Exelon Generation

200 Exelon Way
Kennett Square, PA 19348
www.exeloncorp.com

10 CFR 50.90

August 15, 2012

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Peach Bottom Atomic Power Station, Units 2 and 3
Renewed Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-277 and 50-278

Subject: Response to Request for Additional Information - License Amendment Request for Use of Neutron Absorbing Inserts in Units 2 and 3 Spent Fuel Pool Storage Racks

References:

1) Letter from M. D. Jesse (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "License Amendment Request – Use of Neutron Absorbing Inserts in Units 2 and 3 Spent Fuel Pool Storage Racks," dated November 3, 2011

2) Letter from J. D. Hughey (U.S. Nuclear Regulatory Commission) to M. J. Pacilio (Exelon Generation Company, LLC), "Peach Bottom Atomic Power Station, Units 2 and 3 – Supplemental Information Needed for Acceptance of Requested Licensing Action RE: Use of Neutron Absorbing Inserts in Units 2 and 3 Spent Fuel Pool Storage Racks (TAC NOS. ME7538 and ME7539)," dated December 14, 2011

3) Letter from M. D. Jesse (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "License Amendment Request – Use of Neutron Absorbing Inserts in Units 2 and 3 Spent Fuel Pool Storage Racks," dated December 22, 2011

4) Letter from J. D. Hughey (U.S. Nuclear Regulatory Commission) to M. J. Pacilio (Exelon Generation Company, LLC), "Peach Bottom Atomic Power Station, Units 2 and 3 – Request for Additional Information Regarding License Amendment Request for Use of Neutron Absorbing Inserts in Units 2 and 3 Spent Fuel Pool Storage Racks (TAC NOS. ME7538 and ME7539)," dated March 12, 2012

5) Letter from M. D. Jesse (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Response to Request for Additional Information - License Amendment Request for Use of Neutron Absorbing Inserts in Units 2 and 3 Spent Fuel Pool Storage Racks," dated April 4, 2012

6) Letter from R. B. Ennis (U.S. Nuclear Regulatory Commission) to M. J. Pacilio (Exelon Generation Company, LLC), "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)," dated April 18, 2012

7) Letter from M. D. Jesse (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Response to Request for Additional Information - License Amendment Request for Use of Neutron Absorbing Inserts in Units 2 and 3 Spent Fuel Pool Storage Racks," dated May 17, 2012

8) Letter from R. B. Ennis (U.S. Nuclear Regulatory Commission) to M. J. Pacilio (Exelon Generation Company, LLC), "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)," dated May 22, 2012

9) Letter from M. D. Jesse (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Response to Request for Additional Information - License Amendment Request for Use of Neutron Absorbing Inserts in Units 2 and 3 Spent Fuel Pool Storage Racks," dated June 21, 2012

10) E-Mail from R. B. Ennis (U.S. Nuclear Regulatory Commission) to T. R. Loomis (Exelon Generation Company, LLC), "Draft RAI - PBAPS SFP Rack Insert LAR (TACs ME7538 & ME7539)," dated July 12, 2012

In the Reference 1 letter, Exelon Generation Company, LLC, (Exelon) requested a proposed change to modify the Technical Specifications (TS) to include the use of neutron absorbing spent fuel pool rack inserts for the purpose of criticality control in the spent fuel pools at Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3. In References 2, 4, 6, and 8 the U.S. Nuclear Regulatory Commission requested additional information. References 3, 5, 7, and 9 were our responses to those requests, respectively. In Reference 10, the U.S. Nuclear Regulatory Commission requested additional information. Attached is our response to Request for Additional Information (RAI) 41.

Exelon has reviewed the information supporting a finding of no significant hazards consideration and the environmental consideration provided to the U.S. Nuclear Regulatory Commission in Reference 1. The additional information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. In addition, the additional information provided in this submittal does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed amendment.

There are no regulatory commitments contained in this submittal.

Should you have any questions concerning this letter, please contact Tom Loomis at (610) 765-5510.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 15th of August 2012.

Respectfully,

Michael D. Jesse
Director, Licensing & Regulatory Affairs
Exelon Generation Company, LLC

Attachment: Response to Request for Additional Information

cc: USNRC Region I, Regional Administrator
USNRC Senior Resident Inspector, PBAPS
USNRC Senior Project Manager, PBAPS
R. R. Janati, Bureau of Radiation Protection
S. T. Gray, State of Maryland

ATTACHMENT

Response to Request for Additional Information

Question 41:

Attachment 4 to Reference 1 provided NETCO Report NET-350-01, Revision 1, "2010 Badger Test Campaign at Peach Bottom Unit 2." Table 4-1 of NET-350-01, in part, showed the absorbed dose for a number of the Unit 2 SFP panels.

In Attachment 1 to Reference 2, Exelon provided the following response to RAI-29:

> RACKLIFE 2.0 statepoints were run for both PBAPS units on April 18, 2012 in accordance with station procedures that require a projection every 6 months. RACKLIFE output is contained in Attachment 3 ("RAI-29 - RACKLIFE 2.0 Statepoint Runs"). The spreadsheets provide the panel location, the predicted absorbed panel dose (RADs), and the predicted percent B4C loss (%).

The absorbed dose on some of the panels is shown as being less in Attachment 3 to Reference 2 (i.e., 2012 data) when compared to the values shown in Table 4-1 of NET-350-01 (i.e., 2010 data). Please explain this apparent discrepancy (i.e., absorbed doses decreasing with time). See table below for some examples.

Unit 2 Panel	2010 Absorbed Dose (Rads) (per Table 4-1 of NET-350-01)	2012 Absorbed Dose (Rads) (per Attachment 3 of Ref. 2)
3E27 North	1.31E+10	7.95E+09
3E27 West	1.32E+10	8.73E+09
3E27 South	1.32E+10	6.84E+09
3E27 East	1.32E+10	8.79E+09
3D26 South	1.36E+10	5.99E+09

References

1. Exelon letter dated April 18, 2011, "Spent Fuel Pool Criticality Documents" (ADAMS Accession No. ML111120271)

2. Exelon letter dated June 21, 2012, "Response to Request for Additional Information - License Amendment Request for Use of Neutron Absorbing Inserts in Units 2 and 3 Spent Fuel Pool Storage Racks" (ADAMS Accession No. ML12188A094)

Response:

The lower absorbed dose shown in the 2012 data when compared to the 2010 data is the result of the difference in the power sharing value used to create the two data sets. Attachment 4 to Reference 1 provided the NETCO Report NET-350-01, Revision 1, "2010 Badger Test Campaign at Peach Bottom Unit 2." This report provided the Peach Bottom Atomic Power Station (PBAPS), Unit 2 BADGER testing results performed in January 2010. Table 4-1 summarized the BADGER test data for the 46 panels that were tested. The panels were selected based on RACKLIFE 2.0 data files as of 10/26/09. The RACKLIFE Assembly (.ASB) database file associated with this statepoint contained the End-of-Cycle (EOC) power sharing values (defined as the ratio of assembly power to core average assembly power) of 1.00 for several cycles (1 – 15) of PBAPS, Unit 2 fuel. The default value of 1.00 was used instead of the

actual (i.e., calculated) power sharing value. In early 2011, the PBAPS, Unit 2 RACKLIFE model was revised to include actual power sharing values (beginning with Cycle 1) thus representing a more realistic dose. Accordingly, panels with an actual power sharing value less than 1.00 would result in a lower dose.

It should be noted that the panel dose is not used in the measurement or data processing in BADGER testing, but is only used as a guide in the selection of panels to be tested. Hence, the historical panel dose values in the BADGER test reports have no impact on the uncertainty of the BADGER/RACKLIFE methodology. The calculation of the BADGER and RACKLIFE uncertainties provided in RAI 28 uses the most recently updated RACKLIFE model, which includes the most accurate calculated panel dose, using actual power sharing values (based on actual plant data).