

November 16, 2000

Mr. Michael F. Hammer
Site General Manager
Monticello Nuclear Generating Plant
Nuclear Management Company, LLC
2807 West County Road 75
Monticello, MN 55362-9637

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT - EVALUATION OF REQUEST
FOR RELIEF FROM CERTAIN ASME CODE REQUIREMENTS FOR
CONTAINMENT INSPECTION EXAMINATION PLAN (TAC NO. MA9104)

Dear Mr. Hammer:

By letter dated May 19, 2000, as supplemented October 11, 2000, Northern States Power Company (NSP) submitted Relief Requests Nos. MC-1 through MC-7 related to the first containment inspection interval of the Monticello containment inspection examination plan, which ends on May 8, 2008. NSP was subsequently succeeded by Nuclear Management Company, LLC (NMC), as the licensed operator of the Monticello Nuclear Generating Plant. By letter dated October 5, 2000, NMC requested the staff continue to process and disposition licensing actions previously docketed and requested by NSP. The staff has reviewed NSP's submittal and concludes that for Relief Requests MC-4 and MC-7, the licensee's proposed alternatives will provide an acceptable level of quality and safety. Therefore, the proposed alternatives may be authorized pursuant to 10 CFR 50.55a(a)(3)(i). For Relief Requests MC-1, 2, 3, 5, and 6, the staff concludes that compliance with the Code requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety, and that the licensee's proposed alternatives will provide reasonable assurance of containment pressure integrity. Therefore, these proposed alternatives may be authorized pursuant to 10 CFR 50.55a(a)(3)(ii).

The detailed results of the staff's review are provided in the enclosed safety evaluation. If you have any questions concerning this action, please call Mr. F. Lyon of my staff at (301) 415-2296.

Sincerely,

/RA by TJKim for/

Claudia M. Craig, Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-263

Enclosure: Safety Evaluation

cc w/encl: See next page

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Monticello Nuclear Generating Plant

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
OF RELIEF REQUESTS FROM ASME CODE, SECTION XI, REQUIREMENTS
FOR CONTAINMENT INSPECTION
NUCLEAR MANAGEMENT COMPANY
MONTICELLO NUCLEAR GENERATING PLANT
DOCKET NO. 50-263

1.0 INTRODUCTION

In the *Federal Register* dated August 8, 1996 (61 FR 41303), the Nuclear Regulatory Commission (NRC) amended its regulations to incorporate, by reference, the 1992 edition with 1992 addenda of Subsections IWE and IWL of Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code). Subsections IWE and IWL provide the requirements for inservice inspection (ISI) of Class CC (concrete containment) and Class MC (metallic containment) of light-water-cooled power plants. The effective date for the amended rule was September 9, 1996, and it requires the licensees to incorporate the new requirements into their ISI plans and to complete the first containment inspection by September 9, 2001. However, a licensee may propose alternatives to or submit a request for relief from the requirements of the regulation pursuant to 10 CFR 50.55a(a)(3) and 10 CFR 50.55a(g)(5).

By letter dated May 19, 2000 (Reference 1), as supplemented October 11, 2000 (Reference 2), the licensee proposed several alternatives to the requirements of Subsection IWE of Section XI of the ASME Code for the Monticello Nuclear Generating Plant. The October 11, 2000, supplement corrected a reference in MC-4 and MC-5 from ASME Code, Section III, Part NR, paragraph 2110(b)(5) to paragraph 2110(b). The NRC's findings with respect to authorizing the alternative or denying the proposed request are discussed in this evaluation.

2.0 EVALUATION

2.1 Relief Request MC-1

2.1.1 Code Requirements

Subarticle IWA-2300, "Qualification of Nondestructive Examination (NDE) Personnel," requires qualification of NDE personnel to CP-189-1991, "Standard for Qualification and Certification of Nondestructive Testing Personnel," as amended by the ASME Code, Section XI.

ENCLOSURE

2.1.2 Requirements From Which Relief Is Requested

Relief is requested from the requirements of Subarticle IWA-2300 to qualify and certify NDE examiners in accordance with CP-189. This relief is requested for the first inspection interval of the Containment Inspection Examination Plan for Monticello.

2.1.3 Alternative Examinations

Examinations required by Subsection IWE shall be conducted by personnel qualified and certified to a written practice based on SNT-TC-1A and to the current Section XI Code of record for IWB, IWC, etc.

2.1.4 Basis for Relief

The regulation at 10 CFR 50.55a was amended to require the use of the 1992 edition, 1992 addenda of ASME Code, Section XI, when performing containment examinations. In addition to the requirements of Subsection IWE, this regulation also imposes the requirements of IWA, general requirements of the 1992 edition, 1992 addenda of Section XI. Subarticle IWA-2300 requires qualification of NDE personnel to CP-189, as amended by Subarticle IWA-2300.

A written practice based on the requirements of CP-189, as amended by the requirements of Subarticle IWA-2300, to implement Subsection IWE, duplicates efforts already in place for all other subsections. The Monticello third 10-year ISI Program is written to meet the requirements of the 1986 edition, no addenda, of ASME Code, Section XI. Subarticle IWA-2300 of the 1986 edition requires a written practice based on SNT-TC-1A, "Personnel Qualification and Certification in Nondestructive Testing," as amended, by the requirements of Subarticle IWA-2300. Further, Subarticle IWA-2300 of the 1992 edition, 1992 addenda, states "Certifications based on SNT-TC-1A are valid until recertification is required."

Visual inspection is the primary NDE method required by Subsection IWE. Neither CP-189 nor SNT-TC-1A specifically includes visual examination. Therefore, the Code requires qualification and certification to comparable levels as defined in CP-189 or SNT-TC-1A, as applicable, and the employer's written practice. Ultrasonic thickness examinations may also be required by Table IWE-2500-1. These examinations are relatively simple and do not require an extensive training and qualification program. Therefore, use of CP-189 in place of SNT-TC-1A will not improve the capability of examination personnel to perform visual and ultrasonic thickness examinations required by IWE.

Development and administration of a second program would not enhance safety or quality and would serve as a burden, particularly in developing a second written practice, tracking certifications, and duplication of paperwork. This duplication would also apply to vendor NDE programs. Updating to the 1992 edition, 1992 addenda for Subsections IWB, IWC, etc., would require a similar request for relief.

Relief is requested in accordance with 10 CFR 50.55a(a)(3)(ii). Compliance with the requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

2.1.5 Staff Evaluation of MC-1

In lieu of using the requirements of Section IWA-2300 of the 1992 edition and addenda of ASME Code, Section XI that examination personnel be qualified and certified in accordance with ANSI/ASNT CP-189, "Standard for Qualification and Certification of Nondestructive Testing Personnel," the licensee proposes to conduct examinations with personnel qualified and certified to a written practice based on SNT-TC-1A and to the current ASME Code, Section XI Code of record for IWB, IWC, etc.

The staff finds that under the licensee inspection program, examinations are to be conducted by personnel qualified and certified to a written practice based on SNT-TC-1A in accordance with the 1989 edition of ASME Code, Section XI. The staff also finds that a written practice based on the requirements of CP-189, as amended by the requirements of Section IWA-2300, to implement Sections IWE and IWL duplicates efforts already in place for all other subsections. To develop and to administrate a second program would constitute a burden, particularly in developing a second written practice, tracking of certifications, and duplication of paperwork. In addition, Section IWA-2300 of the 1992 edition, 1992 addenda, states that certification based on SNT-TC-1A are valid until recertification is required. Furthermore, in this request, the licensee indicated that this relief is requested only for the first inspection interval of the Containment Inspection Examination Plan for Monticello.

On the basis discussed above, the staff concludes that developing and implementing two qualification programs for NDE personnel would result in a burden on the licensee. The alternative proposed by the licensee will provide adequate qualifications for personnel performing containment examinations. Therefore, the request for relief is authorized for the first containment inspection interval of the Monticello containment inspection program pursuant to 10 CFR 50.55a(a)(3)(ii) on the basis that compliance with the specific requirements of the Code would result in hardship without a compensating increase in the level of quality and safety.

2.2 Relief Request MC-2

2.2.1 Code Requirements

IWE-2500, Table IWE-2500-1, Examination Category E-D, Items E5.10 and E5.20, requires seals and gaskets on airlocks, hatches, and other devices to be visually examined (VT-3) once each interval to assure containment leaktight integrity.

2.2.2 Requirements From Which Relief Is Requested

Relief is requested from performing the Code-required VT-3 visual examinations on the above identified metal containment seals and gaskets. This relief is requested for the first inspection interval of the Containment Inspection Examination Plan for Monticello.

2.2.3 Alternative Examinations

The leak-tightness of seals and gaskets will be tested in accordance with 10 CFR Part 50, Appendix J. This testing is performed at least once each inspection interval.

2.2.4 Basis for Relief

The penetrations discussed below contain seals and gaskets:

Electrical Penetrations

There are three types of electrical penetrations utilized at Monticello. The majority of the electrical penetrations utilize a metal canister which is welded to a containment penetration nozzle. Conductors passing through the canister are sealed with a potting compound to assure leak tight integrity. The canisters are pressurized with dry nitrogen to maintain and monitor integrity and prevent moisture intrusion into the penetration. A second type uses a header plate attached to a containment penetration nozzle flange with redundant metal O-rings between the header plate and flange face. Hermetically glass sealed electrical modules through which electrical conductors pass are welded to the header plate. The modules are pressurized with dry nitrogen to maintain and monitor integrity and to prevent moisture intrusion into the penetration. A third type utilized on the containment personnel airlock uses a set of compression fittings. The seals and gaskets on these three types of electrical penetrations cannot be inspected without disassembly of the electrical penetration to gain access to the seals and gaskets.

Mechanical Penetrations

Penetrations for the personnel airlock, drywell equipment hatch, torus hatches, drywell head assembly, drywell head access hatch, control rod drive removal hatch, seismic restraint inspection ports, and traversing in-core probe lines utilize gaskets or O-rings to seal the doors, hatches or flanges to ensure leak tight integrity. The personnel air lock also contains other gaskets and seals, such as the handwheel shaft seals, electrical penetrations, and equalizing pressure connections which require disassembly to gain access to the gaskets and seals.

Seals and gaskets receive a 10 CFR Part 50, Appendix J, Type B test (Type B test). As noted in 10 CFR Part 50, Appendix J, the purpose of Type B tests is to measure leakage of containment penetrations whose design incorporates resilient seals, gasket, sealant compound, and electrical penetrations fitted with flexible metal seal assemblies. Visual examination of seals and gaskets requires the joints, which are proven adequate through Appendix J testing, to be disassembled. For electrical penetrations, this would involve a pre-maintenance Appendix J test (as found), de-termination of cables at the penetrations if enough cable slack is not available, disassembly of the penetration enclosure or joint, removal and/or examination of the seals and gaskets, reassembly of the penetration enclosure or joint, re-termination of the cables, post maintenance testing of the cables, and a post maintenance Appendix J test of the penetration (as left). This imposes the risk the equipment could be damaged. The work required for mechanical penetrations would be similar except for the de-termination/re-termination and testing of cables.

The 1992 edition, 1993 addenda of ASME Code, Section XI, Table IWE 2500-1, Category E-D, Note 1, states that sealed or gasket connections need not be disassembled solely for performance of examinations. However, without disassembly, most of the surface of the seal or gaskets would be inaccessible. The requirement to examine seals and gaskets has been removed in the 1998 edition of ASME Code, Section XI.

Some penetrations are routinely disassembled during maintenance outages, when necessary, and at each refueling outage. Prior to final closure, the sealing surfaces of these penetrations are inspected for damage that could prevent sealing. The seals and gaskets are inspected and/or replaced as required. This is accomplished by plant procedures or work orders. Type B testing is also completed upon final assembly and prior to startup. Since the Type B test will assure leak-tight integrity of primary containment, the performance of additional visual inspections would not increase the level of quality or safety.

Relief is requested in accordance with 10 CFR 50.55a(a)(3)(i). Testing the seals and gaskets in accordance with 10 CFR Part 50, Appendix J, provides adequate assurance of the leak-tight integrity of the seals and gaskets and provides an acceptable level of quality and safety.

2.2.5 Staff Evaluation of MC-2

The licensee proposes to use, in lieu of performing the VT-3 examinations for containment penetration seals and gaskets, its current program for leakage testing containment penetrations in accordance with 10 CFR Part 50, Appendix J.

From the review of the licensee's relief request, the staff finds that because the seals and gaskets associated with these penetrations are not accessible for examination when the penetration is assembled, containment penetrations seals and gaskets must be disassembled and reassembled for the purpose of performing the VT-3 visual examination. The activities (a pre-maintenance Appendix J test, de-termination of cables at electrical penetrations if enough cable slack is not available, disassembly of the joints, removal and examination of the seals and gaskets, reassembly of the joints, re-termination of the cables, if necessary, post-maintenance testing of the cables, and post-maintenance Appendix J testing of the penetration) associated with a VT-3 visual examination would introduce the possibility of component damage that would not otherwise occur. The periodic test of penetrations in accordance with 10 CFR Part 50, Appendix J, will detect local leakage at containment peak accident pressure and measure leakage across the leakage-limiting boundary of containment penetrations whose design incorporates resilient seals, gaskets, sealant compounds, and electrical penetrations fitted with flexible metal seal assemblies. The staff also finds that some penetrations are routinely disassembled during maintenance outages, when necessary, and at each refueling outage. Prior to final closure, the sealing surfaces of these penetrations are inspected for damage that could prevent sealing. The seals and gaskets are inspected and/or replaced as required.

In addition, the staff finds that ASME Code, Section XI, 1992 edition, 1993 addenda, recognizes that disassembly of joints for the sole purpose of performing visual examination is unwarranted. Requiring the licensee to disassemble components for the sole purpose of inspecting seals and gaskets would place a significant hardship on the licensee without a compensating increase in the level of quality and safety.

Based on the discussion above, the staff concludes that the alternative proposed by the licensee will provide reasonable assurance of the functionality and integrity of the containment penetration seals and gaskets during the testing required by 10 CFR Part 50, Appendix J. The proposed alternative is authorized for the first containment inspection interval of the Monticello containment inspection program pursuant to 10 CFR 50.55a(a)(3)(ii) on the basis that compliance with the specific requirements of the Code would result in hardship without a compensating increase in the level of quality and safety.

2.3 Relief Request MC-3

2.3.1 Code Requirements

ASME Code, Section XI, 1992 edition, 1992 addenda, Table IWE-2500-1, Examination Category E-G, Pressure Retaining Bolting, Item E8.20, requires a bolt torque or tension test on bolted connections that has not been disassembled and reassembled during the inspection interval.

2.3.2 Requirements From Which Relief Is Requested

Relief is requested from ASME Code, Section XI, 1992 edition, 1992 addenda, Table IWE-2500-1, Examination Category E-G, Pressure Retaining Bolting, Item E8.20. This relief is requested for the first inspection interval of the Containment Inspection Examination Plan for Monticello.

2.3.3 Alternative Examinations

The following examinations and tests required by Subsection IWE ensure the structural integrity and the leak-tightness of Class MC pressure retaining bolting:

1. Exposed surfaces of bolted connections shall be visually examined in accordance with requirements of Table IWE-2500-1, Category E-G, Pressure Retaining Bolting, Item No. E8.10, and
2. Bolted connections shall meet the pressure test requirements of Table IWE-2500-1, Category E-P, All Pressure Retaining Components, Items E9.30 and E9.40.

Additionally, inspections for excessive leakage of pressure unseating penetrations will be performed during 10 CFR Part 50, Appendix J, Type A testing.

2.3.4 Basis for Relief

Bolt torque and tension testing is required on bolted connections that have not been disassembled and reassembled during the inspection interval. Determination of the torque or tension value would require the bolting be un-torqued and re-torqued or retensioned. Monticello has 29 bolted penetrations of which 17 are pressure seating and 12 are pressure unseating. Of the pressure unseating penetrations, four are routinely disassembled within the period. The remaining eight pressure unseating penetrations consist of two electrical penetrations, five mechanical penetrations on the traversing incore probe system, and the drywell head access hatch.

Each of the containment penetrations receives a 10 CFR Part 50, Appendix J, Type B test in accordance with the specified frequencies. As noted in 10 CFR Part 50, Appendix J, the purpose of Type B tests is to measure leakage of containment penetrations whose design incorporates resilient seals, gaskets, sealant compounds, and electrical penetrations fitted with flexible metal seal assemblies. For pressure seating penetrations, the performance of the Type B test itself proves that the bolt torque or tension remains adequate to provide a leak rate that is within acceptable limits. The torque or tension value of bolting only becomes an issue if

the leak rate is excessive. For pressure unseating penetrations, the performance of the Type B test may not prove that the bolt torque or tension remains adequate. Inspection of pressure unseating penetrations during a 10 CFR 50 Appendix J, Type A test would prove that the bolt torque or tension remains adequate to provide a leak-tight penetration.

Once a bolt is torqued or tensioned on a containment penetration, it is not subject to dynamic loading that could cause it to experience significant changes; therefore, re-torquing is unnecessary. Leak-rate testing per Appendix J and visual inspection is adequate to demonstrate that the design function is met. Torque or tension testing is not required for any other ASME, Class 1, 2, or 3 bolted connections, or their supports as part of the ISI program.

The requirements to perform bolt torque or tension tests were removed in the 1997 addenda of ASME Code, Section XI. This addenda has been approved by the Main Committee and was issued in the 1998 edition of ASME Code, Section XI.

Relief is requested in accordance with 10 CFR 50.55a(a)(3)(ii). Un-torquing and subsequent re-torquing of bolted connections, which are verified not to experience unacceptable leakage through 10 CFR Part 50, Appendix J, Type A testing for pressure unseating penetrations and Type B testing for pressure seating penetrations, results in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

2.3.5 Staff Evaluation of MC-3

ASME Code, Section XI, 1992 edition, 1992 addenda, Table IWE-2500-1, Examination Category E-G, Pressure Retaining Bolting, Item E8.20, requires bolt torque or tension testing on bolted connections that have not been disassembled and reassembled during the inspection interval. This examination is used to aid in the determination that leak-tight seals exist and that the structural integrity of the subject bolted connections is maintained. In lieu of meeting the requirement that a bolt torque or tension test be performed where the connection has not been disassembled or reassembled during the inspection interval, the licensee proposes to use the 10 CFR Part 50, Appendix J, Type B test together with the visual examination in accordance with requirements of Table IWE-2500-1, Item E8.10, as an alternative to the Code requirement to verify the integrity of penetrations with bolted connections.

The staff finds that bolt torque or tension testing on bolted connections that have not been disassembled and reassembled during the inspection interval would require the bolting be un-torqued and then re-torqued or re-tensioned, whereas the leak testing as required by 10 CFR Part 50, Appendix J, would adequately verify the leak-tight integrity of the containment. Compliance with ASME Code requirements will cause a hardship or unusual difficulty because un-torquing and subsequent re-torquing bolted connections involve unnecessary radiation exposure and costs to perform the work without a compensating increase in the level of quality and safety. The staff also finds that the alternative approach proposed by the licensee (the test required by 10 CFR Part 50, Appendix J, together with VT-1 visual examination to verify the leak-tight integrity of bolted connections for containment vessel leak-tight integrity) will provide reasonable assurance of the containment pressure boundary integrity. On this basis, the staff concludes that the alternative proposed by the licensee is authorized for the first containment inspection interval of the Monticello containment inspection program pursuant to 10 CFR 50.55a(a)(3)(ii).

2.4 Relief Request MC-4

2.4.1 Code Requirements

ASME Code, Section XI, 1992 edition, 1992 addenda, Subsection IWE-2200(g), requires that when paint or coatings are reapplied, the condition of the new paint or coating shall be documented in the preservice inspection.

2.4.2 Requirements From Which Relief Is Requested

Relief is requested from the requirement to perform a preservice inspection of new paint or coatings. This relief is requested for the first inspection interval of the Containment Inspection Examination Plan for Monticello.

2.4.3 Alternative Examinations

Reapplication of paint and coatings on the drywell, vent system, and the suppression chamber will be examined in accordance with the Monticello coating maintenance program. Although repairs to paint or coatings are not subject to the repair/replacement rules of ASME Code, Section XI (Inquiry 97-22), repairs to the primary containment boundary, if required, would be conducted in accordance with ASME Code, Section XI, rules.

2.4.4 Basis for Relief

Paint and coatings are not part of the containment pressure boundary under current Code rules as they are not associated with the pressure containing function of the component (paragraph NE-2110(b) of ASME Code, Section III). Paint and coatings on the containment pressure boundary were not subject to Code rules when they were originally applied and are not subject to ASME Code, Section XI, rules for repair and replacement in accordance with IWA-4111(b)(5). The requirement to perform a preservice inspection when paint or coatings are reapplied was removed in ASME Code, Section XI, 1998 edition, Subsection IWE. However, degradation of the coating could impact the structural integrity of the containment. The adequacy of coatings is verified following application through inspections performed by the Monticello coatings maintenance program.

Recording the condition of reapplied coatings in preservice records does not substantiate containment structural integrity. Should deterioration of coating in the reapplied area occur, the area will require additional evaluation regardless of the preservice record. Although Monticello has been performing preservice inspections of reapplied coatings as required by IWE, recording the condition of the new paint or coatings in the preservice records does not increase the level of quality and safety of containment.

In SECY 96-80, "Issuance of Final Amendment to 10 CFR 50.55a to Incorporate by Reference the ASME Boiler and Pressure Vessel Code (ASME Code), Section XI, Division 1, Subsection IWE and Subsection IWL," dated April 17, 1996, the response to comment 3.2 about IWE-2200(g) states, "In the NRC's opinion, this does not mean that a visual examination must be performed with every application of paint or coating. A visual examination of the topcoat to determine the soundness and the condition of the topcoat should be sufficient." This process is accomplished through inspections performed by the Monticello coating maintenance

program. The Monticello coating maintenance program is described in a November 11, 1998, response to Generic Letter (GL) 98-04. In this program, the condition of the coatings is examined every 18 months for torus interior, waterline and above, along with the vent system and drywell interior. The exterior of the torus is inspected every 5 years. The torus is drained every 5 years and the area below the waterline is inspected at that time. General visual examinations required by IWE are performed each period. These periodic examinations will identify evidence of flaking, blistering, peeling, discoloration, or other signs of coating distress indicative of degradation of the coating system.

Relief is requested in accordance with 10 CFR 50.55a(a)(3)(i). The Monticello nuclear coating program currently provides an adequate level of quality and safety.

The requirement to perform a preservice examination when paint or coatings are reapplied has been removed from the 1998 edition of ASME Code, Section XI.

2.4.5 Staff Evaluation of MC-4

In lieu of meeting the ASME Code, Section XI, 1992 edition, 1992 addenda, Subsection IWE-2200(g), requirements to perform a preservice inspection of new paint or coatings, the licensee proposes to examine the reapplication of paint and coatings on the drywell, vent system, and suppression chamber in accordance with the Monticello coating maintenance program. According to the licensee, the adequacy of coatings will be verified, following application of the coatings, through inspections performed by this program. If any deterioration of coating in the reapplied area occurs, the area will require additional evaluation regardless of the preservice record.

From its review of the "Basis for Relief" section of this relief request, the staff finds that the licensee used the Monticello coating maintenance program for the response to GL 98-04 (Reference 3). As described in Reference 3, this program meets the requirements of Regulatory Guide 1.54, dated June 1973, and ANSI N101.4 - 1972. Through the NRC close-out letter for GL 98-04 (Reference 4), this program was approved by the staff.

From the discussion above, the staff finds that the use of Monticello's coating maintenance program for the examination of new paint or coatings will provide an acceptable level of quality and safety for protecting the containment components. On this basis, the staff concludes that the licensee's alternative is authorized for the first containment inspection interval of the Monticello containment inspection program pursuant to 10 CFR 50.55a(a)(3)(i).

2.5 Relief Request MC-5

2.5.1 Code Requirements

ASME Code, Section XI, 1992 edition, 1992 addenda, Subsection IWE-2500(b), requires that when paint or coatings are to be removed, the paint or coating shall be visually examined in accordance with Table IWE-2500-1 prior to removal.

2.5.2 Requirements From Which Relief Is Requested

Relief is requested from the Code requirements that when paint or coatings are to be removed, the paint or coatings shall be visually examined in accordance with Table IWE-2500-1 prior to removal. This relief is requested for the first inspection interval of the Containment Inspection Examination Plan for Monticello.

2.5.3 Alternative Examinations

The condition of prepared surfaces are inspected prior to application of new paint or coatings as required by the Monticello coating maintenance program. If degradation is identified, additional measures are taken to determine if the containment pressure boundary is affected. Repairs to the primary containment boundary, if required, will be conducted in accordance with ASME Code, Section XI, rules.

2.5.4 Basis for Relief

Paint and coatings are not part of the containment pressure boundary under current Code rules as they are not associated with the pressure containing function of the component (paragraph NE-2110(b) of ASME Code, Section III). Paint and coatings on the containment pressure boundary were not subject to Code rules when they were originally applied and are not subject to ASME Code, Section XI, rules for repair and replacement in accordance with IWA-4111(b)(5). The requirement to perform a visual examination prior to removal of paint or coatings was removed in ASME Code, Section XI, 1998 edition, Subsection IWE. The licensee's experience with performing inspections prior to removal of coatings as required by IWE indicates there is a burden without a compensating increase in quality or safety.

Relief is requested in accordance with 10 CFR 50.55a(a)(3)(i). The Monticello coating maintenance program currently provides an adequate level of quality and safety.

2.5.5 Staff Evaluation of MC-5

In lieu of performing visual examination of paint or coatings in accordance with Table IWE-2500-1 prior to removal, the licensee proposed to inspect the condition of prepared surfaces prior to application of new paint or coatings in accordance with the Monticello coating maintenance program. If degradation is identified, additional measures are taken to determine if the containment pressure boundary is affected. Repairs to the primary containment boundary, if required, will be conducted in accordance with the ASME Code, Section XI, rule.

As discussed in the evaluation of Relief Request MC-4, the staff finds that the Monticello coating maintenance program is adequate for monitoring the proper removal of the old paint and application of new coatings. To perform additional examinations prior to removal of the old paint and to document the condition of the old paint or coatings would result in hardship to the licensee without a compensating increase in the level of quality and safety. On this basis, the staff concludes that the alternative coating program proposed by the licensee is acceptable and the licensee's proposed alternative to the requirement of Subsection IWE-2500(b) is authorized for the first containment inspection interval of the Monticello containment inspection program pursuant to 10 CFR 50.55a(a)(3)(ii).

2.6 Relief Request MC-6

2.6.1 Code Requirements

Paragraphs IWE-2420(b) and IWE-2420(c) of the 1992 edition, 1992 addenda of ASME Code, Section XI, requires that when component examination results require evaluation of flaws, evaluation of areas of degradation, or repairs in accordance with Article IWE-3000, "Acceptance Standards," and the component is found to be acceptable for continued service, the areas containing such flaws, degradation, or repairs shall be reexamined during the next inspection period listed in the schedule of the inspection program of paragraph IWE-2411, "Inspection Program A," or paragraph IWE-2412, "Inspection Program B," in accordance with Table IWE 2500-1, Examination Category E-C.

2.6.2 Requirements From Which Relief Is Requested

Relief is requested from the requirement of paragraphs IWE-2420(b) and IWE-2420(c) to perform successive examination of repairs. This relief is requested for the first inspection interval of the Containment Inspection Examination Plan for Monticello.

2.6.3 Alternative Examinations

Successive examinations in accordance with paragraphs IWE-2420(b) and IWE-2420(c) are required except for repairs.

2.6.4 Basis for Relief

The purpose of a repair is to restore the component to an acceptable condition for continued service in accordance with the acceptance standards of Article IWE-3000.

Paragraph IWA-4150, "Verification of Acceptability," requires the owner to conduct an evaluation of the suitability of the repair, including consideration of the cause of failure.

If the repair has restored the component to an acceptable condition, successive examinations are not warranted. If the repair was not suitable, then the repair does not meet Code requirements and the component is not acceptable for continued service. Neither paragraph IWB-2420(b), paragraph IWC-2420(b), nor paragraph IWD-2420(b) require a repair to be subjected to successive examination requirements. Furthermore, if the repair area is subject to accelerated degradation, it would still require augmented examination in accordance with Table IWE-2500-1, Category E-C.

Successive examinations of repair in accordance with paragraphs IWE-2420(b) and IWE-2420(c) constitute a burden without a compensating increase in quality or safety.

In SECY 96-080, "Issuance of Final Amendment to 10 CFR 50.55a to Incorporate by Reference the ASME Boiler and Pressure Vessel Code (ASME Code), Section XI, Division 1, Subsection IWE and Subsection IWL," dated April 17, 1996, the response to comment 3.3 states, "The purpose of IWE-2420(b) is to manage components found to be acceptable for continued service (meaning no repair or replacement at this time) as an Examination Category E-C component... If the component had been repaired or replaced, then the more frequent examination would not be needed."

The requirement for successive examinations following repairs has been removed in the rewrite of Subsection IWE of ASME Code, Section XI, 1998 edition.

Relief is requested in accordance with 10 CFR 50.55a(a)(3)(ii). Compliance with the specified requirements of this section for repairs would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

2.6.5 Staff Evaluation of MC-6

In lieu of meeting the Code requirements, the licensee proposed not to perform successive examination in accordance with paragraphs IWE-2420(b) and IWE-2420(c) on repairs.

The staff finds that when repairs are complete, IWA-4150 requires licensees to evaluate the suitability of the repair. When a repair is required because of failure of an item, the evaluation shall consider the cause of failure to ensure that the repair is suitable. Considering that the failure mechanism is identified and corrected, as required, and the repair receives preservice examinations, as required, the proposed alternative will provide reasonable assurance of structural integrity. Therefore, the requirements of successive examinations are deemed to be unnecessary. Furthermore, IWB-2420(b), IWC-2420(b), and IWD-2420(b) do not require the successive inspection of repairs for ASME Code Class 1, 2, and 3 components as required in IWE-2420(b) for ASME Code Class MC components.

On this basis, the licensee's proposed alternative is authorized for the first containment inspection interval of the Monticello containment inspection program pursuant to 10 CFR 50.55a(a)(3)(ii) that compliance with the specific code requirements would result in hardship without a compensating increase in the level of quality and safety.

2.7 Relief Request MC-7

2.7.1 Code Requirements

ASME Code, Section XI, 1992 edition, 1992 addenda, Table IWE-2500-1, Examination Category E-A, Containment Surfaces, Item E1.12 and Item E1.20, requires accessible surface areas of the containment vessel and the vent system to be VT-3 visually examined once at the end of each interval to assure containment leak-tight integrity.

2.7.2 Requirements From Which Relief Is Requested

Relief is requested from meeting the Code requirements in performing the VT-3 examination on all accessible surface areas of the metal containment and the vent system at the end of interval. This relief is requested for the first inspection interval of the Containment Inspection Examination Plan for Monticello.

2.7.3 Alternative Examinations

The VT-3 visual examinations of the accessible surface areas of the containment vessel pressure retaining boundary and vent system will be performed in accordance with Code Case N-601. This code case provides an alternative in that the visual examinations

may be performed at any time during the interval, provided the requirements for successive inspections in IWE-2420 are met.

2.7.4 Basis for Relief

Visual examination of 100 percent of the accessible surfaces of the metal containment and the vent system would be required at the end of the interval. Code Case N-601, "Extent and Frequency of VT-3 Visual Examination for Inservice Inspection of Metal Containments, Section XI," provides an alternative to the Code requirements of performing 100 percent of Items E 1.12 and E1.20 at the end of the interval. The code case states, "The VT-3 examinations in Table IWE-2500-1, Examination Category E-A, Containment Surfaces, may be performed at any time during the interval, provided the requirements for successive inspections in IWE-2420 are met."

NRC Information Notice No. 88-82, "Torus Shells With Corrosion and Degraded Coatings in BWR Containments," dated October 14, 1988, states that localized degradation such as pitting can be detected most effectively by draining the torus and inspecting it under dry conditions. Monticello is scheduled to drain the torus every third refueling outage or approximately every 5 years for coating inspection, with the next scheduled drain down in the 2003 refueling outage. Inspection and repairs to the vent system coatings would also be done during the torus drain downs. This would be the best opportunity to visually inspect 100 percent of the internal torus and the vent system to meet Items E1.12 and 1.20. The successive inspection requirements of IWE-2420 will be maintained with the existing schedule.

Pursuant to 10 CFR 50.55a(a)(3)(ii), relief is requested on the basis that the required examination would result in hardship without a compensating increase in the level of quality and safety. Draining the torus at the end of the inspection interval as required by Table IWE-2500-1 constitutes hardship as it would require an additional draining of the torus expressly for this inspection.

2.7.5 Staff Evaluation of MC-7

In lieu of meeting the requirements of Table IWE-2500-1, Category E-A, Items E1.12 and E1.20, that 100 percent of VT-3 visual examinations shall be performed at the end of the interval, the licensee proposes to perform the VT-3 visual examinations on accessible surface areas and the vent system in accordance with Code Case N-601.

The staff finds that performance of visual examinations on the accessible surface areas of the containment structure and vent system during the course of an inspection interval (based on the recommendation by Code Case N-601 that the VT-3 examinations in Table IWE-2500-1, Category E-A, be performed at any time during the interval of inspection) will be more proper and efficient than following the requirements of Table IWE-2500-1. In doing this, the integrity of the containment structure and vent system can be better monitored between the 10 CFR Part 50, Appendix J testing, and the visual examinations required by Table IWE-2500-1. On this basis, the staff concludes that the alternative proposed by the licensee based on Code Case N-601 provides an acceptable level of quality and safety, and is authorized for the first containment inspection interval of the Monticello containment inspection program pursuant to 10 CFR 50.55a(a)(3)(i).

3.0 CONCLUSION

Based on its review of the information provided in the requests for relief (Relief Requests MC-1 through MC-7), the staff concludes that for Relief Request MC-4 and MC-7, the licensee's proposed alternatives will provide an acceptable level of quality and safety. Therefore, the proposed alternatives are authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the first containment inspection interval of the Monticello containment inspection program, which ends on May 8, 2008. For relief requests MC-1, 2, 3, 5, and 6, the staff concludes that compliance with the code requirements would result in a burden without a compensating increase in the level of quality and safety, and that licensee's proposed alternatives will provide reasonable assurance of containment pressure integrity. Therefore, these proposed alternatives are authorized pursuant to 10 CFR 50.55a(a)(3)(ii) for the first containment inspection interval of the Monticello containment inspection program, which ends on May 8, 2008.

4.0 REFERENCES

1. Letter from Byron D. Day, NSP, to NRC, "Request for Relief from Certain ASME Code Requirements for Containment Inspection Examination Plan - Monticello Nuclear Generating Plant," dated May 19, 2000.
2. Letter from Byron D. Day, NSP, to NRC, "Correction to Request for Relief from Certain ASME Code Requirements for Containment Inspection Examination Plan - Monticello Nuclear Generating Plant," dated October 11, 2000.
3. Letter from Michael F. Hammer, NSP, to NRC, "Response to Generic Letter 98-04, Potential for Degradation of the Emergency Core Cooling System and the Containment Spray System After a Loss-of-Coolant Accident Because of Construction and Protective Coating Deficiencies and Foreign Material in Containment," dated November 11, 1998.
4. Letter from Carl F. Lyon, NRC, to Roger O. Anderson, NSP, "Monticello Nuclear Generating Plant Re: Completion of Licensing Action for Generic Letter 98-04," dated November 16, 1999.

Attachment: Summary of Relief Requests

Principal Contributor: T. Cheng

Date: November 16, 2000

SUMMARY OF RELIEF REQUESTS
MONTICELLO NUCLEAR GENERATING PLANT

Relief Request No.	10CFR 50.55a - ASME Code IWE/IWL Section	Issue Identification	Recommended NRC Action	Remarks
MC-1	IWA-2300	Qualification of Nondestructive Examination Personnel	(a)(3)(ii)	authorized
MC-2	IWE-2500, Table IWE-2500-1, E-D	Examination of Seals and Gaskets	(a)(3)(ii)	authorized
MC-3	IWE-2500, Table IWE-2500-1, E-G, E-8.20	Torque-Tension Test of Pressure Retaining Bolting	(a)(3)(ii)	authorized
MC-4	IWE-2200(g)	Preservice Examinations of Reapplied Paint or Coatings	(a)(3)(i)	authorized
MC-5	IWE-2500(b)	Examination of Paint or Coating Prior to Removal	(a)(3)(ii)	authorized
MC-6	IWE-2420(b) and (c)	Successive Examination after Repaired Areas	(a)(3)(ii)	authorized
MC-7	Table IWE-2500-1, E-A, E1.12 and E1.20	Extent and Frequency of VT-3 Visual Examination of Metal	(a)(3)(i)	authorized

ATTACHMENT