

August 19, 2009

Mr. Stewart B. Minahan
Chief Nuclear Officer, Vice President - Nuclear
Cooper Nuclear Station
Nebraska Public Power District
72676 648A Avenue
Brownville, NE 68321

SUBJECT: AUDIT REPORT REGARDING THE COOPER NUCLEAR STATION, LICENSE
RENEWAL APPLICATION (TAC NO. MD9763)

Dear Mr. Minahan:

By letter dated September 24, 2008, Nebraska Public Power District, submitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54 (10 CFR Part 54), to renew the operating license for Cooper Nuclear Station for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). On May 8, 2009, the NRC audit team completed the regulatory audit of the scoping and screening methodology used in the license renewal application. The audit report is enclosed.

If you have any questions, please contact Tam Tran at 301-415-3617 or by e-mail at Tam.Tran@nrc.gov, or Emmanuel Sayoc at 301-415-1924 or by e-mail at Emmanuel.Sayoc@nrc.gov.

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Tam Tran, Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulations

Docket No. 50-298

Enclosure:
As stated

cc w/encl: See next page

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OFFICE	PM:RPB1:DLR				
NAME	TTran (Signature)				
DATE	08/19/09				

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Letter to Stewart B. Minahan from Tam Tran dated August 19, 2009

SUBJECT: AUDIT REPORT REGARDING THE COOPER NUCLEAR STATION
UNIT 1, LICENSE RENEWAL APPLICATION (TAC NO. MD9763)

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Cooper Nuclear Station

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Cooper Nuclear Station

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U.S. NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION - DIVISION OF LICENSE RENEWAL

Docket No: 50-298

License No: DPR-46

Licensee: Nebraska Public Power District

Facility: Cooper Nuclear Station

Location: Nebraska Public Power District
72676 648A Avenue
Brownville, NE 68321

Dates: May 4-8, 2009

Approved By: Rajender Auluck, Chief
Engineering Review Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulation

ENCLOSURE

SCOPING AND SCREENING METHODOLOGY TRIP REPORT FOR THE COOPER NUCLEAR STATION LICENSE RENEWAL APPLICATION

I. Introduction

During the week of May 4-8, 2009, the Division of License Renewal, Engineering Review Branch 2, performed an audit of the Nebraska Public Power District (the applicant) license renewal scoping and screening methodology developed to support the license renewal application (LRA) for the Cooper Nuclear Station (CNS). The audit was performed at the applicant's facility located in Brownville, Nebraska. The focus of the staff's audit was 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 (AMPs), quality practices used by the applicant to develop the LRA, and training of personnel that developed the LRA.

The regulatory bases for the audit were Title 10 of the *Code of Federal Regulations*, Part 54 (10 CFR Part 54), "Requirements for Renewal of Operating Licenses for Nuclear Power Plants," and NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," Revision 1 (SRP-LR). In addition, the applicant developed the LRA in accordance with Nuclear Energy Institute (NEI) 95-10, "Industry Guidelines for Implementing the Requirements of 10 CFR 54 – The License Renewal Rule," Revision 6 (NEI 95-10) which the U.S. Nuclear Regulatory Commission (NRC) has endorsed via Regulatory Guide 1.188, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses" (RG 1.188).

II. Background

10 CFR 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) subject to an aging management review (AMR) from the SSCs that are included within the scope of license renewal. 10 CFR 54.4(a) identifies the plant SSCs within the scope of license renewal. SSCs within the scope of license renewal are screened to determine if they are long-lived, passive equipment that is subject to an AMR in accordance with 10 CFR 54.21(a)(1).

III. Scoping Methodology

The scoping evaluations for the CNS LRA were performed by the applicant's license renewal project personnel. 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 whether the scoping methodology outlined in the LRA and implementation procedures were appropriately implemented and whether the scoping results were consistent with current licensing basis requirements.

The audit team also reviewed a sample of system scoping results for the following systems and structures: (1) plant drains, (2) emergency diesel generator, (3) main steam, and (4) the turbine building. The audit team determined that the applicant's scoping methodology was generally consistent with the requirements of the Rule for the identification of SSCs that meet the scoping criteria of 10 CFR 54.4(a). However, the audit team determined that additional information was required in order for the staff to complete its review:

- The staff performed a walk-down of the turbine building and determined that the basement portion, which contains high-energy, fluid-filled, nonsafety-related systems, was not included within the scope of license renewal although there is a direct open path from the basement to higher elevations, which contain safety-related SSCs. The staff determined that the nonsafety-related, fluid-filled SSCs were not located in a separate space from safety-related SSCs as described in LRA Section 2.1.1.2.2. The staff requested that the applicant describe the methods used and the basis for conclusions, in determining to not include nonsafety-related, fluid-filled SSCs within the scope of license renewal when located in the same space as safety-related SSCs.
- The staff determined that the license renewal drawings identified certain piping as being within the scope of license renewal in accordance with 10 CFR 54.4(a)(1) up to a room or building boundary (wall). However, the drawing does not indicate that the attached piping on the opposite side of the wall is within the scope of license. The staff requested that the applicant address whether all nonsafety-related piping, attached to safety-related piping at room boundaries and extending beyond the room which contains the safety-related piping, was included within the scope of license renewal up to and including a seismic anchor or bounding condition.

IV. 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 AMR (screening). The applicant provided the audit team 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 (1) plant drains, (2) emergency diesel generator, (3) main steam, and (4) the turbine building. The audit team noted that the applicant's screening process was performed in accordance with its written requirements and was consistent with the guidance provided in the SRP-LR and NEI 95-10. The audit team determined that the screening methodology was consistent with the requirements of the Rule for the identification of SSCs that meet the screening criteria of 10 CFR 54.21(a)(1).

V. Aging Management Program Quality Assurance Attributes

The audit team reviewed the applicant's AMPs described in Appendix A, "Updated Safety Analysis Report Supplement," and Appendix B, "Aging Management Programs and Activities," of the CNS LRA for inclusion of the appropriate quality assurance (QA) requirements for elements No. 7 (corrective action), No. 8 (confirmation process), and No. 9 (administrative controls). In addition, the audit team reviewed each individual AMP basis document to ensure consistency in the use of the QA attributes for each program. The purpose of this review was to ensure that the aging management activities were consistent with the staff's guidance described in SRP-LR, Section A.2, "Quality Assurance for Aging Management Program (Branch Technical Position IQMB-1)."

Based on the audit team's evaluation, the descriptions and applicability of the AMPs and their associated quality attributes, provided in Appendix A, Section A.1.1, "Aging Management Programs," and Appendix B, Section B.0.3, "Corrective Actions, Confirmation Process and Administrative Controls," of the LRA, were determined to be generally consistent with the staff's position regarding QA for aging management.

VI. Quality Assurance Controls Applied to LRA Development

The staff reviewed the quality controls used by the applicant to ensure that scoping and screening methodologies used to develop the LRA were adequately implemented. The applicant utilized the following quality control processes during the LRA development:

- The scoping and screening methodology was governed by written procedures and guidelines.
- The LRA was examined by the applicant's team in a structured self assessment.
- The LRA was examined by internal assessment teams including a plant operation review committee, and a peer review validation; both of which included different levels of plant and organizational management.
- The LRA was examined by external assessment teams including peer reviews done by teams of personnel from other license renewal applicants.
- Comments received through the assessment process were addressed and managed by peer and management review.

The audit team determined, on the basis of its review of reports and LRA development guidance, discussion with the applicant's license renewal personnel, and a review of the applicant's documentation of the activities performed to assess the quality of the LRA, that the applicant's quality assurance activities provide assurance that LRA development activities were performed consistently with the applicant's license renewal program requirements.

VII. 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 applied in a consistent and appropriate manner. The applicant required training for all personnel participating in the development of the LRA and used only trained and qualified personnel to prepare the scoping and screening implementing procedures. The training included the following activities:

- Engineering supervisors had prior experience supplemented with classroom training and computer based training.
- Contractor staff had previous license renewal experience from other sites and performed a general review of the CNS License Renewal Project Guidelines and industry documents.
- Each member of the license renewal staff completed general license renewal requirements, project procedures, training in discipline-specific areas, as well as classroom and computer based training.
- Initial qualification was completed before the project started and included the review of the license renewal process, license renewal project guidelines, and relevant industry documents such as 10 CFR Part 54 regulations, NEI 95-10, RG 1.188, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," SRP-LR, and NUREG-1801, "Generic Aging Lessons Learned Report," Revision 1 (GALL Report).
- Electric Power Research Institute training on the fundamentals of aging degradation and management was provided to engineering supervisors and staff.

The staff reviewed the applicant's written procedures and documentation of training activities and determined that the applicant had developed and implemented adequate procedures to control the training of personnel performing LRA activities.

VIII. Final Briefing

A final briefing was held with the applicant on May 8, 2009, 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.

IX. Documents Reviewed

1. NUREG-1800, "Standard Review Plant for Review of License Renewal Applications for Nuclear Power Plants," Revision 1
2. NEI 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule," Revision 6
3. Cooper Nuclear Station – Updated Safety Analysis Report
4. Cooper Nuclear Station – Fire Hazard Analysis

5. Safe Shutdown Analysis Report
6. Technical Specifications Bases
7. LRD-01, "System & Structures Scoping Results"
8. CNS-RPT-07-AMC03, "Turbine Bldg, Process Facilities & Yard Structures"
9. CNS-RPT-07-AMC04, "Bulk Commodities"
10. CNS-RPT-07-AME01, "Electrical Screening and Aging Management Review"
11. CNS-RPT-07-AMM03, "Reactor Coolant System Pressure Boundary"
12. CNS-RPT-07-AMM06, "Residual Heat Removal System"
13. CNS-RPT-07-AMM07, "High Pressure Core Injection System"
14. CNS-RPT-07-AMM08, "Automatic Depressurization System"
15. CNS-RPT-07-AMM11, "Plant Drains"
16. CNS-RPT-07-AMM13, "Diesel Generator System"
17. CNS-RPT-07-AMM19, "MSIV Leakage Pathway"
18. CNS-RPT-07-AMM20, "Aging Management Review of the Nonsafety-Related Systems and Components Affecting Safety-Related Systems"

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