UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 8, 2015

Mr. Michael P. Gallagher
Vice President, License Renewal Projects
Exelon Generation Company, LLC
200 Exelon Way
Kennett Square, PA 19348

SUBJECT: SCOPING AND SCREENING METHODOLOGY AUDIT REPORT REGARDING LASALLE COUNTY STATION, UNITS 1 AND 2 (TAC NOS. MF5347 AND MF5346)

Dear Mr. Gallagher:

By letter dated December 9, 2014, Exelon Generation Company, LLC (Exelon) submitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54, to renew the operating licenses NPF-11 and NPF-18 for LaSalle County Station (LSCS), Units 1 and 2, respectively. On March 13, 2015, the staff of the U.S. Nuclear Regulatory Commission (NRC) completed the on-site audit of the license renewal scoping and screening methodology. The audit report is enclosed.

If you have any questions, please contact me by telephone at 301-415-3019 or by e-mail at Jeffrey.Mitchell2@nrc.gov.

Sincerely,

***/RA/***

Jeffrey S. Mitchell, Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-373 and 50-374

Enclosure:
As stated

cc w/encl: Listserv

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| DATE | 4/28/15 | 5/7/15 | 5/7/15 | 5/8/15 | 5/8/15 |

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Letter to Michael P. Gallagher from Jeffrey S. Mitchell dated May 8, 2015

SUBJECT: SCOPING AND SCREENING METHODOLOGY AUDIT REPORT REGARDING LASALLE COUNTY STATION, UNITS 1 AND 2 (TAC NOS. MF5347 AND MF5346)

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V. Mitlyng, RIII
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**SCOPING AND SCREENING METHODOLOGY TRIP REPORT FOR THE LASALLE COUNTY STATION, UNITS 1 AND 2 LICENSE RENEWAL APPLICATION**

## I. Introduction

The Division of License Renewal performed an audit of the Exelon Generation Company, LLC (Exelon, the applicant), LaSalle County Station, Units 1 and 2 (LaSalle), license renewal scoping and screening methodology, developed to support the LaSalle license renewal application (LRA). The audit was performed during the week of March 9 through 13, 2015, at the applicant's LaSalle County Station facility, located in LaSalle County, Illinois. The purpose of the audit was to review the applicant's administrative controls governing implementation of the scoping and screening methodology and the technical basis for selected scoping and screening results for various plant systems, structures, and components (SSCs). The audit team also reviewed the quality assurance elements of aging management programs (AMPs), selected examples of component material types, information contained in the applicant's corrective action database relevant to plant-specific age related degradation, quality practices applied during development of the LRA, and the training of personnel that participated in the development of the LRA.

The regulatory bases for the audit are Title 10 of the *Code of Federal Regulations*, Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants," (10 CFR Part 54) and NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," Revision 2 (SRP-LR). In addition, the applicant developed the LRA in accordance with the guidance contained in 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). Which, the 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

Title 10 of the *Code of Federal Regulations*, paragraph 54.21, "Contents of Application – Technical Information," requires that each application for license renewal contain an integrated plant assessment (IPA). The IPA must list, for SSCs within the scope of license renewal, the structures and components (SCs) that are subject to an aging management review (AMR). The criteria for inclusion of SSCs that are within the scope of license renewal are provided by 10 CFR 54.4(a), "Scope," and 10 CFR 54.21(a)(1) requires that SCs within the scope of license renewal that are determined to be passive and not periodically replaced, are subject to an AMR.

## III. Scoping Methodology

The scoping evaluations for the LRA were performed by the applicant's license renewal project personnel. The audit team conducted detailed discussions with the applicant's management and staff. In addition, the audit team reviewed documentation pertinent to the scoping process.

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The audit team assessed whether the scoping methodology outlined in the LRA and implementing procedures was appropriately applied and consistent with the requirements of 10 CFR Part 54 and NRC endorsed industry guidance.

Verification of Scoping and Screening Results for Sampled Systems and Components

The audit team reviewed a sample of the scoping and screening implementation for portions of the essential cooling water system and corresponding structures. The staff reviewed applicable portions of the Updated Final Safety Analysis Report (UFSAR), scoping and screening reports, and license renewal drawings and performed a walkdown to confirm information contained in the LRA.

In addition, the audit team conducted a review of selected components from the applicant's controlled plant equipment database to confirm the results of the applicant's determination of whether the components were within the scope of license renewal and subject to an AMR. The audit team reviewed the selected components, which included mechanical, electrical and structural components; using the UFSAR, system information and piping and instrumentation drawings to perform its review. The controlled plant component database, which provided a list of components, was a primary source of information used during the license renewal scoping and screening process, including scoping and screening reviews, AMRs, and assignment of aging management programs (AMP).

The NRC staff independently selected a random sample of 85 components from the approximately 218,271 components listed in the plant equipment database and reviewed the component information to determine whether the components were appropriately included within the scope of license renewal and determined to be subject to an AMR. The staff reviewed the component information including the component name, system, function, tag number, location and other documentation. The applicant had included 67 of the 85 randomly selected components within the scope of license renewal and determined the components to be subject to an AMR. The applicant had determined 18 components were either not within the scope of license renewal or not subject to an AMR (because the component was active or replaced on a periodic basis). The NRC staff reviewed the applicable component information and determined that the applicant's conclusion that the eighteen components were not required to be within the scope of license renewal or subject to an AMR, as applicable, was in accordance with the applicant's methodology and the requirements of 10 CFR Part 54.

## IV. Screening Methodology

The audit team reviewed the methodology used by the applicant to determine if mechanical, structural, and electrical structures and components within the scope of license renewal would be subject to an AMR (screening). The applicant provided the audit team with a detailed discussion of the processes used for each discipline. The audit team reviewed the applicable implementing procedures and reports and focused on a sample of the documentation for essential cooling water and corresponding structures. 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 10 CFR Part 54 for the identification of SSCs that meet the screening criteria of 10 CFR 54.21(a)(1).

## V. Component Material

The staff performed a review to confirm a sample of the component material information contained in the LRA. The NRC staff independently selected a random sample of 35 components from the "Summary of Aging Management Evaluations" tables contained in Section 3 of the LRA. The staff verified the information either during a walkdown or through review of the applicant's reference documents. The reference documents included the UFSAR; plant system and design drawings; and component vendor manuals. The staff was able to visually inspect 16 of the 35 selected components.

The staff confirmed that the material type of the 35 components was consistent with information contained in the LRA.

## VI. Site-Specific Operating Experience

The SRP-LR provides guidance to the staff on the process to be followed when assessing the ten program elements for each AMP submitted in an LRA. Operating experience (OE) is one of the ten elements and is defined in the SRP-LR and the GALL Report. The site-specific and industry OE also relates to two other AMP elements: detection of aging effects and monitoring and trending. The SRP-LR addresses the importance of the applicant's specific OE in relation to AMRs and time-limited aging analysis activities.

The staff performed an independent search of the applicant's corrective action report database, using staff selected keywords, to identify occurrences of age related degradation. The staff identified corrective action reports that contained information concerning age related degradation that would be used by the staff during the performance of the AMP audit.

## VII. Aging Management Program Quality Assurance Attributes

The audit team reviewed the AMP quality assurance elements to verify consistency with the staff's guidance described in SRP-LR, Appendix A, "Branch Technical Positions," Section A.2, "Quality Assurance for Aging Management Programs (Branch Technical Position IQMB-1)." The AMP quality assurance elements are corrective action, confirmation process, and administrative controls.

The applicant described the AMP quality assurance elements in LRA Appendix A, Section A.1.5, "Quality Assurance Program and Administrative Controls," LRA Appendix B, Section B.1.3, "Quality Assurance Program and Administrative Controls," and the individual AMPs. LRA Appendices A and B stated that the applicant's existing 10 CFR 50 Appendix B Quality Assurance Program corrective action, confirmation process, and administrative controls requirements are applicable to all SSCs subject to AMPs and activities required during the period of extended operation.

The audit team reviewed the AMPs and confirmed that the AMPs incorporate corrective action programs, confirmation processes, and administrative controls. The AMPs did not identify any exceptions to the application of 10 CFR Part 50, Appendix B to the QA program elements. Based on the audit team's evaluation, review of the AMPs and information contained in LRA Appendix A, Section A.1.5 and Appendix B, Section B.1.3, the staff determined the AMP quality

assurance elements to be consistent with the staff's position regarding QA for aging management.

## VIII. Quality Assurance Controls Applied to LRA Development

The staff reviewed the quality controls used by the applicant during development of the LRA, which included:

- Performing scoping and screening activities using approved documents and procedures.
- Using databases to guide and support scoping and screening and to generate license renewal documents.
- Employing the standard processes for scoping, screening, and LRA preparation.
- Using processes and procedures that incorporate preparation, review, comment, and owner acceptance.
- Incorporating industry lessons learned and RAIs from other plan license renewals.
- Performed external assessments including a peer review and benchmarking to recent license renewal applications.
- Performed internal management assessments.

The audit team performed a review of implementing procedures and guides, examined the applicant's documentation of activities in reports, reviewed the applicant's activities performed to assess the quality of the LRA, and held discussions with the applicant's license renewal management and staff. The audit team determined that the applicant's activities provide assurance that the LRA was developed consistent with the applicant's license renewal program requirements.

## IX. Training for License Renewal Project Personnel

The staff reviewed the applicant's training processes used to ensure the guidelines and methodology for the scoping and screening activities were applied in a consistent and appropriate manner. As outlined in procedures, the applicant required training for personnel participating in the development of the LRA, including preparation of the basis documents, scoping and screening implementing procedures, and scoping and screening reports.

Training was performed and documented in accordance with the requirements of the Training and Reference Materials (T&RM) LR-AA-1004, "Job Familiarization of License Renewal Project Team and Site Personnel," for corporate and site personnel.

Personnel training and qualification included the following subjects:

- license renewal process orientation
- license renewal TRMs, basis documents and technical references
- license renewal database
- scoping process
- screening process
- applicable site documentation
- previous license renewal application and lessons learned

The staff discussed training activities with the applicant's management and staff and reviewed applicable documentation. The audit team determined that the applicant had developed and implemented adequate controls for the training of personnel performing LRA activities.

## X. Final Briefing

A final briefing was held with the applicant on March 13, 2015, to discuss the results of the scoping and screening methodology audit.

## XI. Documents Reviewed

1. NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," Revision 2
2. NEI 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 The License Renewal Rule," Revision 6
3. License Renewal Application – LaSalle County Station, Units 1 and 2
4. LR-AA-1004 Job Familiarization of License Renewal Project Team and Site Personnel
5. LR-AA-1301 License Renewal Process and Definitions
6. LR-AA-1302 Preparation of Basis Documents
7. LR-AA-1303 License Renewal Document Control
8. LR-AA-1305 Scoping of Systems and Structures
9. LR-AA-1306 Screening of Systems, Structures, and Commodities
10. LR-AA-1307 License Renewal Boundary Drawings

11. LA-SSBD-SSL License Renewal Systems and Structures
12. LA-SSBD-AOT Abnormal Operational Transients
13. LA-SSBD-A1 10 CFR 54.4(a)(1) Safety-Related Systems
14. LA-SSBD-A2 10 CFR 54.4(a)(2) System Scoping Criteria
15. LA-SSBD-TBA2 Evaluation of Safety-Related Components Located in Nonsafety-Related Structures
16. LA-SSBD-FP Fire Protection
17. LA-SSBD-EQ 10 CFR 54.4(a)(3) Environmental Qualification Systems
18. LA-SSBD-ATWS 10 CFR 54.4(a)(3) ATWS Systems
19. LA-SSBD-SBO 10 CFR 54.4(a)(3) Station Blackout Systems

## XII. NRC Audit Team Members and Management

| | |
|---|---|
| Chris Miller | Director, Division of License Renewal (DLR) |
| Brian Wittick | Chief, Projects Branch 2, DLR |
| Jeffrey Mitchell | DLR |
| Bill Rogers | DLR |
| Angela Buford | DLR |
| Donald Brittner | DLR |
| Edward Smith | Division of Safety Systems (DSS) |
| Tarico Sweat | DSS |
| Jim Nickolaus | NRC Contractor |

## XIII. Applicant Personnel Contacted During Audit

| | |
|---|---|
| Mike Gallagher | Vice President, License Renewal Projects, Exelon |
| Al Fulvio | Manager, License Renewal (LR), Exelon |
| Chris Wilson | Licensing Lead, Exelon LR |
| Shannon Rafferty-Czincilla | Technical Lead, Exelon LR |
| Cortney Scheidt | Site Lead, Exelon LR |
| Christine Kinkead | Project Manager, Exelon LR |
| Wayne Choromanski | Civil / Structural Engineer, Exelon LR |
| David Clohecy | Civil / Structural Engineer, Exelon LR |
| John Kozakowski | Mechanical Engineer, Exelon LR |
| Jim Jordan | Mechanical Engineer, Exelon LR |
| Mary Kowalski | Mechanical Engineer, Exelon LR |
| Mark Miller | Mechanical Engineer, Exelon LR |
| Mike Guthrie | Mechanical Engineer (TLAA), Exelon LR |
| Deb Spamer | Electrical Engineer, Exelon LR |
| Peter Karaba | Site Vice President, LaSalle County Station (LSCS) |
| Harold Vinyard | Plant Manager, LSCS |
| John Keenan | Operations Director, LSCS |
| Andy Schierer | Engineering Programs Manager, LSCS |
| Guy Ford | Regulatory Assurance Manager, LSCS |
| Mike Fitzpatrick | Manager of Operations Support, LSCS |
| Larry Blunk | Principle Regulatory Specialist, LSCS |