



RS-15-231

10 CFR 50.90

August 24, 2015

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

Braidwood Station, Units 1 and 2  
Facility Operating License Nos. NPF-72 and NPF-77  
NRC Docket Nos. STN 50-454, STN 50-455 and 72-68

Subject: Supplemental Information in Support of Request for a License  
Amendment to Braidwood Station, Units 1 and 2, Technical specification  
3.7.9, "Ultimate Heat Sink"

- References:
- 1) Letter from David M. Gullott (Exelon Generation Company, LLC) to U. S. Nuclear Regulatory Commission "Request for a License Amendment to Braidwood Station, Units 1 and 2, Technical Specification 3.7.9, 'Ultimate Heat Sink'," dated August 19, 2014
  - 2) Letter from David M. Gullott (Exelon Generation Company, LLC) to U. S. Nuclear Regulatory Commission "Supplemental Information in Support of Request for a License Amendment to Braidwood Station, Units 1 and 2, Technical Specification 3.7.9, 'Ultimate Heat Sink'," dated January 20, 2015

By letter dated August 19, 2014 (Reference 1), Exelon Generation Company, LLC (EGC) submitted a request pursuant to 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," for Braidwood Station requesting U.S. Nuclear Regulatory Commission approval to update Technical Specification (TS) Surveillance Requirement (SR) 3.7.9.2. Specifically, TS SR 3.7.9.2 currently states: "Verify average water temperature of UHS [Ultimate Heat Sink] is  $\leq 100^{\circ}\text{F}$ ." The proposed license amendment (Reference 1) sought to increase the TS SR 3.7.9.2 allowable temperature to  $\leq 102^{\circ}\text{F}$ . EGC requested approval of the reference amendment by August 19, 2015.

As described in Reference 2, in October of 2014, a hydrographic survey was conducted of the UHS. The purpose of the survey was to ensure the average elevation of the bottom of the UHS is at or below 584 feet to verify compliance with TS SR 3.7.9.3. Before beginning the survey, Braidwood Station engineering personnel requested that additional information be collected during the surveillance to validate the height of the UHS as described in UFSAR section 2.4.1.1, 2.4.11.6 and Figure 2.4-47. The bottom of the UHS was found to have an average elevation of 583.7 feet, thus meeting TS SR 3.7.9.3. However, the survey results also showed that the highest continuous contour line of the UHS structure was 589.4 feet, 0.6 feet less than the 590.0 feet described in UFSAR section 2.4.1.1 and 2.4.11.6. The volume enclosed by this contour line was approximately 528 acre-feet, which is approximately 5% less than the design volume of 555.8 acre-feet, thus reducing the water available for heat removal during a design basis event.

The lower than expected survey results were entered into the Corrective Action Program and the as-found volume was evaluated in an Operability Evaluation. The results of the survey, the conclusions of the Operability Evaluation including compensatory measures, along with Braidwood Station's plans for restoration, were communicated to the NRC in Reference 2. The Reference 2 letter also noted that upon completion of the restoration, EGC would notify the NRC by submitting a follow-up letter. The purpose of this letter is to communicate the restoration of the UHS has been completed.

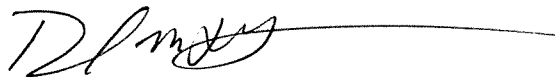
The modification to complete restoration of the UHS consisted of installing a sheet pile wall spanning the north-south limits on the eastern side of the Essential Service Cooling Pond (ESCP) to restore the available volume. The wall has been installed approximately 300 ft east of the eastern edge of the ESCP to ensure that its installation does not adversely affect the eastern slope of the ESCP. The wall is constructed using H1707 hot-rolled sheet pile sections per ASTM A572 Grade 60. The upper portions of the wall joints are sealed with a hydrophilic sealer. The top of the sheet pile wall is installed to a design elevation of 591'0". Unsealed handling holes on each sheet pile make elevation 590.95' the lowest elevation of unsealed areas of the sheet pile wall.

The sheet pile wall constitutes a "man-made structural feature" per Regulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Power Plants," Revision 2. The sheet pile wall is qualified for an SSE and is not susceptible to damage due to adverse weather events due to its submergence. The new wall and the existing cooling pond dike system together will provide the required protection against a single failure of a man-made structural feature. The capacity of the ESCP will not be reduced below its full design value as long as either the sheet pile wall or the cooling lake dikes remain intact.

Completion of the restoration of the UHS through installation of the sheet pile wall ensures that the UHS height evaluated in the Reference 1 submittal remains valid. The information and supporting evaluations included in the Reference 1 submittal remain accurate and continue to support the requested change to increase the TS SR 3.7.9.2 allowable temperature to  $\leq 102^{\circ}\text{F}$ .

If you have any questions or require additional information, please contact Jessica Krejcie at 630-657-2816.

Respectfully,



David M. Gullott  
Manager – Licensing  
Exelon Generation Company, LLC

cc: Regional Administrator- NRC Region III  
NRC Senior Resident Inspector- Braidwood Station  
NRC Project Manager, NRR – Braidwood Station