



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

August 23, 2017

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

SUBJECT: LASALLE COUNTY STATION, UNITS 1 AND 2 – STAFF ASSESSMENT OF  
FLOODING FOCUSED EVALUATION (CAC NOS. MF7937 AND MF7938)

Dear Mr. Hanson:

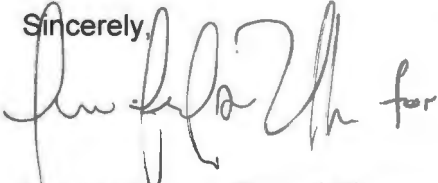
By letter dated March 12, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12053A340), the U.S. Nuclear Regulatory Commission (NRC) issued a request for information to all power reactor licensees and holders of construction permits in active or deferred status, pursuant 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. ML11861807). 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 March 12, 2014 (ADAMS Accession No. ML14079A425), Exelon Generation Company, LLC (Exelon, the licensee) responded to this request for LaSalle County Station, Units 1 and 2 (LaSalle).

After its review of the licensee's response, by letter dated September 3, 2015 (ADAMS Accession No. ML15211A482), the NRC issued an interim staff response (ISR) letter for LaSalle. The ISR letter provided the reevaluated flood hazard mechanisms that exceeded the current design basis (CDB) for LaSalle and parameters that are a suitable input for the mitigating strategies assessment (MSA). As stated in the letter, because the local intense precipitation (LIP) and probable maximum storm surge (PMSS) flood-causing mechanisms at LaSalle are not bounded by the plant's CDB, additional assessments of the flood hazard mechanisms are necessary.

By letter dated March 8, 2017 (ADAMS Accession No. ML17067A402), the licensee submitted the focused evaluation (FE) for LaSalle. 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 LaSalle FE.

As set forth in the attached "Staff Assessment," the NRC staff has concluded that the LaSalle 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). 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 LIP and PMSS flood mechanisms during a beyond-design-basis external flooding event at LaSalle. This closes out the licensee's response for LaSalle for the reevaluated flooding hazard portion of the 50.54(f) letter and the NRC's efforts associated with CAC Nos. MF9646 and MF9647.

If you have any questions, please contact me at 301-415-1056 or at [Lauren.Gibson@nrc.gov](mailto:Lauren.Gibson@nrc.gov).

Sincerely,  


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

Enclosure:  
Staff Assessment Related to the  
Flooding Focused Evaluation for LaSalle

Docket Nos: 50-373 and 50-374

cc w/encl: Distribution via Listserv

STAFF ASSESSMENT BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE FOCUSED EVALUATION FOR

LASALLE COUNTY STATION, UNITS 1 AND 2

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

RECOMMENDATION 2.1 - FLOODING

(CAC NOS. MF9646 AND MF9647)

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, the NRC staff issued COMSECY-15-0019, describing the closure plan for the reevaluation of flooding hazards for operating nuclear power plants (ADAMS Accession No. ML15153A104). 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

Recommendation 2.1, Flood Hazard Reevaluation” (ADAMS Accession No. ML16162A301). Therefore, NEI 16-05, Revision 1, describes acceptable methods for demonstrating that LaSalle County Station, Units 1 and 2 (LaSalle) has effective flood protection.

## 2.0 BACKGROUND

This provides the final NRC staff assessment associated with the information that the licensee provided in response to the reevaluated flooding hazard portion of the 50.54(f) letter. Therefore, this background section includes a summary description of the reevaluated flood information provided by the licensee and the associated assessments performed by the NRC staff. The reevaluated flood information includes: 1) the flood hazard reevaluation report (FHRR); 2) the mitigation strategies assessment (MSA); and 3) the focused evaluation.

### Flood Hazard Reevaluation Report

By letter dated March 12, 2014 (ADAMS Accession No. ML14079A425), Exelon Generation Company, LLC (Exelon, the licensee) submitted the flood hazard reevaluation report (FHRR) for LaSalle. After reviewing the licensee’s response, by letter dated September 3, 2015 (ADAMS Accession No. ML15211A482), the NRC issued an interim staff response (ISR) letter for LaSalle. The ISR letter discusses the reevaluated flood hazard mechanisms that exceeded the CDB for LaSalle and parameters that are a suitable input for the MSA. As stated in the ISR letter, because the local intense precipitation (LIP) and probable maximum storm surge (PMSS) flood-causing mechanisms at LaSalle 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 in a letter dated January 10, 2017 (ADAMS Accession No. ML16350A219). The NRC staff’s conclusions regarding LIP and PMSS exceeding the LaSalle CDB remained unchanged from the information provided in the ISR letter.

### Mitigation Strategies Assessment

By letter dated October 28, 2016 (ADAMS Accession No. ML16302A419), Exelon submitted the MSA for LaSalle for review by the NRC staff. 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. By letter dated January 11, 2017 (ADAMS Accession No. ML16355A418), the NRC issued its assessment of the LaSalle MSA. The NRC staff concluded that the LaSalle 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 beyond-design-basis external events.

### Focused Evaluation

By letter dated March 8, 2017 (ADAMS Accession No. ML17067A402), the licensee submitted the FE for LaSalle. 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. These 3 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 LaSalle FE.

### 3.0 TECHNICAL EVALUATION

Exelon stated that its FE followed Path 2 of NEI 16-05, Revision 1 and utilized Appendix B for guidance on evaluating the site strategy. The LaSalle FE addresses the LIP and PMSS flooding mechanisms, which were found to exceed the plant's CDB as described in the FHRR and ISR letter. This technical evaluation will address the following topics: characterization of flood parameters; evaluation of flood impact assessments; evaluation of available physical margin; reliability of flood protection features; and overall site response.

#### 3.1 Characterization of Flood Parameters

Associated effects (AE) and flood event duration (FED) parameters were assessed by Exelon and have already been reviewed by the NRC, as summarized by letter dated January 10, 2017 (ADAMS Accession No. ML16350A219). Exelon used the AE and FED parameters as input to the LaSalle FE and concluded that the site's flood strategy is effective in protecting structures, systems, and components (SSCs) that support key safety functions (key SSCs). Exelon supported its conclusion of adequate flood protection by demonstrating adequate available physical margin (APM) and reliable flood protection features for LIP and PMSS. In its MSA and FE for LaSalle, Exelon indicated that the site does not require additional manual actions by plant personnel to protect key SSCs; therefore, an evaluation of the overall site response was not necessary.

The LaSalle plant grade and floor elevations are 710.0 feet and 710.5 feet mean sea level (MSL). Table 3.1 provides the elevations for the two reevaluated flood mechanisms. For the LIP condition, the licensee relies on permanent passive flooding protection features and doors to demonstrate that adequate protection is available. For the PMSS, the stillwater elevation is not bounded by the LaSalle CDB; however, it does not exceed plant grade. The potential impacts from this flooding causing mechanism were further evaluated by Exelon as part of the LaSalle FE.

Table 3.1 Summary of Reevaluated Flood Hazards Elevations Included in the LaSalle FE.

<b>Flood-Causing Mechanism</b>	<b>Stillwater Elevation (feet MSL)</b>	<b>Wind-Wave Runup Height (feet)</b>	<b>Maximum Flood Elevation (feet MSL)</b>
Local Intense Precipitation	711	Minimal	711
Cooling Lake PMSS Lake Scéen House CSCS Inlet Structure	701.0 701.0	9.6 11.0	710.6 712.0

### 3.2 Evaluation of Flood Impact Assessment for LIP

#### 3.2.1 Description of Impact of Unbounded Hazard

The LaSalle FE identified the potential impacts on key SSCs as a result of water ingress due to LIP. The beyond-design-basis (BDB) LIP event leads to flood water surface elevations above the plant floor elevations at some locations. In order to assess the impacts of the unbounded flood levels, the licensee identified the maximum water surface elevations at the exterior door openings, maximum flood depths above the door threshold, and duration of when the flood levels are above the door threshold. With this information, the licensee assessed the impacts of water ingress and potential for accumulation into rooms housing key SSCs. In addition, the licensee indicated that it analyzed the potential for impacts of the unbounded flood levels on the exterior walls of the plant buildings, including their hydrostatic and hydrodynamic loading.

The licensee's evaluation indicated that the ingress of flood waters during a LIP event could impact key SSCs in the Unit 1 emergency core cooling system (ECCS) corner rooms located at elevation 673 feet MSL of the Unit 1 reactor building. The licensee indicated that key SSCs in Unit 2 are not affected by the LIP event because water intrusion is restricted by intervening stairwells and floor drains that would prevent water accumulation in Unit 2.

The following lists the Unit 1 areas where LIP water could accumulate, and the associated key SSCs:

- Low-Pressure Core Spray (LPCS)/Reactor Core Isolation Cooling (RCIC) Pump Cubicle - Fire Zone 2I4 (elevation 673.33 feet MSL)
  - Safety equipment: LPCS pump; LPCS water leg pump; RCIC pump, turbine, and condenser; RCIC instrumentation panels; LPCS instrumentation panel; and various Engineered Safety Feature (ESF) Division 1 cables.
- Residual Heat Removal Pump A Cubicle — Fire Zone 2I5 (elevation 673.33 feet MSL)
  - Safety equipment: RHR pump A; the RHR instrumentation panel A; and various ESF Division 1 cables.

The licensee concluded that:

- Flood water ingress due to higher LIP levels would not impact the plant's key safety functions because the estimated water accumulation would not reach the elevation of key SSCs;
- The hydrodynamic and hydrostatic loads added to the exterior plant concrete foundation walls are negligible; and
- The walls were structurally adequate with significant margin to withstand flood loading.

The NRC staff reviewed the information provided by the licensee in order to assure that adequate flood parameters were used for the calculation of water ingress and water accumulation. Specifically, the NRC staff verified that the assumed duration of flooding above threshold elevation was consistent with previous information reviewed by the staff for the LaSalle FHRR (ADAMS Accession No. ML16350A219).

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

The licensee relies on passive features and existing doors to justify that there is available margin using a deterministic approach. Therefore, the licensee evaluated the hydrostatic loads on exterior doors, the key SSC elevations when compared to water ingress accumulation from exterior doors, and the combined loads on exterior plant concrete foundation walls.

#### Hydrostatic Loads on Exterior Doors

To assess the reliability of the exterior doors to withstand the pressures associated with the higher flood water elevations, the licensee compared the hydrostatic load pressures from the flood event to the wind pressures and loads used for the design of wind loads. The results of the evaluation concluded that the loads from wind pressures bound the loads obtained from the hydrodynamic pressures. Forces from hydrodynamic pressures were estimated to be around 17 pounds (lb) force and 34 lb force, whereas the estimated loads used for wind design were 516 lb force and 7,560 lb force. Therefore, the design of exterior doors for wind loads was used to demonstrate that the doors provide sufficient protection for the flooded conditions.

The NRC staff agrees with the licensee's assessment of the ability of exterior doors to withstand pressures associated to the higher flood elevations. The maximum estimated water above door threshold elevation was .68 feet; therefore, the NRC staff agrees that the resultant load from the hydrostatic pressure is relatively low when compared to design wind loads.

#### Water Ingress through Exterior Doors

The licensee determined that the water accumulation needed to affect the key SSCs in the lower corner rooms of the reactor building of Unit 1 would need to be able to exceed 18 inches in depth or 28,613 gallons in volume. The licensee calculated the potential accumulation for water ingress in the Unit 1 reactor building by obtaining the flow from each door using the gap height, water head (elevation above threshold), and duration of the BDB LIP event. Walkdowns were performed by the licensee to determine gap heights and flow paths into areas housing safety-related equipment. The potential for water accumulation from the above mentioned parameters was then compared to the volume needed to impact key SSCs in the Unit 1 lower corner room.

The licensee estimated the ingress to be 7,477 gallons, resulting in a depth of less than 5 inches. As a result, the licensee concluded that an additional 21,136 gallons of water (equaling an APM of 13 inches) can be accommodated in the reactor basement without impacting key SSCs. Furthermore, the licensee stated that other plant buildings were evaluated and there was no impact to key SSCs.

The NRC staff concludes, based on the information provided by Exelon, that adequate margin exists for the reevaluated LIP mechanism. The NRC staff agrees that the licensee's estimation of water accumulation is conservative. The calculation assumed that the water head at the exterior doors was at its maximum height over the entire duration of the event, and treated the door gap as an orifice to obtain the estimated flow. In addition, no credit was given to active components, such as sump pumps, that could alleviate the water accumulation if power is available. Therefore, the NRC staff concludes that the licensee has demonstrated that adequate passive features exist to provide flood protection of key SSCs.

### Combined Loads on Concrete Foundation Walls

The licensee compared the pressures from the hydrodynamic and hydrostatic flood loads to the loads used for the design of tornado loads. The maximum pressure from the combined flood loads was 85 pounds per square foot (psf) and the loads used for the CDB wind and tornado are 300 psf and 464 psf, respectively. Based on this comparison and using engineering judgement, the licensee concluded that the loads from the BDB LIP are negligible. The NRC staff agrees with the licensee's determination that flood loads are small such that sufficient design margin exists; therefore, they will not impact the structural integrity of the foundation walls.

### Evaluation of Reliability of Protection Features

LaSalle relies on permanent passive flooding protection features, such as exterior doors and concrete foundation walls, to provide protection for flooding from LIP. The licensee evaluated the ability of these passive engineering features to withstand the flood conditions through engineering evaluations and the results are summarized above in the staff assessment of hydrostatic loads on exterior doors, water ingress through exterior doors, and combined loads on concrete foundation walls. The NRC staff performed an audit of Exelon calculation EC 399280, "Beyond Design Basis Flooding Analysis for NRC Fukushima NTF Recommendation 2.1 — Plant LIP Ingress, Revision 4," dated February 6, 2017, in accordance with an NRC audit plan dated July 18, 2017 (ADAMS Accession No. ML17192A452). Based on the audit of this calculation, the NRC staff concludes that there is reasonable assurance that areas containing key SSCs in Unit 1 will not be adversely impacted by water ingress from the LIP reevaluated hazard, and that the flood protection features associated with key SSCs will ensure their continued function in the event of LIP.

The NRC staff also audited LaSalle's procedure titled ER-LA-450, Rev 001, "Structures Monitoring Program," dated June 1, 2017, in accordance with the NRC staff's July 18, 2017, FE generic audit plan. ER-LA-450, Rev 001 describes the program to define and perform periodic structural evaluations to identify, assess, and repair degraded structural elements. The procedure includes inspection of interior and exterior doors as part of building features and requires doors to be inspected for loss of material condition and integrity. The procedure also requires inspection of door seals and sweeps for signs of degradation. In addition to the interior and exterior doors, the procedure requires inspection of penetration seals for signs of material degradation. Procedure ER-LA-450, Rev 001, reviewed by the NRC staff, provides the basis to conclude that the above-mentioned passive features are evaluated by an appropriate maintenance and inspection regime to ensure they will continue to be available to perform their intended flood protection function.

Because increased focus has been placed on flood protection since the accident at Fukushima, licensees and NRC inspectors have identified deficiencies with equipment, procedures, and analyses relied on to either prevent or mitigate the effects of external flooding at a number of licensed facilities. Recent examples include those found in Information Notice 2015-01, "Degraded Ability to Mitigate Flooding Events" (ADAMS Accession No. ML14279A268). In addition, the NRC is cooperatively performing research with the Electric Power Research Institute to develop flood protection systems guidance that focuses on flood protection feature descriptions, design criteria, inspections, and available testing methods in accordance with a memorandum of understanding dated September 28, 2016 (ADAMS Accession No. ML16223A495). The NRC staff expects that licensees will continue to maintain flood protection



features in accordance with their current licensing basis. The NRC staff further expects that continued research involving flood protection systems will be performed and shared with licensees in accordance with the guidance provided in Management Directive 8.7, "Reactor Operating Experience Program" (ADAMS Accession No. ML122750292), as appropriate.

The NRC staff concludes that the LaSalle flood protection features described above are reliable to maintain key safety functions as defined in Appendix B of NEI 16-05, Rev 1.

### 3.2.3 Overall Site Response

The licensee does not rely on any personnel actions or new modifications to the plant in order to respond to the BDB LIP 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.

## 3.3 Evaluation of Flood Impact Assessment for PMSS

### 3.3.1 Description of Impact of Unbounded Hazard

As described in the FE, the stillwater elevation from the probable maximum PMSS is 701.0 feet MSL. Since the site plant elevation is 710 feet MSL, no impacts were identified. The wind-generated wave run-up at the lake screen house and the core standby cooling system (CSCS) inlet structure is 710.6 feet MSL and 712 feet MSL, respectively. The licensee indicates that the ground surface elevation around the lake screen house and CSCS inlet structure is approximately 713.8 feet MSL and therefore, water will be contained in the intake flume. As a result, the licensee concluded that the PMSS has no impacts to key SSCs.

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

As described above, the licensee calculated an APM of 3.2 feet (713.8 – 710.6) at the lake screen house and 1.8 feet (713.8-712) at the CSCS inlet structure. The licensee stated that there would be no impact even if the lake screen house and the CSCS inlet structure were inundated by flood waters because these structures do not contain any key SSCs. Furthermore, the licensee evaluated the structural integrity of both structures and verified that the increase in loads from the reevaluated PMSS will not affect the structural integrity of the walls and foundations.

The NRC staff reviewed the APM calculation and concludes, based on the information provided by Exelon, that adequate margin exist for the reevaluated PMSS mechanism. The natural topography around the site provides protection from the reevaluated hazard and this feature has APM for additional assurance that the event will not impact key SCCs. Furthermore, the NRC staff reviewed the methodology used to evaluate the structural integrity of the walls and foundations from the increased flood/wave heights elevation and found it to be acceptable. The evaluation assumed the walls as simple beams to obtain the structural demands from the hydrostatic pressures and compared those to the structural capacity of the walls.

### Evaluation of Reliability of Protection Features

LaSalle relies on the natural topography around the site to provide protection from the reevaluated PMSS conditions. Therefore, LaSalle did not evaluate potential failure modes such as those listed in Appendix B of NEI 16-05, Rev 1 that could prevent this feature from providing

protection from PMSS conditions. Furthermore, LaSalle evaluated the structural integrity of the lake screen house and the CSCS inlet structure through engineering evaluations to verify that the increase in loads from the reevaluated PMSS will not affect the structural integrity of the walls. The NRC staff performed an audit of Exelon calculation, EC 397436, "Lake Screen House and CSCS Inlet Structure Technical Evaluation for Beyond Design Basis External Event Flood Levels, Revision 0," dated May 13, 2014, in accordance with an audit plan dated July 18, 2017 (ADAMS Accession No. ML17192A452). Based on the audit of this calculation, the NRC staff concludes that there is reasonable assurance that the lake screen house and CSCS inlet structure have adequate flood protection such that their functions will not be adversely impacted by the PMSS reevaluated hazard. As noted in Section 3.2.2 of this document, the NRC staff expects that licensees will continue to maintain flood protection features in accordance with their current licensing basis.

The NRC staff concludes that the LaSalle flood protection features described above are reliable to maintain key safety functions as defined in Appendix B of NEI 16-05, Rev 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 BDB PMSS event. As described above, the licensee's evaluation relied on passive existing 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 LaSalle 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 LaSalle 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 exists from the reevaluated flood hazards. Furthermore, the NRC staff concludes that LaSalle 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.

LASALLE COUNTY STATION, UNITS 1 AND 2 – STAFF ASSESSMENT OF FLOODING  
 FOCUSED EVALUATION DATED AUGUST 23, 2017

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