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NUCLEAR REGULATORY COMMISSION
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE INSERVICE TESTING PROGRAM

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT UNIT 1

DOCKET NUMBER 50-220

1.0 INTRODUCTION

The Code of Federal Regulations, 10 CFR 50.55a, requires that inservice testing (IST) of certain American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (the Code) Class 1, 2, and 3 pumps and valves be performed in accordance with Section XI of the Code and applicable addenda, except where relief has been requested and granted or proposed alternatives have been authorized by the Commission pursuant to 10 CFR 50.55a(f)(6)(i), (a)(3)(i), or (a)(3)(ii). In order to obtain authorization or relief, the licensee must demonstrate that: (1) conformance is impractical for its facility; (2) the proposed alternative provides an acceptable level of quality and safety; or (3) compliance would result in a hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Section 50.55a(f)(4)(iv) provides that inservice tests of pumps and valves may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed, and subject to Commission approval. Guidance related to the development and implementation of IST programs is given in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," issued April 3, 1989, and its Supplement 1, issued April 4, 1995. Also, see NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants," which was promulgated by GL 89-04, Supplement 1.

Section 50.55a authorizes the Commission to grant relief from ASME Code requirements or to approve proposed alternatives upon making the necessary findings. The NRC staff's findings with respect to granting or not granting the relief requested or authorizing the proposed alternative as part of the licensee's IST program are contained in this Safety Evaluation (SE).

In rulemaking to 10 CFR 50.55a effective September 8, 1992, (see 57 *Federal Register* 34666), the 1989 Edition of ASME Section XI was incorporated in 10 CFR 50.55a(b). The 1989 Edition provides that the rules for IST of pumps and valves shall meet the requirements set forth in ASME Operations and Maintenance Standards Part 6 (OM-6), "Inservice Testing of Pumps in Light-Water Reactor Power Plants," and Part 10 (OM-10), "Inservice Testing of Valves in Light-Water Reactor Power Plants." Pursuant to (f)(4)(iv), portions of editions or addenda may be used provided that all related requirements of the

respective editions or addenda are met, and subject to Commission approval. Because the alternatives meet later editions of the Code, relief is not required for those inservice tests that are conducted in accordance with OM-6 and OM-10, or portions thereof, provided all related requirements are met. Whether all related requirements are met is subject to NRC inspection.

By letter dated August 9, 1996, as supplemented on February 28, 1997, the Niagara Mohawk Power Corporation (licensee) submitted the following revised relief requests for Nine Mile Point Nuclear Station Unit 1, second ten-year interval program for inservice testing of valves: VG-2, Revision 1; CS-RR-6, Revision 1; LP-RR-2, Revision 1; and CRD-RR-3, Revision 1. The existing version of these relief requests was previously approved in safety evaluations dated March 7, 1991 (VG-2, LP-RR-2, and CRD-RR-3), and July 26, 1995 (CS-RR-6). The NMP-1 IST Program was developed to the 1983 Edition of ASME Section XI through the Summer 1983 Addenda, for the second ten-year interval that applies through December 1, 1998.

2.0 RELIEF REQUEST VG-2, REVISION 1

Relief is requested from the biennial leak testing requirement of Section XI, IWV-3420 for containment isolation valves and pressure isolation valves.

2.1 Licensee's Basis For Request

The licensee provided the following basis for the revised relief request:

> There are three types of leakage tests performed at NMP-1. These tests are designated as either LJ, LA, or LK in the test requirement column of the valve tables.
>
> Containment isolation valves (CIVs) are required to be leakage-rate tested in accordance with 10 CFR 50, Appendix J, Option B. These valves are designated as LJ in the test requirement column of the valve tables. The leakage-rate requirement is based on a total allowable leakage-rate for all valves instead of an individual valve leakage-rate. IWV-2200(a) defines Category A as "valves for which seat leakage is limited to a specific maximum amount in the closed position of fulfillment of their function." Although leakage-rates for containment isolation valves are not limited on an individual basis, they have been determined to be Category A valves.
>
> Since containment isolation valves are Category A, the leakage-rate testing requirements of IWV-3420 must be satisfied. The leakage-rate testing performed per Appendix J satisfies the intent of IWV-3421 through 3425; however, it does not satisfy the individual valve leakage-rate analysis and corrective actions of IWV-3426 and IWV-3427, respectively. In order to prevent duplicate leakage testing of these valves, individual leakage-rates will be obtained during Appendix J testing and the requirements of IWV-3426 and 3427(a) will be applied via

separate procedure. The test frequency will be in accordance with the performance-based requirements of Option B of 10 CFR 50, Appendix J.

The second type of leakage tests is for valves which are designated as LA in the test requirement column of the valve tables. These valves have been included in the IST program as they are designated as CIVs but are exempt from local leakage-rate testing with air in accordance with 10 CFR 50, Appendix J. These CIVs are tested with water in accordance with IWV-3421 through IWV-3427(a). Typically, these valves do not provide a flow path for post-accident containment atmosphere because they are in lines which remain filled with water during an event. The subject valves are depended upon to ensure that the water exists in the lines.

The third type of leakage is for pressure isolation valves. These valves are designated as LK in the test requirement column of the valve table. They are leak tested in accordance with NMP1 Technical Specification Section 3.2.7.1, rather than IWV-3420. This is per Generic Letter 89-04, Position 4, which states that pressure isolation valve testing should be performed in accordance with Plant Technical Specifications and referenced as such in the IST program.

As outlined in GL 89-04, Position 10, the usefulness of IWV-3427(b) does not justify the burden of compliance with this requirement for CIVs tested using air in accordance with 10 CFR 50, Appendix J. Relief is requested from the requirements of IWV-3427(b) for NMP1 LJ valves based on Position 10 of GL 89-04. Similarly, based on a review of NMP1 historical water leakage test results, the usefulness of IWV-3427(b) does not justify the burden of complying with the requirement for LK and LA valves.

2.2 Proposed Alternate Testing

The licensee proposed the following:

The NMP1 leakage test programs will be conducted as follows:

1. 10 CFR 50, Appendix J, CIVs (LJ)

CIVs will be leak tested in accordance with 10 CFR 50, Appendix J, Option B testing program. In addition, individual valve leakage-rates will be obtained by test or analysis and the requirements of IWV-3426 and IWV-3427(a) will be applied via a separate procedure for those valves that are Appendix J, Type C tested. Trending required by IWV-3427(b) will not be performed. The test frequency will be in accordance with the performance-based requirements of Option B of 10 CFR 50, Appendix J.

2. NMP1/NRC 10 CFR 50, Appendix J Commitments (LA)

LA CIVs will be leakage-rate tested with water in accordance with ASME Section XI, IWV-3420. The trending required by IWV-3427(b) will not be performed.

3. Pressure Isolation Valves (LK)

LK pressure isolation valves will be leakage-rate tested and will have corrective action taken in accordance with NMP1 Technical Specification Section 3.2.7.1 versus IWV-3420. The trending required by IWV-3427(b) will not be performed.

2.3 Evaluation

The licensee requested relief from the biennial leak testing requirement of Section XI, IWV-3420 for containment isolation valves and pressure isolation valves. The request concerns three types of leakage tests--designated as LJ, LA, or LK--which are evaluated separately below:

2.3.1 10 CFR 50, Appendix J, Containment Isolation Valves (LJ)

The NRC published a final rule change to 10 CFR 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors," in the *Federal Register* on September 26, 1995 (60 *FR* 186, p. 49495). The final rule became effective on October 26, 1995. The revised regulations provide a performance-based option for leakage-rate testing of containments ("Option B"). Licensees may voluntarily adopt the option in lieu of compliance with the prescriptive requirements in the regulation ("Option A"). The NRC issued the change as part of an effort to improve the focus of regulations by eliminating prescriptive requirements that are marginal to safety. The final rule allows leakage test intervals to be based on system component performance. Thus, licensees have greater flexibility for cost-effective implementation methods in satisfying regulatory safety objectives.

The 1983 Edition, with addenda through the Summer 1983 Addenda, of Section XI of the ASME Code, includes requirements for valve leakage-rate testing in paragraph IWV-3420. These rules are applicable to all Category A valves (i.e., valves for which seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their function). Position 10 of GL 89-04 indicated that all containment isolation valves included in the Appendix J program should be included in the IST program as Category A valves (or Category A/C for check valves). Position 10 stated that the valve leakage-rate testing requirements of Appendix J were considered equivalent to the requirements of IWV-3421 through IWV-3425, but that licensees must comply with the analysis of leakage-rates and corrective action requirements of IWV-3426 and IWV-3427(a).

The requirements of IWV-3421 through IWV-3425 apply to the scope, frequency, differential test pressure, seat leakage measurement, and test medium. Paragraph IWV-3422 requires a frequency of at least once every 2 years. At

the time GL 89-04 was issued, Appendix J (and the current Option A of Appendix J) required that leakage tests be performed during each reactor shutdown for refueling but in no case at intervals greater than 2 years. The performance-based interval in the new Option B of Appendix J cannot be considered equivalent to the frequency required by IWV-3422.

Paragraph 4.2.2.1 of OM-10 specifies the scope of valve seat leakage-rate tests as follows:

> Category A valves shall be leakage tested, except that valves which function in the course of plant operation in a manner that demonstrates functionally adequate seat leak-tightness need not be additionally leakage tested. In such cases, the valve record shall provide the bases for the conclusion that operational observations constitute satisfactory demonstration.

Paragraph 4.2.2.2 of OM-10 specifies the requirements for containment isolation valves as follows:

> Category A valves, which are containment isolation valves, shall be tested in accordance with Federal Regulation 10 CFR 50, Appendix J. Containment isolation valves which also provide a reactor coolant system pressure isolation function shall additionally be tested in accordance with para. 4.2.2.3.

Paragraph 4.2.2.3 of OM-10 gives the requirements for leakage-rate testing for valves other than containment isolation valves, including frequency, differential test pressure, test medium, analysis of leakage-rates, and corrective action. The frequency requirements for containment isolation valve testing would be specified by Appendix J. Paragraph (b)(2)(vii) of Section 50.55a modified the requirements of OM-10 for inservice testing of containment isolation valves. Specifically, paragraph (b)(2)(vii) requires that, when using OM-10 for IST, leakage-rates for Category A containment isolation valves that do not provide a reactor coolant system pressure isolation function must be analyzed in accordance with paragraph 4.2.2.3(e) of OM-10 and corrective actions for these valves must be made in accordance with paragraph 4.2.2.3(f) of OM-10. The regulations take no other exceptions to the provisions of OM-10. Therefore, conducting inservice testing in accordance with OM-10 does not preclude the use of Option B of Appendix J for establishing a performance-based leakage monitoring schedule for leak testing containment isolation valves.

The 1989 Edition of the ASME Code was incorporated by reference in rulemaking effective September 8, 1992 (57 *FR* 34666). The NRC recommended that licensees update their IST program to the OM Standards referenced in the 1989 Edition of the Code (see NUREG-1482) as alternative requirements to those in earlier editions of the Code. Accordingly, some plants are conducting valve IST programs according to the provisions of OM-10, including plants that revised their program to meet the updating provisions of Section 50.55a (i.e., at each

120-month interval) and plants that voluntarily implemented the requirements pursuant to paragraph (f)(4)(iv) of Section 50.55a as recommended in NUREG-1482.

For plants using OM-10 for IST of valves, no conflict exists between Appendix J and OM-10 for leakage testing of containment isolation valves. For plants that have not yet updated to the requirements of OM-10, there is a conflict in the test frequency that would preclude the use of Option B of Appendix J if no alternative is available. In issuing the Appendix J rule change, the NRC did not intend to create a conflict for the plants continuing to use earlier editions of the Code.

Option B specifies that the periodic schedule for Type B and Type C testing be based on the safety significance and historical performance of each boundary and isolation valve to ensure the integrity of the overall containment system as a barrier to fission product release to reduce the risk from reactor accidents.

Because the requirements of Appendix J are acceptable for leakage-rate testing of containment isolation valves, it would be inconsistent to preclude the licensee from applying the performance-based criteria to the valves by continuing to impose requirements in an earlier edition of the Code. The Appendix J Rule change assessed safety concerns with the extended test intervals and determined that the extended intervals are acceptable. Therefore, the licensee may use the portions of OM-10 that relate to leakage testing of containment isolation valves to remove the inconsistency in the requirements. Those related portions of OM-10 are:

Paragraph Number	Title
4.2.2.2	Containment Isolation Valves
4.2.2.3(e)	Analysis of Leakage-Rates
4.2.2.3(f)	Corrective Action

The licensee's proposed alternative is acceptable as the licensee has agreed to perform the analysis of leakage-rates and corrective action to the requirements of both Appendix J and OM-10, as applicable. The testing method, frequency, acceptance criteria, test medium, and leakage measurements must meet the requirements in Appendix J.

2.3.2 NMP1/NRC 10 CFR 50, Appendix J Commitments (LA)

The licensee proposes to leak test the LA CIVs with water in accordance with ASME Section XI, IWV-3420. The trending required by IWV-3427(b) will not be performed. The licensee's proposal is approved by meeting the NRC staff position as stated in GL 89-04, Position 10.

2.3.3 Pressure Isolation Valves (LK)

The staff position on leakage testing pressure isolation valves in accordance with the technical specifications (TS) rather than IWV-3420 is addressed in

NUREG-1482, Section 4.4.7, "Pressure Isolation Valves," which states as follows:

> Position 4 of GL 89-04 discussed concerns with the adequacy of testing pressure isolation valves. The leakage-rate testing specified in a plant's technical specifications (TS) is considered adequate to meet the intent of IWV-3420 and paragraph 4.2.2.3 of OM-10. As noted in Position 4, licensee should ensure that each pressure isolation valve is individually leak tested (or the measured leakage adjusted) in accordance with the differential pressure requirements of the Code. If the TS are not detailed enough to ensure individual valve leak testing, the licensee is responsible to ensure that the test procedures are themselves adequate for individual valve leak testing.

The licensee's proposal to leakage test the pressure isolation valves in accordance with the technical specifications (TS) rather than IWV-3420 is acceptable provided the guidelines in NUREG-1482, Section 4.4.7, "Pressure Isolation Valves," are followed.

2.4 Conclusion

The licensee's proposal to leakage-rate test LJ containment isolation valves in accordance with 10 CFR 50, Appendix J, Option B, is acceptable provided the licensee uses the portions of OM-10 that relate to leakage testing of containment isolation valves. The provisions in 10 CFR 50.55a(f)(4)(iv) allow IST of pumps and valves to meet later editions and addenda incorporated by reference in paragraph (b) of Section 50.55a, subject to Commission approval, and provided that all related requirements of OM-10 are met. The proposed alternative is authorized, with the provision discussed above, pursuant to 10 CFR 50.55a(a)(3)(i) since it will provide an acceptable level of quality and safety. The licensee should complete the actions to comply with the provision in the approval of the alternative testing within 180 days from the date of this safety evaluation.

The proposed alternative to not perform the trending required by IWV-3427(b) for LA containment isolation valves is acceptable because the licensee will meet the NRC staff position as stated in GL 89-04, Position 10.

The proposal to leakage test the pressure isolation valves in accordance with the technical specifications (TS) and the guidelines in NUREG-1482, Section 4.4.7, "Pressure Isolation Valves," rather than IWV-3420, is authorized pursuant to 10 CFR 50.55a(a)(3)(i), since it provides an acceptable level of quality and safety. The licensee should complete the actions to comply with the provision in the approval of the alternative testing within 180 days from the date of this safety evaluation.

3.0 RELIEF REQUEST CS-RR-6, REVISION 1

Relief is requested from the exercising requirements of IWV-3412 for the core spray system relief valves 81-241, -242, -243, and -244.

3.1 Licensee's Basis For Request

The licensee provided the following basis for the revised relief request:

> The core spray system relief valves provide (1) minimum flow recirculation path for the core spray and core spray topping pumps and (2) containment isolation for the line to the torus.
>
> Relief is necessary since it is not practical to exercise these valves on a quarterly basis for the following reasons:
>
> 1. Operating the pumps in the minimum flow condition for an extended period of time is detrimental to the pumps. The vendor has endorsed operating the pumps in the minimum flow mode of operation for only limited periods of time (i.e., 15 minutes); operation at such low flows beyond such low periods of time unnecessarily increases the rate of degradation.
>
> 2. These valves are containment isolation valves whose failure to close during a cycling test may result in loss of containment integrity.

3.2 Proposed Alternate Testing

The licensee proposed the following:

> 1. In order to verify that the valves will open at their set pressure, relief valve testing per PTC 25.3-1976 shall be performed in accordance with ASME Section XI, IWV-3510.
>
> 2. The pumps are tested quarterly with flow through an alternate test line; this testing will prove that the relief valves remain closed based upon the pump reference values remaining consistent. That is, if a valve opens during testing, the pump flow would increase significantly (and the pressure would drop).
>
> 3. The valves were installed as part of a plant modification in 1995. The post-modification testing ensured that the valves, when fully opened, pass adequate flow. The test also ensured the valves close after testing.
>
> 4. The valves will be leakage-rate tested in accordance with 10 CFR 50, Appendix J. The test frequency will be in accordance with the performance-based requirements of Option B of 10 CFR 50, Appendix J.

3.3 Evaluation

The relief valves (81-241, 81-242, 81-243 and 81-244) are located in the core spray system minimum flow lines. The valves relieve to the torus during minimum flow recirculation modes for the core spray and core spray topping pumps. They also provide containment isolation for the line from the discharge of the pumps to the torus. The licensee states that the quarterly test required by the Code would entail running the core spray and core spray

topping pumps for an extended period of time, beyond that recommended by the manufacturer. Operating the pumps beyond the time recommended increases the rate of degradation of the pumps.

As alternatives to the quarterly testing, the licensee has proposed to verify that the valves will open at their set pressure by testing them in accordance with IWV-3510 of Section XI, which states that safety and relief valve set points shall be tested in accordance with ASME PTC 25.3-1976. To prove that the valves remain closed, the licensee has proposed to utilize the quarterly pump flow test to indicate that the valves are closed. In addition, the licensee states that the valves will be leakage-rate tested in accordance with the performance-based requirements of 10 CFR 50, Appendix J.

The staff has reviewed the information provided by the licensee and agrees that the quarterly testing requirement is impractical in light of the possible increase in the rate of degradation of the pumps and the relief valves that will result and the increase in plant safety attained by imposing the requirement as compared to that provided by the licensee's proposed alternative. The ASME OM Committee is currently moving toward revising the OM Code (ISTC 1.2, OMa-1996) to exclude safety and relief valves from the inservice exercising requirement for Category A and B valves. In addition, the staff provided guidance to licensees to exclude from exercising (cycling) tests during plant operation of valves whose failure to close during a test would result in a loss of containment integrity. In considering the possibility of pump degradation, valve degradation, and loss of containment integrity by imposing the exercising requirement for Category A and B valves, the staff finds the licensee's proposed alternative adequate to assess the valves' operational readiness to perform their function.

3.4 Conclusion

Based on the determination that the Code exercising requirement of IWV-3412 is impractical to perform, that is to impose this requirement on the licensee would create a burden in that the rate of degradation of the core spray and core spray topping pumps would be increased, relief is granted as requested pursuant to 10 CFR 50.55a(f)(6)(i).

4.0 RELIEF REQUEST LP-RR-2, REVISION 1

Relief is requested from the reverse flow closure exercising frequency requirements in IWV-3522 and -3521 for the liquid poison injection line check valves 42.1-02 and 42.1-03. Relief request LP-RR-2, Revision 1, proposes to verify the reverse flow closure capability during refueling outages by performing Appendix J, Type C testing or by establishing a differential pressure across the valve.

4.1 Licensee's Basis For Request

The licensee provided the following basis for the revised relief request:

> These valves are normally closed and are only opened during refueling outages when the simulated injection test of liquid poison is performed. The valves are then verified closed. A containment entry is required to perform this reverse flow closure verification test. Since the containment is normally inerted, it is not feasible to perform the test during normal operation or cold shutdown.

4.2 Proposed Alternate Testing

The licensee proposed the following:

> During each refueling outage, reverse flow closure will be verified either during Appendix J, Type C testing or by establishing a differential pressure across the valve.

4.3 Evaluation

These check valves are in the common liquid poison injection line to the reactor. They are not equipped with external position indication or external operators. It is impractical to verify their closure capability quarterly during power operation or during cold shutdowns because a technician would have to enter the containment, which is normally inerted and contains areas of high temperature and radiation levels. The NRC position regarding containment de-inerting solely for the purpose of valve testing is found in NUREG-1482, Section 3.1.1.3, "De-inerting Containment of Boiling Water Reactors to Allow Cold Shutdown Testing." Section 3.1.1.3 of NUREG-1482 states that the test deferral is approved provided the licensee meets all requirements of Paragraphs 4.3.2, and 6.2 of OM-10 and references Section 3.1.1.3 of NUREG-1482 in the IST program.

In rulemaking to 10 CFR 50.55a effective September 8, 1992 (See 57 *Federal Register* 34666), the 1989 Edition of ASME Section XI was incorporated in 10 CFR 50.55a(b). The 1989 Edition provides that the rules for IST of valves may meet the requirements set forth in OM-10. Pursuant to § 50.55a(f)(4)(iv), portions of the 1989 Edition may be used provided that all related requirements of the Edition are met. The licensee's proposal to verify closure during refueling outages is consistent with OM-10, Paragraph 4.3.2, which allows full-stroke exercising that is not practicable during power operation or cold shutdown to be deferred to refueling outages. This relief request also documents the justification for deferral of closure testing in accordance with OM-10, Paragraph 6.2(d).

4.4 Conclusion

The alternative to defer verification of reverse flow closure to refueling outages as described in Section 4.2 is approved pursuant to Section 50.55a(f)(4)(iv) as the licensee has proposed to meet all the

requirements of Paragraphs 4.3.2, and 6.2 of OM-10 and reference Section 3.1.1.3 of NUREG-1482 in the IST program.

5.0 RELIEF REQUEST CRD-RR-3, REVISION 1

Relief is requested from the quarterly reverse flow closure exercising requirements of IWV-3522 for the containment isolation check valves, 44.3-12 (301-112) and 44.3-13 (301-113), in control rod drive (CRD) lines to the reactor vessel. Relief request CRD-RR-3, Revision 1, proposes to verify the reverse flow closure capability during refueling outages by performing Appendix J, Type C testing or by establishing a differential pressure across the valves.

5.1 Licensee's Basis For Request

The licensee provided the following basis for the revised relief request:

> During all modes of operation, the CRD pumps are normally in service and discharge to the reactor vessel through these valves at a pressure above reactor pressure. Reverse flow closure for these valves has to be performed from inside containment (access to test connections) which is not available quarterly and not always during cold shutdowns (inerted atmosphere, temperature levels/ALARA concerns, etc.).

5.2 Proposed Alternate Testing

The licensee proposed the following:

> These valves will have reverse flow closure verified during each refueling outage either during Appendix J Type C leakage testing or by otherwise establishing a differential pressure across the valve.

5.3 Evaluation

These check valves in the CRD line to the reactor vessel perform a containment isolation function. They do not have external or remote valve position indication. The verification of their closed safety function position, by leak testing or by establishing a differential pressure across the valve, requires stopping the CRD pumps. These pumps provide drive water for normal rod motion and cooling water flow to the CRDs and other loads. It is impractical to secure the CRD pumps quarterly during power operation since stopping these pumps causes a loss of normal control rod motion and could cause damage to the CRDs from loss of cooling water flow. This could result in a reactor shutdown.

The test connections for verifying the reverse flow closure for both valves, 44.3-12 and -13 (301-112 and -113), are located inside the containment drywell, which has an inerted atmosphere and areas of high temperature and elevated radiation levels. It is impractical to verify their closure capability quarterly during power operation or during cold shutdowns when the containment is inerted because a technician would have to enter the drywell for testing. The NRC position regarding containment de-inerting solely for

the purpose of valve testing is found in NUREG-1482, Section 3.1.1.3, "De-inerting Containment of Boiling Water Reactors to Allow Cold Shutdown Testing." Section 3.1.1.3 of NUREG-1482 states that the test deferral is approved provided the licensee meets all requirements of Paragraphs 4.3.2, and 6.2 of OM-10 and references Section 3.1.1.3 of NUREG-1482 in the IST program.

In rulemaking to 10 CFR 50.55a effective September 8, 1992 (See 57 *Federal Register* 34666), the 1989 Edition of ASME Section XI was incorporated in 10 CFR 50.55a(b). The 1989 Edition provides that the rules for IST of valves may meet the requirements set forth in OM-10. Pursuant to § 50.55a(f)(4)(iv), portions of the 1989 Edition may be used provided that all related requirements of the Edition are met. The licensee's proposal to verify closure during refueling outages is consistent with OM-10, Paragraph 4.3.2, which allows full-stroke exercising that is not practicable during power operation or cold shutdown to be deferred to refueling outages. This relief request also documents the justification for deferral of closure testing in accordance with OM-10, Paragraph 6.2(d).

5.4 Conclusion

The alternative to defer backflow exercising to refueling outages as described in Section 5.2 is approved pursuant to Section 50.55a(f)(4)(iv) as the licensee has proposed to meet all requirements of Paragraphs 4.3.2, and 6.2 of OM-10 and reference Section 3.1.1.3 of NUREG-1482 in the IST program.

6.0 CONCLUSION

Based on the determination that the Code requirement is impractical to perform, relief request CS-RR-6, Revision 1, is granted as requested pursuant to 10 CFR 50.55a(f)(6)(i). The licensee's proposed alternative in relief requests LP-RR-2, Revision 1, and CRD-RR-3, Revision 1, to defer verification of reverse flow closure to refueling outages is approved pursuant to Section 50.55a(f)(4)(iv) as the licensee has proposed to meet all requirements of Paragraphs 4.3.2, and 6.2 of OM-10 and reference Section 3.1.1.3 of NUREG-1482 in the IST program. The licensee's proposal in relief request VG-2, Revision 1, to use 10 CFR 50, Appendix J, Option B, for leakage-rate testing of LJ containment isolation valves is approved pursuant to the provisions in 10 CFR 50.55a(f)(4)(iv) that allow IST of pumps and valves to meet later editions and addenda incorporated by reference in paragraph (b) of Section 50.55a, subject to Commission approval, as the licensee has proposed to meet the requirements of Sections 4.2.2.2, 4.2.2.3(e), and 4.2.2.3(f) of OM-10. The proposed alternative in relief request VG-2, Revision 1, to not perform the trending required by IWV-3427(b) for LA containment isolation valves is approved because the licensee will meet the NRC staff position as stated in GL 89-04, Position 10. The proposal to leakage test the pressure isolation valves in accordance with the technical specifications rather than IWV-3420 is authorized pursuant to 10 CFR 50.55a(a)(3)(i) provided that the guidelines in NUREG-1482, Section 4.4.7, "Pressure Isolation Valves," are followed, since it provides an acceptable level of quality and safety. The

licensee should complete the actions to comply with the provisions in the approval of the alternative testing proposed for relief requests LP-RR-2, Revision 1, CRD-RR-3, Revision 1, and VG-2, Revision 1, within 180 days from the date of this safety evaluation. The implementation of these actions is subject to NRC inspection.

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