



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

January 9, 2018

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: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3, AND QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 — SUPPLEMENTAL INFORMATION NEEDED FOR ACCEPTANCE OF LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATION REQUIREMENTS FOR SECONDARY CONTAINMENT (EPID L-2017-LLA-0379)**

Dear Mr. Hanson:

By application dated November 8, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17312A364), Exelon Generation Company, LLC (Exelon, the licensee) submitted a license amendment request for Dresden Nuclear Power Station (DNPS), Units 2 and 3, and Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2. The proposed amendments would revise the technical specification requirements for the secondary containment at each of these facilities. The application also included similar requests for Clinton Power Station, Unit No. 1; LaSalle County Station, Units 1 and 2; Limerick Generating Station, Units 1 and 2; and Nine Mile Point Nuclear Station, Unit 2. However, these requests are being reviewed separately and are not within the scope of this letter.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an amendment to the license (including the technical specifications) must fully describe the changes requested, 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 U.S Nuclear Regulatory Commission (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 in terms of regulatory requirements and the protection of public health and safety and the environment.

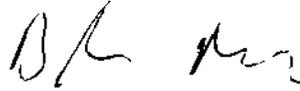
In order to make the application complete, the NRC staff requests that Exelon supplement the application to address the information requested in the enclosure by January 26, 2018. This will enable the staff to begin its detailed technical review. If the information responsive to the staff's request is 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 Patrick R. Simpson and other members of your staff on January 8, 2018.

If you have any questions, please contact me at (301) 415-1380.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Purnell", is written above the typed name.

Blake Purnell, Project Manager  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-237, 50-249, 50-254,  
and 50-265

Enclosure:  
Supplemental Information Needed

cc: Listserv

SUPPLEMENTAL INFORMATION NEEDED

LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATION

REQUIREMENTS FOR SECONDARY CONTAINMENT

DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2

DOCKET NOS. 50-237, 50-249, 50-254, AND 50-265

By application dated November 8, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17312A364), Exelon Generation Company, LLC (Exelon, the licensee) submitted a license amendment request for Dresden Nuclear Power Station (DNPS), Units 2 and 3, and Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2. The proposed amendments would revise the technical specification (TS) requirements for the secondary containment at each of these facilities. The application also included similar requests for Clinton Power Station, Unit No. 1; LaSalle County Station, Units 1 and 2; Limerick Generating Station, Units 1 and 2; and Nine Mile Point Nuclear Station, Unit 2. However, these requests are being reviewed separately and are not within the scope of this letter.

The application is based on a portion of Technical Specification Task Force (TSTF) Traveler TSTF-551, Revision 3, "Revise Secondary Containment Requirements" (ADAMS Accession No. ML16277A226), which was approved by the U.S. Nuclear Regulatory Commission (NRC) by letter dated September 21, 2017 (ADAMS Accession No. ML17236A367). Currently, DNPS and QCNPS surveillance requirement (SR) 3.6.4.1.1 requires the licensee to verify the secondary containment vacuum is adequate. The licensee proposes to revise SR 3.6.4.1.1 by adding the following note based on TSTF-551, Revision 3:

Not required to be met for 4 hours if analysis demonstrates one standby gas treatment (SGT) subsystem is capable of establishing the required secondary containment vacuum.

**Discussion**

Section 2.1, "Applicability of Safety Evaluation," for the model application included as part of TSTF-551, Revision 3, contains a preparer's note which states:

The proposed change is not applicable if the radiological dose consequence analysis assumes the [secondary] containment pressure is below atmospheric pressure prior to or coincident with the time at which the accident or event occurs. Such an analysis assumption would require a revised radiological dose consequence analysis considering the new release point (the open [secondary] containment doors), with appropriate atmospheric dispersion factors, and any other necessary revisions to the accident or event analysis, which is beyond the scope of the traveler.

This preparer's note applies to all the TS changes included in TSTF-551, Revision 3. The NRC staff's approval of TSTF-551, Revision 3, did not consider plants that make the assumption in their radiological dose consequence analysis that the secondary containment pressure is below atmospheric pressure prior to or coincident with the time at which the accident or event occurs. The staff's review and approval of TSTF-551, Revision 3, was for plants that have a secondary containment drawdown time.

In the model safety evaluation for TSTF-551, Revision 3, the NRC staff concluded that the note added to SR 3.6.4.1.1 would not affect the current radiological dose consequence analyses. Furthermore, the staff concluded that the fission products that bypass or leak from primary containment, or are released from the reactor coolant pressure boundary components located in secondary containment, will be contained and processed as assumed in the radiological dose consequence analyses. This conclusion was based on the staff's determination that the secondary containment can perform its safety function and may be considered operable if the conditions do not affect: (1) the ability to maintain the secondary containment pressure during an accident, at a vacuum that is consistent with the accident analyses, and (2) the time assumed in the accident analyses to draw down the secondary containment pressure. Licensees would continue to demonstrate these capabilities through the performance of SR 3.6.4.1.4 and SR 3.6.4.1.5, which require the licensee to verify the SGT can establish and maintain the required vacuum in secondary containment as assumed in the accident analysis.

By letter dated September 11, 2006, the NRC approved amendments for DNPS and QCNPS to implement a full scope alternative source term (AST) methodology (ADAMS Package Accession No. ML062070292). The licensee's application, as supplemented, for these amendments stated that the radiological dose consequence analysis for a design-bases loss-of-coolant accident (LOCA) at DNPS and QCNPS assumes the secondary containment is at a negative pressure at the beginning of the event and the SGT automatically starts and maintains the negative pressure. In addition, the analysis assumes zero drawdown time for secondary containment and that no exfiltration will occur during the LOCA sequence. In addition, the TS for DNPS and QCNPS do not include an SR to verify that secondary containment can be drawn down to the necessary vacuum within a specified time period using one SGT subsystem. Therefore, TSTF-551, Revision 3, is not applicable to DNPS and QCNPS.

### **Supplemental Information Needed**

A plant-specific justification for the proposed changes at DNPS and QCNPS is needed for the NRC staff to review the application. The staff requests that plant-specific information for DNPS and QCNPS be provided to address the following items:

1. Describe any changes to the dose consequence analysis and related assumptions that have been made since the AST methodology was approved that are relevant to this license amendment request.
2. Demonstrate that the proposed change will not result in an increase in the dose consequences and that the resulting calculated doses remain within the current radiological dose consequence analyses.
3. Demonstrate that the proposed change does not affect the ability to maintain the secondary containment vacuum, during a design-basis accident, consistent with the accident analyses.

4. Demonstrate that the proposed change does not affect the time (0 minutes) assumed in the accident analyses to draw down the secondary containment pressure.
5. In order to use the proposed note added to SR 3.6.4.1.1, an analysis must demonstrate that one SGT subsystem is capable of establishing the required secondary containment vacuum. Describe how this analysis will be performed and describe any limitations on the use of the note.
6. Unlike the standard TSs, the DNPS and QCNPS TSs do not have an SR to verify that secondary containment can be drawn down to the necessary vacuum within a specified time period using one SGT subsystem. Explain how DNPS and QCNPS will demonstrate that that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met for the secondary containment and SGT system.

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**ADAMS Accession No. ML17353A949**

\*by email

OFFICE	DORL/LPL3/PM	DORL/LPL3/LA	DRA/ARCB/BC	DSS/SBPB/BC
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