



RS-15-247

September 23, 2015

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Calvert Cliffs Nuclear Power Plant, Units 1 and 2
Renewed Facility Operating License Nos. DPR-53 and DPR-69
NRC Docket Nos. 50-317 and 50-318

Subject: Exelon Generation Company, LLC Response to March 12, 2012, Request for Information Enclosure 2, Recommendation 2.1, Flooding, Required Response 2, Flood Hazard Reevaluation Report

References:

1. NRC Letter, 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, dated March 12, 2012 (ML12053A340)
2. NRC Letter, Prioritization of Response Due Dates for Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Flooding Hazard Reevaluations for Recommendations 2.1 of the Near-Term Task Force Review of Insights From the Fukushima Dai-ichi Accident, dated May 11, 2012 (ML12097A0509)
3. Letter from David L. Skeen, U.S. Nuclear Regulatory Commission, to Joseph E. Pollock, Nuclear Energy Institute – Trigger Conditions for Performing an Integrated Assessment and Due Date for Response, dated December 3, 2012 (ML12326A912)
4. Letter from J. A. Spina (CENG) to Document Control Desk (NRC), Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Flood Hazard Reevaluation Report, dated March 12, 2013 (ML13078A010)
5. Email from M. Thadani (NRC) to E. Tyler (CENG), "Calvert Cliffs R2.1 Flooding Reevaluations: RAls," dated January 9, 2014 (ML14010A015)
6. Letter from Maria G. Korsnick to NRC dated February 10, 2014, Subject: Calvert Cliffs Nuclear Power Plant Units 1 and 2, Renewed Facility Operating License Nos. DPR-53 and DPR-69, Docket Nos. 50-317 and 50-318, Response to NRC 10 CFR 50.54(f) Request for Information Regarding Near-Term Task Force Recommendation 2.1, Flooding-Flood Hazard Reevaluation, (ML14052A052)
7. Letter from Maria G. Korsnick to NRC dated March 7, 2014, Subject: Calvert Cliffs Nuclear Power Plant Units 1 and 2, Renewed Facility Operating License Nos. DPR-53 and DPR-69, Docket Nos. 50-317 and 50-318, Additional Response to NRC 10 CFR 50.54(f) Request for Information Regarding Near-Term Task Force Recommendation 2.1, Flooding-Flood Hazard Reevaluation, (ML14162A261)

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8. NRC Letter, Response Requirements for Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Flooding Hazard Integrated Assessments for Recommendations 2.1 of the Near-Term Task Force Review of Insights From the Fukushima Dai-ichi Accident, dated November 21, 2014, (ML14303A465)
9. Calvert Cliffs Nuclear Power Plant, Units 1 And 2 – Staff Assessment of Response to 10 CFR 50.54(F) Information Request- Flood-Causing Mechanism Reevaluation (TAC Nos. MF3097 And MF3098), Letter: NRC to George H Gellrich, Dated April 16, 2015, (ML15077A103)
10. NRC Letter, Response Requirements for Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Flooding Hazard Integrated Assessments for Recommendations 2.1 of the Near-Term Task Force Review of Insights From the Fukushima Dai-ichi Accident, dated May 26, 2015, (ML15112A051)

On March 12, 2012, the NRC issued Reference 1 to request information associated with Near-Term Task Force (NTTF) Recommendation 2.1 for Flooding. One of the Required Responses in this letter directed licensees to submit a Flood Hazard Reevaluation Report, including the interim action plan requested in Item 1.d of Reference 1, Enclosure 2, if appropriate. In Reference 2, the NRC issued the prioritization plan developed by the NRC and the resultant Flood Hazard Reevaluation due dates for all sites. Reference 2, Enclosure 1 identified Calvert Cliffs Nuclear Power Plant, Units 1 and 2, as a Category 1 site requiring a Flood Hazard Reevaluation Report submittal due date of March 12, 2013. In Reference 4, Exelon Generation Company, LLC (EGC), previously Constellation Energy Nuclear Group, LLC (Exelon, the licensee) submitted the Calvert Cliffs Nuclear Power Plant, Units 1 and 2 Flood Hazard Reevaluation Report.

During a conference call on December 11, 2014, EGC notified the NRC that the Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Flood Hazard Reevaluation Report (FHRR) would be amended to incorporate new information resulting from a site specific meteorological study being performed to more accurately characterize the flooding hazard.

The information in the enclosure to this letter provides the amended Calvert Cliffs Nuclear Power Plant, Units 1 and 2 Flood Hazard Reevaluation Report. No changes were made to the following aspects of the flood hazard reevaluation:

- Flooding in Stream and Rivers;
- Dam Breaches and Failures;
- Seiche;
- Tsunami;
- Ice Induced Flooding; and
- Channel Migration or Diversion.

The FHRR previously submitted, Reference 4, identified two hazards not bounded by the Current Licensing Basis (CLB), Local Intense Precipitation (LIP) and Probable Maximum Storm Surge (PMSS). Based on these results, Calvert Cliffs Nuclear Power Plant, Units 1 and 2

committed to Interim Actions and performance of an Integrated Assessment as described by the Trigger Points discussed in Reference 3.

By performing a site specific meteorological study, the amended FHRR results are now bounded by the Current Design Basis (CDB), which is part of the CLB, for the PMSS. For LIP, the peak reevaluated flood elevation of 43.64 feet MSL at the 1A Emergency Diesel Generator (EDG) Building is bounded by the CDB elevation (44.8 feet MSL) at the same location. Other buildings were not analyzed for LIP in the CDB. Therefore, LIP was considered to be not bounded in these areas. "Scenario 2" of Reference 3 indicates that, if LIP is the only portion of the reevaluated hazard not bounded by the CDB, a limited evaluation can be performed to assess the impact of the reevaluated LIP flood on the plant. Reference 3 also states that the results of the limited evaluation should be submitted with the FHRR report (in this case, the amended FHRR). A limited evaluation was conducted that involved reviewing unanalyzed areas for potential ingress of floodwaters into structures containing safety related systems or components. The results of the review indicated that these structures are protected from LIP flood ingress up to elevation 45.0 feet MSL, by at least 0.14 foot above the maximum reevaluated LIP flood level.

Updated results for the LIP and PMSS from the amended FHRR, compared with the CLB, and results from the March 12, 2013 report are presented in Table 1, "Comparison of LIP and PMSS Results".

Table 1 – Comparison of LIP and PMSS Results

Parameter	CLB	03/12/2013 FHRR	Amended FHRR
LIP (ft.-MSL)	44.8 ¹	45.1 - 47	43.64 – 44.86
PMSS + Wave Runup (ft.-NGVD29)	28.14	31.30	26.81

¹ CLB value is for the 1A EDG Building only, where the peak reevaluated LIP flood elevation is computed to be 43.64 feet MSL. UFSAR does not identify LIP CLB for other buildings

The enclosure to this letter provides the amended Calvert Cliffs Nuclear Power Plant, Units 1 and 2 Flood Hazard Reevaluation Report and identifies all of the FHRR sections and chapters affected by the amendment.

As a result of this amended FHRR, all of the flood causing mechanisms do not pose a potential for water ingress into any structure containing safety related systems or components. Therefore, no additional interim or compensatory actions are necessary. The existing commitments for interim actions to address the higher flooding hazards contained in Reference 4 are not being revised at this time.

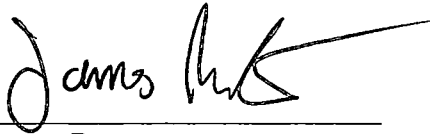
This letter contains no new or revised regulatory commitments.

If you have any questions regarding this submittal, please contact Ron Gaston at (630) 657-3359.

U.S. Nuclear Regulatory Commission
NTTF Recommendation 2.1 – Amended Flood Hazard Reevaluation Report for Calvert Cliffs
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I declare under penalty of perjury that the foregoing is true and correct. Executed on the 23rd
day of September 2015.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James Barstow", written over a horizontal line.

James Barstow
Director - Licensing & Regulatory Affairs
Exelon Generation Company, LLC

Enclosure: Amendment 1 to the Flood Hazard Reevaluation Report for the Calvert Cliffs
Nuclear Power Plant, Units 1 and 2

cc: Regional Administrator – NRC Region I
NRC Senior Resident Inspector – Calvert Cliffs Nuclear Power Plant
NRC Project Manager, NRR – Calvert Cliffs Nuclear Power Plant
Ms. Tekia Govan, NRR/JLD/PPSD/HMB
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