



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

July 17, 2017

Mr. Bryan C. Hanson  
Senior Vice President  
Exelon Generation Company, LLC  
President and Chief Nuclear Officer (CNO)  
Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 – REQUEST FOR ADDITIONAL INFORMATION CONCERNING PERMANENT EXTENSION OF TYPE A AND TYPE C LEAK RATE TEST FREQUENCIES, SET NO. 2 (CAC. NOS. MF9675 AND MF9676) (RS-17-051)

Dear Mr. Hanson:

By letter dated April 27, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17121A449), Exelon Generation Company, LLC (EGC) submitted a license amendment request for Quad Cities Nuclear Power Station, Units 1 and 2. The proposed amendment would modify Technical Specification 5.5.12, "Primary Containment Leakage Rate Testing Program," to allow for the permanent extension of the Type A Integrated Leak Rate Testing (ILRT) and Type C Leak Rate Testing frequencies.

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing your submittal and has determined that additional information is required to complete the review. The specific information requested is addressed in the enclosure to this letter. A draft request for additional (RAI) was transmitted by email to Mr. Mitch Mathews on July 7, 2017. A clarification call was not requested. Please note that the requests are numbered 7 and 8. An RAI with requests 1 through 6 was previously transmitted to you by letter dated June 29, 2017. Based on a discussion with Mr. Ken Nicely, it was agreed that EGC will provide a response to the RAI within 30 days from the date of this letter.

The NRC staff considers that timely responses to requests for additional information help ensure sufficient time is available for staff review and contribute toward the NRC's goal of efficient and effective use of staff resources.

B. Hanson

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If circumstances result in the need to revise the requested response date, please contact me at (301) 415-1627.

Sincerely,

A handwritten signature in black ink, appearing to read "Kimberly J. Green". The signature is fluid and cursive, with the first name being the most prominent.

Kimberly J. Green, Senior Project Manager  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-254 and  
50-265

Enclosure:  
Request for Additional Information, Set No. 2

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION, SET NO. 2

EXELON GENERATION COMPANY, LLC

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2

DOCKET NOS. 50-254 AND 50-265

By letter dated April 27, 2017, Exelon Generation Company, LLC (EGC), submitted a license amendment request (LAR) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17121A449). The proposed amendment would modify Technical Specification 5.5.12, "Primary Containment Leakage Rate Testing Program," to allow for the permanent extension of the Type A Integrated Leak Rate Testing and Type C Leak Rate Testing frequencies. The additional information below is needed to support the U.S. Nuclear Regulatory Commission (NRC) staff's continued technical review of the license amendment request.

**RAI 7**

Background

Title 10 of the *Code of Federal Regulations* (10 CFR) 50, Appendix J, Option B, requires a general visual inspection of the containment prior to each Type A test and at a periodic interval between tests. Nuclear Energy Institute 94-01, Revision 3-A, recommends these inspections be performed in conjunction with the American Society of Mechanical Engineers (ASME) Code, Section XI, Subsection IWE, required examinations. Section 3.5.2 of the LAR indicates that Quad Cities Nuclear Power Station (QCNPS) will use the required ASME Code examinations to meet the Appendix J requirement regarding visual inspections.

The regulation at 10 CFR 50.55a(b)(2)(ix)(A) imposes a condition on the use of ASME Code, Section XI, Subsection IWE, which requires licensees to evaluate the acceptability of inaccessible metal containment areas when conditions exist in accessible areas that could indicate the presence of, or result in degradation to, such inaccessible areas.

Issue

Table 3.5-3 of the LAR summarizes the results of the ASME Code, Section XI, Subsection IWE, metal containment inspections performed over the last three outages. The table notes that both units have identified recordable indications on the moisture barrier; however, no discussion is provided regarding the containment behind the moisture barrier. A degraded moisture barrier could indicate the presence of degradation in the inaccessible areas behind the moisture barrier.

It is not clear to the NRC staff how EGC determined that the degraded moisture barrier did not allow moisture to contact the containment and cause degradation in an inaccessible area.

Request

Summarize the results of any 10 CFR 50.55a(b)(2)(ix)(A) evaluations associated with noted moisture barrier indications, or explain how EGC determined that the inaccessible portions of the containment were not impacted and that an evaluation was not necessary.

**RAI 8**

Background

Appendix J to 10 CFR 50, Option B, requires a general visual inspection of the containment prior to each Type A test and at a periodic interval between tests for indications of structural deterioration that may impact leak-tightness. Section 3.6.5 of the LAR notes that inspections of the sand pocket region and drywell liner area are conducted at QCNPS during each refueling outage. Table 3.6.5-1 of the LAR summarizes the results of the last two inspections.

Issue

Table 3.6.5-1 Note (2) of the LAR, related to Unit 1, states that there is leakage but that the leakage is not from the drains and appears to be groundwater leakage with no structural impact. Note (4), related to Unit 2, indicate issues with groundwater leakage. From the notes, it appears the leakage is an ongoing issue.

It is not clear to the staff how EGC determined that the leakage is groundwater and that the leakage is not impacting the structural integrity or leak-tightness of the containment.

Request

For both units, explain how EGC determined that the identified leakage is groundwater and that the leakage is not impacting the structural integrity or leak-tightness of the containment.

SUBJECT: QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 – REQUEST FOR ADDITIONAL INFORMATION CONCERNING PERMANENT EXTENSION OF TYPE A AND TYPE C LEAK RATE TEST FREQUENCIES, SET NO. 2 (CAC. NOS. MF9675 AND MF9676) (RS-17-051) DATED JULY 17, 2017

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**ADAMS Accession No. ML17198A229**

**NRR-106**

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