July 18, 2005

MEMORANDUM TO: P.T. Kuo, Program Director
License Renewal and Environmental Impacts
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

FROM: Dale F. Thatcher, Section Chief ***/RA/***
Plant Support Branch
Division of Inspection Program Management
Office of Nuclear Reactor Regulation

SUBJECT: AUDIT TRIP REPORT REGARDING THE NUCLEAR MANAGEMENT COMPANY APPLICATION FOR LICENSE RENEWAL FOR THE MONTICELLO NUCLEAR GENERATING PLANT DATED MARCH 16, 2005 (TAC No. MC6440)

Plant Name:	Monticello Nuclear Generating Plant
Utility Name:	Nuclear Management Company
Docket No.:	50-263 (DPR-22)
TAC No.:	MC6440
Review Branch:	IPSB
Review Status:	Pending resolution of identified issues

From June 20 - 24, 2005, the Plant Support Branch (IPSB) performed an audit of the Nuclear Management Company (the applicant) license renewal scoping and screening methodology developed to support the Monticello Nuclear Generating Plant license renewal application (LRA) dated March 16, 2005. The focus of the staff's audit was evaluation of the applicant's administrative controls governing implementation of the LRA scoping and screening methodology and review of the technical basis for selected scoping and screening results for various plant systems, structures, and components. The audit team also reviewed quality attributes for aging management programs and training for personnel that developed the LRA. A trip report containing a summary of the audit results is attached.

Attachment: As stated

CONTACT: Stephen Tingen, DIPM/NRR
(301) 415-1280

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NAME	STingen		DThatcher							
DATE	7/18/05		7/18/05							

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TRIP REPORT REGARDING THE NUCLEAR MANAGEMENT COMPANY

APPLICATION FOR LICENSE RENEWAL FOR

THE MONTICELLO NUCLEAR GENERATING PLANT,

DATED MARCH 16, 2005 (TAC No. MC6440)

1. Introduction

From June 20 - 24, 2005, Greg Galletti, Billy Rogers, Kerri Kavanagh, and Steve Tingen of the Plant Support Branch, and Dan Merzke, License Renewal Projects staff, audited the Nuclear Management Company (the applicant) license renewal scoping and screening methodology developed to support the Monticello Nuclear Generating Plant (Monticello) license renewal application (LRA). The audit was performed at the Monticello facility in Monticello, Minnesota. The focus of the staff's audit was evaluation of the applicant's administrative controls governing implementation of the LRA scoping and screening methodology and review of the technical basis for selected scoping and screening results for various plant systems, structures, and components (SSCs). The audit team also reviewed quality attributes for aging management programs and training for personnel that developed the LRA.

2. Background

Title 10 of the *Code of Federal Regulations*, Part 54 (10 CFR Part 54), "Requirements for Renewal of Operating Licenses for Nuclear Power Plants," (the Rule), Section 54.21, "Contents of Application — Technical Information," requires that each application for license renewal contain an integrated plant assessment (IPA). Furthermore, the IPA must list and identify those structures and components (SCs) that are subject to an aging management review for the SSCs that are within the scope of license renewal. 10 CFR 54.4(a) identifies the SSCs within the scope of license renewal. SCs within the scope of license renewal are screened to determine if they are long-lived, passive equipment that is subject to an aging management review in accordance with 10 CFR 54.21(a)(1).

3. Scoping Methodology

The scoping evaluations for the Monticello LRA were performed by Monticello license renewal project personnel and contractors. The audit team conducted detailed discussions with the applicant's license renewal project personnel and reviewed documentation pertinent to the scoping process. The audit team assessed if the scoping methodology outlined in the LRA and implementation procedures were appropriately implemented and if the scoping results were consistent with current licensing basis requirements. The audit team also reviewed a sample of system scoping results for the following: Control Rod Drive System and Intake Structure (flood control).

Attachment

In general, the team determined that the applicant's overall approach to license renewal SSC scoping appeared to be adequate. However, the audit team identified several issues where additional information will be required to complete the LRA review. These issues are documented in a draft request for additional information and are briefly described below.

- Operations Manual A.6, "Acts of Nature," Revision 20, provides instructions for the response of Monticello Nuclear Generating Plant personnel to extreme natural conditions. Tornados, external flooding, high river water temperature, low river water flow/level, high wind conditions, heavy snowfall, and high ambient (outside) air temperature are addressed in Operations Manual A.6. Section 5 of Operations Manual A.6 provides instructions for protecting structures from flooding in the event that Mississippi River flood waters are predicted to exceed specific elevations. For example, steel plates are required to be bolted over specific structure openings and suitable steel plates are stored onsite to accomplish this task. Another example of an action in Section 5 of Operations Manual A.6 to prevent flooding is to remove the intake structure Amertap hatch covers and install the original floor hatches. The audit team noted that equipment stored for use, such as steel plates and floor hatches, was not included in the scope of license renewal. The applicant indicated during the audit that it planned to reevaluate its original conclusion that this equipment is not in the scope of license renewal.

  Therefore, the staff requested the applicant to provide a technical basis for not including in the scope of license renewal equipment stored onsite that is required by station procedures to be installed during emergency or abnormal conditions in accordance with the current licensing basis; or to describe the methodology used to ensure that all equipment stored onsite that station procedures require to be installed during emergency or abnormal conditions in accordance with the current licensing basis is addressed in license renewal scoping.

- Monticello License Renewal Procedure LRPP 2-1, "Scoping and Screening for License Renewal." Revision 3, Section 4.2.15, provides guidance for establishing system boundaries for nonsafety-related (NSR) piping systems connected directly to safety-related (SR) piping systems. The procedure states, in part, that for NSR connected to SR, the NSR SSCs should be included up to the first seismic anchor past the SR/NSR interface, and that the anchor should also be identified on the boundary drawings. Monticello Technical Report, TR-011, "Component identification for SSC Within Scope of 10 CFR 54.4(a)(2) Non-Safety Affecting Safety," Revision 3, states, in part, that a review of piping analyses provided information to extend the piping system to the first anchor. In cases where a true anchor did not exist, the piping analysis was extended sufficiently far to ensure the NSR portion would not have an effect on the SR portion. Typically this was at least extended to encompass two restraints in each orthogonal direction. In those few cases where such restraints did not exist in each orthogonal direction, the boundary was extended to an equivalent anchor such as a wall. As an example, the applicant stated that in certain cases of small-bore piping (i.e., 2" or less) grouted wall penetrations served as the equivalent anchor location. Based on the review of the applicant's scoping evaluation

related to the 10 CFR 54.4a(2) criterion, the staff requires additional information to complete its review.

Therefore, the staff requested the applicant to provide the technical basis for establishing the grouted wall penetrations as an equivalent anchor location; and to verify that non-grouted wall penetrations were not used as equivalent anchor locations for NSR piping systems connected to SR piping systems.

The staff will complete the evaluation of the applicant's scoping methodology pending resolution of these issues.

4. Screening Methodology

The audit team reviewed the methodology used by the applicant to determine if mechanical, structural, and electrical components within the scope of license renewal would be subject to further aging management review. The applicant provided the staff with a detailed discussion of the processes used for each discipline and provided administrative documentation that described the screening methodology. The audit team also reviewed the screening results reports for the Control Rod Drive system and Intake Structure (flood control). The team noted that the applicants screening process was performed in accordance with their written requirements and was consistent with the guidance provided in NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," and NEI 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54, The License Renewal Rule," Revision 4. The audit team determined that the screening methodology was consistent with the requirements of the Rule, and that the screening methodology will identify SCs that meet the screening criteria of 10 CFR 54.21(a)(1).

5. Aging Management Program Quality Assurance Attributes

The audit team evaluated the quality attributes of the applicant's Aging Management Program activities described in Appendix B, "Aging Management Activities," of the LRA using the guidance contained in NUREG-1800, Section A.2, "Quality Assurance for Aging Management Programs (Branch Technical Position IQMB-1)." Based on the staff's evaluation, the quality attributes (corrective action, confirmation process, and administrative controls) described in Appendix B, Section B1.3, "Quality Assurance Program and Administrative Controls," of the LRA for all programs credited for managing aging effects were consistent with Branch Technical Position IQMB-1. The team also determined that the applicant sufficiently described its license renewal program commitments in Appendix A, "Updated Safety Analysis Report Supplement," of the LRA.

6. **Quality Assurance Controls Applied to LRA Development**

The audit team reviewed the quality assurance controls used by the applicant to provide reasonable confidence that the LRA scoping and screening methodologies were adequately implemented. Although the applicant did not develop the LRA under a 10 CFR 50, Appendix B quality assurance program, the audit team determined that the applicant utilized the following quality assurance processes during the LRA development:

- Implementation of the scoping and screening methodology was governed by written procedures and guidelines.

- The LRA was reviewed and approved by the Off-Site Review Committee and the Plant Operations Committee prior to submittal to the Nuclear Regulatory Commission (NRC).

- The applicant planned to retain certain license renewal documents as quality records or controlled documents.

- The applicant performed an industry peer review of license renewal activities.

- Nuclear Oversight performed a self-assessment in the area of implementation of license renewal procedures.

The audit team concluded that these quality assurance activities, which exceed current regulatory requirements, provided additional assurance that LRA development activities were performed consistently with the LRA descriptions.

7. Training for License Renewal Project Personnel

The audit team reviewed the applicant's training process to ensure the guidelines and methodology for the scoping and screening activities were performed in a consistent and appropriate manner. The applicant had developed ten license renewal lesson plans which were used to train all technical leads and site personnel performing license renewal activities. The applicant developed License Renewal Project Procedure LRPP 1-4, "License Renewal Non-Engineering Support Program Personnel Training and Qualifications," Revision 1. This procedure was applicable to the contract personnel who supported the license renewal effort. Contract personnel also were required to review the applicable regulations, NEI 95-10, the applicable administrative work instruction, and the license renewal project plans. In addition, the applicant created "Documentation of Information Sharing" to provide information on specific license renewal topics as they were developed and also performed periodic training sessions for all license renewal personnel.

On the basis of discussions with the applicant's license renewal project team responsible for the scoping and screening process, and a review of selected documentation in support of the process, the staff concluded that the applicant's staff understood the requirements and adequately implemented the scoping and screening methodology documented in the LRA. The team concluded that the license renewal personnel had been adequately trained and were qualified to perform the applicable license renewal activities.

8. Exit Meeting

A public exit meeting was held with the applicant on June 24, 2005, to discuss the results of the scoping and screening methodology audit. The audit team identified preliminary areas where additional information would be required to support completion of the staff's LRA review. Draft requests for additional information related to the applicant's scoping and screening methodology were forwarded to the License Renewal and Environmental Impacts Program

Director, Office of Nuclear Reactor Regulation (NRR), on July 6, 2005 (ADAMS Accession No. ML051880058).

9. Documents Reviewed

1. LRPP 1-1, "License Renewal Project Procedure," Revision 1

2. Technical Report TR-001, "Component Identification for SSCs within Scope of 10CFR54.4(a)(3) ATWS," Revision 2

3. Technical Report TR-003, "Component Identification and Data Processing for SSC within Scope of 10CFR54.4(a)(3) for EQ," Revision 1

4. Technical Report TR-004, "Component Identification for SSC within Scope of 10CFR54.4(a)(3) Fire Protection Program," Revision 2

5. Technical Report TR-005, "Integrated Plant Assessment and Methodology Report," Revision 2,

6. "System/Structure Scoping and Screening Output Report for CRDS (SSR-CRD)," Revision 1

7. "System/Structure Scoping and Screening Output Report for Core Spray System (SR-CSP)," Revision 1

8. "System/Structure Scoping and Screening Output Report for RCIC System (SSR-RCI)," Revision 1

9. "System/Structure Scoping and Screening Output Report for ESW System (SSR-ESW)," Revision 1

10. LRPP 2-1, "Scoping and Screening for License Renewal," Revision 3

11. "System/Structure Scoping and Screening Output Report for Diesel Fuel Oil Transfer House (FOH)," Revision 2

12. "System/Structure Scoping and Screening Output Report for Off Gas Stack (OGS)," Revision 1

13. Updated Safety Analysis Report (USAR).

14. "System/Structure Scoping and Screening Output Report for Hangers and Supports (HGR)," Revision 1

15. "System/Structure Scoping and Screening Output Report for Fire Protection Barriers (FPB)," Revision 0

16. Technical Report TR-007, “License Renewal Project Position Paper Treatment of Consumables,” Revision 0

17. Technical Report TR-010, “License Renewal Project Position Paper for Scoping and Screening of Thermal Insulation,” Revision 1

18. “System/Structure Scoping and Screening Report for Condensate and Feedwater System, “ Revision 1

19. Technical Report TR-013, “Quality Assurance,” Revision 0

20. “System/Structure Scoping and Screening Report for Residual Heat Removal System,” Revision 3

21. “System/Structure Scoping and Screening Report for Standby Liquid Control System,” Revision 1

22. “System/Structure Scoping and Screening Report for Intake Structure, Access Tunnel, and Diesel Fire Pump House,” Revision 2

23. “System/Structure Scoping and Screening Report for Reactor Core Isolation Cooling System,” Revision 1

24. “System/Structure Scoping and Screening Report for Secondary Containment System,” Revision 1

25. “System/Structure Scoping and Screening Report for Emergency Diesel Generators,” Revision 2

26. Operations Manual A.6, “Acts of Nature,” Revision 20

27. LRPP 1-4, “License Renewal Non-Engineering Support Program Personnel Training and Qualifications,” Revsion 1

28. Letter from Nuclear Management Company (NMC) to the NRC, “Response to Request for Additional Information and Submittal of Additional Information in Support of the Monticello License Renewal Applications (TAC No. MC6440),” dated June 10, 2005.

29. Technical Report, TR-011, "Component identification for SSC Within Scope of 10 CFR 54.4(a)(2) Non-Safety Affecting Safety," Revision 3

10. Personnel Contacted During Methodology Audit

Pat Burke	License Renewal Project Manager, NMC
Ray Dennis	Civil/Structural Lead, NMC
Marv Engen	License Renewal Technical Support, NMC
Daniel Merzke	NRC License Renewal Project Manager, NRR
Dave Musolf	Licensing Lead, NMC
Joe Pairitz	Mechanical Lead, NMC
Jim Rootes	Programs Lead, NMC
Ron Siepel	Electrical Lead, NMC