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SUBJECT: Submits validation for listed method of performing 10CFR50, App J Type C local leak rate tests of feedwater check valves, in response to unresolved item noted in Insp Rept 50-220/86-17.

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 TITLE: OR Submittal: Append J Containment Leak Rate Testing

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MEMORANDUM FOR THE DIRECTOR, FBI  
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February 17, 1987  
(NMPIL 0134)

U.S. Nuclear Regulatory Commission  
Document Control Desk

Washington, D.C. 20555

Re: Nine Mile Point Unit 1  
Docket No. 50-220  
DPR-63

Dear Dr. Murley:

In response to Nuclear Regulatory Commission Inspection Report, unresolved item 50-220/86-17-02, Niagara Mohawk submits validation for the below described method for performing 10CFR50 Appendix J Type C local leak rate tests of the Feedwater Check Valves at Nine Mile Point Unit 1.

10CFR Part 50, Appendix J, Section III.C.1 requires the following conditions for performing type C tests:

- A. Tests shall be performed by local pressurization.
- B. Pressure shall be applied in the same direction as that when the valve would be required to perform its safety function.
- C. Valves shall be closed by normal operation and without any preliminary exercising or adjustments.

Our experience with the feedwater check valves indicates that due to the valve's size, orientation and design, the discs do not fully seat upon cessation of flow because the gravitational force in dropping the discs into the seats is not evenly distributed. In accident conditions, however, back pressure (reverse flow) is applied evenly across the discs to achieve uniform seating. Consequently, we propose a test method that seats the valves prior to local pressurization. We believe that the proposed test method meets the intent of Appendix J and the Final Safety Analysis Report to ensure that the check valves are closed immediately after a major accident, thus assuring containment integrity.

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1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that this is essential for ensuring the integrity of the financial system and for providing a clear audit trail.

2. The second part of the document outlines the specific procedures that must be followed when recording transactions. It details the steps from the initial entry to the final review and approval process.

3. The third part of the document addresses the challenges associated with maintaining accurate records, such as the risk of human error and the need for consistent training and supervision.

4. The fourth part of the document discusses the role of technology in improving the accuracy and efficiency of record-keeping. It highlights the benefits of using automated systems and the importance of ensuring that these systems are properly maintained and updated.

5. The fifth part of the document concludes by emphasizing the overall importance of accurate record-keeping for the success of any organization. It stresses that this is a fundamental responsibility that must be taken seriously by all employees.

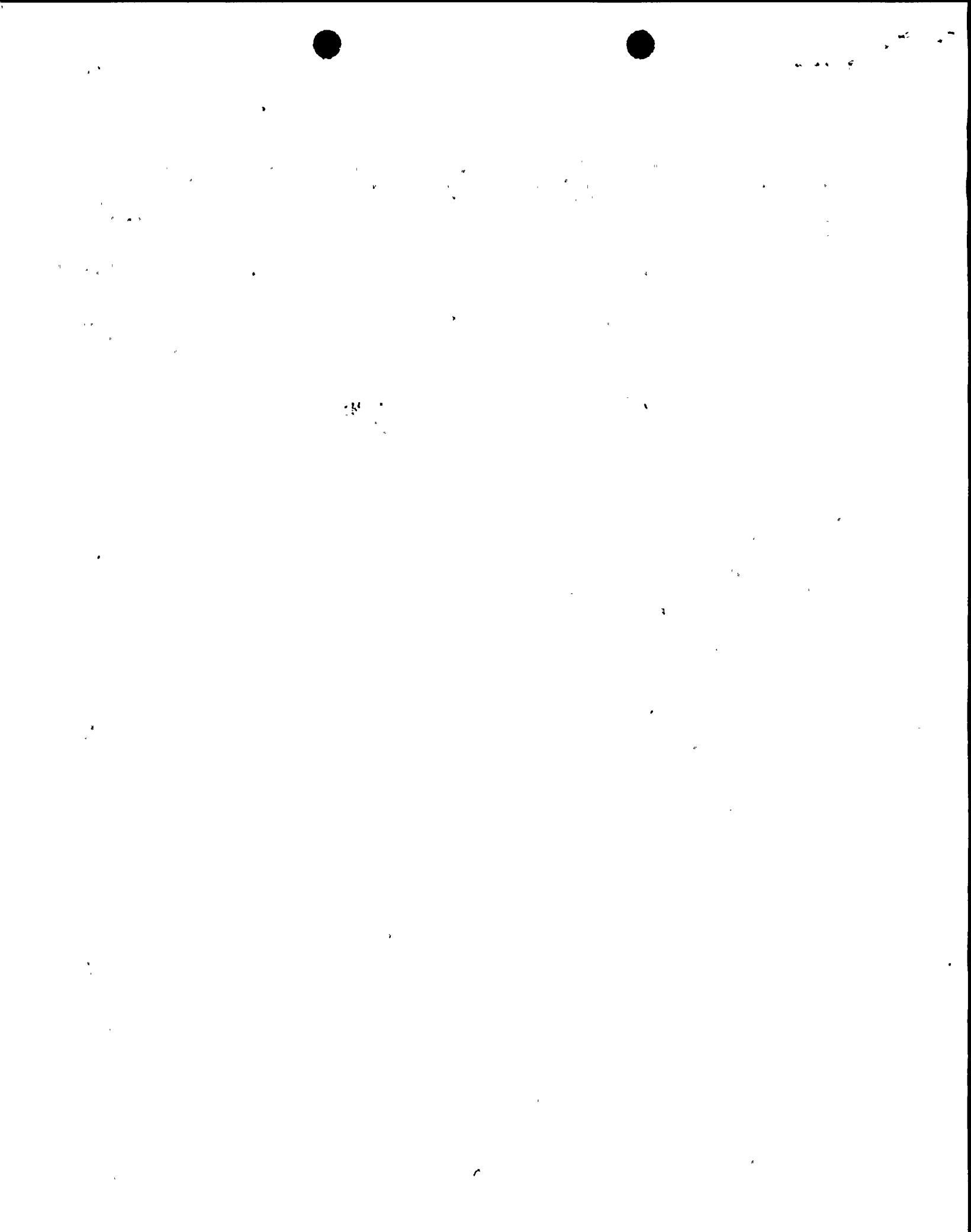
The feedwater check valves and motor operated inboard isolation valves are located in a horizontal pipe run at elevation 263' 6-1/2". The piping runs from the valves, through the containment penetrations and up to the reactor feedwater nozzles at elevation 295' 11". We propose to perform a local leak rate test on the feedwater check valves in the following manner. Once the feedwater system is isolated, the inboard isolation valves are opened to allow the head of water in the feedwater lines to reverse flow and seat the check valves. The inboard isolation valves are then closed, and the volume between the two valves is pressurized to 100 psig. The purpose of this pressurization is to assure that the disc remains seated while the water is quickly drained. Once the water is drained, the pressure is reduced to 35.5 psig and the leak rate test is performed.

This test method simulates operation of these check valves under design basis accident conditions. In a double-ended break of a reactor recirculation line coincident with loss of offsite power, feedwater flow continues for a few seconds due to coastdown of the turbine driven feed pump, but feedwater system pressure rapidly decreases due to loss of pumping power. Primary system pressure remains above 100 psi for at least 10 seconds following line rupture. This pressure and reverse flow would act to seat the check valves (Final Safety Analysis Report Appendix E-II.2.2.3, Rupture of Recirculation Line). Other postulated loss of coolant accidents with less than design basis size breaks would result in longer blowdown rates and potentially higher differential pressures available to seat the check valves.

Plant response to a feedwater line break inside containment would be similar to a feedwater controller malfunction (FSAR XV.B.3.13). The feedwater pumps would trip on overspeed. Primary system and containment pressure might not be sufficient to fully seat the check valves. However, the core will not be uncovered since the inboard isolation valves could still be closed and the Core Spray System would be operable. Although the proposed test procedure does not simulate valve closure for this scenario, we believe that our test method would still be viable since the consequences of recirculation line break are more severe.

We believe that this test method meets the intent of 10CFR50 Appendix J:

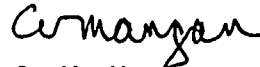
- A. The test is performed by local pressurization.
- B. Test pressure is applied in the accident direction.
- C. Valve closure and seating simulates operation under accident conditions, and is accomplished without any preliminary exercising or adjustments.



This test method is comparable to procedures approved for use at similar facilities (Ref. letter from D. B. Vassalo, U.S. Nuclear Regulatory Commission, to D. L. Farrar, Commonwealth Edison Company, regarding Quad Cities Nuclear Power Station, Unit 1 and 2, dated June 12, 1984).

Sincerely,

NIAGARA MOHAWK POWER CORPORATION



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Senior Vice President

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