



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

August 28, 2015

LICENSEE: Exelon Generation Co., LLC

FACILITY: LaSalle County Station, Units 1 and 2

SUBJECT: SUMMARY OF TELECON HELD ON JUNE 9, 2015, BETWEEN THE NRC AND EXELON GENERATION CO., LLC, CONCERNING REQUEST FOR ADDITIONAL INFORMATION SET 5 PERTAINING TO THE LASALLE COUNTY STATION LICENSE RENEWAL APPLICATION (TAC NOS. MF5347 AND MF5346)

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Exelon Generation Co., LLC (Exelon or the applicant) held a telephone conference call on June 9, 2015, to discuss and clarify the staff's draft requests for additional information (DRAIs) provided in Enclosure 2 concerning the LaSalle County Station, Units 1 and 2, license renewal application. The telephone conference call was useful in clarifying the intent of the staff's DRAIs.

Enclosure 1 provides a listing of the participants and Enclosure 2 contains the DRAIs discussed with the applicant, including a brief description on the status of the items.

The applicant had an opportunity to comment on this summary.

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

Enclosures:

1. List of Participants
2. Summary of Telephone Conference Call

cc: Listserv

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ADAMS Accession Number: **ML15217A541**

*Concurred via e-mail

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Memo to Exelon Generation Co. from J. Mitchell dated August 28, 2015

SUBJECT: SUMMARY OF TELECON HELD ON JUNE 9, 2015, BETWEEN THE NRC AND EXELON GENERATION CO., LLC, CONCERNING REQUEST FOR ADDITIONAL INFORMATION SET 5 PERTAINING TO THE LASALLE COUNTY STATION LICENSE RENEWAL APPLICATION (TAC NOS. MF5347 AND MF5346)

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TELEPHONE CONFERENCE CALL
LASALLE COUNTY STATION, UNITS 1 AND 2
LICENSE RENEWAL APPLICATION

LIST OF PARTICIPANTS
JUNE 9, 2015

PARTICIPANTS

AFFILIATION

Jeff Mitchell	U.S. Nuclear Regulatory Commission (NRC)
Caty Nolan	NRC
Roger Kalikian	NRC
Jim Medoff	NRC
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Shannon Rafferty-Czincila	Exelon
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Mike Guthrie	Exelon
Mark Miller	Exelon
Mary Kowalski	Exelon

SUMMARY OF TELEPHONE CONFERENCE CALL
LASALLE COUNTY STATION, UNITS 1 AND 2
LICENSE RENEWAL APPLICATION
JUNE 9, 2015

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Exelon Generation Co., LLC (Exelon or the applicant) held a telephone conference call on June 9, 2015, to discuss and clarify the following draft requests for additional information (DRAIs) concerning the LaSalle County Station, Units 1 and 2 license renewal application (LRA).

DRAI B.2.1.10-1

Background:

GALL Report AMP XI.M17, "Flow-Accelerated Corrosion," as modified by LR-ISG-2012-01, "Wall Thinning Due to Erosion Mechanisms," states that the program relies on implementation of NSAC-202L, "Recommendations for an Effective Flow-Accelerated Program," Revision 2 or Revision 3. LRA Section B.2.1.10 states that the LaSalle County Station, Units 1 and 2 (LSCS) Flow-Accelerated Corrosion program is based on NSAC-202L, Revision 3. However, during the AMP Audit, it was disclosed that, after the submission of the LRA, the program was being revised to incorporate the guidance in NSAC-202L, Revision 4. The staff noted that NSAC-202L, Revision 4 was issued by the Electric Power Research Institute (EPRI) in November 2013, and this revision has not been previously considered in a license renewal safety evaluation.

Issue:

The staff noted that NSAC-202L, Revision 4 contains alternate recommendations, including several new wear rate evaluation methods and guidance for system evaluation exclusion using a reduced trace chromium content. For the new wear rate evaluation methods, the staff noted that the references cited in NSAC-202L, Revision 4 were not publicly available. The Nuclear Energy Institute provided additional information related to this aspect by letter dated November 5, 2014, (Reference ADAMS Accession Nos. ML14309A700 and ML14309A702).

For the trace chromium content exclusion, NSAC 202L, Revision 3 had previously included discussions about trace chromium content; however, the exclusion only applied after initial inspections confirmed that wear was not occurring. NSAC-202L, Revision 4 now incorporates an exclusion from evaluation for similar trace amounts of chromium without these initial inspections by noting "Experience has shown...." The staff notes that EPRI 1008047, "Flow-Accelerated Corrosion Investigations of Trace Chromium," was published in 2003, but it is not clear to the staff what bases support the experience aspect being cited in NSAC-202L, Revision 4 to justify the change.

Request:

As a result of LSCS's recent change to the implementation guidance for the Flow-Accelerated Corrosion program from that described in the LRA, provide the necessary program element changes that delineate and justify the inconsistencies with GALL Report AMP XI.M17. For the

ENCLOSURE 2

trace chromium system evaluation exclusion, provide information relating to the fleet or plant-specific experience that supports the basis for this change.

Teleconference Summary:

The applicant did not have any questions regarding this RAI.

DRAI B.2.1.23-2

Background:

GALL Report AMP XI.M35 states under the “detection of aging effects” program element that the one-time inspection program does not apply to plants that have experienced cracking in ASME Code Class 1 small-bore piping due to stress corrosion, cyclical (including thermal, mechanical, and vibration fatigue) loading, or thermal stratification and thermal turbulence. LRA Section B.2.1.23 states that LSCS has not experienced this type of cracking. However, the LRA also states that the applicant’s review identified two issues with ASME Code Class 1 small-bore piping welds during startup of LaSalle County Station, Unit 1, in 1983. The LRA further states that a pinhole leak was identified on a LaSalle County Station, Unit 2, ASME Code Class 1 small-bore socket weld in 2005. The LRA states that the pinhole leak was caused by an inclusion or defect in a repair weld performed in 1995.

Issue:

The staff reviewed the two issues identified for Unit 1 and noted that for both events, cracking was noted at a socket weld connection. Analyses of these events in 1983 revealed that the most likely cause of the event was an improper weld application or installation. However, the analyses did not yield a specific procedural non-compliance, but noted that the selected post weld heat treatment and filler metal selection was less than optimal. The analyses also noted that vibration may have contributed to crack propagation.

The staff also reviewed the leakage event identified for Unit 2, in 2005. The staff noted that the leakage occurred at the same location as the two cracking events identified for Unit 1 in 1983. The staff also noted that the 2005 event was attributed to a possible weld defect from a prior repair performed in 1995. It was assumed that a subsurface inclusion or porosity existed from the 1995 repair, which resulted in leakage in 2005.

Based on its review of the available information, the staff determined that the documented failures were very likely age-related, caused by vibration and/or thermal fatigue.

Request:

Provide information in terms of metallurgical analysis to support the determination that the multiple socket weld failures described above do not constitute failures of ASME Code Class 1 small-bore piping due to cyclical mechanical or thermal fatigue.

If the above failures of ASME Code Class 1 small-bore socket welds could be attributed to vibration or thermal fatigue, provide a plant-specific program that includes periodic inspections;

otherwise, justify how the One-time Inspection of ASME Code Class 1 Small-Bore Piping program will adequately manage cracking consistent with the guidance provided in the GALL Report AMP.

Teleconference Summary:

The applicant did not have any questions regarding this RAI.

DRAI 4.1-1

Background:

In LRA Table 4.1-1, the applicant identifies that the current licensing basis (CLB) does not include any Time Limited Aging Analyses (TLAAs) associated with a flow-induced vibration limit for reactor vessel internal (RVI) components at LSCS.

Issue:

Updated Final Safety Analysis Report (UFSAR) section 3.9.2.4 indicates that flow-induced vibrations of the RVI components were assessed as part of a pre-operational testing program and that the results of the program were summarized in General Electric (GE) Report No. NEDO-24057-P, "Assessment of Reactor Internals Vibration in BWR/4 and BWR/5 Plants," dated November, 1977. However, the staff noted that the UFSAR does not indicate whether the methodology in GE Report No. NEDO-24057-P included a time-dependent analysis for qualifying the structural integrity of the RVI components against the consequences of age-related effects caused by flow-induced vibrations.

Request:

Clarify whether the methodology in GE Report No. NEDO-24057-P included a time-dependent analysis, and if so, whether the analysis is relied upon to qualify the structural integrity of the RVI components against the consequences of aging effects caused by flow-induced vibrations. If the analysis is time-dependent, identify the aging effects and justify why the analysis would not need to be identified as a TLAA, when compared to the six criteria for qualifying analyses as TLAAs in 10 CFR 54.3(a).

Teleconference Summary:

The applicant did not have any questions regarding this RAI.

DRAI 4.1-3

Background:

In LRA Section 4.1.2, the applicant states that it reviewed those exemptions previously granted in accordance with the requirements in 10 CFR 50.12 that apply to LSCS. The applicant states that none of the exemptions were associated with or supported by TLAAs. Therefore, the

applicant stated that no further evaluation of these exemptions is required by the regulation in 10 CFR 54.21(c)(2).

Issue:

1. The operating licenses for LSCS identify that the applicant was granted specific exemptions from the requirements in 10 CFR Part 50, Appendix G, which is the rule that applies to the performance of mandated time-dependent pressure-temperature limit (P-T limit) and upper shelf energy (USE) analyses. The applicant was granted specific exemptions from meeting the requirements for certain types of containment leak rate testing activities under 10 CFR Part 50, Appendix J. However, neither the LRA nor the operating licenses specify what these exemptions involved. Therefore, the staff does not currently have sufficient information to make a determination as to whether these exemptions (as granted under 10 CFR 50.12) were based on a TLAA.
2. By letter dated November 8, 2000 (ADAMS Accession No. ML003771016), the staff granted specific exemptions in accordance with 10 CFR 50.12 to use analytical methods in ASME Code Cases N-640 and N-588 for P-T limit calculations of LSCS. In previous submittals, Exelon identified that these types of exemptions met the requirements in 10 CFR 54.21(c)(2). However, Exelon has not identified that the identical exemptions for LSCS meet the criteria in 10 CFR 54.21(c)(2).

Request:

1. Identify all exemptions granted in accordance with the requirements of 10 CFR Part 50, Appendix G, and 10 CFR Part 50, Appendix J. For each exemption:
 - (a) describe what the exemption involves and clarify whether the basis for the exemption relates to any methodologies for performing TLAA calculations or evaluations in the LRA.
 - (b) justify why any specific exemption from the particular requirement in 10 CFR Part 50, Appendix G, or 10 CFR Part 50, Appendix J, would not need to be: (a) identified as an exemption that was granted in accordance with 10 CFR 50.12 and is based on a TLAA, and (b) evaluated in accordance with the exemption evaluation requirements that are specified in 10 CFR 54.21(c)(2).
2. Justify why exemptions to use ASME Codes N-640 and N-588 at LSCS have not been identified as exemptions granted in accordance with 10 CFR 50.12 and are based on a TLAA.

Teleconference Summary:

The staff clarified request to "identify all exemptions," and agreed to modify the wording to refer to the exemptions listed in the operating licenses from 10 CFR Part 50, Appendix G, or 10 CFR Part 50, Appendix J in the final RAI.