MAY 2 0 1987

Docket Nos. 50-315
and 50-316

Mr. John Dolan, Vice President
Indiana and Michigan Electric Company
c/o American Electric Power Service Corporation
1 Riverside Plaza
Columbus, Ohio 43216

Dear Mr. Dolan:

In our contractor's review of the Donald C. Cook Nuclear Plant second 10-year interval pump and valve testing program as submitted by the Indiana and Michigan Electric Company letter dated June 18, 1986, questions have been developed and a suggestion has been made for a meeting to resolve the issues.

The questions and comments on the second 10-year program are enclosed. It is requested that IMEC review the questions and concerns. If it is agreed that a meeting would facilitate the resolution of these items, our offices will arrange a mutually acceptable date and location for the meeting.

The information requested in this letter affects fewer than 10 respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

/s/

David L. Wigginton, Project Manager
Project Directorate III-3
Division of Reactor Projects

Enclosure:
As stated

cc: See next page

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D. C. COOK NUCLEAR POWER STATION, UNITS 1 AND 2
PUMP AND VALVE INSERVICE TESTING PROGRAM
QUESTIONS AND COMMENTS

1. VALVE TESTING PROGRAM

A. General Questions and Comments

1. Are all valves that are Appendix\J, Type\C, leak-rate tested included in the D. C. Cook IST program?

2. The entry in the test mode column of the valve listing table is often misleading because it does not always reflect the frequency at which the Code testing requirements are being met (as an example, listing a "P" for testing during power operations when a valve is being partial-stroke exercised quarterly and full-stroke exercised during refueling outages leads a person to believe that the testing is completed quarterly, when in actuality it is not completed until the refueling outage).

3. Is the SLT-1 seat leakage test performed in accordance with the requirements of Section XI, Paragraph IWV-3420?

4. Has Testing Procedure No. 12THP-4030-STP-237 been approved by the NRC staff to be used in lieu of the Appendix J testing for those valves identified for the SLT-2A seat leakage test?

5. Test method EF-8 is identified to be performed on a cold shutdown frequency in the introduction, however, in the valve listing table it is sometimes identified for a refueling outage frequency.

6. What criteria is utilized for assigning limiting values of full-stroke time for power operated valves?

B. Main Steam System

1. What percentage of the steam flow required through valves MS-108-2 and -3 for the turbine driven auxiliary feedwater pump to pump 900 gpm into the steam generators at operating pressures is needed to pump 700 gpm through the pump test flow path? On what basis is this partial flow test considered sufficient to verify the full-stroke capability of these valves (refer to main steam system Note 2)?

2. Radiography may be an acceptable alternate testing method to determine valve disk position, however, the reviewers are not aware of a method of testing by radiography that provides a reasonable assurance of the reverse flow closure capability of check valves that perform a safety function in the closed position. How can radiography be used to assure the reverse flow capability of valves MS-108-2 and -3?

C. Feedwater System

1. Can motor driven auxiliary feedwater pump design accident flow be established through the pump test flow paths?

2. How is it verified that sufficient flow passes through valves FW-153 and -160 to full-stroke them open with flow quarterly?

3. What is the safety related function of valve 12-CRV-51?

4. The NRC staff position is that verification of the maximum flow rate through a check valve identified in any of the plant's safety analyses would be an adequate demonstration of the full-stroke capability of the valve. Provide a detailed technical justification why this cannot be done to quarterly full-stroke exercise valves FW-134 and -135.

5. Is credit taken for the reverse flow closure of any of the check valves in the flow paths of the auxiliary feedwater pumps to the steam generators? If so, how are these valves individually verified to close?

D. Essential Service Water System

1. Do valves ESW-101E and -101W perform a safety function in the closed position to prevent reverse flow through an idle pump?

E. Reactor Coolant System

1. Provide a more detailed technical justification for not exercising valves NSO-021, -022, -023, and -024 during cold shutdowns.

2. Provide a more detailed technical justification for not exercising valves NSO-061, -062, -063, and -064 during cold shutdowns.

F. Chemical and Volume Control System

1. Explain how radiography can be used to verify reverse flow closure of check valve CS-292.

2. What is the safety function of control valves QRV-200 and -251? The NRC staff position is that requests for relief will not be evaluated for valves that do not perform a safety related function.

G. Post Accident Sampling System

1. Unless valve NS-283 is verified in the closed position during the quarterly exercising test, relief is still required from the Section XI requirement to full-stroke exercise this check valve quarterly.

H. Emergency Core Cooling System

1. Are valves IMO-51, -52, -53, and -54 ever required to change position to accomplish a specific function?

2. The use of IWV-3416 in emergency core cooling Note 2 for valves IMO-128 and ICM-129 is not appropriate since the RHR system is not out of service during power operations. An adequate justification is provided in the note which demonstrates the impracticality of exercising these valves during power operations and they should, therefore, be exercised on a cold shutdown frequency as provided for in the Code.

3. If valve N-102 is opened during power operations to add nitrogen to the safety injection accumulators, then it is not a passive valve and should be tested to the requirements of IWV-3520 unless relief is requested from the Code requirements.

4. Is any credit taken for closing valves IMO-110, -120, -130, and -140 in order to allow the reduction of RCS pressure to permit the RHR system to be placed into operation in the recirculation mode?

5. Is credit taken in any accident analysis for shifting low pressure safety injection (RHR) pump suction from the refueling water storage tank to the containment recirculation sump? If so, valve IMO-390 performs an active safety function to isolate the suction from the RWST and should be tested in accordance with the Code.

6. Have system modifications been performed to allow full-stroke exercising check valve SI-148 in accordance with the Code without jeopardizing the availability of other safety systems?

7. Provide a more detailed technical justification for not full-stroke exercising valves SI-158-L1, -L2, -L3, and -L4 during cold shutdowns.

8. Provide a more detailed technical justification for not full-stroke exercising valves SI-161-L1, -L2, -L3, and -L4 during cold shutdowns.

9. Provide the detailed technical justification for not full or partial-stroke exercising valves SI-170-L1, -L2, -L3, and -L4 either quarterly during power operations or during cold shutdowns.

10. Are valves ICM-311 and -321 ever required to change position to accomplish a specific function?

I. Containment Spray System

1. The NRC staff has concluded that a valve sample disassembly and inspection utilizing a manual full-stroke exercise of the valve disk is an acceptable method to verify a check valve's full-stroke capability. This program involves grouping similar valves together and testing one valve in each group during each refueling outage. The sampling technique requires that each valve in the group be of the same design (manufacturer, size, model number and materials of construction) and have the same service conditions. Additionally, at each disassembly it must be verified that the disassembled valve is capable of full-stroking and that its internals are structurally sound (no loose or corroded parts).

   A different valve of each group is required to be disassembled, inspected and manually full-stroke exercised at each refueling outage, until the entire group has been tested. If it is found that the disassembled valve's full-stroke capability is in

question, the remainder of the valves in that group must also be disassembled, inspected and manually full-stroke exercised during the same outage.

Are valves CTS-103E, -103W, -138E, and -138W grouped together for sample disassembly and inspection? These valves do not appear to meet the NRC staff's criteria for grouping as explained above.

2. Are valves CTS-127E, -127W, -131E, and -131W, and valves RH-141 and -142 grouped together for sample disassembly and inspection? These valves do not appear to meet the NRC staff's criteria for grouping as explained in Question I.1 above.

J. Weld Channel Pressurization System

1. If valves CA-181-N and -S are opened during power operations, then they are not passive valves and should be tested to the requirements of IWV-3520 unless relief is requested from the Code requirements.

K. Ice Condenser Refrigeration System

1. Unless valves R-156 and -157 are verified in the closed position during the quarterly exercising test, relief is still required from the Section XI requirement to full-stroke exercise these check valves quarterly.

L. Emergency Diesel Generator Subsystems

1. Provide a more detailed technical justification for not measuring the stroke times for the following valves quarterly during power operations. Explain how the proposed testing individually verifies the operability of these valves. Do these valves have required fail-safe positions?

XRV-220	XRV-221	XRV-222
XRV-225	XRV-226	XRV-227

2. Review the safety related function of valves 2-DG-102C and -104C (P&ID 2-5151D-26 coordinates H-4 and F-4) to determine if they should be included in the IST program.

M. Compressed Air System

1. What are the consequences of loss of containment control air that make the quarterly testing of valves XCR-100, -101, -102, and -103 impractical?

N. Boron Make-up System

1. Is credit taken for the closure of valves CS-415-1, -2, -3, and -4 to prevent reverse flow through an idle boric acid transfer pump?

O. Spent Fuel Pit Cooling and Clean-up System

1. Is credit taken for the closure of valves SF-118N and S to prevent reverse flow through an idle spent fuel pit pump?

P. WDS Vents and Drains System

1. Provide a more detailed technical justification for not exercising valve N-160 during cold shutdowns.

Q. PAL Sampling and Instrumentation System

1. Reduction of redundancy is not an adequate justification for not performing the Code required testing; how long can one of the lower containment radiation monitor trains be inoperable before action must be taken?

2. PUMP TESTING PROGRAM

1. Lack of installed instrumentation is not an adequate justification for not measuring the pump flowrate for the spent pool pit cooling pumps (refer to pump Code Relief Request III). Provide a more detailed technical justification for not measuring this Code required parameter to allow the detection of pump degradation.

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