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

September 9, 2015

MEMORANDUM TO: Douglas A. Broaddus, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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

SUBJECT: PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3, DRAFT REQUEST FOR ADDITIONAL INFORMATION (TAC NOS. MF4760 AND MF4761)

The attached draft request for additional information (RAI) was transmitted on September 8, 2015, to Mr. Kevin Borton of Exelon Generation Company, LLC (Exelon, the licensee). This information was transmitted to facilitate an upcoming conference call in order to clarify the licensee's amendment request for Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, dated September 4, 2014, as supplemented by letters dated January 29, 2015, February 6, 2015, April 28, 2015, July 6, 2015, and September 4, 2015. The proposed amendment would revise the Technical Specifications (TSs) and Facility Operating Licenses to allow operation in the expanded Maximum Extended Load Line Limit Analysis Plus (MELLLA+) domain. The expanded MELLLA+ operating domain increases operating flexibility by allowing control of reactivity at maximum power by changing flow rather than by control rod insertion and withdrawal.

The draft RAI was sent to Exelon to ensure that the questions are understandable, the regulatory basis for the questions is clear, and to determine if the information was previously docketed. This memorandum and the attachment do not convey or represent an NRC staff position regarding the licensee's request.

Docket Nos. 50-277 and 50-278

Attachment: Draft RAI

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SUBJECT: PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3, DRAFT REQUEST FOR ADDITIONAL INFORMATION (TAC NOS. MF4523 AND MF4524)

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Docket Nos. 50-277 and 50-278
Attachment: Draft RAI

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ACCESSION NO.: ML15253A580

OFFICE	LPL1-2/PM
NAME	REnnis
DATE	09/09/2015

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DRAFT REQUEST FOR ADDITIONAL INFORMATION

REGARDING PROPOSED LICENSE AMENDMENT

MAXIMUM EXTENDED LOAD LINE LIMIT ANALYSIS PLUS

EXELON GENERATION COMPANY, LLC

PEACH BOTTOM ATOMIC POWER STATION - UNITS 2 AND 3

DOCKET NOS. 50-277 AND 50-278

By letter dated September 4, 2014, as supplemented by letters dated January 29, 2015, February 6, 2015, April 28, 2015, July 6, 2015, and September 4, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML14247A503, ML15029A640, ML15037A502, ML15118A717, ML15187A391, and ML15247A088, 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 revise the Technical Specifications (TSs) and Facility Operating Licenses to allow operation in the expanded Maximum Extended Load Line Limit Analysis Plus (MELLLA+) domain. The MELLLA+ expanded operating domain increases operating flexibility by allowing control of reactivity at maximum power by changing flow rather than by control rod insertion and withdrawal.

The Nuclear Regulatory Commission (NRC) staff has reviewed the information the licensee provided that supports the proposed amendment and would like to discuss the following issues to clarify the submittal.

Reactor Systems Branch (SRXB)
Reviewers: George Thomas and Diego Saenz

SRXB-RAI-18

The NRC staff needs to better understand the performance of TRACG beyond Nucleate Boiling (i.e., in Transition Boiling and Film Boiling). The staff has questions regarding the use of a Minimum Film Boiling Temperature (Tmin) model in TRACG as a means of predicting the transition to film boiling and determining the Transition and Film Boiling Heat Transfer Coefficient.

1) Provide TRACG turbine trip with bypass (TTWBP) and dual recirculation pump trip (2RPT) sensitivity calculations for PBAPS in which the Homogeneous Nucleation Temperature is used for Tmin; include relevant plots of results.
2) Additionally, provide TRACG sensitivity calculations with more realistic assumptions in which both the Homogenous Nucleation Temperature and the Shumway correlation (as currently implemented in TRACG) is used. Include relevant sensitivity parameters (such as, but not necessarily limited to: operator response time, Tmin model, peak cladding

temperature (PCT) and/or number of assemblies that exceed 2200 °F, peaking factor and feedwater assumptions); also include relevant plots of results.