Exelon Generation

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

10 CFR 50.90

January 17, 2013

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 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 - Revision of Normal Heat Sink Technical Specification to Remove the 24-Hour Average Temperature Limit With No Change to the Peak Maximum Temperature

References:
1) Letter from M. Jesse (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Revision of Normal Heat Sink Technical Specification to Remove the 24-Hour Average Temperature Limit With No Change to the Peak Maximum Temperature," dated July 18, 2012

2) E-mail from R. Ennis (U.S. Nuclear Regulatory Commission) to T. Loomis (Exelon Generation Company, LLC), "Draft RAI – Peach Bottom Normal Heat Sink Operability Requirements (TACs ME9085 & 86)," dated November 5, 2012

In the Reference 1 letter, Exelon Generation Company, LLC (EGC) requested a proposed change to modify the Technical Specifications (TSs). The proposed change revises the Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3 TS Section 3.7.2, "Emergency Service Water (ESW) System and Normal Heat Sink," to change the requirements for determining the operability of the Normal Heat Sink (NHS). Specifically, this change is proposing to revise 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.

In the Reference 2 e-mail, the U.S. Nuclear Regulatory Commission Staff requested additional information. Attached is our response.

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 17th day of January 2013.

Respectfully,

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

Attachments: 1) Response to Request for Additional Information
2) Revised TS Page 3.7-4 (Unit 2 and Unit 3)

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

Attachment 1

Response to Request for Additional Information

Question:

"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")."

Response:

The term "average water temperature" in the proposed Surveillance Requirement (SR) 3.7.2.2 was intended to convey the "bulk average temperature" of the water. The wording of SR 3.7.2.2 has been revised to remove the word "average" (see Attachment 2).

There are six instruments per unit (TE-2280 A-F for Unit 2 and TE-3280 A-F for Unit 3) which measure the Normal Heat Sink (NHS) temperature. Each temperature element has an accuracy of $\pm$ 0.28°F. The six values are averaged and the resultant output (computer point C148 for Unit 2 and C448 for Unit 3) is used to determine the NHS temperature.

Question:

"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."

Response:

The term "average" has been removed from SR 3.7.2.2. The NHS temperature is measured by computer point C148 for Unit 2 and C448 for Unit 3. The maximum or peak value of the NHS is 92°F. This value meets the SR. The maximum value used in the containment heat removal analysis and the net positive suction head analysis (High Pressure Service Water (HPSW) inlet temperature to the Residual Heat Removal (RHR) heat exchangers) is 92°F.

Attachment 2

Revised TS Page 3.7-4 (Unit 2 and Unit 3)

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.2.1	Verify the water level in the pump bays of the pump structure is ≥ 98.5 ft Conowingo Datum (CD) and ≤ 113 ft CD.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.2.2	Verify the ~~average~~ water temperature of normal heat sink is ≤ ~~90~~ 92 °F.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.2.3	----------NOTE---------- Isolation of flow to individual components does not render ESW System inoperable. ---------- Verify each ESW subsystem manual and power operated valve in the flow paths servicing safety related systems or components, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.2.4	Verify each ESW subsystem actuates on an actual or simulated initiation signal.	In accordance with the Surveillance Frequency Control Program.

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