valve assembly that they operate and need not be included in the IST program separately. (See Relief Request V-14)

8. Provide a detailed technical justification for not full-stroke exercising valves 1-AE-V003 and -V007 quarterly.

9. Provide a detailed technical justification for not full-stroke exercising valves 1-AE-HV-F032A, -F032B, -F074A, and -F074B quarterly and during cold shutdowns.

10. Provide the P&ID that shows the location of valve 1-AE-HV-4144 (1-AE-V138).

11. Review the safety-related function of valves 1-AB-HV-F067A, -F067B, -F067C, and -F067D to determine if they should be included in the IST program and tested in accordance with the requirements of Section XI.

C. Reactor Water Cleanup System
P&ID M-44-1

1. Provide a detailed technical justification for not full-stroke exercising valves 1-AE-V127, -V128, and 1-AE-HV-F039 quarterly.

D. Reactor Recirculation System
P&IDs M-43-1 and M-42-1

1. How are valves 1-BB-V043 and -V047 verified closed during cold shutdowns?

2. Provide a more detailed technical justification for not full-stroke exercising the excess flow check valves listed in Relief Request V-06 during cold shutdowns.

E. Residual Heat Removal System
P&ID M-51-1

1. Can valves 1-BC-V030, -V033, -V127, and -V130 be full-stroke exercised open during the quarterly pump test?

2. What alternate means of measuring valve degradation have been investigated other than "freedom of motion" as referenced in Relief Request V-18?

3. Review the safety-related function of check valves V090, V195, V207, and V210 to determine if they should be included in the IST program. (P&ID M-51-1, Sh. 1, C-5)

4. Review the safety-related function of valves 1-BC-HV-4420B and 1-BC-HV-4421 to determine if they should be included in the IST program. (P&ID M-51-1, Sh. 1, D-3 and D-2, respectively)

5. What is the safety-related function of check valves 1-AP-V055 and -V058 if the normal position of the manual valve downstream of each is closed as shown on the P&ID?

6. How are check valves 1-BC-V206 and -V260 verified closed quarterly?

F. Reactor Core Isolation Cooling System
P&IDs M-49-1 and M-50-1

1. How is check valve 1-BD-V006 verified to full-stroke exercise open quarterly?

2. How are check valves 1-BD-V028 and -V029 individually verified to full-stroke exercise closed quarterly?

3. What is the safety-related function of check valve 1-AP-V051 if the normal position of the manual valve downstream of it is closed as shown on the P&ID?

4. Can valve 1-FC-V003 be verified to full-stroke exercise during the quarterly pump test?

5. Would failure of valve 1-FC-HV-V007 in the closed position while testing render an entire safety system inoperable? Should this valve be full-stroke exercised during cold shutdowns?

G. Core Spray System
P&ID M-52-1

1. Can check valves 1-BE-V028, -V030, -V032, and -V034 be verified to full-stroke exercise open using system flow?

2. Review the safety-related function of valves 1-BC-V309 and -V313 to determine if they should be included in the IST program.

3. What is the safety-related function of check valves 1-AP-040 and -061 if the normal position of the manual valves downstream of each is closed as shown on the P&ID?

H. Control Rod Drive System
P&ID M-47-1

1. Industry experience has shown that valve 1-BF-V138 is full-stroke exercised closed during normal control rod movement, therefore, this valve may be removed from Relief Request V-16.

2. What is the frequency of the control rod scram time testing proposed in Relief Request V-16?

3. How is stroke time measured when testing valves 1-BF-V126 and -V127?

4. The NRC staff position is that check valve 1-BF-V115 is to be included in the IST program and tested to the requirements of Section XI to the extent practical.

I. Standby Liquid Control System
P&ID M-48-1

1. Provide a detailed technical justification for not full-stroke exercising valves 1-BH-V004 and -V005 quarterly.

J. High Pressure Coolant Injection System

P&IDs M-55-1 and M-56-1

1. What is the safety-related function of check valve 1-AP-V037 if the normal position of the manual valve downstream of it is closed as shown on the P&ID?

2. Provide a detailed technical justification for not full-stroke exercising closed check valve 1-BJ-V014 quarterly. How is check valve 1-BJ-V023 verified closed quarterly?

3. Can check valve 1-BJ-V015 be verified to full-stroke open during the quarterly pump testing?

4. Provide a detailed technical justification for not full-stroke exercising check valve 1-BJ-V024 quarterly.

5. Can check valve 1-FD-V004 be verified to full-stroke exercise during the quarterly pump testing?

6. Provide a detailed technical justification for not full-stroke exercising valves 1-FD-V032 and -V038 quarterly.

7. Would failure of valve 1-FD-HV-V002 in the closed position while testing render an entire safety system inoperable? Should this valve be tested at cold shutdowns?

K. Safety Auxiliaries Cooling System
P&ID M-11-1

1. Review the safety-related function of valves 1-EG-TV-2517A and -2517B to determine if they should be included in the IST program.

L. Containment Atmospheric Control System
P&ID M-57-1

1. How are check valves 1-GS-V081, -V093, -V138, and -V139 individually verified to close?

2. Why are valves 1-GS-PSV-4946A through -4946H categorized A/C and then exempted from Section XI leak rate testing?

M. Diesel Fuel Oil System
P&ID M-30-1

1. The NRC staff position concerning the diesel fuel oil transfer system is that those valves in the system from the diesel fuel oil storage tank to the day tank are considered to be safety-related and should be in the IST program. Relief Requests V-08 and V-13 appear to be unnecessary and may be deleted from the IST program.

N. Containment Instrument Gas System
P&ID M-59-1

1. The NRC staff position concerning skid mounted valves is that they are tested as a unit with the associated equipment and need not be included in the IST program separately. Relief Request V-11 may be affected by this staff position.

2. How is check valve 1-SE-V006 verified to close during cold shutdowns?

O. Service Water System
P&ID M-10-1

1. How are check valves 1-BC-V423 and -V557 verified to full-stroke exercise open quarterly?

2. Provide a detailed technical justification for not full-stroke exercising valves 1-ED-HV-2357A and -2357B quarterly.

3. Review the safety-related function of valves 1-ED-HV-4647 and -4648 to determine if they should be included in the IST program.

P. Reactor Auxiliaries Cooling System
P&ID M-13-1

1. Why are valves 1-ED-HV-2598 and -2599 leak rate tested?

Q. Main Steam Isolation Valve Sealing System
P&ID M-72-1

1. How are valves 1-KP-V011 and -V017 through -V023 verified to full-stroke exercise during cold shutdowns?

2. Review the safety-related function of valves 1-KP-PCV-5825A and -5825B to determine if they should be included in the IST program and tested in accordance with the requirements of Section XI.

2. PUMP TESTING PROGRAM

1. The NRC staff position concerning skid mounted pumps is that they are tested as a unit with the associated equipment and need not be included in the IST program separately. Relief Request P-4 may be affected by this position.

2. The NRC staff requires that both flow and differential pressure be measured during quarterly pump testing. The Hope Creek IST program does not reflect this requirement.

3. How is flow and differential pressure measured during the quarterly testing of the service water screen wash pumps?

4. How is differential pressure measured during the quarterly testing of the service water pumps?

5. What is the safety-related function of the HPCI and RCIC system jockey pumps?

6. Provide a detailed technical justification for not testing the standby liquid control pumps quarterly in accordance with the requirements of Section XI.

7. Provide a detailed technical justification for not testing the core spray pumps independently.