November 5, 2012

MEMORANDUM TO: Meena K. Khanna, 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. ME9085 AND ME9086)

The attached draft request for additional information (RAI) was transmitted on November 5, 2012, to Mr. Thomas Loomis 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 July 18, 2012. The proposed amendment would revise the Technical Specifications (TSs) to change the operability requirements for the normal heat sink (NHS). The NHS for PBAPS is the Susquehanna River. Currently, the NHS is considered operable with a maximum water temperature of 90 °F. However, the PBAPS TSs currently allow plant operation to continue if the NHS water temperature exceeds the 90 °F limit, provided that: (1) the NHS water temperature, averaged over the previous 24-hour hour period, is verified at least once per hour to be less than or equal to 90 °F and; (2) the NHS water temperature does not exceed 92 °F. The proposed amendment would change the NHS water temperature limit such that the NHS would be considerable operable as long as the maximum water temperature was less than or equal to 92 °F.

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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Docket Nos. 50-277 and 50-278

Attachment: Draft RAI

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DRAFT REQUEST FOR ADDITIONAL INFORMATION

REGARDING PROPOSED LICENSE AMENDMENT

REVISE NORMAL HEAT SINK OPERABILITY REQUIREMENTS

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 July 18, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12200A388), 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) to change the operability requirements for the normal heat sink (NHS). The NHS for PBAPS is the Susquehanna River. Currently, the NHS is considered operable with a maximum water temperature of 90 °F. However, the PBAPS TSs currently allow plant operation to continue if the NHS water temperature exceeds the 90 °F limit, provided that: (1) the NHS water temperature, averaged over the previous 24-hour hour period, is verified at least once per hour to be less than or equal to 90 °F and; (2) the NHS water temperature does not exceed 92 °F. The proposed amendment would change the NHS water temperature limit such that the NHS would be considerable operable as long as the maximum water temperature was less than or equal to 92 °F.

The 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.

1. Page 1 of Attachment 1 of the application dated July 18, 2012, states that:

> The proposed change revises TS Section 3.7.2 to remove the maximum 24-hour average temperature of 90 °F with no change to the peak maximum NHS temperature of 92 °F.

Page 2 of Attachment 1 of the application states that:

> The proposed change does not utilize the averaging approach contained in TSTF-330, Revision 3, which is shown as a plant specific option in NUREG-1433, Revision 4. The maximum NHS temperature of 92 °F satisfies the accident analysis assumptions for heat removal over time. A NHS temperature averaging approach is not used in any Peach Bottom design basis analysis.

Page 5 of Attachment 1 of the application and the marked-up TS Bases pages indicate that the NHS would be considerable operable as long as the maximum water temperature was less than or equal to 92 °F.

Proposed surveillance requirement (SR) 3.7.2.2 would state:

> Verify the **average water temperature** of normal heat sink is ≤ 92 °F. [emphasis added]

The marked-up TS Bases state that "[t]he water temperature will be measured by averaging multiple instruments that measure the normal heat sink temperature." Although the temperature will be measured using an average of a number of instruments, this is not the same as use of an average temperature over time (i.e., such that the temperature could sometimes exceed 92 °F). However, the proposed wording "average water temperature" in SR 3.7.2.2 seems to indicate that the NHS temperature could exceed 92 °F. Please explain the use of the words "average water temperature" in proposed SR 3.7.2.2 (i.e., versus "maximum water temperature").

2. As follow up to question 1 above, if 92 °F is the average NHS temperature, please provide the correct value of the peak maximum NHS temperature that should be used as high pressure service water (HPSW) inlet temperature for cooling the residual heat removal (RHR) system heat exchangers for containment cooling during a design basis accident. Also, if the maximum HPSW inlet temperature to the RHR heat exchangers is greater than 92 °F, the containment heat removal analysis and the net positive suction head analysis for the emergency core cooling system pumps and the RHR pumps should be revised accordingly. The results of the revised analysis should be provided to the NRC staff.