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October 31, 1986

Dr. Harold Berkson
Mail Stop P-522
Technical Assistance Management Branch
Planning and Program Analysis Staff
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Harold:

Please find enclosed a Request for Additional Information (RAI) for Nine Mile Point Unit No.2 (NMP2) Docket No. 50-410 regarding Main Steam Isolation Value (MSN) Operability dated October 30, 1986. This RAI was developed largely based on an initial review of the report forwarded by Niagara Mohawk Power Corporation's October 21, 1986 letter NMP2L 0920 to NRC Region 1. The report entitled "Final Report 10CFR50.55(e) MSIV Actuators" for NMP2 was received at Brookhaven National Laboratory (BNL) on October 28, 1986.

A copy of the enclosed RAI has been telecopied to the Lead Engineer, Mr. James J. Lombardo of the NRR Division of BWR Licensing, Engineering Branch.

This effort to develop the enclosed RAI will be charged to Task Assignment 87-01 under FIN A-3349, Project 2 as authorized in your October 3, 1986 letter to BNL (A. Romano).

If you have any questions, do not hesitate to call.

Best regards,

Bill

Wm. J. Luckas, Jr., Group Leader
Engineering Analysis & Human Factors Group

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MAIN STEAM ISOLATION VALVE (MSIV) OPERABILITY
NINE MILE POINT UNIT 2 (NMP2)
REQUEST FOR ADDITIONAL INFORMATION

October 30, 1986

The following questions, observations and requests to provide additional information or clarifications are based largely on an initial review of Niagara Mohawk Power Corp's October 21, 1986 letter NMP2L 0920 to NRC Region 1, forwarding "Final Report 10CFR50.55 (e) MSIV Actuators" for NMP2. The items below reference the report by page numbers followed by section numbers as indicated in parenthesis at the beginning of each item.

Please note that the main concern is the documentation of the actual testing of the new "hydraulic latch" design to demonstrate that the NMP2 MSIVs meet the 3 to 5 second Technical Specification closure requirement as emphasized in Item 10. Furthermore, if the closure requirement can not be demonstrated, can the closure requirement problem be isolated to the valve's ability to be closed or to the actuator's ability to perform the closure function?

1. (4,1.1) Justification for the corrective action to resolve the actuator problems is based in part on the use of "the testing results to date". Please explain or reference by existing documentation these "testing results to date".

2. (5,1.2) "The problem resolution presented in this report includes sufficient testing and analyses to demonstrate that the MSIVs will close reliably". Please explain or reference by existing documentation the role of testing in this demonstration.

3. (5,1.2) "The design modifications which have been made to the actuating mechanism have been thoroughly evaluated and tested to ensure the operability and reliability of the MSIVs. "Please explain or reference by existing documentation the role of testing in providing this assurance, including the "rigorous operability testing program at the manufacturer's facility."

4. (24,4.2.1) Considerable testing and analysis had already been done with the original mechanical latch actuator. The revised design of the actuator from mechanical to a hydraulic latch "contains very little substantive change". Therefore, the safety evaluation of the revised actuator takes advantage of the testing and analysis already performed. Please provide testing related results which support this position.

5. (25,4.2.1.1) Seismic "qualification of the solenoid operated valves (SOVs) will include the results of existing analysis and tests, and new operability testing ... will be completed prior to fuel load". Please provide the test results data. If not yet available, please provide date when expected .

6. (26,4.2.1.2) "Functional operability testing of each new (hydraulic) cylinder at the vendor's facilities has been performed and documented". Please provide the documentation.

7. (27,4.2.2.) "Initial testing of the hydraulic latch design on the prototype revealed that the original SOVs ... were not capable of opening quickly enough to support the 3 to 5 second MSIV closure requirement". The cause is attributed to sticking O-ring seals in the SOVs with resultant redesigned SOV seat disc and ring materials being tested. "Based on the successful test results on the prototype actuator ... the valve was modified..." Please provide the test results.

8. (28,4.2.3) "Ongoing testing will provide additional verification of system design parameters, including pump cycle times and actuator trip times". Please provide the test results. If not yet available, please provide dates when expected.

9. (32,5.0) As part of Additional Confirmatory Testing, "A prototype test program is being developed. This test configuration will duplicate the valve and actuator configuration installed at NMP2". According to Section 6.2.4 of the NMP2 final report on MSIV leakage entitled "Initial Prototype Test Program", "...full closure tests at high steam flow rate at operating pressure and temperature..." will be conducted. Will these prototype tests, which are scheduled to be completed by April 1, 1987, represent the first time that closure time of the new "hydraulic latch" design (with the MSIVs reduced leakage modification) is tested against their Technical Specifications closure time requirements?

10. (32,6.0) "When the modifications discussed in this report have been completed and the valves have successfully passed their preoperational tests, the MSIVs will be appropriate for normal operation of the plant". According to the September 24, 1986 presentation handout, entitled "NRC NMP2 MSIV MEETING" testing was scheduled for performance October 21, through November 3, 1986. Also according to the handout, the "MSIV ACTUATOR/TESTING RESULTS" provided "RESPONSE TIMES • WITHIN 5 SEC. VALVE CLOSURE REQUIREMENT". Also see Item 7 above. Please provide the test requirements and results of the MSIV related pre-op tests, when available.