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

November 12, 2015

Mr. Jon A. Franke
Site Vice President
Susquehanna Nuclear, LLC
769 Salem Boulevard
NUCSB3
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2– CORRECTION TO INTERIM STAFF RESPONSE TO REEVALUATED FLOOD HAZARDS SUBMITTED IN RESPONSE TO 10 CFR 50.54(f) INFORMATION REQUEST – FLOOD-CAUSING MECHANISM REEVALUATION (TAC NOS. MF6037 AND MF6038)

Dear Mr. Franke:

By letter dated November 3, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15303A314), the U.S. Nuclear Regulatory Commission (NRC) transmitted to you the Interim Staff Response to the reevaluated flood hazards for Susquehanna Steam Electric Station, Units 1 and 2 (Susquehanna). In that letter, Table 1 is referenced and contains the reevaluated hazards bounded by current design-basis for Susquehanna. Table 1 was inadvertently omitted from the document and not included in the final version that was transmitted to you. This letter supersedes the November 3, 2015, letter with the only change being the inclusion of Table 1 in the Enclosure to this letter.

The purpose of this letter is to provide a summary of the NRC staff's assessment of the re- evaluated flood-causing mechanisms described in the March 3, 2015 (ADAMS Accession No. ML15063A319), flood hazard reevaluation report (FHRR) submitted by Susquehanna Nuclear, LLC (the licensee), previously as PPL Susquehanna, LLC, for Susquehanna.

By letter dated March 12, 2012 (ADAMS Accession No. ML12053A340), the NRC issued a request for information pursuant to Title 10 of the *Code of Federal Regulations*, Section 50.54(f) (hereafter referred to as the 50.54(f) letter). The request was issued as part of implementing lessons-learned from the accident at the Fukushima Dai-ichi nuclear power plant. Enclosure 2 to the 50.54(f) letter requested licensees to re-evaluate flood-causing mechanisms using present-day methodologies and guidance. Concurrently, with the reevaluation of flooding hazards, licensees were required to develop and implement mitigating strategies in accordance with NRC Order EA-12-049, "Requirements for Mitigation Strategies for Beyond-Design-Basis External Events" (ADAMS Accession No. ML12054A735). On March 30, 2015, the Commission provided Staff Requirements Memoranda (SRM) (ADAMS Accession No. ML15089A236) to COMSECY-14-0037, "Integration of Mitigating Strategies for Beyond-Design-Basis External Events and the Reevaluation of Flooding Hazards," dated November 21, 2014 (ADAMS Accession No. ML14309A256), affirming that licensees need to address the reevaluated flooding hazards within their mitigating strategies for beyond-design-basis external events.

The NRC staff has reviewed the information submitted by the licensee and has summarized the results of the review in the table provided as an Enclosure to this letter. Table 1 provides the current design-basis flood hazard mechanisms. All of the reevaluated flood hazard mechanisms at Susquehanna are bounded by the current design-basis.

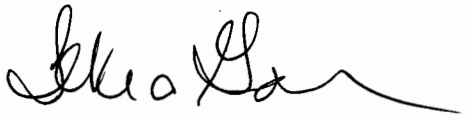
The NRC staff has concluded that the licensee's reevaluated flood hazards information, as summarized in the Enclosure, is suitable for the assessment of mitigating strategies developed in response to Order EA-12-049 (i.e., defines the mitigating strategies flood hazard information described in guidance documents currently being finalized by the industry and NRC staff) for Susquehanna. Further, the NRC staff has concluded that the licensee's reevaluated flood hazard information is a suitable input for other assessments associated with Near-Term Task Force Recommendation 2.1 "Flooding". The NRC staff plans to issue a staff assessment documenting the basis for these conclusions at a later time.

In addition, Nuclear Energy Institute (NEI) guidance document NEI 12-06 "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide" is currently being revised. This revision will include a methodology to perform a Mitigating Strategies Assessment (MSA) with respect to the reevaluated flood hazards. Once this methodology is endorsed by the NRC, flood event duration parameters and applicable flood associated effects should be considered as part of the Susquehanna MSA. The NRC staff will evaluate the flood event duration parameters (including warning time and period of inundation) and flood-related associated effects developed by the licensee during the NRC staff's review of the MSA.

Because the reevaluated flood hazard mechanisms at Susquehanna are bounded by the current design-basis, it is unnecessary for the licensee to perform an integrated assessment or focused evaluation, as described in the NRC letter, "Coordination of Request for Information Regarding Flooding Hazard Reevaluation and Mitigating Strategies for Beyond-Design-Basis External Events" (ADAMS Accession No. ML15174A257). This letter describes the changes in the NRC's approach to the flood hazard reevaluations that were approved by the Commission in its SRM to COMSECY-15-0019, "Closure Plan for the Reevaluation of Flooding Hazards for Operating Nuclear Power Plants" (ADAMS Accession No. ML15209A682). Therefore, the NRC staff confirms that the licensee responded appropriately to Enclosure 2, of the 50.54(f) letter.

If you have any questions, please contact me at (301) 415-6197 or by e-mail at Tekia.Govan@nrc.gov.

Sincerely,



Tekia V. Govan, Project Manager
Hazards Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosure:
Summary of Results of Flooding
Hazard Re-Evaluation Report

cc w/encl: Distribution via Listserv

ENCLOSURE:

SUMMARY TABLES OF
REEVALUATED FLOOD HAZARD LEVELS

Table 1. Current Design Basis Flood Hazards for Use in the MSA

Mechanism	Stillwater Elevation	Waves/ Runup	Design Basis Hazard Elevation	Reference
Local Intense Precipitation				
Engineered Safeguards Service Water (ESSW) Pumphouse (South side)	694.8 ft MSL	0.0 ft	694.8 ft MSL	Letter dated September 24, 2015 to the NRC, "Susquehanna Steam Electric Station Flood Hazards Reevaluation Report Information to Support Audit", ADAMS Accession No. ML15267A600.
ESSW Pumphouse Valve Chamber	697.3 ft MSL	0.0 ft	697.3 ft MSL	Email dated October 2, 2015 to the NRC, "Susquehanna: Follow-on Audit Question", ADAMS Accession No. ML15288A563.
Common Diesel Generator Building	679.0 ft MSL	0.0 ft	679.0 ft MSL	Letter dated September 24, 2015 to the NRC, "Susquehanna Steam Electric Station Flood Hazards Reevaluation Report Information to Support Audit", ADAMS Accession No. ML15267A600.
Unit 1 Reactor Building	672.0 ft MSL	0.0 ft	672.0 ft MSL	Letter dated September 24, 2015 to the NRC, "Susquehanna Steam Electric Station Flood Hazards Reevaluation Report Information to Support Audit", ADAMS Accession No. ML15267A600.
Unit 2 Reactor Building	672.0 ft MSL	0.0 ft	672.0 ft MSL	Letter dated September 24, 2015 to the NRC, "Susquehanna Steam Electric Station Flood Hazards Reevaluation Report Information to Support Audit", ADAMS Accession No. ML15267A600.
Common Diesel 'E' Building	678.0 ft MSL:	0.0 ft	678.0 ft MSL:	Letter dated September 24, 2015 to the NRC, "Susquehanna Steam Electric Station Flood Hazards Reevaluation Report Information to Support Audit", ADAMS Accession No. ML15267A600.

Table 1. Current Design Basis Flood Hazards for Use in the MSA

Mechanism	Stillwater Elevation	Waves/ Runup	Design Basis Hazard Elevation	Reference
Spray Pond	682.4 ft MSL	2.4 ft	684.8 ft MSL	FSAR Table 4-3
Streams and Rivers				
Susquehanna River	545.7 ft MSL	2.3 ft	548.0 ft MSL	FHRR Section 2.2.2
Failure of Dams and Onsite Water Control/Storage Structures				
Offsite Dam Failure	No Impact on the Site Identified	No Impact on the Site Identified	No Impact on the Site Identified	FHRR Section 2.2.3 and Section 2.2.3 & 2.2.7
Cooling Tower Basin Rupture	694.8 ft MSL	Not applicable	694.8 ft MSL	Letter dated September 24, 2015 to the NRC, "Susquehanna Steam Electric Station Flood Hazards Reevaluation Report Information to Support Audit", ADAMS Accession No. ML15267A600.
Storm Surge	No Impact on the Site Identified	No Impact on the Site Identified	No Impact on the Site Identified	FHRR Section 2.2.4
Seiche	No Impact on the Site Identified	No Impact on the Site Identified	No Impact on the Site Identified	FHRR Section 2.2.4
Tsunami	No Impact on the Site Identified	No Impact on the Site Identified	No Impact on the Site Identified	FHRR Section 2.2.4
Ice-Induced Flooding	No Impact on the Site Identified	No Impact on the Site Identified	No Impact on the Site Identified	FHRR Section 2.2.5

Table 1. Current Design Basis Flood Hazards for Use in the MSA

Mechanism	Stillwater Elevation	Waves/ Runup	Design Basis Hazard Elevation	Reference
Channel Migrations/Diversions	No Impact on the SIte Identified	No Impact on the Site Identified	No Impact on the Site Identified	FHRR Section 2.2.6

Note 1: Reported values are rounded to the nearest one-tenth of a foot.

If you have any questions, please contact me at (301) 415-6197 or by e-mail at Tekia.Govan@nrc.gov.

Sincerely,

/RA/

Tekia V. Govan, Project Manager
Hazards Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosure:
Summary of Results of Flooding
Hazard Re-Evaluation Report

cc w/encl: Distribution via Listserv

DISTRIBUTION:

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ADAMS Accession No.: PKG ML15303A323; LTR: ML15314A747; ENCL: ML15239B221 *via email

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DATE	11/10/2015	11/12/2015	10/26/2015	10/26/2015
OFFICE	NRR/JLD/JHMB/BC	NRR/JLD/JHMB/PM		
NAME	MShams	TGovan		
DATE	11/12/2015	11/12/2015		

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