



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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November 9, 2004

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

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

SUBJECT: AUDIT TRIP REPORT REGARDING THE CONSTELLATION ENERGY
GROUP APPLICATION FOR LICENSE RENEWAL FOR THE NINE
MILE POINT NUCLEAR STATION, UNITS 1 AND 2, DATED MAY 27,
2004 (TAC No.s MC3272, MC3273)

Plant Name: Nine Mile Point Nuclear Station, Units 1 and 2
Utility Name: Constellation Energy Group
Docket No.(s): 50-220 (DPR-63)
50-410 (NPF-69)
TAC No.(s): MC3272
MC3273
Review Branch: IPSB
Review Status: Pending resolution of identified issues

From September 27 - October 1, 2004, the Plant Support Branch (IPSB) performed an audit of the Constellation Energy Group (the applicant) license renewal scoping and screening methodology developed to support the Nine Mile Point Nuclear Station, Units 1 and 2 license renewal application (LRA) dated May 27, 2004. 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. A trip report containing a summary of the audit results is attached.

Should you require additional information, please contact Greg Galletti, of my staff, at 415-1831.

Attachment: As stated

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**TRIP REPORT REGARDING THE CONSTELLATION ENERGY GROUP APPLICATION FOR
LICENSE RENEWAL FOR THE NINE MILE POINT NUCLEAR STATION, UNITS 1 AND 2,
DATED MAY 27, 2004 (TAC No.s MC3272, MC3273)**

I. Introduction

From September 27 - October 1, 2004, Greg Galletti, Bill Rogers, Paul Prescott, and Steve Tingen of the Plant Support Branch, and Ngoc Le, License Renewal Projects staff, audited the Constellation Energy Group (the applicant) license renewal scoping and screening methodology developed to support the Nine Mile Point Nuclear Station, Units 1 and 2 (Nine Mile) license renewal application (LRA). The audit was performed at the applicant's facility in Lycoming, New York. 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.

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 systems, structures, and components (SSCs) within the scope of license renewal. Structures and components (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 Nine Mile LRA were performed by the applicant's license renewal project personnel and contractors from Constellation Nuclear Services (CNS). 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: Feedwater/High Pressure Coolant Injection and Reactor Building (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 draft request for additional information and are briefly described below.

- During the scoping and screening methodology audit, the NRC staff questioned how non-accident design basis events, particularly design basis events that may not be described in the 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 staff therefore, requested the applicant 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.

- During the audit, the applicant described the process used to evaluate components classified as safety-related that did not perform a safety-related intended function. As part of the process, the applicant stated that the safety-classification of many safety-related components was re-evaluated in order to reconcile differences between scoping determinations and facility database information. The staff requested a description of the process used during license renewal scoping activities to disposition components classified as safety-related that do not perform a safety-related intended function
- As part of the LRA review, the NRC staff evaluates the scope and depth of the applicant's document review to provide assurance that the scoping methodology considered all SSC intended functions. In reviewing the LRA and scoping and screening implementation procedures, the NRC staff was unable to determine the extent that the CLB was reviewed during the development of the system description and intended function evaluations performed during the scoping phase of the review. As a result, the staff requested the applicant describe the methodology used to develop system descriptions and identify the system intended functions and identify which CLB source documents were used for these activities. Additionally, as a result of discussions with the Nine Mile Point license renewal project team during the scoping and screening methodology audit, it was identified that an electronic document database was used to identify CLB documents pertinent to the development of system descriptions and identification of system intended functions. The staff requested the applicant describe the controls and processes, including proceduralized controls, used to ensure that the electronic current licensing basis document database was complete and accurate.
- Based on a review of the license renewal application (LRA), the applicant's scoping and screening implementation procedures, and discussions with the applicant, the staff 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 staff requested the applicant provide supplemental information regarding the definition of equivalent anchor and a description of how the first seismic anchor was identified for NSR pipe attached to SR pipe, within the scope of license renewal. The staff also requested confirmation that

the NSR piping, associated plant equipment, and their supports, up to and including the first seismic anchor, were within the scope of license renewal and subject to aging management review. The staff requested the applicant identify if plant equipment that provides a structural support function to the nonsafety-related piping, is within scope of renewal and subject to an AMR.

As part of the 10 CFR 54.4(a)(2) review the staff also requested the applicant address the basis for potentially excluding certain nonsafety-related SSCs from within scope based on the determination that the nonsafety-related SSCs cannot prevent the accomplishment of a safety-related function since the nonsafety-related SSC causes the SR SSC to attain a fail-safe state.

- During the NRC's scoping and screening methodology audit, the applicant identified several Technical Position Papers as a documentation source for license renewal scoping under 10 CFR 54.4(a)(3). During the audit, the NRC staff was informed by the applicant that two technical position papers (ATWS, and SBO) had not been adequately reviewed and incorporated into the LRA during the LRA verification activities. Based on the above discrepancy, the staff requested the applicant provide a description of the methodology used to develop technical position papers, and describe the actions taken to ensure that both the Unit 1 and the Unit 2 LR Scoping and Screening Reports adequately address the new ATWS and SBO design basis documents, as well as any potentially affected LRA sections.
- The staff reviewed the applicant's methodology for scoping and screening of electrical and I&C components. The staff found that the procedures related to electrical and I&C scoping and screening lacked sufficient detail to determine if the applicant's methodology was adequate for scoping and screening of electrical and I&C components. As a result the staff requested the applicant provide a detailed description of the methodology used for the scoping and screening of electrical and I&C components.
- During the audit, the applicant was unable to adequately describe the evaluation that was performed to determine if any insulation installed in the plant was required to support any system intended functions identified during the scoping process. As a result the staff requested that the applicant describe any intended functions performed by insulation or the basis for determining that insulation (e.g. piping insulation) did not meet the scoping criteria described in 10 CFR 54.4(a)(1), (a)(2) or (a)(3).

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

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 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 Feedwater/HPCI and Reactor Building. The team noted that the applicants screening process was performed in accordance with their written requirements and was consistent with the guidance provided in the staff's LR-SRP and the NEI 95-10, Revision 3 document. 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).

V. Aging Management Program Quality Assurance Attributes

The audit team evaluated the quality attributes of the applicant's Aging Management Program (AMP) activities described in Appendix A, "FSAR Supplement," and 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. However, the team determined that the applicant has not sufficiently described the AMP quality attributes in the Appendix A, "FSAR Supplement," A request for additional information has been initiated in order to complete the review of quality assurance attributes associated with the AMPs credited for managing aging effects described in LRA Appendix A.

The NRC staff reviewed the applicant's aging management programs described in Appendix A, "Safety Analysis Report Supplement," and Appendix B, "Aging Management Programs and Activities," of the Nine Mile Point license renewal application. The purpose of this review was to assure that the aging management activities 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)," regarding quality assurance attributes of aging management programs.

Based on the staff's evaluation, the descriptions and applicability of the plant-specific aging management programs and their associated quality attributes provided in Appendix B.1.3 of the LRA are consistent with the staff's position regarding quality assurance for aging management. However, the applicant has not sufficiently described the use of the quality assurance program and its associated attributes (corrective action, confirmation process, and administrative controls) in the discussions provided for aging management programs described in Appendix A.1, "NMP1 Updated Final Safety Analysis Report (UFSAR) Supplement," and Appendix A.2, "NMP2 Updated Safety Analysis Report (USAR) Supplement."

The staff requested that the applicant supplement the descriptions in the Appendix A.1 and A.2 to include a description of the quality assurance program attributes, including references to pertinent implementing guidance as necessary, which are credited for the programs described in Appendix B.1.3 of the LRA. The descriptions in Appendix A.1 and A.2 should provide sufficient information for the staff to determine if the quality attributes for the Appendix A.1 and A.2 aging management programs are consistent with the review acceptance criteria contained in NUREG-1800, Section A.2, "Quality Assurance for Aging Management Programs (Branch Technical Position IQMB-1)."

VI. 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.
- Although much of the LRA development was performed by contractors, the applicant developed procedures to govern the conduct of owner acceptance reviews of contractor work products. For example, License Renewal Project Guidelines LRG-08 "Work Product Review Guideline," Revision 7, and LRG-09 "Site Review Guideline," Revision 5, described the process used by the applicant and CNS to review license renewal project documents developed by the CNS staff. Documents subject to this acceptance review included scoping and screening Review reports, aging management review reports, time-limited aging analyses, and aging management program attribute and alternatives reports.
- The LRA was reviewed and approved by the Nuclear Safety Review Board (SRAB) and the Plant Operation Review (SORC) prior to submittal to the NRC. Additionally, the applicant developed procedural guidance for a final review of the LRA prior to submittal to the NRC.
- The applicant planned to retain certain license renewal documents, such as aging management reports, individual system scoping reports, time-limited aging analyses, and topical reports, as quality records or controlled documents.
- The applicant performed an industry peer review and several quality assurance assessments of license renewal activities.

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 screening and scoping of SSCs for licensee renewal was accomplished by CNS personnel. The CNS LRA team included personnel who had gained previous LR experience working on the Calvert Cliffs 1 & 2 LRA. The CNS LRA team was supplemented with additional CNS staff that were provided with LR specific training. The purpose of the training was to provide a framework for ensuring that the staff assigned to the technical portion of the LRA acquired a fundamental level of knowledge of the LR process and

regulatory requirements. The training program for this staff consisted of “check-outs” administered by personnel with prior LRA experience, required reading of selected documents, and lectures by staff experienced in various LRA topics. A “check-out” is defined as a short interview between a qualification trainee and a subject matter expert to determine an adequate understanding of a particular subject. With the exception of CNS personnel with prior LR experience, a training qualification record for each CNS person that was assigned to LR was compiled and maintained as part of the application development process.

The results of the scoping and screening activities accomplished by CNS personnel were reviewed by NMC personnel. Personnel with prior experience on LRA preparation provided lectures on such topics as, scoping, boundaries, screening, AMRs, and TLAA. A Check list was developed and used by NMC personnel to complete their reviews. The check list provided general guidance on what was required to be reviewed. Reviewers were required to use the check list and the check lists were maintained as a permanent record.

The audit team reviewed completed qualification and training records of several of the applicant’s LR staff and also reviewed completed check lists. The audit team did not identify any adverse findings. Additionally, based on discussions with the applicant’s LR personnel during the audit, the team verified that the applicant’s LR staff 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 team 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 staff 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 significant concerns regarding the training of the applicant’s license renewal project team or contractors.

VIII. Exit Meeting

A public exit meeting was held with the applicant on October 1, 2004, 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 NRR License Renewal and Environmental Impacts Program Director on October 29, 2004 (ADAMS Accession No. ML043080420).

IX. Documents Reviewed

LRG-01	“License Renewal Project General Guidance,” Revision 2
LRG-02	“License Renewal Scoping and Screening,” Revision 4
LRG-04	“Aging Management Review for Electrical Commodities,” Revision 2
LRG-08	“Work Product Review Guideline,” Revision 7
LRG-09	“Site Review Guideline,” Revision 5
LRG-10	“License Renewal Application Guideline,” Revision 6
NAI-IRG-01	“License Renewal Project,” Revision 00
	“Nine Mile Point Unit 2 Scoping and Screening Aging Management Review NSR Piping,” Revision 1

NIP-DES-02	“Safety Classification of Items and Activities,” Revision 7
NER-1E-024	“Identification of NMP1 Offsite Power Station Blackout (SBO) Scope Addition Components for License Renewal,” Revision 0
NER-2E-028	“Identification of System and Components Required for Anticipated Transient Without Scram (ATWS),” Revision 1
NER-2E-029	“Identification of NMP2 Offsite Power Station Blackout (SBO) Scope Addition Components for License Renewal, Revision 0

X. Personnel Contacted During Methodology Audit

Peter Mazzaferro	NMP/Constellation Energy LR Project Manager
Mike Fallin	CNS
Dennis Vandeputte	NMP/Constellation Energy Licensing
Paul Eddy	NYS PSC
Mark Flaherty	Constellation Energy
William Holston	Constellation Energy
Bill Scott	Constellation Nuclear Services
Tom Hoppe	Constellation Nuclear Services
David Dellario	Constellation Energy
Ernie Taormina	Constellation Energy
Ngoc Le	NRC License Renewal Project Manager, NRR
Daniel Merzke	NRC License Renewal Project Manager, NRR
Gordon Hunegs	NRC Senior Resident Inspector, Nine Mile Point Nuclear Station
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