



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

June 17,2019

Mr. Richard W. Libra
Site Vice President
Limerick Generating Station
3146 Sanatoga Rd.
Pottstown, PA 19464

SUBJECT: ALTERNATIVE REQUEST PERTAINING TO DRY SHIELDED CANISTERS
EQUIPPED WITH BORAL® NEUTRON ABSORBER PLATES –
SUPPLEMENTAL INFORMATION NEEDED

Dear Mr. Libra:

By letter dated April 8, 2019, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19127A247), Exelon Generation Company, LLC requested approval of a one-time alternative for the Limerick Generating Station, Units 1 and 2 Independent Spent Fuel Storage Installation (ISFSI) pursuant to Standardized NUHOMS® Certificate of Compliance (CoC) 1004 Renewed, Amendment 14, Technical Specification 4.1 to use two Dry Shielded Canisters equipped with BORAL® neutron absorber plates that were subject to different acceptance testing requirements than those specified in CoC 1004 Renewed, Amendment 14. The U.S. Nuclear Regulatory Commission (NRC) staff performed an acceptance review of the application to determine if the application contains sufficient information to allow the NRC staff to complete the detailed technical review.

This letter is to advise you that, based on our acceptance review, the application does not contain sufficient information. The information needed to continue our review is described in the enclosure to this letter as a request for supplemental information (RSI). In order to schedule our technical review, the RSI response should be provided by July 8, 2019. If the RSI response is not received by this date, the review of this application may be delayed. Please reference Docket Nos. 50-352, 50-353, and 72-65 and EPID L-2019-LLA-0071 in future correspondence related to this action.

If you have any questions regarding this matter, please contact me at (301) 415-6877.

Sincerely,

/RA C. Jacobs Acting for/

Chris Allen, Project Manager
Spent Fuel Licensing Branch
Division of Spent Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket Nos. 50-352, 50-353, and 72-65
EPID. L-2019-LLA-0071

Enclosure:
Request for Supplemental Information

SUBJECT: ALTERNATIVE REQUEST PERTAINING TO DRY SHIELDED CANISTERS
EQUIPPED WITH BORAL® NEUTRON ABSORBER PLATES –
SUPPLEMENTAL INFORMATION NEEDED, DOCUMENT DATE: June 17, 2019

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ADAMS No.: ML19168A088

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NAME:	JMcKirgan (via email)			
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Request for Supplemental Information
Docket Nos. 50-352, 50-353, and 72-65

By letter dated April 8, 2019, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19127A247), Exelon Generation Company, LLC requested approval of a one-time alternative for the Limerick Generating Station, Units 1 and 2 Independent Spent Fuel Storage Installation (ISFSI) pursuant to Standardized NUHOMS® Certificate of Compliance (CoC) 1004 Renewed, Amendment 14, Technical Specification 4.1 to use of two Dry Shielded Canisters equipped with BORAL® neutron absorber plates that were subject to different acceptance testing requirements than those specified in CoC 1004 Renewed, Amendment 14. This request for supplemental information (RSI) letter identifies information needed by the staff in connection with its review of the application. NUREG-1536, "Standard Review Plan for Dry Cask Storage Systems," Revision 1, was used by the staff in its review of the application. Each individual RSI describes information needed by the U.S. Nuclear Regulatory Commission (NRC) staff to complete its review of the application to determine whether the applicant has demonstrated compliance with the regulatory requirements.

Materials Review

1. Provide justification for 95% confidence level that 95% of the Boral material in the subject DSCs complies with the required Boron-10 content for Amendment 14 of the CoC 72-1004 and supports the conclusions in Section 3.0 of Enclosure 6, Appendix A, of the application.

The applicant made conclusions regarding the adequacy of the Boral material in the two (2) subject dry shielded canisters (DSCs) upon considering the non-compliance with some of the requirements per the Technical Specifications of Amendment 14 of CoC 72-1004. The applicant justified these conclusions by citing the reduced design-basis credit for the assumed Boron-10 concentration in the criticality safety analyses. Therefore, the staff considers that these conclusions are solely based on engineering judgement without presenting an appropriate statistical analysis based on operating experience. This approach is insufficient for the staff to make conclusions on adequate performance of the Boral material in the subject DSCs.

The applicant is asked to provide justification, such as an operating experience assessment with a rigorous statistical analysis, that:

- a) identifies any non-conformances on the Boron-10 content per measurements on the approved sampling rate of every 2000 square inches of product. The assessment should justify that decreasing the sample rate (to every 3200 square inches of product) does not reasonably increase the risk of non-conformance; and,
- b) identifies the uncertainty in Boron-10 content as measured by wet chemistry and isotopic analysis relative to neutron attenuation measurements. This uncertainty should still provide an adequate safety margin upon considering the reduced design-basis credit of Boron-10 in the criticality analyses.

The information is needed to verify compliance with 10 CFR 72.124(a) and (b).