POWER AUTHORITY OF THE STATE OF NEW YORK

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October 28, 1981
IPN-81-84

Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing

Subject: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
Request for Additional Information Concerning the Inservice Testing Program

Dear Sir:

In response to your letter dated September 23, 1981 and as a result of discussions with the NRC staff the Authority provides herewith, in Attachment I, the information you requested.

Should you or your staff have any questions please contact us.

Very truly yours,

J. P. Bayne
Senior Vice President
Nuclear Generation

cc: Mr. T. Rebelowski
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ATTACHMENT I

RESPONSE TO

NRC REQUEST FOR ADDITIONAL INFORMATION

CONCERNING THE INSERVICE TESTING PROGRAM

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286

ATTACHMENT I

Response to NRC Request for Additional Information Regarding the Inservice Testing Program at Indian Point 3 Nuclear Power Plant

1a) NRC's Request for Additional Information, Inquiry 1

How can valves SWN-41, 44, 51 and 71 perform a containment isolation function if they are passively open as indicated in Note 33?

1b) Response to Inquiry 1

Valves 41, 44, 51 and 71 are positioned open during all plant operating conditions (power operation, cold shut down, refueling outage) to allow the passage of cooling water to each safety related fan cooler unit.

However, each of these valves perform a containment isolation function in the event of a tube failure in a particular fan cooler unit. The valves associated with the failed fan cooler unit will be positioned closed to perform the containment isolation function.

The request for relief note for Valves 41, 44, 51 and 71 (Note 33) will be revised as explained above. In addition, the word "passively" will be deleted from Note 33 since Valves 41, 44, 51 and 71 will be positioned closed if required.

2a) NRC's Request for Additional Information, Inquiry 2

If less than three service water pumps per header are operating, why can't check valves SWN-1 (6 valves) all be tested quarterly? (Note 18)

2b) Response to Inquiry 2

The Pump and Valve Testing Program has been revised to include quarterly testing of check valves SWN-1. The request for relief Note 18 and any reference to Note 18 will be deleted.

A technique has been developed to perform quarterly testing of SWN-1 valves which will verify the check valves are exercised closed. This technique has been discussed with and accepted by the NRC staff.

The following criteria shall verify these check valves are exercised closed:

1) Verify that no reverse rotation of the service water pump's shaft occurs after securing the pump, or
2) Verify the check valve's flapper has closed by listening for a loud audible sound.

3a) NRC Request for Additional Information, Inquiry 3

How are check valves BFD-34, 35, 37, 39, 40 and 42 partial stroke exercised quarterly without thermal shocking the feedwater nozzles? (Note 9)

3b) Response to Inquiry 3

The Authority has been aware that partial stroke exercising valves BFD-34, 35, 37, 39, 40 and 42 would thermal shock the feedwater nozzles.

The Authority has already deleted this requirement from our Pump and Valve Testing Program's request for relief Note 9.

4a) NRC Request for Additional Information, Inquiry 4

During cold shutdown, why can't valve 1803 be closed and valves 1802A and B exercised? (Note 15)

4b) Response to Inquiry 4

Closing valve 1803 and exercising valves 1802A and B while the plant is in a cold shutdown condition would have the following adverse effects on maintaining a normally safe operation:

This exercise test would require isolation of a residual heat removal heat exchanger from service which will limit the removal of residual heat from the reactor core.

Leakage of either check valves 886A or 886B during the test would cause the residual heat removal coolant to drain into the recirculation sump.

Exercising these valves when the inlet side of these valves are

dry could score and damage these valves.

Therefore, the Authority will ensure the operability of valves 1802A and 1802B by fully testing at each refueling outage.

5a) NRC's Request for Additional Information, Inquiry 5

When are the modifications for measuring flow rate for the service water and component cooling water pumps expected to be completed?

5b) Response to Inquiry 5

Service Water Pumps

Equipment to enable flow rate measurement for the service water pumps has been ordered from the manufacturer and should be installed by the end of our next refueling outage scheduled to begin in January, 1982. We will inform the NRC when installation is complete.

Component Cooling Water Pumps

We have completed the modifications for measuring the flow rate for the component cooling water pumps.

6a) NRC's Request for Additional Information, Inquiry 6

Why is pump note 13 referenced for the Residual Heat Removal Pumps?

6b) Response to Inquiry 6

Note 13 is required since Indian Point #3 tests the RHR pumps monthly, not every 3 months as required by ASME Section XI. There are times when the RHR pump tests will be performed during a cold shutdown condition. Therefore, relief will be required from securing the RHR pumps prior to the test so there would be no interrruption of heat removal from the core.

7a) NRC Request for Additional Information, Inquiry 7

Why can't valves 761A, B and C be exercised shut whenever only two pumps are required for system operation? (Note 45)

7b) Response to Inquiry 7

The Authority has recently developed a technique to perform testing of valves 761A, B and C on a quarterly frequency.

The Authority will revise the Pump and Valve Testing Program to delete the Request for Relief Note 45 and any reference to Note 45.

8a) NRC Request for Additional Information, Inquiry 8

Why can't check valves 867A and B be partial stroke exercised quarterly via the test line to the RWST and both valves full stroke exercised during refueling outages? (Note 31)

8b) Response to Inquiry 8

The Authority has been performing partial stroke exercising of valves 867A and B to meet the quarterly requirements. The containment spray system design does not allow full stroke exercising of either valve because the only full flow path would require spraying containment. To perform a full stroke exercise of either valve requires modifications to the system. These modifications include the installation of a spool test piece in each containment spray line. The Authority will perform a full stroke exercise of one of these check valves each refueling outage by installing a test piece in one containment spray line.

The Authority has revised the Pump and Valve Testing Program Request for Relief Note 31 to the following:

"These valves will be partial stroke exercised every three months. One check valve will be full flow/full stroke exercised during a refueling outage."

9a) NRC Request for Additional Information, Inquiry 9

Do valves 885 A and B have individual valve operating controls such that they can be opened individually during cold shutdown when valve 882 is closed? (Note 34)

9b) Response to Inquiry 9

Valves 885 A and B are equipped with individual valve operating control capabilities. However, in order to operate valves 885 A and B, the Residual Heat Removal System must be secured to prevent drainage of the residual heat removal water into the containment sump. To preclude this from happening, valves 885 A and B are interlocked with Residual Heat Removal valves 730 and 731. Also valve 885 A is located in a sealed container (an extension of our containment building) and verification of its remote position cannot be made. There are also no redundant verification indicators present for these valves.

The Authority will maintain a refueling testing frequency for valves 885 A and B.

10a) NRC Request for Additional Information, Inquiry 10

Do valves 889 A and B have individual valve position controls? (Note 14)

10b) Response to Inquiry 10

Valves 889 A and B are equipped with individual position control capabilities.

However, cycling or exercising these valves during operation with a valve failure in an open position would degrade the residual heat removal system (RHR), when a RHR start signal is activated. With a failed open valve 889B, it would not be possible to remotely isolate the associated RHR heat exchanger to preclude the diverting of RHR water to the containment spray lines.

The Authority will maintain a refueling outage frequency for exercising valves 889A and B.

11a) NRC Request for Additional Information, Inquiry 11

Does valve 1822 actually have two safety related positions?

11b) Response to Inquiry 11

The Authority has reviewed the inquiry and has determined that valve 1822 has two safety related positions. Valve 1822 must close when a safety injection phase is activated.

In addition, this valve must remain open during power operation to allow recirculation of the boron injection tank (BIT) to prevent stratification of the BIT.

12a) NRC Request for Additional Information, Inquiry 12

Are valves 886 A and B, recirculation pump discharge check valves, going to be full stroke exercised?

12b) Response to Inquiry 12

During a refueling outage, water is added to the containment recirculation sump and the recirculation pumps are operated with flow. This flow is then passed through the minimum flow bypass line and returned to the recirculation sump.

The minimum flow bypass line is not designed to transfer sufficient flow to full stroke exercise these valves.

13a) NRC's Request for Additional Information, Inquiry 13

The program indicates that the following check valves are only part stroke exercised at refueling outages:

857 C, D, E, F, J, K, L, M, N and P - BIT Injection Check Valves

849 B, 852 B - Safety Injection Pump Discharge to BIT

847 - Safety Injection Pump Suction Check

Is it possible for these valves to be full stroke exercised with a BIT injection test on a refueling outage basis?

13b) Response to Inquiry 13

We are currently investigating the possibility of full stroke exercising these valves with a BIT (Boron Injection Tank) injection test. In addition, we are investigating other alternatives that may require design modifications to our BIT system.

14a) NRC's Request for Additional Information, Inquiry 14

Are all containment isolation valves Category A?

14b) Response to Inquiry 14

All of our containment isolation valves listed in the Pump and Valve Testing Program have been identified as Category A.

15a) NRC's Request for Additional Information, Inquiry 15

Are all pressure boundary isolation valves that are leak tested Category A?

15b) Response to Inquiry 15

The pump and Valve Testing Program has identified all pressure isolation valves that are leak tested as Category A and fall under the Event V scenario.

16a) NRC's Request for Additional Information, Inquiry 16

Is it possible to disassemble valves 895 A - D?

16b) Response to Inquiry 16

It is possible to disassemble valves 895 A - D but it is not very practical because this would require isolation of the RHR system.