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March 12, 2013

U.S. Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, MD 20852

**ATTENTION:** Document Control Desk

**SUBJECT:** **Nine Mile Point Nuclear Station, Units 1 and 2**  
Renewed Facility Operating License Nos. DPR-63 and NPF-69  
Docket Nos. 50-220 and 50-410

Flood Hazard Reevaluation Report

- REFERENCES:**
- (a) Letter from E. J. Leeds (NRC) and M. R. Johnson (NRC) to All Power Reactor Licensees and Holders of Construction Permits in Active or Deferred Status, dated March 12, 2012, Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident
  - (b) Letter from E. J. Leeds (NRC) to All Power Reactor Licensees and Holders of Construction Permits in Active or Deferred Status, dated May 11, 2012, Prioritization of Response Due Dates for Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Flooding Hazard Reevaluations for Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident

On March 12, 2012, the U.S. Nuclear Regulatory Commission (NRC) issued Reference (a). Enclosure 2 of Reference (a) contains specific requested actions, requested information, and required responses associated with Recommendation 2.1 for flooding reevaluations. The response date for the Nine Mile Point Unit 1 (NMP1) and Nine Mile Point Unit 2 (NMP2) flood hazard reevaluation was identified in Reference (b) as March 12, 2013, which corresponds to one year from the date of Reference (a).

The purpose of this letter is to provide the NMP1 and NMP2 flood hazard reevaluation using updated flooding hazard information and present-day regulatory guidance and methodologies. The results are

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compared against the NMP1 and NMP2 current design basis for protection and mitigation from external flood events.

The report provided in Attachment 1 describes the approach, methods, and results from the reevaluation of flood hazards at NMP1 and NMP2. The eight flood-causing mechanisms, and a combined effect flood, identified in Attachment 1 to Enclosure 2 of Reference (a), are described in the report along with the potential effects on NMP1 and NMP2.

Only one reevaluated flood mechanism, Local Intense Precipitation (LIP) for both NMP1 and NMP2, exceeded the current design basis flood. For both NMP1 and NMP2, the assumed flood duration has increased from 20 minutes to 20 hours. For only NMP1, the flood elevation height has increased above the design basis value by 0.4 ft. The calculated flooding duration change and the flooding elevation change will impact the amount of water ingress into structures for both units.

Station procedures will be revised to direct installing temporary flood protection measures to protect essential station equipment from the flood event. Reasonable simulation practices will be used to perform a walk-through of the procedures in order to validate the procedures can be executed by station personnel as specified, using the prescribed tools and equipment, within the anticipated time frames at the following locations:

- NMP1: Diesel Generator 102 and 103 room roll-up doors, Power Board 103 Room, Battery Board 11 and 12 Room, and the Valve Board 11 Room exterior doors
- NMP2: Control Building, Electrical Tunnel, and Standby Gas Treatment room exterior doors

The preliminary estimate for the required amount of sandbags is 963 bags, to construct a three (3) foot high barrier at the 12 personnel access doors and the two (2) roll up doors, which is the area of concern for a Probable Maximum Precipitation (PMP) event. If conventional sand bags are used it is estimated it would take two (2) men 10 hours to complete the deployment, assuming filled bags are prestaged. As an alternative, Floodstop Flood Barriers can be deployed by a single individual in 30 minutes per door. These barriers are lightweight and sized based on the access needing protection. The time estimate for full deployment is approximately seven (7) hours. As stated below it is anticipated that support personnel will be available based on a 24 hour warning time associated with a PMP event. These time estimates will be validated through demonstration prior to August 1, 2013.

An interim evaluation will be performed to identify actions to reduce the flood elevation for NMP1 and reduce the flood duration for both NMP1 and NMP2. The evaluation will consist of modeling potential modifications to site drainage systems and flood mitigation features. The evaluation will look at blocking or controlling the culvert that connects the NMP site to the offsite watershed area south of Lake Road to allow for reduction of the assumed PMP event from 72 hours to 6 hours based on NUREG/CR-7046 guidance. In addition, modifications to onsite drainage systems to reduce the flood elevations during a PMP event, as well as further reductions to the flood duration, will be evaluated. This action has been entered into the Corrective Action Program with a completion date of August 1, 2014, in order to accommodate any state and local regulatory approvals necessary. The interim actions planned are sufficient to protect essential station equipment independent of this interim evaluation.

The PMP event due to the LIP does not cause an immediate flooding concern at the NMP site. The time between the prediction of a PMP event and the potential flooding event will be greater than 24 hours giving station personnel time to initiate flood mitigation measures.

The reevaluated LIP flood causing mechanism for NMP1 and NMP2 is not bounded by the current design basis for external flooding at the site. Therefore, Constellation Energy Nuclear Group will perform an integrated assessment for external flooding in accordance with Reference (a).

Interim actions to address any higher flooding hazards, relative to the current design basis, are as follows:

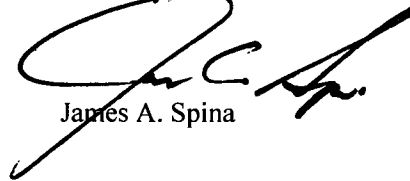
1. Revise station procedures to direct installation of temporary flood protection equipment such as sandbags, inflatable dams, or similar devices at the two (2) NMP1 Diesel Generator building roll-up doors and associated Power Board 103 room, one (1) Battery Board 11 room, one (1) Battery Board 12 room, and one (1) Valve Board 11 room exterior doors, and at the NMP2 three (3) Control Building, two (2) Electrical Tunnel, and three (3) Standby Gas Treatment room exterior doors, during a flood event. This action has been entered into the station Corrective Action Program with a completion date of August 1, 2013.

This letter contains regulatory commitments as listed in Attachment 2.

If there are any questions regarding this submittal, please contact Everett (Chip) Perkins [everett.perkins@cengllc.com](mailto:everett.perkins@cengllc.com) at 410-470-3928.

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 12, 2013.

Sincerely



James A. Spina

JAS/EMT/bjd

Attachments: (1) Nine Mile Point Flood Hazard Reevaluation Report  
(2) Regulatory Commitments Contained in this Correspondence

cc: B. K. Vaidya, NRC  
W. M. Dean, NRC  
Resident Inspector, Nine Mile Point