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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Monticello Nuclear Generating Plant
Docket 50-263
License No. DPR-22

Monticello Nuclear Generating Plant - License Renewal Application Update (TAC No. MC6440)

By letter dated March 16, 2005, the Nuclear Management Company, LLC (NMC), submitted the Monticello Nuclear Generating Plant (MNGP) License Renewal Application (LRA). By letter dated March 15, 2006, NMC submitted the MNGP LRA Annual Update. In accordance with 10 CFR 54.21(b), the NMC is submitting this update to the LRA, including the Updated Safety Analysis Report (USAR) supplement which reflects the changes made to the MNGP current licensing basis since the LRA Annual Update was submitted. These changes are required to be submitted at least 3 months prior to the scheduled completion of the LRA review by the NRC.

NMC has completed the review and concluded that there are changes that materially affect the content of the MNGP LRA. Enclosure 1 provides the details of the changes and the effect on the content of the MNGP LRA including the revisions to the MNGP USAR supplement.

This submittal does not change the NMC determination in the original March 16, 2005, submittal that the measures described in the MNGP LRA provide assurance that the effects of aging will be adequately managed, consistent with the current licensing basis, for the requested period of extended operation.

This letter contains no new regulatory commitments.

A113

I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 18 ,2006.

John T. Conway
Site Vice President, Monticello Nuclear Generating Plant
Nuclear Management Company, LLC

Enclosure

cc: Administrator, Region III, USNRC
Project Manager, Monticello, USNRC
License Renewal Project Manager, Monticello, USNRC
Resident Inspector, Monticello, USNRC
Minnesota Department of Commerce
Pillsbury, Winthrop, Shaw, Pittman; LLP (David Lewis)

ENCLOSURE 1

Monticello Nuclear Generating Plant - License Renewal Application
3-Month Update

In accordance with the requirements of 10 CFR 54.21(b), the Nuclear Management Company, LLC (NMC) is submitting this update three (3) months before the scheduled completion of the NRC review of the Monticello Nuclear Generating Plant (MNGP) License Renewal Application (LRA).

CURENT LICENSING BASIS CHANGES

The NMC is required, by 10 CFR 54.21(b), to provide a report, at least 3 months before scheduled completion of the NRC review, of changes to the MNGP current licensing basis (CLB) that materially affect the contents of the MNGP LRA, including the Updated Safety Analysis Report Supplement. The following CLB changes have been made since the submittal of the MNGP Annual Update to the LRA:

The NRC has issued License Amendment's Number 145 and 146 for MNGP. Amendment 145 revised the MNGP licensing basis by selectively implementing the alternative source term for the postulated fuel handling accident, leading to revision of portions of the Technical Specifications to reflect this change in licensing basis. Amendment 146 revised the MNGP licensing basis by converting the custom Technical Specifications to the Improved Technical Specifications.

CLARIFYING CHANGES TO THE LRA

This enclosure also provides the following Clarifying Changes to the MNGP LRA:

LRA Section 2.1 – SCOPING AND SCREENING METHODOLOGY

2.1.4 Scoping Methodology

2.1.4.3.2 Unresolved ISGs

BACKGROUND

NMC is providing this additional change to the MNGP LRA to respond to the NRC's License Renewal (LR) Interim Staff Guidance (ISG) – 2006-01.

DESCRIPTION OF CHANGES TO LICENSE RENEWAL APPLICATION (additions are bold in brackets; deletions are strikethrough)

2.1.4.3.2 Unresolved ISGs

The ~~16~~**[17]** issues which are currently the subject of discussion between the industry and the NRC Staff are:

- Housing for Active Components
- Scoping Guidance
- The ISG Process
- Scoping Criteria 54.4(a)(2)
- License Renewal Application Format
- Environmental Fatigue for Carbon/Low-alloy Steel
- Cracking of Class 1 Small-Bore Piping
- The Loose Parts Monitoring System
- Cracking in Bolting
- Revision to GALL (XI.E2)
- License Renewal Applications (TLAAs)
- Bus Ducts
- Inaccessible Cable (GALL XI.E3)
- Revision to GALL (XI.M11)
- Revision to GALL (XI.M19)
- Reactor Vessel Internals (GALL XI.M9 and XI.M.16)

[• Corrosion of the Mark I Steel Containment Drywell Shell]

Following is a discussion of each of these open ISGs and their applicability to the MNGP:

[Corrosion of the Mark I Steel Containment Drywell Shell

The MNGP applicable proposed actions associated with this ISG are addressed in Section B2.1.26, Primary Containment In-Service Inspection Program, of the MNGP LRA.]

ENCLOSURE 1

LRA Section 3.0 - AGING MANAGEMENT REVIEW RESULTS

3.0.7 Review of NUREG-0933

BACKGROUND
(Commitment No. 2)

In accordance with the guidance of Appendix A.3.2.1.2 of NUREG-1800, Appendix B of the latest issued supplement to NUREG-0933 will be reviewed for new Generic Safety Issues (GSIs) designated as USI-, HIGH-, or MEDIUM- priority. Any identified that involve Time-Limited Aging Analyses (TLAAs) or aging effects for structures and components subject to an aging management review will be included in the annual update of the LRA.

DESCRIPTION OF CHANGES TO LICENSE RENEWAL APPLICATION
(additions are bold in brackets; deletions are strikethrough)

3.0.7 Review of NUREG-0933

NUREG-0933 (Reference 9) contains listings of industry experience in the form of NRC Unreviewed Safety Issues (USIs) and Generic Safety Issues (GSIs) along with their current status. NUREG-0933 (through Supplement 29) was reviewed in accordance with the guidance provided in Appendix A.3 of NUREG-1800 (Reference 3) to identify those USIs and GSIs related to both aging effects of structures and components and TLAAs within the scope of License Renewal....

In accordance with the guidance of Appendix A.3.2.1.2 of NUREG-1800, Appendix B of the latest issued supplement to NUREG-0933 was reviewed for new GSIs designated as USI-, HIGH-, or MEDIUM- priority. Supplement 29 of NUREG-0933 was reviewed as part of the first annual update of the LRA. No issues were identified that involve TLAAs or aging effects for structures and components subject to an aging management review.

[No supplements to NUREG-0933 have been issued since the previous LRA update.]

ENCLOSURE 1

LRA Section 4.0 - TIME-LIMITED AGING ANALYSES

LRA Section 4.8 Stress Relaxation of Rim Holddown Bolts

BACKGROUND
(4.8-2)

NMC determined during discussions with the NRC Staff that the MNGP LRA should be clarified to include wording which summarizes the NMC responses to previous NRC RAIs.

DESCRIPTION OF CHANGES TO LICENSE RENEWAL APPLICATION
(additions are bold in brackets; deletions are strikethrough)

4.8 Stress Relaxation of Rim Holddown Bolts

Disposition: Revision 10 CFR 54.21(c)(1)(ii)

~~For the period of extended operation, the expected loss of preload was assumed to be 19%, which bounds the original BWRVIP analysis. With a loss of 19% in preload, the core plate will maintain sufficient preload to prevent sliding under both normal and accident conditions. Therefore, the loss of preload is acceptable for the period of extended operation.~~

[For MNGP the projected loss of preload at the end of the period of extended operation is 8% based on the MNGP design and a neutron fluence of 2.2 x 10E19 n/cm^2 (E > 1.0 Mev). This neutron fluence corresponds to the maximum fluence applicable to the bolts at the end of the period of extended operation, although many bolts experience lower fluence due to their specific azimuthal location. The fluence calculation was performed using methodology in accordance with the guidance provided in Regulatory Guide 1.190, Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence. The MNGP core plate rim hold-down bolt evaluation demonstrates that the mean axial and bending stresses, considering hold-down bolt stress relaxation, are bounded by the BWRVIP-25 analysis results and/or the ASME code allowable limits.]

ENCLOSURE 1

LRA Section A3.6 Stress Relaxation of Rim Holddown Bolts

BACKGROUND
(4.8-2)

NMC determined during discussions with the NRC Staff that the MNGP LRA should be clarified to include wording which summarizes the NMC responses to previous NRC RAIs.

DESCRIPTION OF CHANGES TO LICENSE RENEWAL APPLICATION
(additions are bold in brackets; deletions are strikethrough)

A3.6 Stress Relaxation of Rim Holddown Bolts

Disposition: Revision 10 CFR 54.21(c)(1)(ii)

~~For the period of extended operation, the expected loss of preload was assumed to be 19%, which bounds the original BWRVIP analysis. With a loss of 19% in preload, the core plate will maintain sufficient preload to prevent sliding under both normal and accident conditions. Therefore, the loss of preload is acceptable for the period of extended operation.~~

[For MNGP the projected loss of preload at the end of the period of extended operation is 8% based on the MNGP design and a neutron fluence of 2.2 x 10E19 n/cm^2 (E > 1.0 Mev). This neutron fluence corresponds to the maximum fluence applicable to the bolts at the end of the period of extended operation, although many bolts experience lower fluence due to their specific azimuthal location. The fluence calculation was performed using methodology in accordance with the guidance provided in Regulatory Guide 1.190, 'Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence.' The MNGP core plate rim hold-down bolt evaluation demonstrates that the mean axial and bending stresses, considering hold-down bolt stress relaxation, are bounded by the BWRVIP-25 analysis results and/or the ASME code allowable limits.]

LRA Section A.5 – COMMITMENTS

BACKGROUND

NMC letter of March 31, 2006, provided a new commitment regarding BWRVIP inspection guidelines for core plate hold-down bolts. In addition, during discussions with the NRC Staff, the NMC agreed that previous commitments number 3 and number 58 should be combined into one commitment, in the LRA for the MNGP. This table is updated as follows:

DESCRIPTION OF CHANGES TO LICENSE RENEWAL APPLICATION (additions are bold in brackets; deletions are strikethrough)

A.5 COMMITMENTS

ITEM	COMMITMENT	SOURCE	SCHEDULE
[3.	**Inspection of the steam dryer is to be accomplished using the guidance provided in BWRVIP-139, "Steam Dryer Inspection and Flaw Evaluation Guidelines,(April 2005)," for the MNGP steam dryer inspections. In the event a new steam dryer is installed, NMC will reevaluate the inspection requirements**	**LRA Sections 2.1.4.2.2, Table 3.1.2-3 Note 136, A2.1.12 and B2.1.12**	**During the period of extended operation]**
[~~58.~~	~~NMC will follow the guidance provided in BWRVIP-139, Steam Dryer Inspection and Flaw Evaluation Guidelines (April 2005), for the MNGP steam dryer inspections.~~	~~LRA Section 2.1.4.2.2, Table 3.1.2-3 Note 136, A2.1.12 and B2.1.12~~	~~During the period of extended operation~~**]**
[~~59~~ 58.]	NMC will add inspection requirements for the P1, P2 and P3 Core Spray piping welds, at MNGP, in accordance with guidance provided in BWRVIP-18, or subsequent revisions.	LRA Sections B1.6, A2.1.12 and B2.1.12	Prior to the period of extended operation

[59.	**NMC commits to adhere to BWRVIP inspection guidelines for core plate hold-down bolts by implementation of one or more of the following:** **1. Develop an alternative to the inspections identified in the BWRVIP which will, at a minimum, satisfy the intent of the BWRVIP in terms of assuring core plate functional integrity throughout the period of extended operation, NMC will provide the alternative to the inspection program to the NRC staff for their review and approval at least one year prior to entering the period of extended operations,** **2. Inspect the core plate bolts using either UT, some other volumetric inspections, EVT-1 from below the core plate, or other approved inspections in accordance with BWRVIP-25, to assure an adequate number of the core plate bolts are intact to prevent lateral displacement of the core plate, or** **3. Install core plate wedges to structurally replace the lateral load resistance provided by the rim hold-down bolts and perform no inspections.**	**LRA Sections 4.8 and A3.6**	**Prior to the period of extended operation]**

LRA APPENDIX B - Aging Management Programs

BACKGROUND

NMC is providing this additional change to the MNGP LRA to respond to the NRC's License Renewal (LR) Interim Staff Guidance (ISG) – 2006-01.

DESCRIPTION OF CHANGES TO LICENSE RENEWAL APPLICATION (additions are bold in brackets; deletions are strikethrough)

B2.1.26 Primary Containment In-Service Inspection Program

Program Description

The MNGP Primary Containment In-Service Inspection Program requires visual examinations of the accessible surfaces (base metal and welds) of the drywell, torus, vent lines, internal vent system, penetration assemblies **[,]** **[**~~and~~**]** associated integral attachments **[,]** **[**~~. The program also requires examination of~~**]** pressure retaining bolting and the drywell interior slab moisture barrier. **[The program also addresses LR-ISG-2006-01, "Plant-Specific Aging Management Program for Inaccessible Areas of Boiling Water Reactor Mark I Steel Containment Drywell Shell."]**

Surface and / or volumetric examination augments visual examination as required to define the extent of observed conditions or to identify deterioration at inaccessible locations **[(e.g., exterior drywell surface)]**.

NUREG-1801 Consistency

The Primary Containment In-Service Inspection Program is an existing program. It is consistent with NUREG-1801, Chapter XI, Program XI.S01and ASME Section XI, Subsection IWE **[and LR-ISG-2006-01]**.

Aging Management Program Elements

The elements, which are part of the Primary Containment In-Service Inspection Program, are described below. The results of an evaluation of each element against NUREG-1801, Chapter XI, Program XI.S1**[**~~, and~~**]** ASME Section XI, Subsection IWE**[**~~,~~ **and LR-ISG-2006-01]** are also provided.

Scope of Program

The MNGP Primary Containment In-Service Inspection Program requires visual examinations of the accessible surfaces (base metal and welds) of the drywell, torus, vent lines, internal vent system, penetration assemblies**[**, ~~and~~**]** associated integral attachments**[**~~. The program also requires examination of~~**]** pressure retaining bolting and the drywell interior slab moisture barrier. **[The program also addresses LR-ISG-2006-01.]**

Parameters Monitored or Inspected

The program requires thickness and other measurements if these are determined necessary to assess the significance of observed surface conditions.

[A comparison of 1987 UT examination results of the drywell shell with original material specifications shows no measurable degradation (loss of material due to corrosion); therefore, the corrosion rate is not detectable.

Water or moisture in the air gap or sand pocket regions has never been identified at MNGP. However, if inspections or observations were to indicate the presence of water or moisture in the air gap or sand pocket regions, UT examinations would be performed at the same 1987 UT locations to determine acceptability. These examinations and evaluations would be performed in accordance with item (5) of the proposed actions in LR-ISG-2006-01.]

The moisture barrier sealing the interface between the drywell shell and interior slab is examined for signs of damage, deterioration, loss of bond and other conditions that could result in water penetration.

Detection of Aging Effects

The MNGP Primary Containment In-Service Inspection Program specifies visual examination of accessible surface areas as the primary tool for detecting aging effects. Visual examinations conform to the requirements of Sub-Section IWE and referenced paragraphs of Sub-Section IWA except that direct examination distances and lighting may be determined by resolution requirements as allowed by 10CFR50.55a(b)(2)(ix)(B).

[During reactor well filling for refueling outages and after the bellows are submerged, the drywell air gap drains and sand pocket drains are inspected for signs of leakage. These inspections are required by procedure. There have been no indications of leakage into the drywell air gap or sand pocket regions.

A flow switch is provided on the drywell to Reactor Building bellows leakage drain line to detect leakage from the bellows. This switch actuates an alarm to alert operators of a bellows leak.]

Surface or volumetric NDE may be required to evaluate the extent of damage or deterioration found by visual examination. Also, augmented (more frequent and / or more detailed) examination may be required to ensure effective detection of aging effects in such damaged or deteriorated areas. The need for NDE and augmented examination is determined by evaluation of visual examination findings.

Operating Experience

The Primary Containment In-Service Inspection Program, when implemented in conjunction with the 10 CFR 50, Appendix J Program and special examinations conducted to address specific industry issues, has demonstrated that aging of the primary containment, the internal vent system and steel components within the torus is managed in an effective manner. Special examinations have verified the absence of significant corrosion in the drywell sand pocket region and on the normally submerged surfaces of the torus. Leakage testing has been effective in early detection of passive isolation barrier (active barriers are outside the scope of the aging management program) deterioration. In-service inspection program examinations have shown that there is no significant corrosion on, or other deterioration of, accessible containment shell, vent system and penetration assembly surfaces.

[In 1987, minor surface corrosion was detected on the interior drywell shell at the joint between the concrete floor and the shell. This corrosion was attributed to the interaction between the joint sealant material and leakage (water) from components in the drywell. The concrete floor was excavated at several locations, and UT examinations were performed. No degradation of the drywell shell was identified. One location examined by UT measurements included the full depth of the sand pocket region. The interior shell surface was cleaned and recoated. The original joint sealant was replaced with a new sealant that will not promote corrosion. This work was performed under the modification process. Since the environment on the exterior surface of the drywell shell does not contain water, this type of corrosion event should not occur in this region.

No water or moisture has been detected or suspected in the inaccessible regions on the exterior of the drywell shell. This conclusion is based on inspections and results of UT examinations.]

Considering plant experience in implementing the Primary Containment In-Service Inspection Program, it may be concluded that this program, when complemented by the 10 CFR 50, Appendix J Program, will provide reasonable assurance that primary containment, internal vent system and steel components within the torus aging effects are effectively managed throughout the period of extended operation.