



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

August 15, 2013

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 EXTENDED POWER UPRATE (TAC NOS. ME9631 AND ME9632)

Dear Mr. Pacilio:

By letter dated September 28, 2012, as supplemented by letters dated February 15, 2013, May 7, 2013, May 24, 2013, June 4, 2013, June 27, 2013, July 30, 2013, July 31, 2013, and August 5, 2013, (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML122860201, ML13051A032, ML13129A143, ML13149A145, ML13156A368, ML13182A025, ML13211A457, ML13213A285, and ML13217A431, respectively), Exelon Generation Company, LLC (Exelon, the licensee) submitted a license amendment request for Peach Bottom Atomic Power Station, Units 2 and 3. The proposed amendment would authorize an increase in the maximum power level from 3514 megawatts thermal (MWt) to 3951 MWt. The requested change, referred to as an extended power uprate, represents an increase of approximately 12.4 percent above the current licensed thermal power level.

The Nuclear Regulatory Commission (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. Kevin Borton of your staff via e-mail on July 18, 2013. 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 August 8, 2013, to discuss the questions. During the call, Mr. Borton stated that Exelon would provide a response to the RAI questions within 30 days of the date of this letter.

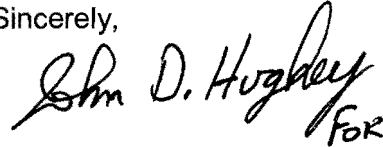
Please note that if you do not respond to this letter by the agreed-upon date or provide an acceptable alternate date in writing, we may reject your application for amendment under the provisions of Title 10 of the *Code of Federal Regulations*, Section 2.108.

M. Pacilio

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

Sincerely,

Handwritten signature of Richard B. Ennis in black ink. The signature is cursive and includes the text "Richard B. Ennis" followed by "FOR" written in a smaller, more upright script below the main signature.

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

cc w/encl: Distribution via ListServ

REQUEST FOR ADDITIONAL INFORMATION
REGARDING PROPOSED LICENSE AMENDMENT
EXTENDED POWER UPRATE
EXELON GENERATION COMPANY, LLC
PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3
DOCKET NOS. 50-277 AND 50-278

By letter dated September 28, 2012, as supplemented by letters dated February 15, 2013, May 7, 2013, May 24, 2013, June 4, 2013, June 27, 2013, July 30, 2013, July 31, 2013, and August 5, 2013, (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML122860201, ML13051A032, ML13129A143, ML13149A145, ML13156A368, ML13182A025, ML13211A457, ML13213A285, and ML13217A431, 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 authorize an increase in the maximum power level from 3514 megawatts thermal (MWt) to 3951 MWt. The requested change, referred to as an extended power uprate (EPU), represents an increase of approximately 12.4 percent above the current licensed thermal power level.

The Nuclear Regulatory Commission (NRC) staff is reviewing your submittal and has determined that additional information is needed to complete its review. The specific request for additional information (RAI) is addressed below.

Health Physics and Human Performance Branch (AHPB)

Reviewers: Candace Clemons and Roger Pedersen

AHPB-HP-RAI-1

Power Uprate Safety Analysis Report (PUSAR¹) page 2-512 states, in part, that post-accident vital area access per NUREG-0737, Item II.B.2, mission doses were evaluated in the analyses that support the NRC safety evaluation (SE) for implementation of the Alternate Source Term (AST) license amendment, and that the TID-14844 was retained for these doses. However, the referenced amendment and SE only addressed the control room, not the other vital areas in the plant. In addition, the re-calculated doses for the control room were based on the AST source term. Resolve this apparent discrepancy. Provide a clear description of the technical basis for calculating the II.B.2 mission doses.

AHPB-HP-RAI-2

PUSAR page 2-512, 5th paragraph, concludes that "all of the doses are within the limits of GDC 19," with respect to vital area access. However, Table 2.9-11 "Post-LOCA Vital Areas

¹ A proprietary (i.e., non-publicly available) version of the PUSAR is contained in Attachment 6 to the application dated September 28, 2012. A non-proprietary (i.e., publicly available) version of the PUSAR is contained in Attachment 4 to the application dated September 28, 2012.

Enclosure

Requiring Infrequent Occupancies," indicates several vital area mission doses that exceed the 5 rem GDC 19 acceptance criteria. Provide a list of all the vital areas (per the definition in II.B.2), the calculated mission dose to operators performing the vital action in these areas in post-accident radiological conditions, and a description of the calculational method used to obtain the dose values.

AHPB-HP-RAI-3

PUSAR page 2-514, 1st paragraph, and Table 2.10-2, indicate that the post-EPU N-16 skyshine dose rate at the nearest boundary is negligibly small. Provide a quantitative basis for this conclusion. Provide all input parameters (e.g., source strength, exposure geometries, distance to nearest boundary) needed to calculate the skyshine contribution to the most exposed member of the public during EPU operations.

AHPB-HP-RAI-4

Table 2.10-2 on PUSAR page 2-518 presents calculated offsite doses at pre-EPU and EPU power levels.

- a) Are the input parameters used in these calculations consistent with the current Offsite Dose Calculation Manual (e.g., land use, meteorology, dose pathways, etc.)?
- b) Columns 3 and 4 are both calculated at 3528 MWt. However, the calculated doses are significantly different. Explain the differences in these two cases that cause these inconsistent results.
- c) Provide calculation PM-791 referenced in column 3 (Reference 105).
- d) What is the purpose of presenting the doses in column 4?
- e) Explain why the doses calculated for 4030 MWt (column 5) are significantly lower than the corresponding doses calculated at 3528 MWt (in column 4). Provide a technical basis for the acceptability of the dose results in column 5.
- f) Explain why a 5-year average dose is presented in column 6 of the table. Provide a technical basis for not listing the maximum value for each of these doses, or provide these maximum values for the 5 year period referenced.

M. Pacilio

- 2 -

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

Sincerely,

/ra/ (JHughey for)

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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ADAMS Accession No.: ML13221A064

***via email**

OFFICE	LPL1-2/PM	LPL1-2/LA*	LPL1-2/BC(A)
NAME	REnnis (JHughey for)	ABaxter	VRodriguez
DATE	08/12/13	08/12/13	08/15/13

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