UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 26, 2013

Mr. Mark A. Schimmel
Site Vice-President
Northern States Power Company – Minnesota
Monticello Nuclear Generating Plant
2807 West County Road 75
Monticello, MN 55362-9637

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT – RELIEF FROM THE REQUIREMENTS OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS CODE FOR THE FIFTH 10-YEAR INSERVICE INSPECTION PROGRAM INTERVAL (TAC NOS. ME8068, ME8070 AND ME8071)

Dear Schimmel:

By letter dated February 28, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML12059A403), Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy (hereinafter referred to as the licensee), submitted three relief requests (RR-004, RR-005, and RR-006) for U.S. Nuclear Regulatory Commission (NRC) authorization associated with the fifth 10-year inservice inspection (ISI) interval at the Monticello Nuclear Generating Plant (MNGP). The licensee provided supplemental information associated with requests RR-004 and RR-005 in a letter dated October 26, 2012 (ADAMS Accession No. ML12305A206).

Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Section 50.55a(a)(3)(i), the licensee requested to use the proposed alternatives described in RR-004 and RR-006 on the basis that the alternatives provide an acceptable level of quality and safety.

Pursuant to 10 CFR 50.55a(a)(3)(ii), the licensee requested to use the proposed alternatives described in RR-005 on the basis that complying with the current specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

The NRC staff has reviewed the subject requests and concludes, as set forth in the enclosed safety evaluation, that the licensee adequately addressed all the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(i), and 10 CFR 50.55a(a)(3)(ii), for the respective requests. Therefore, the NRC staff authorizes alternative requests RR-004, RR-005, and RR-006, at Monticello for the fifth 10-year ISI interval which began on September 1, 2012, and is scheduled to end on May 31, 2022, or until such time as the ASME [American Society of Mechanical Engineers] Code Case is published in a future version of Regulatory Guide 1.147 and incorporated by reference in 10 CFR 50.55a(b), as applicable.

If you have any questions, please contact Terry Beltz at (301) 415-3049 or via e-mail at Terry.Beltz@nrc.gov.

Sincerely,

Robert D. Carlson, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-263

Enclosure:
Safety Evaluation

cc w/encl: Distribution via ListServ

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

ALTERNATIVE REQUIREMENTS FOR RR-004, RR-005, AND RR-006

RELATED TO THE FIFTH 10-YEAR INSERVICE INSPECTION PROGRAM INTERVAL

NORTHERN STATES POWER COMPANY

MONTICELLO NUCLEAR GENERATING PLANT

DOCKET NO. 50-263

1.0 INTRODUCTION

By letter dated February 28, 2012, as supplemented by letter dated October 26, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML12059A403 and ML12305A203, respectively), Northern States Power Company (NSPM), doing business as Xcel Energy, the licensee, submitted relief requests RR-004, RR-005, and RR-006. The October 26, 2012, supplement was in response to U.S. Nuclear Regulatory Commission (NRC) staff's request for additional information (RAI) associated with review of RR-005.

For RR-004, the licensee proposed to use the provisions of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) Case N-661-2 for weld overlay repair of Class 2 and 3 raw water service carbon steel piping at the Monticello Nuclear Generating Plant (MNGP) during the fifth 10-year inservice inspection (ISI) interval. This code case has not been approved for use in NRC Regulatory Guide (RG) 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 16. The licensee submitted the proposed alternative to the NRC for review and authorization on the basis that the proposed alternative provides an acceptable level of quality and safety.

For RR-005, the licensee proposed to use the provisions of ASME Code Case N-795 to perform the leakage testing and associated VT-2 examination following repair/replacement activities at MNGP during the fifth 10-year ISI interval. This code case has not been approved for use in RG 1.147, Revision 16. The licensee submitted the proposed alternative to the NRC for review and authorization on the basis that compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

For RR-006, the licensee requested relief from requirements of the ASME Code, Section XI, for MNGP during the fifth 10-year ISI interval. Specifically, the license requested to use the reporting requirements contained with ASME Code Case N-532-5 in lieu of the Section XI required NIS-1, NIS-2, and ISI summary report. The licensee submitted the proposed alternative to the NRC for review and authorization on the basis that the proposed alternative provides an acceptable level of quality and safety.

As discussed above, the licensee requested NRC authorization pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Section 50.55a(a)(3)(i), for the use of proposed alternatives specified in RR-004 and RR-006 on the basis that the alternatives provide an acceptable level of quality and safety. The licensee requested NRC authorization pursuant to 10 CFR Part 50, Section 50.55a(a)(3)(ii), for the use of the proposed alternative specified in RR-005 on the basis that complying with the specified requirements would result in hardship and unusual difficulty without a compensating increase in the level of quality and safety.

2.0 REGULATORY EVALUATION

Pursuant to 10 CFR 50, Paragraph 55a(g)(4), *Inservice Inspection Requirements*, ASME Code Class 1, 2, and 3, components (including supports) shall meet the requirements, except the design and access provisions and the pre-service examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year inspection interval and subsequent 10-year inspection intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month inspection interval, subject to the limitations and modifications listed therein.

Paragraph 55a(a)(3) of 10 CFR 50 states that alternatives to the requirements of 10 CFR 50.55a(g) may be used, when authorized by the NRC, if (i) the proposed alternatives would provide an acceptable level of quality and safety or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Based on analysis of the regulatory requirements, the NRC staff finds that the regulatory authority exists to authorize the licensee's proposed alternatives. Accordingly, the staff has reviewed and evaluated the licensee's requests pursuant to 10 CFR 50.55a(a)(3)(i) and 10 CFR 50.55a(a)(3)(ii).

The NRC staff's technical evaluation is provided below.

3.0 TECHNICAL EVALUATION

3.1 Request RR-004

3.1.1 Components for Which Relief is Being Requested

ASME Code, Section XI, Class 2 and Class 3 carbon steel piping for raw water service.

3.1.2 ASME Code Requirements

The ASME Code of Record for the Fifth 10-year ISI Interval is the ASME Code, Section XI, 2007 Edition with the 2008 Addenda. The fifth ISI interval began on September 1, 2012, and will end on May 31, 2022.

Paragraph IWA-4221(b) requires that items used for repair/replacement activities shall meet the requirements of the Construction Code.

Paragraph IWA-4420 requires that defects be removed or reduced to an acceptable size.

3.1.3 Licensee's Proposed Alternative

The licensee proposes to use the provisions of ASME Code Case N-661-2, "Alternative Requirements for Wall Thickness Restoration of Class 2 and 3 Carbon Steel Piping for Raw Water Service, Section XI, Division 1," in lieu of the requirement that items used for repair/replacement activities meet the Construction Code and the requirement of IWA-4420 that defects are removed or reduced to an acceptable size. The licensee places two conditions on use of the code case:

1. For repairs performed on a wet surface, the overlay is only acceptable until the next refueling outage

2. If the cause of the degradation has not been determined, the repair is only acceptable until the next refueling outage

3.1.4 Licensee's Basis for Requesting Relief

Wall thinning conditions in ASME Code, Section XI, Class 2 and 3, carbon steel raw water piping systems may be the result of various degradation mechanisms, such as erosion, corrosion, cavitation, and pitting. The defects resulting from these conditions are typically identified by small localized leaks in the piping system or by pre-emptive non-code required examinations performed to monitor the degradation mechanisms. The alternative repair technique described in ASME Code Case N-661-2 involves the application of weld metal on the exterior of the piping system in order to restore the wall thickness. The repair technique will be utilized whenever engineering evaluation determines that such a repair is suitable for the particular defect or degradation being resolved. An evaluation of the rate of degradation will be performed to determine the re-examination schedule to be conducted over the life of the repair. The licensee states that the reason for the proposed alternative is to provide adequate time for additional examination of adjacent piping and prepare for replacement materials so that pipe replacements can be planned and the impact on system availability is reduced.

3.1.5 NRC Staff Evaluation

Class 2 and 3 raw water piping can locally degrade by mechanisms such as erosion, corrosion, cavitation, and pitting. Defects associated with such degradation are typically identified by small leaks in the piping system or by pre-emptive non-code required examinations performed to monitor degradation. When such defects are identified, ASME Code, Section XI, paragraph IWA-4221(b) requires that repairs be performed in accordance with the Owner's Design Specification and the original Construction Code of the component or system. Paragraph IWA-4420 specifies the requirements for defect removal.

The licensee is proposing to use the provisions of ASME Code Case N-661-2, with conditions, for performing weld overlay repair on the exterior of Class 2 and Class 3, raw water service piping as an alternative to the requirements of the ASME Code, Section XI. ASME Code Case

N-661-2 specifies the methodology for repairing localized thinning or perforation by restoring the wall thickness of the degraded components without removing the defect. The NRC has not approved the use of ASME Code Case N-661-2 in RG 1.147 Revision 16. Although the NRC staff has reviewed ASME Code Case N-661-1 and has approved its conditional use in RG 1.147 Revision 16, the ASME has not approved its use with the licensee's ISI code of record.

The NRC staff has compared the technical provisions of licensee's proposed alternative to the technical provisions of the NRC conditionally approved ASME Code Case N-661-1 and ASME Code, Section XI, to assess conformance to code requirements. The NRC placed two conditions in RG 1.147 Revision 16 on the use of ASME Code Case N-661-1:

1. If the cause of the degradation has not been determined, the repair is only acceptable until the next refueling outage.

2. When through-wall repairs are made by welding on surfaces that are wet or exposed to water, the weld overlay repair is only acceptable until the next refueling outage.

In Section 5.0 of the proposed alternative, "Proposed Alternative and Basis for Use," the licensee states the following: "If the cause of the degradation is not determined or if a through wall repair is made by welding on surfaces that are wet or exposed to water, the overlay repair is only acceptable until the next refueling outage." The NRC staff finds that the licensee's conditions for use of ASME Code Case N-661-2 comply with the NRC conditions for use of ASME Code Case N-661-1 and, therefore, considers them to be acceptable.

The NRC staff also compared the technical provisions of ASME Code Case N-661-2 with ASME Code Case N-661-1 and found the following technical differences:

1. ASME Code Case N-661-2 is applicable to the ASME Code, Section XI, 2007 Edition through the 2008 Addenda but ASME Code Case N-661-1 is not

2. The term "overlay" was used in place of reinforcement, restoration, and repair throughout the case

3. Footnote 6 replaced paragraph 4(b) addressing the same topic: "Testing has shown that piping with areas of wall thickness less than the diameter of the electrode may burn-through during application of a water-backed weld overlay"

4. Clarification was made for the requirements of performing volumetric examinations on Class 3 weld overlays: "Class 3 weld overlays are exempt from volumetric examination when the Construction Code does not require that full-penetration butt welds in the same location be volumetrically examined"

5. Under Section 7.0, "Inservice Examination," a requirement was added that states "Examinations shall be performed to characterize the thinning of the underlying pipe wall as a benchmark for subsequent examinations of the overlay"

The NRC staff reviewed each of these changes and finds that items 1 and 2 have no effect on the quality of the repair or its examination and, therefore, did not consider them further.

Item 3 addresses the possibility of burn-through when welding on water-backed pressurized pipe. ASME Code Case N-661-2 has replaced the prohibition with a warning. The staff finds this change acceptable since if the repair procedure burns through the pipe wall any leak would be small and the system must be depressurized in order to complete the repair.

Item 4 brings the code case into compliance with the requirements of ASME Code, Section XI, paragraph IWA-4520(a)(1), thus, the staff finds this change acceptable.

The NRC staff finds that Item 5 is a worthwhile addition because it permits evaluation of further degradation and estimation of the lifetime of the repair and, therefore, considers the change to be acceptable.

Summary

Based on the above evaluation, the NRC staff finds that the use of ASME Code Case N-661-2, as conditioned in the licensee's proposed alternative, provides an acceptable level of quality and safety.

3.2 Request RR-005

3.2.1 Components for Which Relief is Being Requested

Class 1 mechanical joints made in installation of pressure retaining items, and

Class 1 pressure retaining boundary on which repair/replacement activities have been performed by welding

3.2.2 ASME Code Requirements

The ASME Code of Record for the fifth 10-year ISI Interval is the ASME Code, Section XI, 2007 Edition with the 2008 Addenda. The fifth ISI interval began on September 1, 2012, and will end on May 31, 2022.

For mechanical joints resulting from repair/replacement activities[1], ASME Code, 1998 Edition, Section XI, Paragraph IWA-4540(c), requires mechanical joints made in the installation of pressure retaining items be pressure tested during a system leakage test in accordance with IWA-5211(a). IWA-5221(a) requires that the system leak test be conducted during operation at nominal operating pressure, or when pressurized to nominal operating pressure and temperature.

For pressure retaining boundaries on which repair/replacement activities have been performed by welding, ASME Code, Section XI, Paragraph IWA-4540, requires a hydrostatic or system leakage test in accordance with IWA-5000 prior to, or as part of, returning to service. IWA-5200 requires that a VT-2 examination be performed to detect leakage while the system is in

[1] 10 CFR 50.55a(b)(2)(xxvi), *Pressure Testing Class 1, 2 and 3 Mechanical Joints,* requires licensees using the ASME Code, Section XI, 2001 Edition and later editions and addenda to use the 1998 Edition of the ASME Code, Section XI, Paragraph IWA-4540(c), for pressure testing Class 1, 2, and 3 mechanical joints.

operation, during a system operability test, or while the system is at test conditions using an external pressurization source at temperature and pressure defined in IWB-5000. IWB-5221(a) requires the system leakage test to be conducted at a pressure not less than the pressure corresponding to 100 percent rated reactor power.

3.2.3 Licensee's Proposed Alternative

The licensee proposes to perform the system leakage test and associated VT-2 examination following repair/replacement activities in maintenance or forced outage in accordance with the provisions of ASME Code Case N-795, but using longer hold times than specified in the code case. The system leakage test will be performed during the normal operational start-up sequence at a minimum of 900 pounds per square inch gauge (psig), 90 percent of the pressure corresponding to 100 percent rated reactor power) with VT-2 examination following after a one hour hold time for un-insulated components and after an 8-hour hold time for insulated components.

The licensee received previous authorization for a similar proposed alternative for leak testing mechanical joints in a June 13, 2004, safety evaluation (ADAMS Accession No. ML031640464): "Monticello Nuclear Generating Plant – One Time Inservice Inspection Program Relief Request No. 8 for Leak Testing the "B" and "G" Main Steam Safety Relief Valves (TAC No. MB9538)."

3.2.4 Licensee's Basis for Requesting Relief

During normal startup with normal power ascension, nominal operating pressure of 1000 psig is reached at a reactor power level of approximately 85 percent. The licensee states that if access to containment were permitted at this power level, personnel would be exposed to excessive radiation levels, including significant exposure to neutron radiation fields, which is contrary to station as low as reasonably achievable (ALARA) practices.

Following a maintenance or forced outage, there is a large decay heat load from the reactor core that is difficult to control once shutdown cooling (SDC) has been removed from service. During a short term mid-cycle shutdown, the projected heatup rate could be in the order of 0.5°F per minute once SDC is removed from service. Under those conditions, the time available to pressurize up to test conditions, perform the VT-2 examination and return to SDC would be greatly reduced, and the hurried time frames may create a more error-likely environment. In addition, there is some inherent risk that mechanical, control or operational problems could occur while the SDC is isolated which could delay return to SDC. The licensee states that testing at these abnormal plant conditions/alignments results in additional risks and delays while providing little added benefit beyond tests which could be performed at slightly reduced pressures under normal plant conditions.

Indication of leakage identified through the VT-2 examinations during a test at either the pressure corresponding to that at 100 percent rated reactor power level, or at 90 percent of that value will, not be significantly different between the two tests. Higher pressure under the otherwise same conditions will produce a higher flow rate but the difference is not significant. Code Case N-795 proposes increased hold times, as compared to a test performed at normal operating pressure, to allow for more leakage from the pressure boundary if a through-wall or mechanical joint leakage condition exists. Further, the licensee proposes to implement even longer hold times than specified by the code case. The licensee believes these longer hold

times are justified to allow for additional leakage to accumulate at the area of interest so as to be more evident during the VT-2 examination, should a through-wall or mechanical joint leakage condition exist. The licensee also states that this alternate test pressure, when combined with longer hold times, is adequate to provide evidence of leakage should a leak exist.

3.2.5 NRC Staff Evaluation

Performance of a system leakage test of pressure retaining boundaries, including mechanical joints, on which repair/replacement activities have been performed, is an integral part of ASME Code, Section XI, requirements. The system leakage test normally occurs at the end of a refueling outage when the core decay heat has had time to decrease, some spent fuel has been removed, and some new fuel has been added, resulting in a relatively low decay heat load. The low decay heat load, compared to that for the high decay heat load found at the start of an outage, results in low heatup rates. When a system leakage test immediately follows maintenance or forced outage, there is a large decay heat load from the reactor core that is difficult to control once SDC has been removed from service. Isolating SDC under high decay heat loads requires abnormal plant conditions/alignments is accompanied by inherent risk, and the hurried time frames, which result from the high heatup rates may create a more error-likely environment. In addition, there is inherent risk that mechanical, control or operational problems could occur while the SDC is isolated. The NRC staff finds that performance of a system leakage test at the conditions immediately following a maintenance or forced outage presents unusual difficulty and a risk to plant operation and, therefore, would present a hardship.

Alternately, after sufficient time when decay heat load is reduced, nominal operating pressure of 1000 psig can be attained with normal startup and normal power ascension at a reactor power level of approximately 85 percent. If access to containment were permitted at this power level, personnel would be exposed to excessive radiation levels, including significant exposure to neutron radiation fields, which is contrary to station ALARA practices. The staff finds that exposure of workers to high radiation fields would present a hardship.

In response to the NRC staff's requests for additional information (ADAMS Accession No. ML12305A203), the licensee detailed two other methods which would permit VT-2 inspection while at a pressure corresponding to 100 percent normal operating pressure. The first of these methods would require the reactor pressure vessel to be filled with coolant and the steam lines flooded to provide a water-solid condition. Use of this method would result in extensive valve manipulations, system lineups, and procedural controls in order to heat up and pressurize the primary system to establish the necessary test pressure without the withdrawal of control rods. The NRC staff finds that the multiple operational challenges accompanying this method would present a hardship.

The second alternate method described in the licensee's RAI response would maintain the RPV at its normal level and use decay heat to produce sufficient steam pressure to conduct the test at nominal operating pressure. The licensee states that while the decay heat load is too high for the water-solid method discussed above, there may not be sufficient decay heat available to perform the test at 1000 psig within a reasonable time period, if at all. The NRC staff finds that use of this alternate method would also present a hardship.

The licensee proposes to use the provisions of ASME Code Case N-795, with conditions, for performance of a system leakage test of pressure retaining boundaries, including mechanical

joints, on which repair/replacement activities have been performed. These conditions include the following:

a. Attainment of at least 90 percent of the operating pressure prior to the start of the hold time

b. Hold time of one hour for uninsulated components prior to the VT-2 visual examination

c. Hold time of eight hours for insulated components prior to the VT-2 visual examination

The system leakage test would comprise a VT-2 visual examination after the required test condition hold time. The NRC staff notes that the licensee has defined the nominal operating pressure to be within the range of 1000 to 1010 psig for components within the reactor coolant pressure boundary at MNGP. Therefore, the system leakage test pressure must be at least 900 psig before the hold time is started.

The structural integrity of components involved in the repair/replacement activities must be ensured. In the NRC's backfit analysis of the addition of paragraph 55a(b)(2)(xx) to 10 CFR 50, that requires use of the non-destructive examination (NDE) provision in IWA-4540(a)(2) of the 2002 Addenda of ASME Code, Section XI, when performing system leakage tests, (Federal Register (FR) dated September 10, 2008, FR 73 52746), the NRC states: "A system leakage test does not verify fully the structural integrity of the repaired or replaced piping components ...The volumetric examination (NDE) will verify the structural integrity of the component as part of the repair or replacement activity." In accord with this stated NRC position, the staff finds that performance of a system leakage test at the proposed reduced pressure, in combination with compliance with ASME Code requirements for design, fabrication and nondestructive examination, will ensure the structural integrity of components involved in the repair/replacement activities.

The leak tightness of components involved in the repair/replacement activities must be assured. Leakage through an orifice will be related to the differential pressure at the point of leakage, or across the connection, and is expected to scale with the square root of the pressure. Therefore, the leakage rate at the required 90 percent test pressure would be approximately 95 percent the leakage rate at 100 percent power. A 10 percent reduction in the test pressure is not expected to result in the arrest of a leak that would occur at nominal operating pressure. In the unlikely event that leakage would occur subsequent to the VT-2 visual examination at pressures associated with 100 percent rated reactor power, leakage would be detected by the drywell monitoring systems that are required by technical specifications. Therefore, the NRC staff finds that the VT-2 examination after the specified hold time at 90 percent of system normal operating pressure will adequately assure leak tightness of the components in the reactor coolant pressure boundary.

Summary

Based on the above evaluation, the NRC staff finds that performing a VT-2 visual examination during a system leakage test at normal operating pressure following a maintenance or forced outage would present a hardship, and performing the VT-2 examination at pressures equal to or greater than 900 psig, with hold times of one hour for non-insulated components and eight hours for insulated components, will provide reasonable assurance of leak tightness. It is the

NRC staff's position that structural integrity is ensured through compliance with ASME Code requirements for design, fabrication, and nondestructive examination.

3.3 Request RR-006

3.3.1 Applicable ASME Code Edition and Addenda

The ASME Code of Record for the fifth 10-year ISI interval is the ASME Code, Section XI, 2007 Edition with the 2008 Addenda. The fifth ISI interval began on September 1, 2012, and will end on May 31, 2022.

3.3.2 ASME Code Requirements

The 2007 Edition with the 2008 Addenda of ASME Code, Section XI, contains the following requirements concerning the use of Forms NIS-1 and NIS-2, and the inservice inspection summary report:

1. IWA-4331(d) requires Form NIS-2 to be completed for re-rating, except for re-rating component supports.

2. IWA-6210(c) requires a summary report to be prepared for preservice and inservice examination of Class 1 and Class 2 pressure-retaining components and their supports.

3. IWA-6210(d) requires Form NIS-1 to be prepared for preservice and inservice examination of Class 1 and Class 2 pressure-retaining components and their supports.

4. IWA-6210(e) requires Form NIS-2 to be prepared upon completion of all required activities associated with the Repair/Replacement Plan.

5. IWA-6210(f) requires signatures on Forms NIS-1 and NIS-2.

6. IWA-6220 provides the requirements in preparing the abstract for Form NIS-1. The abstract shall include the following items:

    a. Components examined or tested

    b. Code Class

    c. Code Examination Category and Item Number

    d. Examination or test method

    e. Code Cases

    f. Number and percentage of examinations completed when required by IWB-2411, IWC-2411, and IWF-2410

g. Reference to the abstracts of the conditions noted and the corrective actions recommended and taken for flaws detected during examinations or test performed

7. IWA-6230(b) requires an ISI summary report to be prepared following each refueling outage which shall include all examinations, tests, and repair/replacement activities conducted since the preceding summary report.

8. IWA-6230(c)(2) references Mandatory Appendix II for Form NIS-1.

9. IWA-6230(c)(3) references Mandatory Appendix II for Form NIS-2.

10. IWA-6230(d) specifies what the summary report cover sheet shall contain:

    a. Date of document completion

    b. Name and address of owner

    c. Name and address of plant

    d. Name or number designation of the unit

    e. Commercial service date for the unit

11. IWA-6240(b) requires the inservice inspection summary report to be submitted within 90 calendar days of the completion of each refueling outage.

12. IWA-6350(d) requires Form NIS-2 to be prepared as part of the repair/replacement activity records.

13. Mandatory Appendix II includes both Forms NIS-1 and NIS-2. Also included is the guide for completing both forms.

14. Mandatory Appendix IX, Article IX-1000(e), requires Form NIS-2 when welding is performed as part of the fabrication and installation of the mechanical clamping devices for Class 2 and Class 3 pressure boundary piping.

3.3.3 Reason for Request (as stated)

[ASME] Code Case N-532-4 has been accepted for use in Regulatory Guide 1.147, Revision 16, however the code case is not applicable to the 2007 Edition with the 2008 Addenda of ASME Section XI. Therefore, it does not meet the requirement contained in IWA-2441(b). The applicability is limited to the 2005 Addenda because Table 3 in the code case which lists the paragraph number cross reference for the use of the code case with earlier editions and addenda. This table only goes to the 2004 Edition with the 2005 Addenda.

3.3.4 Licensee's Basis for Requesting Relief

The licensee requests the use of ASME Code Case N-532-5 as an acceptable alternative pursuant to 10 CFR 50.55a(a)(3)(i). In its submittal, the licensee states the following:

> ASME Code Case N-532-4 has been published and approved by the NRC in Regulatory Guide 1.147 Rev. 16, however the applicability does not extend to the 2007 Edition with the 2008 Addenda. The licensee requests the use of Code Case N-532-5 as discussed above in lieu of whenever completion of Forms NIS-1 and NIS-2 or an inservice inspection summary report is required in ASME Section XI (2007 Edition with the 2008 Addenda). ASME Code Case N-532-5 was published in Supplement 5 to the 2010 Edition of the Nuclear Code Case Book. The changes made between ASME Code Cases N-532-4 and N-532-5 are summarized below:
>
> 1. The scope of the code case was revised to allow the use of NIS-2A when the completion of Form NIS-2 is required in Section XI or other Section XI code cases (including rerating).
>
> 2. The use of Form NIS-2A is only completed after satisfying all Section XI requirements necessary to place the item in service and prior to inclusion in the Owner's Activity Report.
>
> 3. The completed Form NIS-2A is to be maintained as required by Section XI for the Form NIS-2.
>
> 4. Forms OAR-1 and NIS-2A were revised to specify those code cases that have been modified by ASME Code Case N-532 and later revisions. This means if a code case was used for a repair/replacement activity and that code case required the completion of Form NIS-2, then that specific code case would be listed on Form NIS-2A.

Duration of Proposed Request

The duration of use of the proposed alternative is for the fifth 10-year ISI interval for the MNGP that is scheduled to end on May 31, 2022.

3.3.5 NRC Staff Evaluation

ASME Code Case N-532 was developed to provide an alternative to the use of Form NIS-1, "Owner's Report for Inservice Inspections," Form NIS-2, "Owner's Report for Repair/Replacement Activity," and the ISI 90-day summary report. Revision 5 to the code case addresses several items:

1. A requirement in IWA-4331 (rerating) to use Form NIS-2, which is not addressed by Revision 4.

2. Other ASME Section XI Code Cases that require the use of Form NIS-2, which is not addressed by Revision 4.

3. The wording in the Certificate of Inservice Inspection block on Forms NIS-2A and OAR-1 is being modified to make these forms consistent with all other ASME Code Data reports.

4. Clarify the timing of the completion of Form NIS-2A.

5. Table 3 was deleted.

6. Most specific ASME Code paragraph references were deleted. The two remaining references are valid for the range of ASME Code Editions and Addenda in the applicability statement.

7. Revision 5 clarifies the intent to use Form NIS-2A as an alternative for all cases where Form NIS-2 is required.

At the ASME Code Standards Committee, the NRC staff approved the revisions made to ASME Code Case N-532 and concluded that ASME Code Case N-532-5 is acceptable for use.

Summary

Based on the above evaluation, the NRC staff finds that the use of ASME Code Case N-532-5 provides an acceptable level of quality and safety. Use of ASME Code Case N-532-5 is acceptable until such time as the code case is published in a future version of RG 1.147, and incorporated by reference in 10 CFR 50.55a(b). At that time, if the licensee intends to continue implementing ASME Code Case N-532-5, it must follow all provisions of ASME Code Case N-532-5 with conditions as specified in RG 1.147 and 10 CFR 50.55a(b)(4), (b)(5), and (b)(6), if applicable.

4.0 CONCLUSION

As set forth above, the NRC staff determines that proposed alternative RR-004 provides an acceptable level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(i). Therefore, the NRC staff authorizes the use of the alternative at MNGP during the fifth ISI interval that began on September 1, 2012, and is scheduled to end on May 31, 2022, or until such time as the ASME Code Case is published in a future version of RG 1.147 and incorporated by reference in 10 CFR 50.55a(b). At that time, if the licensee intends to continue implementing this proposed alternative, it must follow all provisions of ASME Code Case -661-2, with conditions as specified in RG 1.147 and limitations as specified in 10 CFR 50.55a(b)(4), (b)(5), and (b)(6), if any.

As set forth above, the NRC staff determines that proposed alternative RR-005 provides reasonable assurance of structural integrity and leak tightness, and that complying with the ASME Code requirement would result in a hardship or unusual difficulty without a compensating increase in the level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in

10 CFR 50.55a(a)(3)(ii). Therefore, the NRC staff authorizes use of the proposed alternative at MNGP during the fifth ISI interval that began on September 1, 2012, and is scheduled to end on May 31, 2022.

As set forth above, the NRC staff determines that proposed alternative RR-006 provides an acceptable level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(i). Therefore, the NRC staff authorizes the use of ASME Code Case N-532-5 at MNGP for the duration of the fifth 10-year ISI interval. Use of the ASME Code Case N-532-5 is authorized until such time as the code case is published in a future version of RG 1.147 and incorporated by reference in 10 CFR 50.55a(b). At that time, if the licensee intends to continue implementing ASME Code Case N-532-5, the licensee must follow all provisions of ASME Code Case N-532-5 with conditions as specified in RG 1.147 and limitations as specified in 10 CFR 50.55a(b)(4), (b)(5), and (b)(6), if any.

All other ASME Code, Section XI, requirements for which relief was not specifically requested and approved in the subject requests remain applicable, including third-party review by the Authorized Nuclear Inservice Inspector.

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Sincerely,

/RA/

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Office of Nuclear Reactor Regulation

Docket No. 50-263

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