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

May 15, 2019

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 - SUPPLEMENTAL INFORMATION NEEDED FOR ACCEPTANCE OF LICENSE AMENDMENT REQUEST TO INCREASE MAIN STEAM ISOLATION VALVE ALLOWABLE LEAKAGE RATES (EPID L-2019-LLA-0045)

Dear Mr. Hanson:

By letter to the U.S. Nuclear Regulatory Commission (NRC or Commission) dated March 5, 2019, Exelon Generation Company, LLC (Exelon) submitted a license amendment request for Quad Cities Nuclear Power Station, Units 1 and 2. The proposed amendment would increase the main steam isolation valve (MSIV) allowable leakage rates, credit the residual heat removal drywell spray system and add a new technical specification, and adopt Technical Specification Task Force traveler (TSTF)-551. The proposed changes are based, in part, on a revised radiological consequences analysis of the design basis loss-of-coolant accident.

The purpose of this letter is to provide the results of the NRC staff's acceptance review of this amendment request. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), whenever a holder of a license, including a construction permit and operating license under this part, and an early site permit, combined license, and manufacturing license under 10 CFR Part 52 of this chapter, desires to amend the license or permit, application for an amendment must be filed with the Commission, as specified in Sections 50.4 or 52.3 of this chapter, as applicable, fully describing the changes desired, and following as far as applicable, the form prescribed for original applications. Section 50.34 of 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

The NRC staff has reviewed your application and concluded that the information delineated in the enclosure to this letter is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed amendment request in terms of regulatory requirements and the protection of public health and safety and the environment.

In order to make the application complete, the NRC staff requests that Exelon supplement the application to address the information requested in the enclosure by May 31, 2019. This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the above date, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its review activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

The information requested and associated time frame in this letter were discussed with Ms. Rebecca Steinman of your staff on May 13, 2019.

If you have any questions, please contact me at (301) 415-1627.

Sincerely,

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:
As stated

cc: ListServ

SUPPLEMENTAL INFORMATION NEEDED

LICENSE AMENDMENT REQUEST TO INCREASE MAIN STEAM LINE ALLOWABLE

LEAKAGE RATE

EXELON GENERATION COMPANY, LLC

AND

MIDAMERICAN ENERGY COMPANY

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2

DOCKET NOS. 50-254 AND 50-265

In its letter to the U.S. Nuclear Regulatory Commission (NRC or Commisssion) dated March 5, 2019 (Agencyywide Documents Access and Management System (ADAMS) Accession No. ML19064B369), Exelon Generation Company, LLC (Exelon, the licensee) submitted a license amendment request (LAR) for the Quad Cities Nuclear Power Station, Units 1 and 2. The proposed amendment would:

- Revise the combined main steam isolation valve (MSIV) leakage rate limit for all four steam lines and the leakage rate through each MSIV in TS 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)," surveillance requirement (SRs) 3.6.1.3.10.

- Add new Technical Specification (TS) 3.6.2.6, "Residual Heat Removal (RHR) Drywell Spray," which includes the limiting conditions for operation (LCO), actions, and SRs.

- Adopt Technical Specification Task Force (TSTF)-551, "Revise Secondary Containment Surveillance Requirements," Revision 3, which revises TS 3.6.4.1, "Secondary Containment," SR 3.6.4.1.1.

The regulation at Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36(a)(1) requires an applicant for an operating license to include in the application proposed TSs in accordance with the requirements of 10 CFR 50.36. The applicant must include in the application, a "summary statement of the bases or reasons for such specifications, other than those covering administrative controls." However, per 10 CFR 50.36(a)(1), these TS bases "shall not become part of the technical specifications."

10 CFR 50.36(b) requires:

> Each license authorizing operation of a . . . utilization facility . . . will include technical specifications. The technical specifications will be derived from the analyses and evaluation included in the safety analysis report, and amendments thereto, submitted pursuant to 10 CFR 50.34 ["Contents of applications; technical information"]. The Commission may include such additional technical specifications as the Commission finds appropriate.

The regulation at 10 CFR 50.36(c)(3) requires SRs which relate to test, calibration, or inspection and assures that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCO will be met.

The NRC staff's guidance for review of TSs is in Chapter 16, "Technical Specifications," of NUREG-0800, Revision 3, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," dated March 2010 (ADAMS Accession No. ML100351425).

The Standard Technical Specifications (STS) in NUREG-1433, "Standard Technical Specifications, General Electric BWR/4 Plants," Revision 4.0 (ADAMS Accession No. ML12104A192) does not contain an LCO for the RHR drywell spray system. The STS does contain a similar system LCO which is the RHR suppression pool spray in STS 3.6.2.4. However, the STS do not assume the RHR suppression pool spray system performs the specified safety function of fission product removal following a design basis accident. It is written with pressure and temperature reduction of the primary containment as its specified safety function.

The following supplemental information is requested:

1. Proposed TS 3.6.2.6 Condition C, does not propose to exit the mode of applicability, and instead requests a Mode 3 end state. In the STS this end state was established by TSTF-423 which includes licensee commitments. Because a loss-of-coolant accident (LOCA) is probable in Mode 3 and the RHR drywell spray system is credited for fission product removal following a design basis loss of coolant accident, a technical evaluation is necessary that explains why Mode 3 end state should be applied to TS 3.6.2.6 Condition C. Any licensee commitments should also be discussed in your response. Provide a technical evaluation explaining why a Mode 3 end state should be applied to TS 3.6.2.6, Condition C.

2. STS LCO 3.6.2.4, allows an 8-hour completion time when a loss of safety function occurs, based upon the presence of alternative methods to perform the lost safety function. Proposed TS 3.6.2.6, Condition B, allows a loss of system function for 8 hours. However, the NRC staff cannot find a technical evaluation that explains the alternative methods to perform the function which supports this request in the LAR. Therefore, provide a technical evaluation that explains the alternative methods to perform the function which supports a loss of safety function in TS 3.6.2.6, Condition B.

3. The regulation at 10 CFR 50.36 states that SRs assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCO will be met. However, the NRC staff did not find a technical evaluation that explains how the proposed SRs assure that the system design requirements will be maintained (e.g., flow rates assumed in the radiological consequence analysis will be maintained). Therefore, provide a technical evaluation that explains each SR that is necessary to meet the LCO and discuss how the SR maintains the system and its components consistent with the safety functions credited in the new LOCA analysis.

4. The SR frequencies in proposed TS 3.6.2.6 all state, "In accordance with the Surveillance Frequency Control Program." However, the following information is missing from the LAR:

a. The new SRs base surveillance frequency intervals for inclusion into the surveillance frequency control program.

b. Discussion of whether the new surveillance test intervals can be modeled in the plant specific PRA.

c. A discussion of the request to include the new SRs into the previously approved surveillance frequency control program (ADAMS Accession No. ML102920260).

Provide a technical evaluation that discusses the above information.

5. An implementation schedule (e.g., the first performance is due at the end of the first surveillance interval, which begins on the date of implementation of this amendment) for the new SRs intervals in TS 3.6.2.6 was not included in the LAR. Provide the implementation schedule for the new SRs intervals and why it is appropriate.

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ADAMS Accession No.: ML19134A279 ***via email**

OFFICE	NRR/DORL/LPL3/PM	NRR/DORL/LPL3/LA	NRR/DSS/STSB/BC*
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DATE	5/15/19	5/15/19	4/4/19
OFFICE	NRR/DORL/LPL3/BC	NRR/DORL/LPL3/PM	
NAME	DWrona	KGreen	
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