



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

January 11, 2016

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 – PROPOSED
LICENSE CONDITION REGARDING THE SPENT FUEL POOL NUCLEAR
CRITICALITY SAFETY ANALYSIS METHODOLOGY (CAC NOS. MF5734 AND
MF5735)

Dear Mr. Hanson:

By application dated December 30, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14364A100), as supplemented by letters dated July 30, 2015 and October 15, 2015, ADAMS Accession Nos. ML15215A336 and ML15288A160, respectively, Exelon Generation Company, LLC (EGC, the licensee) submitted a license amendment request for Dresden Nuclear Power Station (DNPS), Units 2 and 3, to change the nuclear criticality safety (NCS) analysis methodology for the DNPS spent fuel pools (SFPs). Additionally, the licensee's submittal proposes a change to the DNPS Technical Specification (TS) 4.3.1, "Criticality," in support of the new NCS methodology.

The NRC staff identified concerns with the NCS modelling and assumed uncertainties as well as the affect these may have to ensure that the TS value of $k_{\text{eff}} < 0.95$ continues to be met. In response, the licensee provided in the supplement dated October 15, 2015, additional margin in some areas of the NCS model and committed to a Boral coupon surveillance program to confirm that the Boron-10 (B^{10}) areal density of the neutron-absorbing material (NAM) remains equal to or greater than the minimum areal density described in the NCS analysis of record. It should be noted that the B^{10} areal density serves as a significant input into the determination of the TS limiting k_{eff} . The coupon surveillance program is also intended to ensure that no other degradation mechanism has any impact on the ability of the NAM to perform its design function. To ensure that the B^{10} areal density of the BORAL remains at or above its minimum credited value and that the regulatory requirement to maintain the TS value of $k_{\text{eff}} < 0.95$, the NRC staff finds it necessary to require implementation of a SFP BORAL coupon surveillance program. Therefore, the NRC is proposing that the DNPS, Units 2 and 3 Renewed Facility Operating License Nos. DPR-19 and DPR-25 be amended to include the following license condition:

Upon implementation of amendments 249 and 242, Exelon Generation Company shall have established and will maintain a coupon surveillance program to assess the degree of degradation, if any, of the neutron-absorbing material. This program shall:

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1. Ensure that coupon measurements of B¹⁰ areal density are performed by a qualified laboratory;
2. Ensure that the coupons are removed for evaluation every 10 years;
3. Ensure that should any coupon be identified as failing the minimum certified B¹⁰ areal density criterion based on coupon test results, EGC will perform in-situ testing to confirm that the minimum B¹⁰ areal density (0.02 g/cm²) is met for all panels installed in the DNPS spent fuel pools; and
4. Submit a report to the NRC within 90 days following the completion of evaluations associated with Item 3 above. The report shall include; a description of the testing results, the assessments performed, and the interim and long-term corrective actions for abnormal indications.

To support the proposed review schedule, EGC is requested to submit a supplement to the December 30, 2014 submittal, accepting the license condition as proposed in this letter. However, it should be noted, that EGC acceptance does not constitute completion of the staff's review of the submittal.

Should you have any comments, please contact Mr. Russell Haskell at (301) 415-1129.

Sincerely,



Eva A. Brown, Senior Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-237 and 50-249

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/RA/

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