



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

July 31, 2017

Mr. Bryan C. Hanson
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: LIMERICK GENERATING STATION, UNITS 1 AND 2 – SUPPLEMENTAL
INFORMATION NEEDED FOR ACCEPTANCE OF REQUESTED LICENSING
ACTION RE: ADOPTION OF TITLE 10 OF THE CODE OF FEDERAL
REGULATIONS SECTION 50.69 (CAC NOS. MF9873 AND MF9874)

Dear Mr. Hanson:

By letter dated June 28, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17179A161), Exelon Generation Company, LLC (Exelon, the licensee) submitted a license amendment request for the Limerick Generating Station, Units 1 and 2. The proposed amendments would revise the licensing basis by adding a license condition to allow for the implementation of the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems and Components for Nuclear Power Reactors."

The purpose of this letter is to provide the results of the U.S. Nuclear Regulatory Commission (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 10 CFR 50.69, 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 NRC staff has reviewed your application and concluded that the information listed in the enclosure to this letter is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed amendments 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 August 17, 2017. 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 this 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

B. Hanson

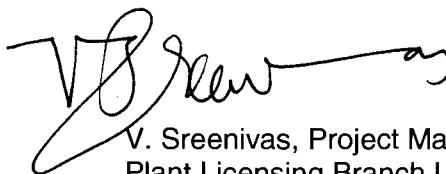
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further information needed to support the staff's detailed technical review by separate correspondence.

The information requested and associated timeframe in this letter were discussed with Mr. Glenn Stewart of your staff on July 31, 2017.

If you have any questions, please contact me at (301) 415-2597 or V.Sreenivas@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'V. Sreenivas', with a long horizontal flourish extending to the right.

V. Sreenivas, Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

Enclosure:
Supplemental Information Needed

cc w/enclosure: Distribution via Listserv

SUPPLEMENTAL INFORMATION NEEDED
LICENSE AMENDMENT REQUEST RE: ADOPTION OF
TITLE 10 OF THE CODE OF FEDERAL REGULATIONS SECTION 50.69
EXELON GENERATION COMPANY, LLC
LIMERICK GENERATING STATION, UNITS 1 AND 2
DOCKET NOS. 50-352 AND 50-353

By letter dated June 28, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17179A161), Exelon Generation Company, LLC (Exelon, the licensee) submitted a license amendment request (LAR) for the Limerick Generating Station, Units 1 and 2. The proposed amendments would revise the licensing basis by adding a license condition to allow for the implementation of the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems and Components for Nuclear Power Reactors."

The U.S. Nuclear Regulatory Commission (NRC) staff has determined that the following information is required to make the application complete:

1. The regulations in 10 CFR 50.69(c)(1)(i) require that the probabilistic risk assessment (PRA) must be (1) of sufficient quality and level of detail to support the categorization process and must be (2) subjected to a peer review process assessed against a standard or set of acceptance criteria endorsed by the NRC. Section 50.69(b)(2)(iii) of 10 CFR requires that the results of the peer review process conducted to meet 10 CFR 50.69 (c)(1)(i) criteria be submitted as part of the application. Regulatory Guide (RG) 1.200, Revision 2, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," provides guidance for determining the technical adequacy of the PRA by reviewing it against relevant parts of the ASME/ANS Standard RA-Sa-2009 using a peer review process.

While the NRC staff found the information provided in the 50.69 LAR referenced above, regarding the internal events PRA quality, to be insufficient for detailed technical review, the staff noted that the licensee submitted PRA quality information in a relief request dated April 13, 2016 (ADAMS Accession No. ML16104A122), as supplemented on September 19, 2016 (ADAMS Accession No. ML16263A218), in response to the NRC's request for additional information. In the licensee's submittal pertaining to this relief request, the licensee stated that the 2005 peer review of the internal events PRA was a full-scope peer review against RG 1.200, Revision 0, and provided results of gap assessments to RG 1.200, Revision 2. An overview of all changes to the internal events PRA performed after the 2005 peer review was also provided. This information was used to support the review of the internal events for this 50.69 LAR.

To support an effective licensing review and reduce unnecessary delays in the review, provide the following information:

- a. The LAR states that a peer review of the internal flooding PRA was performed in 2008 against RG 1.200, Revision 1, and that gap assessments to RG 1.200, Revision 2, were conducted, but no information on these gap assessments were provided in the relief request. To support the LAR statement that the internal flooding PRA model meets the requirements of RG 1.200, Revision 2, provide the gap assessment of the internal flooding PRA against RG 1.200, Revision 2.
 - b. Confirm that the peer review conducted in 2011 for the fire PRA was a full-scope peer review and followed Nuclear Energy Institute (NEI) 07-12, "Fire Probabilistic Risk Assessment (FPRA) Peer Review Process Guidelines." If the review was not a full-scope peer review, please describe the review in detail and provide all earlier findings and observations from any previous peer reviews.
 - c. Confirm that the fire PRA uses methods that have been formally accepted by the NRC staff. If there are any methods used in the fire PRA that have not been formally accepted, describe the method and provide adequate technical justification for the method.
2. The guidance in Section 5 of NEI 00-04, "10 CFR 50.69, SSC Categorization Guideline," as endorsed by RG 1.201, Revision 1, "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to Their Safety Significance," stipulates identification of any applicable sensitivity studies to be used during the categorization process that are associated with the licensee's choice of specific models and assumptions, as discussed in RG 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis." The LAR states that PRA model-specific assumptions and sources of uncertainty for this application have been identified and dispositioned but did not provide a description of the evaluated uncertainties and their disposition.

Provide the technical justification to support the LAR conclusion that no additional sensitivity analyses are required for the categorization process.

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