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

January 5, 2017

Mr. Paul Fessler
Senior Vice President and Chief
Nuclear Officer
DTE Electric Company
Fermi 2 – 210 NOC
6400 North Dixie Highway
Newport, MI 48166

SUBJECT: FERMI, UNIT 2– FLOOD HAZARD MITIGATION STRATEGIES ASSESSMENT (CAC NO. MF7926)

Dear Mr. Fessler:

The purpose of this letter is to provide the U.S. Nuclear Regulatory Commission's (NRC's) assessment of the flood hazard mitigation strategies assessment (MSA), as described in the December 9, 2016, letter (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16344A235), submitted by DTE Electric Company (DTE, the licensee) for Fermi, Unit 2 (Fermi). The MSA confirms that the licensee has adequately addressed the reevaluated flooding hazards within its mitigating strategies for beyond-design-basis external events.

BACKGROUND

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* (10 CFR), Section 50.54(f) (hereafter referred to as the 50.54(f) letter). The 50.54(f) letter 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 that licensees reevaluate flood-causing mechanisms using present-day methodologies and guidance. Concurrent with the reevaluation of flood hazards, licensees were required to develop and implement mitigating strategies using the most recent external hazard information in accordance with NRC Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events" (ADAMS Accession No. ML12054A735). That order requires holders of operating reactor licenses and construction permits issued under 10 CFR Part 50 to modify the plants to provide additional capabilities and defense-in-depth for responding to beyond-design-basis external events, and to submit to the NRC for review a final integrated plan that describes how compliance with the requirements of Attachment 2 of the order was achieved. In order to proceed with implementation of Order EA-12-049, licensees used the current licensing basis flood hazard or the most recent flood hazard information, which may not be based on present-day methodologies and guidance, in the development of their mitigating strategies.

The NRC staff and industry recognized the difficulty in developing and implementing mitigating strategies before completing the reevaluation of flood hazards. The NRC staff described this issue and provided recommendations to the Commission on integrating these related activities in COMSECY-14-0037, "Integration of Mitigating Strategies for Beyond-Design-Basis External Events and the Reevaluation of Flood Hazards," dated November 21, 2014 (ADAMS Accession No. ML14309A256). The Commission issued a staff requirements memorandum on March 30, 2015 (ADAMS Accession No. ML15089A236), affirming that the Commission expects licensees for operating nuclear power plants to address the reevaluated flood hazards, which are considered beyond-design-basis external events, within their mitigating strategies.

Nuclear Energy Institute (NEI) 12-06, Revision 2, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide" (ADAMS Accession No. ML16005A625), has been endorsed by the NRC as an appropriate methodology for licensees to perform assessments of the mitigating strategies against the reevaluated flood hazards developed in response to the 50.54(f) letter. The guidance in NEI 12-06, Revision 2, and Appendix G in particular, supports the proposed Mitigation of Beyond-Design-Basis Events rulemaking. The endorsement, including exceptions, clarifications, and additions, is described in NRC Japan Lessons-Learned Division (JLD) interim staff guidance (ISG) JLD-ISG-2012-01, Revision 1, "Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events" (ADAMS Accession No. ML15357A163). Therefore, Appendix G of NEI 12-06, Revision 2, describes acceptable methods for demonstrating that the reevaluated flooding hazard is addressed within the Fermi mitigating strategies for beyond-design-basis external events.

MITIGATION STRATEGIES ASSESSMENT

By letter dated March 8, 2013 (ADAMS Accession No. ML13070A199), DTE submitted the flood hazard reevaluation report (FHRR) for Fermi, as requested by Enclosure 2 of the 50.54(f) letter. By letter dated November 20, 2015 (ADAMS Accession No. ML15313A470), the NRC staff concluded, among other things, that:

1. All the reevaluated flood hazard mechanisms for Fermi were bounded by the current design basis of the site, and
2. It was appropriate to evaluate the mitigating strategies against the current design-basis flood hazard mechanisms.

By letter dated December 9, 2016, the licensee submitted its MSA and stated that the evaluation was performed consistent with the guidance provided in NEI 12-06, Revision 2, and that the mitigating strategies design-basis flood bounds the reevaluated flood (i.e., mitigating strategies flood hazard information) for all applicable flood-causing mechanisms, including associated effects and flood event duration parameters. Furthermore, the licensee stated that the current design-basis flood protection measures implemented at the site will provide adequate protection against the reevaluated flood hazards.

Additional information related to the mitigating strategies design-basis flood was provided to the NRC as part of compliance with NRC Order EA-12-049, by letter dated January 20, 2016 (ADAMS Accession No. ML16022A118). In the letter, the licensee reported that full compliance with the requirements of Order EA-12-049 was achieved for Fermi, and submitted a Final Integrated Plan. The NRC staff issued a safety evaluation of Fermi's full compliance by letter

dated September 29, 2016 (ADAMS Accession No. ML16258A040). An inspection will confirm compliance with the order.

The NRC staff has reviewed the flood hazard MSA for Fermi. The NRC staff confirmed that the licensee's flood hazard MSA was performed consistent with the guidance in Appendix G of NEI 12-06, Revision 2, as endorsed, by JLD-ISG-2012-01, Revision 1. Based on the licensee's inclusion of an appropriate set of equipment and its use of an appropriate hazard and methodology in its MSA, the staff concludes that the licensee has demonstrated that the mitigation strategies are reasonably protected from reevaluated flood hazards conditions.

If you have any questions, please contact me at (301) 415-2621 or e-mail at Robert.Bernardo@nrc.gov.

Sincerely,

Robert Bernardo, Project Manager
Hazards Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

Docket No.: 50-341

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FERMI, UNIT 2– FLOOD HAZARD MITIGATION STRATEGIES ASSESSMENT, DATED JANUARY 5, 2017

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OFFICE	NRR/JLD/JHMB/PM	NRR/JLD/LA	NRR/JLD/JHMB/BC(A)	NRR/JLD/JHMB/PM
NAME	RBernardo	SLent	GBowman	RBernardo
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