

September 29, 2009

Mr. Jon Franke, Vice President
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15760 W. Power Line Street
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SUBJECT: SCOPING AND SCREENING AUDIT REPORT REGARDING THE CRYSTAL
RIVER UNIT 3 NUCLEAR GENERATING PLANT LICENSE RENEWAL
APPLICATION (TAC NO. ME0274)

Dear Mr. Franke:

By letter dated December 16, 2008, Florida Power Corporation submitted an application for renewal of operating license DPR-72 for the Crystal River Unit 3 Nuclear Generating Plant. The staff of the U.S. Nuclear Regulatory Commission (NRC or the staff) is reviewing this application in accordance with the guidance in NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants."

During the week of June 23, 2009, the staff led a project team responsible for auditing and reviewing the applicant's administrative controls governing implementation of the license renewal application (LRA) scoping and screening methodology. The staff reviewed the technical basis for selected scoping and screening results for various plant systems, structures, and components. In addition, the staff reviewed quality attributes for aging management programs, quality practices used during LRA development, and the training for personnel that developed the LRA. A summary of the audit and review results is enclosed for your information. No specific action or written response is required.

If you have any questions, please contact me by telephone at 301-415-3733 or by e-mail at Robert.Kuntz@nrc.gov.

Sincerely,

/RA/

Robert F. Kuntz, Sr. Project Manager
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosure:
As stated

cc w/encl: See next page

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Letter to Jon Franke from Robert F. Kuntz dated September 29, 2009

SUBJECT: SCOPING AND SCREENING AUDIT REPORT REGARDING THE CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT LICENSE RENEWAL APPLICATION (TAC NO. ME0274)

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**CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT
LICENSE RENEWAL APPLICATION
SCOPING AND SCREENING METHODOLOGY
AUDIT REPORT**

I. Introduction

During the period of June 23-26, 2009, the Division of License Renewal, Engineering Review Branch 2, performed an audit of the Florida Power Corporation, doing business as Progress Energy Florida, Inc. (the applicant), license renewal scoping and screening methodology developed to support the license renewal application (LRA) for Crystal River Unit 3 Nuclear Generating Plant (CR-3). The audit was performed at the applicant's facility located in Crystal River, Florida. 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," (Regulatory Guide 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. SCs 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 CR-3 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.

ENCLOSURE

The audit team also reviewed a sample of system scoping results for the followings systems and structures: emergency feedwater, alternate AC diesel generator, complex chilled water, and 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 determined that there were components and supports located in the turbine building, identified as safety-related in the equipment data base, which were not included within the scope for license renewal in accordance with 10 CFR 54.4(a)(1). The staff requested that the applicant provide the basis for not including the safety-related SSC's and supports, located within the turbine building, in accordance with 10 CFR 54.4(a)(1).
- The staff requested that the applicant provide a discussion on the methodology used to determine the portion of nonsafety-related pipe, attached to safety-related SSC's, where the nonsafety-related pipe extends beyond the space or structure containing the nonsafety-related/safety-related interface, to be included within the scope of license renewal in accordance with 10 CFR 54.4(a)(2).
- The staff determined that the applicant had performed an evaluation to not include fluid filled nonsafety-related SSC's located in specific portions of structures, which also contained safety-related SSC's, within the scope of license renewal. The staff requested that the applicant provide the basis for not including fluid-filled nonsafety-related SSC's, located in the same space as safety-related SSC's, within the scope of license renewal in accordance with 10 CFR 54.4(a)(2).
- The staff identified several open penetrations in a wall connecting the turbine building to the intermediate building. The staff requested that the applicant provide the basis for not including fluid-filled nonsafety-related SSC's, located in the turbine building, which have the potential to interact with safety-related SSC's located within the intermediate building, within the scope of license renewal in accordance with 10 CFR 54.4(a)(2).

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 emergency feedwater, alternate AC diesel generator, complex chilled water, and 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, "Final Safety Analysis Report Supplement," and Appendix B, "Aging Management Programs," of the CR-3 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 Activities," and Appendix B, Section B.1.3, "Quality Assurance Program 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 were performed in accordance with corporate procedures
- 10 CFR 50 Appendix B was applied to basis documents
- NEI 95-10, Revision 6 methodology was applied in implementing the process with a few exceptions
- System level reviews were performed using FSAR/CLB documents along with design basis documents and the engineering database (EDB)
- Extensive basis documents were prepared as calculations/evaluations to plant procedures
- Basis documents were retained in the Document Control System
- Written procedures were developed to govern the implementation of the scoping and screening methodology
- Component level reviews of EDB data were performed to complement system reviews
- Lessons learned from prior license renewal were incorporated into the application

- Previous NRC requests for additional information were also reviewed to ensure that applicable issues were addressed

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 the scoping and screening implementing procedures.

- All license renewal engineers were qualified to perform calculations and design verifications
- The majority of the staff had completed multiple applications
- All license renewal engineers were enrolled in engineering support personnel training
- The applicant's training process provided both instruction and written guidance documents to the personnel involved with LRA development in order to ensure that the personnel had an understanding of the license renewal procedures, industry guidance and regulations applicable to the scoping and screening activities and LRA development
- The applicant developed technical training in scoping and screening methodology to establish the necessary knowledge and understanding of the license renewal process and the terminology used to support the license renewal review. The applicant's management and staff also participated in industry groups and task forces
- Engineering supervisors had prior experience supplemented with classroom training and mentoring from an NEI task force, working groups, and peers
- Initial qualifications were completed before the project began 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, Regulatory Guide 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)

Based on discussions with the applicant's license renewal personnel responsible for the scoping and screening process, and a review of selected documentation in support of the process, the NRC audit team determined that the applicant's personnel understood the requirements and adequately implemented the scoping and screening methodology established in the applicant's renewal application

VIII. Final Briefing

A final briefing was held with the applicant on June 26, 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 Plan 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. CNS-LRPG-2, "System and Structure Scoping"
4. CNS-LRPG-3, "Mechanical System Screening and Aging Management Reviews"
5. CNS-LRPG-4, "Electrical System Screening and Aging Management Reviews"
6. CNS-LRPG-5, "Structural Screening and Aging Management Reviews"

X. NRC Audit Team Members

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Bennett Brady	NRR/DLR	Garry Armstrong	NRR/DSS
Daniel Mills	NRR/DLR	Don Copinger	ORNL
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XI. Applicant Personnel Contacted During Audit

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Tom Atkinson	PGN	Robert Reynolds	PGN
Jeff Lane	PGN	Michael Fletcher	PGN
Wayne Bichlmeir	PGN	Tony Ploplis	PGN
Christopher Mallner	PGN	Blair Wunderly	PGN