



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

November 15, 2017

Mr. Bryan C. Hanson  
Senior Vice President  
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President and Chief Nuclear Officer  
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4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: THREE MILE ISLAND NUCLEAR STATION, UNIT 1 – STAFF ASSESSMENT  
OF FLOODING FOCUSED EVALUATION (CAC NO. MG0047; EPID L-2017-  
JLD-0002)

Dear Mr. Hanson:

By letter dated March 12, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12053A340), the U.S. Nuclear Regulatory Commission (NRC) issued a request for information to all power reactor licensees and holders of construction permits in active or deferred status, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.54(f), "Conditions of Licenses" (hereafter referred to as the "50.54(f) letter"). The request was issued in connection with implementing lessons learned from the 2011 accident at the Fukushima Dai-ichi nuclear power plant, as documented in the NRC's Near-Term Task Force (NTTF) report (ADAMS Accession No. ML111861807). Enclosure 2 to the 50.54(f) letter requested that licensees reevaluate flood hazards for their sites using present-day methods and regulatory guidance used by the NRC staff when reviewing applications for early site permits and combined licenses (ADAMS Accession No. ML12056A046). By letter dated August 13, 2015 (ADAMS Accession No. ML15225A266, Non-Public), Exelon Generation Company, LLC (Exelon, the licensee) responded to this request for Three Mile Island Nuclear Station, Unit 1 (TMI).

After its review of the licensee's response, the NRC issued an interim staff response (ISR) letter for TMI, dated March 31, 2016 (ADAMS Accession No. ML16091A084). The ISR letter provided the reevaluated flood hazard mechanisms that exceeded the current design basis (CDB) for TMI and parameters that are a suitable input for the mitigating strategies assessment (MSA). As stated in the letter, because the local intense precipitation (LIP), failure of dams and onsite water control/storage structures, and ice-induced flooding mechanisms at TMI are not bounded by the plant's CDB, additional assessments of the flood hazard mechanisms are necessary.

By letter dated January 5, 2017 (ADAMS Accession No. ML17006A159), the licensee submitted the focused evaluation (FE) for TMI.

Enclosure 1 transmitted herewith contains Security-Related Information. When separated from Enclosure 1, this document is decontrolled.

B. Hanson

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The FEs are intended to confirm that licensees have adequately demonstrated, for unbounded mechanisms identified in the ISR letter, that: 1) a flood mechanism is bounded based on further reevaluation of flood mechanism parameters; 2) effective flood protection is provided for the unbounded mechanism; or 3) a feasible response is provided if the unbounded mechanism is local intense precipitation. The purpose of this letter is to provide the NRC's assessment of the TMI FE.

As set forth in the attached staff assessment, the NRC staff has concluded that the TMI FE was performed consistent with the guidance described in Nuclear Energy Institute (NEI) 16-05, Revision 1, "External Flooding Assessment Guidelines" (ADAMS Accession No. ML16165A178). Guidance document NEI 16-05, Revision 1, has been endorsed by Japan Lessons-Learned Division (JLD) interim staff guidance (ISG) JLD-ISG-2016-01, "Guidance for Activities Related to Near-Term Task Force Recommendation 2.1, Flood Hazard Reevaluation" (ADAMS Accession No. ML16162A301). The NRC staff has further concluded that the licensee has demonstrated that effective flood protection, if appropriately implemented, exists for the unbounded flooding mechanisms during a beyond-design-basis external flooding event at TMI. This closes out the licensee's response for TMI for the reevaluated flooding hazard portion of the 50.54(f) letter and the NRC's efforts associated with CAC No. MG0047.

If you have any questions, please contact me at 301-415-2864 or at Milton.Valentin@nrc.gov.

Sincerely,



Milton O. Valentin, Project Manager  
Beyond-Design-Basis Management Branch  
Division of Licensing Projects  
Office of Nuclear Reactor Regulation

Enclosures:

1. Staff Assessment Related to the  
Flooding Focused Evaluation for TMI (Non-public)
2. Staff Assessment Related to the  
Flooding Focused Evaluation for TMI (Public)

Docket No: 50-289

cc w/encl: Distribution via Listserv

STAFF ASSESSMENT BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE FOCUSED EVALUATION FOR

THREE MILE ISLAND NUCLEAR STATION, UNIT 1

AS A RESULT OF THE REEVALUATED FLOODING HAZARD NEAR-TERM TASK FORCE

RECOMMENDATION 2.1 - FLOODING

1.0 INTRODUCTION

By letter dated March 12, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12053A340), the U.S. Nuclear Regulatory Commission (NRC) issued a request for information to all power reactor licensees and holders of construction permits in active or deferred status, 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 request was issued in connection with implementing lessons learned from the 2011 accident at the Fukushima Dai-ichi nuclear power plant, as documented in the NRC's Near-Term Task Force (NTTF) report (ADAMS Accession No. ML111861807).

Enclosure 2 of the 50.54(f) letter requested that licensees reevaluate flood hazards for their respective sites using present-day methods and regulatory guidance used by the NRC staff when reviewing applications for early site permits and combined licenses (ADAMS Accession No. ML12056A046). If the reevaluated hazard for any flood-causing mechanism is not bounded by the plant's current design basis (CDB) flood hazard, an additional assessment of plant response would be necessary. Specifically, the 50.54(f) letter stated that an integrated assessment should be submitted, and described the information that the integrated assessment should contain. By letter dated November 30, 2012 (ADAMS Accession No. ML12311A214), the NRC staff issued Japan Lessons-Learned Division (JLD) interim staff guidance (ISG) JLD-ISG-2012-05, "Guidance for Performing the Integrated Assessment for External Flooding."

On June 30, 2015 (ADAMS Accession No. ML15153A104), the NRC staff issued COMSECY-15-0019, describing the closure plan for the reevaluation of flooding hazards for operating nuclear power plants. The Commission approved the closure plan on July 28, 2015 (ADAMS Accession No. ML15209A682). COMSECY-15-0019 outlines a revised process for addressing cases in which the reevaluated flood hazard is not bounded by the plant's CDB. The revised process describes a graded approach in which licensees with hazards exceeding their CDB flood will not be required to complete an integrated assessment, but instead will perform a focused evaluation (FE). As part of the FE, licensees will assess the impact of the hazard(s) on their site and then evaluate and implement any necessary programmatic, procedural, or plant modifications to address the hazard exceedance.

Nuclear Energy Institute (NEI) 16-05, Revision 1, "External Flooding Assessment Guidelines" (ADAMS Accession No. ML16165A178), has been endorsed by the NRC as an appropriate methodology for licensees to perform the focused evaluation in response to the 50.54(f) letter. The NRC's endorsement of NEI 16-05, including exceptions, clarifications, and additions, is described in NRC JLD-ISG-2016-01, "Guidance for Activities Related to Near-Term Task Force

Enclosure 2

Recommendation 2.1, Flood Hazard Reevaluation” (ADAMS Accession No. ML16162A301). Therefore, NEI 16-05, Revision 1, describes acceptable methods for demonstrating that Exelon Generation Company, LLC (Exelon, the licensee) has effective flood protection for the Three Mile Island Nuclear Station, Unit 1 (TMI).

## 2.0 BACKGROUND

This background section describes the reevaluated flood information provided by the licensee and the associated assessments performed by the NRC staff. The reevaluated flood information includes the flood hazard reevaluation report (FHRR), the mitigation strategies assessment (MSA), and the FE.

### Flood Hazard Reevaluation Report

By letter dated August 13, 2015 (ADAMS Accession No. ML15225A266, Non-Public), the licensee submitted the FHRR for TMI. After reviewing the licensee’s response, by letter dated March 31, 2016 (ADAMS Accession No. ML16091A084), the NRC issued an interim staff response (ISR) letter for TMI. The ISR letter discusses the reevaluated flood hazard mechanisms that exceeded the CDB for TMI and parameters that are a suitable input for the MSA. As stated in the ISR letter, because the local intense precipitation (LIP), failure of dams and onsite water control/storage structures, and ice-induced flooding at TMI are not bounded by the plant’s CDB, additional assessments of the flood hazard mechanisms are necessary. The NRC staff issued a final staff assessment of the FHRR by letter dated November 2, 2017 (ADAMS Accession No. ML17276B185). The NRC staff’s conclusions regarding flooding-mechanisms exceeding the TMI CDB remained unchanged from the information provided in the ISR letter.

### Mitigation Strategies Assessment

By letter dated June 29, 2016 (ADAMS Accession No. ML16362A413), Exelon submitted the TMI’s MSA for NRC review. The MSAs are intended to confirm that licensees have adequately addressed the reevaluated flooding hazards within their mitigation strategies for beyond-design-basis external events (BDBEEs). By letter dated January 10, 2017 (ADAMS Accession No. ML16362A413), the NRC issued its assessment of the TMI MSA. The NRC staff concluded that the TMI MSA was performed consistent with the guidance described in Appendix G of Nuclear Energy Institute 12-06, Revision 2, “Diverse and Flexible Coping Strategies (FLEX) Implementation Guide” (ADAMS Accession No. ML16005A625). The NRC’s endorsement of NEI 12-06, Revision 2, is described in 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). The NRC staff further concluded that the licensee has demonstrated that the mitigation strategies, if appropriately implemented, are reasonably protected from reevaluated flood hazards conditions for BDBEEs.

### Focused Evaluation

By letter dated January 5, 2017 (ADAMS Accession No. ML17006A159), the licensee submitted the FE for TMI. The FEs are intended to confirm that licensees have adequately demonstrated, for unbounded mechanisms identified in the ISR letter, that: 1) a flood mechanism is bounded based on further reevaluation of flood mechanism parameters; 2) effective flood protection is

provided for the unbounded mechanism; or 3) a feasible response is provided if the unbounded mechanism is LIP. These three options associated with performing an FE are referred to as Path 1, 2, or 3, as described in NEI 16-05, Revision 1. The purpose of this staff assessment is to provide the results of the NRC's evaluation of the TMI FE.

### 3.0 TECHNICAL EVALUATION

As described in the IRS letter; the LIP, dam/onsite storage failure, and ice-induced flooding mechanisms were found to exceed the plant's CDB. The licensee stated that the FE for TMI followed Path 2 of NEI 16-05, Revision 1 and followed guidance in Appendix B to evaluate the site's strategy. This technical evaluation characterizes the flood parameters and evaluates the following flood impact assessment topics for each unbounded flood-causing mechanisms: description of impact of unbounded hazard; evaluation of available physical margin and reliability of flood protection features; and overall site response.

#### 3.1 Characterization of Flood Parameters

The licensee assessed flood-causing mechanisms as documented in its FHRR, and the NRC staff found them acceptable, as stated by letter dated November 2, 2017 (ADAMS Accession No. ML17276B185). The licensee used the FHRR information as input for its FE and concluded that key safety functions (KSFs) are protected from the non-bounded reevaluated flood-causing mechanisms (LIP, failure of dams and onsite water control/storage structures, and ice-induced flooding) by plant grade or permanent/passive features with adequate margin. The licensee also stated that the site does not require human actions to protect key structures, systems, and components (SSCs) from the reevaluated hazards; therefore, an evaluation of the overall site response to address unbounded flooding mechanisms was not necessary.

The FE states that the TMI nominal site grade elevation is 304 feet National Geodetic Vertical Datum of 1929 (NGVD-29). Most of the safety related structures have a floor elevation of 305 feet NGVD-29. The FE also states that the TMI site is protected by an earth embankment with an elevation of 310 feet NGVD-29 at its highest point, as later described in Section 3.3.1. In addition, the FE states that safe shutdown structures are protected from water intrusion up to elevation 313.5 feet NGVD-29 by installation of multiple protective features, as described above. However, given the reevaluated flood hazard information and because the LIP was not considered in their licensing basis, Exelon identified the SSCs important to safety that could be affected by water intrusion generated by the LIP:

- Low Pressure Injection/Decay Heat Removal pumps and valves (Auxiliary Building (AB) 261 feet NGVD-29 elevation)
- Emergency electrical power distribution center, 1C ESV 480V MCC (AB 281 feet NGVD-29 elevation)
- HPI/Makeup pumps and valves (AB 281 feet NGVD-29 elevation)
- Emergency feedwater pumps and valves (Intake Building 295 feet NGVD-29 elevation)

In its FE, the licensee described how the potential water intrusion in these structures does not compromise KSFs at TMI.

### 3.2 Evaluation of Flood Impact Assessment for LIP

#### 3.2.1 Description of Impact of Unbounded Hazard

Table 2 of the licensee's FE provides a summary of the LIP flood impact at TMI. The same table shows water elevations ranging from 305.1 to 305.3 feet NGVD-29 at pathways into buildings with KSFs. The threshold elevation at these pathways is 305.0 feet NGVD-29. The same Table shows one pathway with a threshold elevation of 301.5 feet NGVD-29 and a water elevation of 305.2 feet NGVD-29. The licensee explained that water intrusion is expected at these pathways. Given that possibility, the licensee identified the following safe shutdown components that could be impacted by potential water intrusion:

- Decay Heat Pumps in the Auxiliary and Fuel Handling Buildings
- 1P or 1Q Direct Current Cabinet Relays in the Diesel Generator (DG) Building

The licensee's FE described the LIP analysis used to estimate the water elevations and intrusion volumes to be conservative. The licensee explained that the analysis took no credit for site drainage systems or ground infiltration, and that values for rain input and mid-range Manning values were judged to be conservative. The LIP evaluation report (TMI Calculation C-1101-122-E410-013) was audited during the NRC staff audit of the flood-causing mechanisms at TMI, as documented in the NRC staff audit report (ADAMS Accession No. ML17017A351).

#### 3.2.2 Evaluation of Available Physical Margin and Reliability of Flood Protection Features

The licensee stated in its FE that water intrusion into the Auxiliary and Fuel Handling Building from the LIP event should drain into the AB sump cavity. The volume of water intrusion was determined by the licensee to be about 3,740 gallons. The licensee's FE states that the sump cavity has enough capacity to retain the water intrusion without compromising KSF equipment. In addition, the licensee stated that pumps in the AB Sump have the capacity to remove water at a rate above the expected rate of accumulation in the sump.

The NRC staff confirmed, in Section 6.4.5 of the TMI Updated Final Safety Analysis Report (UFSAR) (Revision 21, April 2012), that the AB sump has a capacity of about 9,700 gallons when the water level is 6.5 feet above the sump floor. The difference between the capacity of the sump (9,700 gallons) and the estimated water intrusion volume (3,740 gallons) provides reasonable margin. Also, the TMI UFSAR states that the AB sump floor is about 7 feet below the lowest floor level in any of the pump cubicles. In addition, the NRC staff confirmed the elevation of the decay heat pump in the AB, as shown in TMI UFSAR Drawing No. IE-145-02-007, Revision 8, Section D-D, to remain above the water level due to potential intrusion. This drawing shows the location of the decay heat removal pumps and the sump cavity underneath, with a sump floor elevation of 254 feet. For these reasons, the NRC staff finds that the sump cavity should accommodate water intrusion from the LIP event, as described by the licensee in its FE.

The NRC staff also confirmed that, as part of its license for TMI, Exelon has controls in place to monitor and handle flooding of the AB sump. The TMI UFSAR states that there are two AB sump pumps, each with a capacity of 150 gallons per minute, and normally set in automatic control. The UFSAR also states that the first pump starts when the sump level reaches 66

inches (5.5 feet). When a liquid level of 70 inches (5.833 feet or 5'-10") is detected in the sump, an alarm will sound in the Control Room. At a 72 inch level (6.0 feet), the second AB sump pump will start automatically to pump water out of the sump cavity. A second alarm will sound when the AB sump liquid level reaches 80 inches (6.5 feet or 6'-6"). These controls should provide additional margin of protection against the unlikely event of water overflowing the sump cavity. The NRC staff also confirmed, via the audit process, that the LIP flood event should not affect the sump pump discharge. The discharge goes to the miscellaneous waste storage tank (MWST), which has a minimum freeboard capacity of 10,000 gallons and provides sufficient margin for the estimated 3,740-gallon LIP discharge.

For the water intrusion at the DG Building, the licensee stated that the relay cabinets that might be affected by the flood are at least 7.5 inches above the floor level (305.0 feet NGVD-29 elevation). It was also stated in the FE that the 305.1 feet NGVD-29 water level peak elevation (0.1 feet or 1-1/5" above floor elevation) should not adversely affect the KSF equipment. Based on the information provided by the licensee, the relay cabinets should remain above the peak water level and the KSF supported by the relay cabinet should not be affected.

During the reevaluated flood hazard audit held in February 2016 and June 2016 (ADAMS Accession No. ML17017A351), the NRC staff audited TMI's LIP Calculation C-1101-122-E410-013, Revision 0. This calculation provided additional details of door pathways described in the FE. The NRC staff noted that certain doors in the vicinity of the DG building were not reported in the results table, which led the staff to question if the doors were included in the LIP evaluation. During the audit, the licensee explained that the doors were considered in the LIP evaluation. The NRC staff also verified this information in the UFSAR and the TMI Flooding Walkdown Report (ADAMS Accession No. ML14156A238), which supported the licensee's response on this matter.

It seems adequate to mention that TMI does have, as part of their current licensing basis, a site response plan to protect safety-related structures from the probable maximum flood (PMF) up to elevation 313.5 feet NGVD-29 by permanent passive barriers, installation of flood gates, and other actions to isolate water pathways. The NRC staff confirmed these protective features are part of the TMI current licensing basis and that these are described in UFSAR Sections 2.6.4.2, "Flood Design Considerations," and 2.6.5, "Design of Hydraulic Facilities." For further verification, the NRC staff requested the licensee to provide procedures where these actions and installation of flood gates were documented. In response, the licensee made available different site procedures (Installation Procedures MA-TM-122-901, MA-TM-122-902, and MA-TM-122-951) with instructions to install flood barriers and seals. If installed as described, these protective features should protect TMI as described by the licensee.

Based on the above evaluation, the staff concludes that adequate margin exists to maintain KSFs. The staff further concludes that the licensee demonstrated that the reliability of the protective features, consistent with Appendix B of NEI 16-05, Revision 1.

### 3.2.3 Overall Site Response

The licensee does not rely on new modifications to the plant in order to respond to the LIP event. As described above, the licensee's existing protection features relied upon to demonstrate adequate flood protection are part of the current licensing basis. To understand the site's response plan, the NRC staff reviewed Revision 14A of Procedure OP-TM-AOP-002, "Flood." Procedure OP-TM-AOP-002 provides entry conditions and actions for Exelon to protect the site

from flooding. By reviewing this procedure, the NRC staff confirmed that Exelon does have a plan in place to respond to the flood hazard, as described in the TMI UFSAR.

The same procedure (OP-TM-AOP-002) was evaluated in greater detail during the review of the TMI flooding walkdown report. In a letter dated June 16, 2014 (ADAMS Accession No. ML14156A238), the NRC staff stated that, as a result of the flooding walkdown report review; TMI's plant configuration was verified with the current flooding licensing basis; that Exelon addressed degraded, nonconforming, or unanalyzed flooding conditions; and that the adequacy of monitoring and maintenance programs for protective features was verified. In the same letter, the NRC staff noted that no immediate safety concerns were identified. In addition, the NRC staff stated that Exelon staff was trained every two years or when significant changes were implemented to the procedure. The NRC staff also confirmed that sufficient warning and installation time to place protective features were provided for in the procedure.

For these reasons, the NRC staff concludes that the current licensing basis protection features and procedures provide appropriate protection for KSFs from flooding due to failure of dams and failure of onsite water control/storage structures.

### 3.3 Evaluation of Flood Impact Assessment for Failure of Dams and Onsite Water Control/Storage Structures

#### 3.3.1 Description of Impact of Unbounded Hazard

The licensee stated in its FE, that the peak reevaluated hazard elevation for the seismic dam failure is [REDACTED] NGVD-29 at the north end of the dike (top elevation 310 feet NGVD-29), [REDACTED] NGVD-29 at the Intake Screen and Pump House (dike top elevation 305 feet NGVD-29), and [REDACTED] NGVD-29 at the south end of the dike (top elevation 304 feet NGVD-29). Also stated in the FE, these peak water levels do not exceed the height of the earthen dike and that the river would not reach plant safe shutdown structures. Further, the licensee stated that, even if the dike were to fail, the flood elevation ([REDACTED] NGVD-29) would not exceed the plant grade elevation (305.0 feet NGVD-29 at the Intake Screen and Pump House).

In addition to seismic dam failure, the licensee has also assessed other dam failure scenarios. As explained in the TMI FHRR dated August 13, 2015 (ADAMS Accession No. ML15225A266, Non-Public), the licensee considered hydrologic dam failure as part of the PMF for TMI. The PMF elevation is higher than the seismic dam failure flood elevation, and therefore bounds that flooding mechanism. The reevaluated PMF elevations were compared to the CDB PMF elevations and found to be bounded by the CDB. As documented in the FHRR staff assessment (ADAMS Accession No. ML17276B185), the staff agrees with the licensee that flooding due to dam failure is bounded by the CDB.

#### 3.3.2 Evaluation of Available Physical Margin and Reliability of Flood Protection Features

The licensee stated in its FE that the seismic dam failure analysis indicated that there should be adequate margin to protect the KSFs. The site relies on the passive protection of the dike, specifically designed to protect safety-related SSCs at the TMI site from floods. The top elevation of the dike at the northern tip of TMI is 310 feet NGVD-29. The highest credible water elevation from seismic failure of dams upstream from TMI was reported as [REDACTED] NGVD-



29. Based on the TMI UFSAR, the NRC staff confirmed the elevation of the dike, and concluded that the dike should be able to handle flooding due to seismic dam failure.

The dike was also assessed during the flooding walkdown documented in the NRC staff letter dated June 16, 2014 (ADAMS Accession No. ML14156A238). As part of the walkdown review, the NRC took a closer look into the dike's design and maintenance considerations. The walkdown did not identify deficiencies associated with the dike, as documented in the audit report dated February 7, 2017 (ADAMS Accession No. ML17017A351).

Based on the above evaluation, the staff concludes that adequate margin exists to maintain KSFs under seismically-initiated upstream dam failure events. The staff further concludes that the licensee demonstrated that the reliability of the protective features, consistent with Appendix B of NEI 16-05, Revision 1.

### 3.3.3 Overall Site Response

The licensee does not rely on any personnel actions or new modifications to the plant in order to respond to the seismic dam failure event. As described above, the licensee's evaluation relied on passive existing flood protection features to demonstrate adequate flood protection; therefore, there is no need to review overall site response.

## 3.4 Evaluation of Flood Impact Assessment for Ice-Induced Flooding

### 3.4.1 Description of Impact of Unbounded Hazard

The licensee stated in its FE that the ice-induced flooding hazard would be bounded by the flooding due to seismic dam failure. The NRC staff compared the ice-induced flood elevation value provided in the FHRR submittal against the seismic dam failure flood elevation value to confirm the licensee's statement and found it to be accurate.

### 3.4.2 Evaluation of Available Physical Margin and Reliability of Flood Protection Features

The licensee credited the TMI dikes to be sufficient for protection against ice-induced flooding. This matter was assessed in detail during the FHRR audit by the NRC staff. The licensee was able to provide all the information requested on this hazard. The NRC staff completed its audit with the understanding that both water elevation and volume flow generated by the ice-induced flood event can be contained by the TMI dikes with sufficient physical margin. Also, because of the work done during the flooding walkdown, the NRC staff concludes that adequate margin exists against ice-induced floods at TMI.

### 3.4.3 Overall Site Response

The licensee does not rely on any personnel actions or new modifications to the plant in order to respond to the ice-induced flooding event. As described above, the licensee's evaluation relied on passive existing flood protection features to demonstrate adequate flood protection; therefore, there is no need to review overall site response.

#### 4.0 AUDIT REPORT

The July 18, 2017, generic audit plan describes the NRC staff's intention to issue an audit report that summarizes and documents the NRC's regulatory audit of the licensee's FE. The NRC staff's TMI audit was limited to the review of the calculations and procedures described above. Because this staff assessment appropriately summarizes the results of the audit, the NRC staff concludes a separate audit report is not necessary, and that this document serves as the audit report described in the staff's July 18, 2017, letter.

#### 5.0 CONCLUSION

The NRC staff concludes that Exelon performed the TMI FE in accordance with the guidance described in NEI 16-05, Revision 1, as endorsed by JLD-ISG-2016-01, and that the licensee has demonstrated that effective flood protection from the reevaluated flood hazards exists at the site. Furthermore, the NRC staff concludes that TMI screens out of performing an integrated assessment based on the guidance found in JLD-ISG-2016-01. As such, in accordance with Phase 2 of the process outlined in the 50.54(f) letter, additional regulatory actions associated with the reevaluated flood hazard, beyond those associated with mitigation strategies assessment, are not warranted. The licensee has satisfactorily completed providing responses to the 50.54(f) activities associated with the reevaluated flood hazards.

B. Hanson

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THREE MILE ISLAND NUCLEAR STATION, UNIT 1 – STAFF ASSESSMENT OF FLOODING  
FOCUSED EVALUATION (CAC NO. MG0047; EPID L-2017-JLD-0002) DATED November 15,  
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**ADAMS Accession Nos.: Pkg ML17254A395; Non-Public Enclosure 1 ML17254A408;  
Public Enclosure 2 ML17254A424**

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