

David B. Hamilton
Vice President

440-280-5382
Fax: 440-280-8029

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L-15-363

10 CFR 50.54(f)

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

SUBJECT:

Perry Nuclear Power Plant
Docket No. 50-440, License No. NPF-58
Planned Revision of Flood Hazard Reevaluation Report in Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding the Flooding Aspects of Recommendation 2.1 of the Near-Term Task Force (NTTF) Review of Insights from the Fukushima Dai-ichi Accident (TAC No. MF6099)

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued a letter titled, "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" [Agencywide Documents Access and Management System (ADAMS) Accession No. ML12053A340], to all power reactor licensees and holders of construction permits in active or deferred status. Enclosure 2 of the 10 CFR 50.54(f) letter addresses NTTF Recommendation 2.1 for flooding. One of the required responses is for licensees to submit a Hazard Reevaluation Report (HRR) in accordance with the NRC's prioritization plan. By letter dated May 11, 2012 (ADAMS Accession No. ML12097A509), the NRC placed the Perry Nuclear Power Plant (PNPP) in Category 3 requiring a response by March 12, 2015. The flood HRR for PNPP was submitted by letter dated March 10, 2015 (ADAMS Accession No. ML15069A056).

As part of the regulatory audit described by NRC letter dated June 8, 2015 (ADAMS Accession No. ML15153A145), a telephone call was held between FirstEnergy Nuclear Operating Company (FENOC) and NRC staff on November 16, 2015. During this call, FENOC's plan to submit a revision to the PNPP flood HRR was discussed. The flood HRR currently undergoing review has been impacted by plant and modeling changes, including major physical modification to the streams and watersheds at the site. As a result, the design basis for flooding is being reestablished, and the current licensing basis (CLB) is being reassessed.

As communicated on November 16, 2015, FENOC continues its plan to reestablish the PNPP design basis, reassess the CLB, update the beyond-design-basis (BDB) analyses, and submit a revision to the PNPP flood HRR for NRC review.

The PNPP CLB for flooding indicates a water surface elevation less than Elevation (El.) 620.5 feet on the site, and major and minor streams floodwater does not impact the power block. During the initial evaluations for the flood HRR, calculations and analyses to support the design basis flood level were reassessed. The reassessment of design basis calculations identified that the minor stream did not have the capacity to remove the floodwater, and the site would be flooded above El. 620.5 feet National Geodetic Vertical Datum of 1929 (NGVD 29). The flooding is due to both local intense precipitation (LIP) and watershed runoff entering the site from the south. A functionality assessment was performed, and compensatory measures were taken.

Major modifications to the major and minor streams are in the process of being implemented to prevent the runoff from entering the site. The improvements have been field implemented and are in the process of being verified. Design basis calculations, as well as BDB calculations, are being developed to reflect flood levels based on site conditions and topography post stream modifications. The calculation results will reestablish the design basis flood level and provide updated BDB results. An evaluation will then be performed to determine the impact on the FLEX mitigating strategies.

The flood HRR is being revised to reflect these site modifications and the reestablished design basis flood level and to provide the results of the updated BDB calculations. The scope of the planned revision to the flood HRR includes the following reevaluated flooding levels identified in Section 4 and Table 2 of the current flood HRR that exceed the CLB limits: LIP; major stream probable maximum flood (PMF); and minor stream PMF, including the combined effects of wind-generated waves. The Lake Erie probable maximum storm surge (PMSS) results in Revision 0 of the flood HRR are not impacted in Revision 1.

For the LIP, the BDB values listed in Revision 0 of the PNPP flood HRR were incorrect due to an error within the model used for the calculation. With the error corrected, the calculation results show an increase in the water surface elevation (WSE). However, due to the stream modifications previously mentioned, offsite flows will no longer enter the LIP area, thus reducing the resulting onsite LIP WSE. The stream modifications also affect the current design basis WSE. The design basis and BDB calculations are in development and would be based on additional modifications that may be deemed necessary to protect the plant from resulting high WSEs. The flood HRR will be revised accordingly.

For the major stream PMF, the plant modification includes the removal of a segment of rail line located to the west of the major stream, adjusting site topography. Both design basis and BDB values reported in Revision 0 of the flood HRR require updates within Revision 1. Flood levels will be minimally impacted due to the modification. However, the discussion in Revision 0 of the flood HRR is significantly altered as all flows are

contained within the watershed. The modifications impact the design basis [HMR 33 Probable Maximum Precipitation (PMP)] as well as the BDB [Applied Weather Associates (AWA) site specific PMP] scenarios.

For the minor stream PMF, including the combined effects of wind-generated waves, the plant modification changes topography significantly. Namely, a new diversion channel intercepts the minor stream upstream of the plant and directs flow north into Lake Erie. The diversion channel is capable of conveying the watershed runoff during the PMF without impacting the power block. The modification impacts the design basis (HMR 33 PMP) as well as the BDB (AWA site specific PMP) scenarios.

Upon completion of the design basis calculations described above (post stream modifications), the design basis flood level is to be reestablished, the CLB reassessed and updated accordingly, the BDB analyses updated, and the PNPP flood HRR revised. FENOC intends to submit the revision to the PNPP flood HRR by March 25, 2016.

There are no regulatory commitments contained in this letter. If there are any questions or if additional information is required, please contact Mr. Thomas A. Lentz, Manager – Fleet Licensing, at 330-315-6810.

I declare under penalty of perjury that the foregoing is true and correct. Executed on December 11, 2015.

Respectfully,



David B. Hamilton

cc: Director, Office of Nuclear Reactor Regulation (NRR)
NRC Region III Administrator
NRC Resident Inspector
NRR Project Manager