

September 15, 2006

MEMORANDUM TO: P.T. Kuo, Deputy Director
Division of License Renewal
Office of Nuclear Reactor Regulation

FROM: Hossein Hamzehee, Chief **/RA/** Bill Rogers for
Quality & Vendor Branch B
Division of Engineering
Office of Nuclear Reactor Regulation

SUBJECT: AUDIT TRIP REPORT REGARDING THE ENTERGY NUCLEAR
OPERATIONS, INC., LICENSE RENEWAL APPLICATION FOR THE
PILGRIM NUCLEAR POWER STATION, DATED JANUARY 25, 2006

Plant Name: Pilgrim Nuclear Power Station
Utility Name: Entergy Nuclear Operations, Inc.
Docket No: 50-00293 (DPR-35)
TAC No: MC9669
Review Branch: Quality & Vendor Branch B

During the week of June 6 - 9, 2006, the Quality and Vendor Branch B(EQVB) performed an audit of the Entergy Nuclear Operations, Inc.(the applicant) license renewal scoping and screening methodology developed to support the Pilgrim Nuclear Power Station license renewal application (LRA), dated January 25, 2006. The focus of the staff's audit was on 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.

Enclosure: As stated

CONTACT: Bill Rogers, NRR/DE/EQVB
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AUDIT TRIP REPORT ENTERGY NUCLEAR OPERATIONS, INC., LICENSE RENEWAL
APPLICATION FOR THE PILGRIM NUCLEAR POWER STATION, DATED
JANUARY 25, 2006

I. Introduction

During the week of June 6-9, 2006, Bill Rogers, Greg Galletti, and Steve Tingen of the Quality and Vendor Branches A & B, audited the Entergy Nuclear Operations, Inc. (the applicant) license renewal scoping and screening methodology developed to support the Pilgrim Nuclear Power Station (PNPS) license renewal application (LRA). The audit was performed at the applicant's facility outside of Plymouth, Massachusetts. The focus of the staff's audit was on 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, training for personnel that developed the LRA, and quality practices used by the applicant to develop the LRA.

II. 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," 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 (AMR) from the systems, structures, and components (SSCs) that are within the scope of license renewal. 10 CFR 54.4(a) identifies the plant 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).

III. Scoping Methodology

The scoping evaluations for the PNPS LRA were performed by the applicant's license renewal project personnel and contractor personnel. The audit team conducted detailed discussions with the applicant's license renewal project management personnel and reviewed documentation pertinent to the scoping process. The audit team assessed if the scoping methodology outlined in the LRA and implementation procedures was 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 systems and structures: Reactor Core Isolation Cooling and Yard Structures (structural review).

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 request for additional information and are briefly described below.

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- During the scoping and screening methodology audit, the NRC audit team questioned how non-accident design basis events, particularly design basis events that may not be described in the Updated Final Safety Analysis Report (UFSAR), were considered during scoping. The NRC audit team noted that limiting the review of design bases events to those described in the UFSAR accident analysis could result in omission of safety-related functions described in the current licensing basis. The audit team, therefore, requested the applicant to provide a list of the design basis events evaluated as part of the license renewal scoping process, and describe the methodology used to ensure that all design bases events (including conditions of normal operation, anticipated operational occurrences, design basis accidents, external events, and natural phenomena) were addressed during license renewal scoping.
- Based on a review of the LRA, the applicant's scoping and screening implementation procedures, and discussions with the applicant, the audit team determined that additional information is required with respect to certain aspects of the applicant's evaluation of the 10 CFR 54.4(a)(2) criteria. The audit team requested that the applicant provide supplemental information regarding how the structural boundary, which includes the portion of the non-safety piping system outside the safety-related pressure boundary and relied upon to provide structural support for the pressure boundary, was developed. Additionally, the team requested the applicant to define equivalent anchors and indicate whether equivalent anchors were used to determine any plant system structural boundary.

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 aging management review. 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 Reactor Core Isolation Cooling system and Yard Structures. The team noted that the applicant's screening process was performed in accordance with its 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," Revision 1, (LR-SRP), and the Nuclear Energy Institute (NEI) 95-10, "Industry Guidelines for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule," Revision 6, (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 NRC staff reviewed the applicant's Aging Management Programs (AMPs) described in Appendix A, "Updated Safety Analysis Report Supplement," and Appendix B, "Aging Management Programs and Activities," of the LRA, and License Renewal Project Document (LRPD)-02, "Aging Management Program Evaluation Report," Revision 1. The purpose of this review was to ensure that the quality assurance attributes

(corrective action, confirmation process, and administrative controls) were consistent with the staff's guidance described in NUREG-1800, Section A.2, "Quality Assurance for Aging Management Programs (Branch Technical Position IQMB-1)."

Based on the NRC staff's evaluation, the descriptions of the AMPs and their associated quality attributes provided in Appendix A, Section A.2.1, and Appendix B, Section B.0.3, of the LRA are consistent with the staff's position regarding quality assurance for aging management. However, the description of the corrective action attribute in Section 2.0 of LRPD-02 did not credit the 10 CFR Part 50, Appendix B, quality assurance program. Therefore, the NRC staff requested that the applicant clarify that the same corrective action program will be applied to all AMPs and that this program meets the requirements of 10 CFR Part 50, Appendix B.

VI. Quality Assurance Controls Applied to LRA Development

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

- Implementation of the scoping and screening methodology was governed by written procedures.
- The applicant reviewed previous LRA NRC requests for additional information to ensure that applicable issues were addressed in the LRA.
- The LRA was reviewed by the Off-Site and On-Site Safety Review Committees prior to submittal to the NRC.
- The applicant performed an industry peer review of the LRA.
- The applicant's QA organization performed an independent review of the LRA. The purpose of this review was to ensure that the technical information used to develop the LRA was updated and approved in accordance with the station's QA program, and that industry peer and Off-Site and On-Site Safety Review Committee issues were resolved and associated corrective actions implemented.

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

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 would be performed in a consistent and appropriate manner. The NRC 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 License Renewal Project Guidelines (LRPGs) provided the guidance and requirements for the training of the license renewal (LR) project and site personnel. The training consisted of a combination of reading and attending training sessions. The attachment specified the level of training which was required for the various groups participating in the development of the LRA and began with initial training, documented on a qualification card. The training was required for both the LR project personnel who prepared the application and for the site personnel who reviewed the application. In addition, LR refresher training was provided for the LR project and site personnel participating in the review. Refresher training included information on the LR process and information specific to the site. LR project and site personnel were required to review applicable LR regulations, NEI 95-10 and associated procedures. The applicant developed periodic production meetings in which the LR project personnel shared their knowledge and experience of a given subject with each other.

The NRC audit team reviewed completed qualification and training records of several of the applicant's LR project personnel and also reviewed completed check lists. The audit team found these records adequately documented the required training for the LR project personnel. Additionally, based on discussions with the applicant's LR project personnel during the audit, the audit team verified that the applicant's LR project personnel were knowledgeable on the LR process requirements and the specific technical issues within their areas of responsibility.

On the basis of discussions with the applicant's license renewal project personnel responsible for the scoping and screening process, and a review of selected design documentation in support of the process, the audit team concluded that the applicant's LR project personnel understood the requirements of and adequately implemented the scoping and screening methodology established in the applicant's renewal application. The audit team did not identify any concerns regarding the training of the applicant's LR project or site personnel.

VIII. Exit Meeting

A public exit meeting was held with the applicant on July 26, 2006, 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. Requests for additional information related to the applicant's scoping and screening methodology were forwarded to the applicant on July 25, 2006 (ADAMS Accession No.ML062070240).

IX. Documents Reviewed

1. AMRC-05, "Aging Management Review of Yard Structures," Revision 1.
2. AMRC-06, "Aging Management Review of Bulk Commodities," Revision 1.

3. AMRE-01, "Electrical Screening and Aging Management Reviews," Revision 2.
4. AMRM-06, "Aging Management Review of the Reactor Core Isolation Cooling System," Revision 0.
5. AMRM-26, "Aging Management Review of the Main Condenser and MSIV leakage Pathway," Revision 0.
6. AMRM-30, "Aging Management Review of Nonsafety-related Systems and Components Affecting Safety-related Systems," Revision 1.
7. ENN-MS-S-009-PNPS, "Pilgrim Site Specific Guidance and System Safety Function Sheets," Revision 0.
8. License Renewal Project Document (LRPD)-01, "System and Structure Scoping Results," Revision 0.
9. LRPD-02, "Aging Management Program Evaluation Reports," Revision 1
10. License Renewal Project Guideline (LRPG)-01, "License Renewal Project Plan," Revision 2.
11. LRPG-03, "System and Structure Scoping Methodology," Revision 2.
12. LRPG-04, "Mechanical System Screening and Aging Management Reviews," Rev. 2.
13. LRPG-05, "Electrical System Scoping, Screening and Aging Management Reviews," Rev. 2.
14. LRPG-06, "Structural Screening and Aging Management Reviews," Revision 2.
15. Letter from the NRC to ENTERGY, "REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE PILGRIM NUCLEAR POWER STATION LICENSE RENEWAL APPLICATION (TAC MC9669)," dated July 25, 2006 (ADAMS Accession No. ML062070240)
16. NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," Revision 1, dated September 2005.
17. NEI 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule," Revision 6, dated September 2005.
18. PNPS License Renewal Application, dated January 25, 2006
19. PNPS Maintenance Rule SSC Basis Documents
20. TDBD-105, Fire Protection and Appendix R Program, Rev. EA
21. TDBD-103, Environmental Qualification, Rev. E0

- 22. TDBD-122, Anticipated Transients Without Scram (ATWS) , Rev. E0
- 23. TDBD-115, Station Blackout, Rev. E0

X. Personnel Contacted During Methodology Audit

Fred Mogolesko	ENTERGY License Renewal Project Manager
Doug Ellis	ENTERGY License Renewal Licensing Engineer
David Lach	ENTERGY License Renewal Team
Ted Ivey	ENTERGY License Renewal Team
Alan Cox	ENTERGY License Renewal Team
Brian Ford	ENTERGY Licensing Manager
Stan Batch	ENTERGY License Renewal Team
Jill Brochu	PNPS License Renewal Team
David Wells	PNPS Licensing Engineer
Brian Sullivan	PNPS P&C Engineering Manager
Bill Riggs	PNPS Projects Manager
Ram Subbaratnam	NRC License Renewal Project Manager, NRR
Devender Reddy	NRC/NRR/DLR
Linh Tran	NRC/NRR/DLR
Kent Howard	NRC/NRR/DLR
Jacob Zimmerman	NRC/NRR/DLR, Branch Chief
Kim Green	ISL, Inc. (NRC Contractor)
Clifford Marks	ISL, Inc. (NRC Contractor)