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

September 3, 2015

Mr. Brian D. Boles
Site Vice President
FirstEnergy Nuclear Operating
Company
c/o Davis-Besse NPS
5501 N. State Route 2
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1– INTERIM STAFF RESPONSE TO REEVALUATED FLOOD HAZARDS SUBMITTED IN RESPONSE TO 10 CFR 50.54(f) INFORMATION REQUEST – FLOOD-CAUSING MECHANISM REEVALUATION (TAC NO. MF3721)

Dear Mr. Boles:

The purpose of this letter is to provide a summary of the U.S. Nuclear Regulatory Commission (NRC) staff's assessment of the re-evaluated flood-causing mechanisms described in the March 11, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14070A108), flood hazard reevaluation report (FHRR) submitted by FirstEnergy Nuclear Operating Company (FENOC, the licensee) for the Davis-Besse Nuclear Power Station, Unit 1 (Davis-Besse), as well as supplemental information resulting from requests for additional information and audits.

By letter dated March 12, 2012, 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) (ADAMS Accession No. ML12053A340). 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. Table 2 provides reevaluated flood hazard mechanisms; however, reevaluated flood hazard mechanisms bounded by the current design-basis (Table 1) are not included

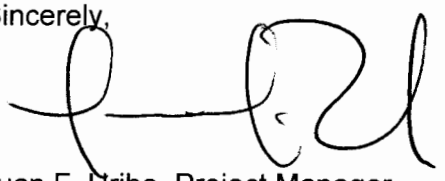
The NRC staff has concluded that the licensee's reevaluated flood hazards information, as summarized in the Enclosure, is suitable for the assessment of mitigating strategies developed in response to Order EA-12-049 (i.e., defines the mitigating strategies flood hazard information described in guidance documents currently being finalized by the industry and NRC staff) for Davis-Besse. 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, 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 duration parameters and applicable associated effects should be considered as part of the Davis-Besse 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.

As stated above, Table 2 of the enclosure to this letter describes the reevaluated flood hazards that exceed the current design-basis. In order to complete its response to the information requested by Enclosure 2 to the 50.54(f) letter, the licensee is expected to submit an integrated assessment or a focused evaluation, as appropriate, to address these reevaluated flood hazards, 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).

If you have any questions, please contact me at (301) 415-3809 or e-mail at Juan.Uribe@nrc.gov.

Sincerely,



Juan F. Uribe, Project Manager
Hazards Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

Docket No. 50-346

Enclosure:
Summary of Results of Flooding
Hazard Re-Evaluation Report – ML15238B865

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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 LIP - Turbine Building	584.5 ft IGLD55	Minimal	584.5 ft IGLD55	FHRR Section 2.1.1
Streams and Rivers River and Streams	579.0 ft IGLD55	Not applicable	579.0 ft IGLD55	FHRR Section 2.1.2
Failure of Dams and Onsite Water Control/Storage Structures Dam Failure	No Impact Identified	No Impact Identified	No Impact Identified	FHRR Section 2.1.3
Storm Surge Storm Surge	583.7 ft IGLD55	6.6 ft	590.3 ft IGLD55	FHRR Section 2.1.4 FHRR Section 2.1.8
Seiche Seiche	Not included in DB	Not included in DB	Not included in DB	FHRR Table 3
Tsunami	Not included in DB	Not included in DB	Not included in DB	FHRR Table 3
Ice-Induced Flooding	No Impact Identified	No Impact Identified	No Impact Identified	FHRR Table 3
Channel Migrations/Diversions	No Impact Identified	No Impact Identified	No Impact Identified	FHRR Table 3

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

Table 2. Reevaluated Flood Hazards for Flood-Causing Mechanisms for Use in the MSA

Mechanism	Stillwater Elevation	Waves/ Runup	Reevaluated Hazard Elevation	Reference
Local Intense Precipitation				
Turbine Building	585.5 ft IGLD55	Minimal	585.5 ft IGLD55	FHRR Section 3.8
Intake Structure	585.5 ft IGLD55	Minimal	585.5 ft IGLD55	FHRR Section 3.8
Auxiliary Buildings	585.4 ft IGLD55	Minimal	585.4 ft IGLD55	FHRR Table 1
Storm Surge	585.8 ft IGLD55	0.1 ft	585.9 ft IGLD55	FHRR Section 3.7.4

Note 1: The licensee is expected to develop flood event duration parameters and applicable flood associated effects to conduct the MSA. The staff will evaluate the flood event duration parameters (including warning time and period of inundation) and flood associated effects during its review of the MSA.

Note 2: Reevaluated hazard mechanisms bounded by the current design basis (see Table 1) are not included in this table.

Note 3: Reported values are rounded to the nearest one-tenth of a foot.

If you have any questions, please contact me at (301) 415-3809 or e-mail at Juan.Uribe@nrc.gov.

Sincerely,
/RA/
Juan F. Uribe, Project Manager
Hazards Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

Docket No. 50-346

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

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ADAMS Accession No.: PKG ML15239B210 LTR: ML15239B212 ENCL: ML15238B865 *via email

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