



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

April 18, 2012

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3 - REQUEST
FOR ADDITIONAL INFORMATION REGARDING LICENSE AMENDMENT
REQUEST FOR USE OF NEUTRON ABSORBING INSERTS IN SPENT FUEL
POOL STORAGE RACKS (TAC NOS. ME7538 AND ME7539)

Dear Mr. Pacilio:

By letter to the Nuclear Regulatory Commission (NRC) dated November 3, 2011, as supplemented on December 22, 2011, and April 4, 2012, Exelon Generation Company, LLC (Exelon), submitted a license amendment request for Peach Bottom Atomic Power Station, Units 2 and 3. The proposed amendment would modify the Technical Specifications to include the use of neutron absorbing spent fuel pool rack inserts for the purpose of criticality control in the spent fuel pools.

The NRC staff is reviewing your submittal and has determined that additional information is needed to complete its review. The specific questions are found in the enclosed request for additional information (RAI). The RAI questions were provided in draft form to Mr. Thomas Loomis of your staff via e-mail on March 28, 2012. The draft questions were sent to ensure that the questions were understandable, the regulatory basis for the questions was clear, and to determine if the information was previously docketed.

A conference call between the NRC staff and the Exelon staff was held on April 16, 2012, to discuss the questions. During this call, Mr. Loomis stated that Exelon would provide a response to the RAI by May 18, 2012. Please note that if you do not respond to this letter by the agreed-upon date or provide an acceptable alternate date in writing, we may reject your application for amendment under the provisions of Title 10 of the *Code of Federal Regulations*, Section 2.108.

M. Pacilio

- 2 -

If you have any questions, please contact me at (301) 415-1420.

Sincerely,

A handwritten signature in black ink, appearing to read "R B Ennis". The signature is written in a cursive, somewhat stylized font.

Richard B. Ennis, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-277 and 50-278

Enclosure:
Request for Additional Information

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REQUEST FOR ADDITIONAL INFORMATION
REGARDING PROPOSED LICENSE AMENDMENT
USE OF NEUTRON ABSORBING SPENT FUEL POOL RACK INSERTS
PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3
DOCKET NOS. 50-277 AND 50-278

By letter to the Nuclear Regulatory Commission (NRC) dated November 3, 2011, as supplemented on December 22, 2011, and April 4, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML113081441, ML113570208, and ML12096A052, respectively), Exelon Generation Company, LLC (Exelon, the licensee), submitted a license amendment request for Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3. The proposed amendment would modify the Technical Specifications to include the use of neutron absorbing spent fuel pool (SFP) rack inserts for the purpose of criticality control in the SFPs at PBAPS, Units 2 and 3.

The NRC staff is reviewing your submittal and has determined that additional information is needed to complete its review. The specific information requested is addressed below.

RAI-14: Section 3.1.3 of Attachment 1 to letter dated November 3, 2011, indicates that the functionality of the NETCO-SNAP-IN® neutron absorbing inserts at PBAPS relies on the establishment of an adequate amount of static friction between the insert wings and the walls of the PBAPS, Units 2 and 3 SFP racks. The response to Supplemental Request for Additional Information (RAI) 1, in Attachment 1 to the letter dated December 22, 2011, indicates that the minimum removal force criteria associated with the NETCO-SNAP-IN® neutron absorbing inserts is 200 pounds. State the basis for this value and how it applies to the establishment of an adequate frictional force capable of withstanding the design basis loads to which the insert may be subjected during a seismic event. Confirm that this value adequately accounts for the effects of stress relaxation which may occur in the insert, as discussed in Section 3.4.5 of the letter dated November 3, 2011.

RAI-15: The response to Supplemental RAI 4, in Attachment 1 to the letter dated December 22, 2011, details the clean pool testing which was performed to verify design criteria specific to the performance of the NETCO-SNAP-IN® inserts proposed for use at PBAPS, including insertion forces, drag forces and withdrawal forces. With respect to the testing performed for the withdrawal forces, summarize the testing performed and the results of this testing to demonstrate that the established withdrawal force acceptance criterion was satisfied. Additionally, provide a technical justification which demonstrates that the clean pool withdrawal force testing provides a sufficient means to capture the effects of stress relaxation which may influence the measured withdrawal force over long durations.

Enclosure

- RAI-16: The response to Supplemental RAI 1, in Attachment 1 to the letter dated December 22, 2011, indicates that the internal stresses developed in the NETCO-SNAP-IN® neutron absorbing inserts proposed for use at PBAPS were based, in part, on experimental data. Discuss the approach used to determine the stress distribution throughout the inserts under design basis loading combinations and state the applicability of the aforementioned experimental data to the stress analysis of the inserts. Additionally, state the basis for using the material ultimate stress as the acceptance criterion for the inserts when the inserts are subjected to the aforementioned design basis loads.
- RAI-17: Section 10.3.4.1 of the PBAPS Updated Final Safety Analysis Report (UFSAR) indicates that the PBAPS SFP racks are designed in accordance with Subsection NF of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* (Code), Section III, as stipulated by the NRC Office of Technology (OT) Position Paper, "OT Position For Review and Acceptance of Spent Fuel Storage and Handling Applications," dated April 14, 1978, amended by an NRC letter dated January 18, 1979 (NRC Generic Letters 78-11 and 79-04, respectively). The response to Supplemental RAI 1, in Attachment 1 to the letter dated December 22, 2011, indicates that the 1986 Westinghouse SFP calculation (WNEP 8542), performed to support high density SFP rack installation at PBAPS, was performed using loads which bound those which will be present following installation of the NETCO-SNAP-IN® neutron absorbing inserts. Specifically, it is noted in the letter dated December 22, 2011, that calculation WNEP 8542 utilized fuel assembly weights greater than those in use at PBAPS and those used in the NETCO analysis. Confirm that all applicable design basis requirements applicable to the existing PBAPS SFP racks, as stipulated by the provisions of Subsection NF of the ASME Code, will remain satisfied following installation of the neutron absorbing inserts. Specifically, confirm that normal and abnormal operating condition loads, including deadweight, thermal and seismic loads, are bounded by those used in the existing analysis of record such that the resulting margins of safety are positive and will continue to satisfy the requirements of the ASME Code. Additionally, confirm that the fuel-handling accident analyses discussed in Section 10.3.4.1 of the PBAPS UFSAR and required by Section IV of the OT Position Paper remain acceptable.
- RAI-18: Discuss the effect of the proposed installation of the NETCO-SNAP-IN® neutron absorbing inserts on the design basis loads (deadweight, thermal, seismic) applicable to the SFP structure, including the SFP walls, slab and the stainless steel liner. State whether the aforementioned Westinghouse SFP calculation (WNEP 8542) evaluated the PBAPS, Units 2 and 3 SFPs using loads which bound those loads which will be present following installation of the neutron absorbing inserts at PBAPS. If the design basis loads established in the Westinghouse calculation do not bound the loads which will be present following installation of the inserts, quantify the effects of the installation of the inserts and demonstrate that the design basis acceptance criteria applicable to the SFP walls, slab and liner will remain satisfied following installation.

M. Pacilio

- 2 -

If you have any questions, please contact me at (301) 415-1420.

Sincerely,

/ra/

Richard B. Ennis, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-277 and 50-278

Enclosure:
Request for Additional Information

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** concurred via email

ADAMS Accession No.: ML120870203 *concurred via memo dated 2/22/12

OFFICE	LPL1-2/PM	LPL1-1/LA**	EMCB/BC*	LPL1-2/BC
NAME	REnnis	SLittle	MMurphy	MKhanna
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