August 11, 2005

L-MT-05-087
10 CFR 50.55a(a)(3)(i)

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Monticello Nuclear Generating Plant
Docket 50-263
License No. DPR-22

10 CFR 50.55a Request No. 12: Proposed Alternative for Visual Examination Illumination Levels in Accordance With 10 CFR 50.55a(a)(3)(i)

Pursuant to 10 CFR 50.55a(a)(3)(i), the Nuclear Management Company, LLC (NMC) requests U.S. Nuclear Regulatory Commission (NRC) authorization for application of the enclosed 10 CFR 50.55a request to the Fourth Ten-Year Interval Inservice Inspection (ISI) Program at the Monticello Nuclear Generating Plant (MNGP).

NMC identified five VT-2 examinations (done in conjunction with post-repair/replacement pressure tests) where illumination levels were not verified in accordance with Section XI, IWA-2210, "Visual Examinations," of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code. Authorization is requested on a one-time basis, for the use of an alternative method that was applied to verify illumination levels for these five VT-2 examinations (performed in 2003 and 2004), in lieu of the Section XI, IWA-2210 requirements, as described within the 10 CFR 50.55a request provided in Enclosure 1.

This letter contains no new commitments and makes no revisions to existing commitments.

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

Enclosure

cc: Administrator, Region III, USNRC
Project Manager, Monticello, USNRC
Resident Inspector, Monticello, USNRC
Minnesota Department of Commerce (Attn: L. Brandon)

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ENCLOSURE 1
10 CFR 50.55a REQUEST NO. 12
PROPOSED ALTERNATIVE FOR VISUAL EXAMINATION ILLUMINATION LEVELS IN ACCORDANCE WITH 10 CFR 50.55a(a)(3)(i)

1. ASME Code Component(s) Affected

Component and System	ASME Code Class
Control Rod Drive (CRD) System Hydraulic Control Unit (HCU) 26-27	2
Residual Heat Removal-Service Water (RHRSW) System Pump 12	3
RHRSW System Pump 14	3
Emergency Diesel Generator-Emergency Service Water (EDG-ESW) System Pump 11	3
EDG-ESW System Pump 12	3

2. Applicable ASME Section XI Code Edition and Addenda

The applicable Code for Repair/Replacement and related activities is the 2001 Edition, No Addenda as authorized in the Monticello Nuclear Generating Plant (MNGP) Fourth Ten-Year Interval Inservice Inspection (ISI) Program 10CFR50.55a Request No. 7, October 3, 2003 (TAC No. MB6897).

3. Applicable Code Requirement

The American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, IWA-2210, "Visual Examinations," provides the following requirements (meeting either of which would be sufficient to demonstrate adequate illumination) for conducting visual examinations.

IWA-2210(e) specifies the following requirements for illumination levels:

> "It is not necessary to measure illumination levels on each examination surface when the same portable light source or similar installed lighting equipment is demonstrated to provide the illumination specified in Table IWA-2500-1 at the maximum examination distance."

IWA-2210(f) states:

> "The adequacy of the illumination levels from battery powered portable lights shall be checked before and after each examination or series of examinations, not to exceed 4 hr between checks. In lieu of using a light meter, these checks may be made by verifying that the illumination is adequate (i.e., no discernable degradation in the visual examination resolution of the procedure demonstration test chart characters)."

4. **Reason for Request:**

NMC identified five VT-2 examinations, performed in conjunction with post-repair/replacement pressure tests (during the first period of the current 10-year ISI interval), which were not performed in accordance with the illumination requirements of IWA-2210 and could not be re-performed.* The illumination levels were not verified as required. Authorization is requested to utilize an alternative method that was used to verify the illumination levels, as described in Section 5.

The five VT-2 examinations were performed using portable battery-powered lights (a standard practice to ensure adequate lighting). However, due to a procedural inadequacy, the illumination levels were not verified before and after each VT-2 examination as specified in IWA-2210(f), nor were the illumination levels demonstrated pursuant to IWA-2210(e). (This procedural inadequacy is tracked and is being corrected under the MNGP Corrective Action Program.) Consequently, without verifying the illumination levels of the portable battery-powered lights or ambient light conditions, only the knowledge and skill of the certified VT-2 examiner was available to attest that the lighting conditions were adequate for the five VT-2 examinations. Because it could not initially be verified that the lighting levels were acceptable, it was conservatively assumed that the requirements of IWA-2210 were not met for these five VT-2 examinations.

Listed below are the five pressure tests, which could not be re-performed,* where the VT-2 examination illumination levels could not initially be determined as acceptable:

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* The replaced components were restored to operable status prior to the identification of this illumination concern with the VT-2 examinations. The pre-service pressure testing required by IWA-4540 (and associated VT-2 examinations) cannot be re-performed because the associated systems were restored to service.

R/R Plan Number	Work Description	Examination Date
2003-22-0011	Replace accumulator on HCU 26-27	10/26/03
2003-22-0012	Replace EDG-ESW Pump 12 with rebuilt spare from stock.	12/4/03
2003-22-0014	Replace RHRSW Pump 14 with rebuilt spare from stock.	11/7/03
2003-22-0021	Replace RHRSW Pump 12 with rebuilt spare from stock.	11/21/03
2004-22-0062	Replace EDG-ESW Pump 11 with rebuilt spare from stock.	11/15/04

5. **Proposed Alternative and Basis for Use**

The proposed illumination alternative for the five VT-2 examinations is based upon the following three factors. First, the possession of the knowledge and skill by the certified VT-2 examiners, and their attestation that there was sufficient lighting for them to properly perform the examinations. Second, the use of battery-powered portable lights by the VT-2 examiners, which provided additional illumination (beyond ambient) during the examinations. Third, a walk-down of the areas where the VT-2 examinations were conducted was performed by the site Nondestructive Examination (NDE) Level III, to verify the ambient illumination level provided by the permanent plant lighting was adequate to meet the requirements of IWA-2210, as described below.

Upon discovery of the five post-repair/replacement pressure tests, for which the VT-2 examination illumination levels could not be initially be determined as acceptable, the site NDE Level III walked-down each location and performed illumination checks where the VT-2 examinations had been conducted. Illumination checks were performed using a light meter and/or a character card. The illumination checks were done to establish whether the existing permanently installed plant (ambient) lighting provided reasonable assurance of sufficient illumination at each location to comply with IWA-2210(e) illumination requirements during the performance of the VT-2 examinations.

The results of these illumination checks provided reasonable assurance that the ambient illumination levels at the components, using the existing permanently installed plant lighting, were sufficient to meet IWA-2210 requirements. Also, during performance of these illumination checks, the NDE Level III examiner did not identify any indications of leakage from the pressure-tested components.

Based on the following factors, NMC considers the proposed alternative to be acceptable:

- Walk-downs following the VT-2 examinations indicate that the ambient illumination provided by the permanent plant lighting was sufficient,
- The skill and knowledge of the certified VT-2 examiners attesting to a light level sufficient for them to perform their examinations, and
- The VT-2 examiners used battery-powered portable lights (which provided additional illumination above ambient) during the VT-2 examinations.

Therefore, NMC considers the proposed method, consisting of the three factors listed above, to be an acceptable alternative to the lighting verification required by IWA-2210 during the performance of the five VT-2 examinations. NMC believes that the proposed alternative provided an acceptable level of quality and safety.

NMC requests a one-time approval for the use of the alternative method previously described, that was applied for verifying the illumination levels for the five VT-2 examinations associated with the post-repair/replacement pressure tests identified in this 10 CFR 50.55a request.

6. Duration of Proposed Alternative

NMC requests a one-time approval of the alternative method that was applied for determining the illumination levels for the five VT-2 examinations (for the subject components specified in Section 1) for the first period of the current fourth ten-year ISI interval for the MNGP.