



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

August 18, 2010

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, UNIT 2 - REQUEST FOR
ADDITIONAL INFORMATION REGARDING LICENSE AMENDMENT
REQUEST FOR SAFETY LIMIT MINIMUM CRITICAL POWER RATIO CHANGE
(TAC NO. ME3994)

Dear Mr. Pacilio:

By letter to the Nuclear Regulatory Commission (NRC) dated May 27, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML101480555), Exelon Generation Company, LLC, (Exelon) submitted a License Amendment Request (LAR) for Peach Bottom Atomic Power Station (PBAPS), Unit 2. The submittal seeks to revise Technical Specification 2.1.1, "Reactor Core SLs [safety limits]" to reflect revised Safety Limit Minimum Critical Power Ratio (SLMCPR) values for operating cycle 19. The NRC staff has reviewed the request submitted by the licensee and determined that additional information is needed as set forth in the Enclosure. On July 15, 2010 (ADAMS Accession No. ML102020244), Exelon provided supplemental information in response to NRC requests for additional information (RAI). The NRC staff has reviewed the supplemental information and determined that further additional information, as described in the enclosure, is needed to complete the review.

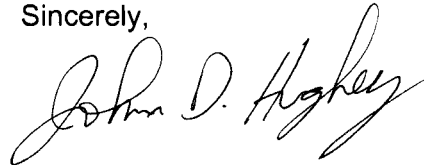
The draft questions were sent to Mr. Thomas Loomis, of your staff, to ensure that the questions were understandable, the regulatory basis for the questions was clear, and to determine if the information was previously docketed. On August 11, 2010, Mr. Loomis indicated that the licensee will submit a response by August 25, 2010. 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 John Hughey at (301) 415-3204.

Sincerely,

A handwritten signature in black ink that reads "John D. Hughey". The signature is written in a cursive style with a large, sweeping initial "J".

John D. Hughey, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-277

Enclosure: Request for Additional
Information

cc: Distribution via ListServ

REQUEST FOR ADDITIONAL INFORMATION RELATED TO
LICENSE AMENDMENT REQUEST FOR TECHNICAL SPECIFICATION CHANGES
TO SAFETY LIMIT MINIMUM CRITICAL POWER RATIO VALUES
PEACH BOTTOM ATOMIC POWER STATION – UNIT 2

DOCKET NO. 50-277

By letter to the Nuclear Regulatory Commission (NRC) dated May 27, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML101480555), Exelon Generation Company, LLC, (Exelon) submitted a License Amendment Request (LAR) for Peach Bottom Atomic Power Station (PBAPS), Unit 2. The submittal seeks to revise Technical Specification 2.1.1, "Reactor Core SLs [safety limits]" to reflect revised Safety Limit Minimum Critical Power Ratio (SLMCPR) values for operating cycle 19.

On July 15, 2010 (ADAMS Accession No. ML102020244), Exelon provided supplemental information in response to NRC requests for additional information (RAI). The NRC staff has reviewed the supplemental information and determined that further additional information, as described below, is needed to complete the review.

RAI-10: For the "Cycle 19 Core" table provided in response to RAI-01 in the July 15, 2010, supplement, identify those Cycle 18 fuel assemblies that are selected for thrice-burn in Cycle 19. Also describe the process for selecting those Cycle 18 fuel assemblies that will be thrice-burned in Cycle 19.

RAI-11: Please describe the impact as well as the contribution of the input items listed in the response to RAI-02 in the July 15, 2010, supplement (such as cycle energy requirements, thermal limit margins, reactivity margins, discharge exposure limitations and other limits, desired control rod patterns, and channel distortion) on the final core loading pattern for Cycle 19.

In general, the reference core loading pattern is expected be a final core loading pattern unless a leaking fuel rod is present. SLMCPR will be determined based on the proposed final core loading pattern with the planned control rod control sequence. The hot bundles will be identified during this SLMCPR calculation process, which will be an important parameter applied to stability setpoint, and transient analysis for the Operating Limit (OL)MCPR. Therefore, the process used to generate a final core loading pattern plays an important role in the SLMCPR calculations.

RAI-12: Provide the information that documents the mechanisms that push the SLMCPR increase into the higher range of expectations as described in RAI-05 in the July 15, 2010, supplement.

RAI-13: Identify the specific GNF-2 data points associated with the revised Figure 5 provided in the response to RAI-08 in the July 15, 2010, supplement.

Enclosure

M. Pacilio

- 2 -

If you have any questions, please contact John Hughey at (301) 415-3204.

Sincerely,

/ra/

John D. Hughey, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-277

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ADAMS Accession No.: ML102150140 * per telecom w/John Hughey

OFFICE	LPL1-2/PM	LPL1-2/LA	SRXB/BC	LPL1-2/BC
NAME	JHughey	ABaxter	TUises	HChernoff *
DATE	8/16/2010	08/09/2010	8/16/2010	8/18/2010

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