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10 CFR 50.54(f)

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United States Nuclear Regulatory Commission  
Washington, DC 20555-0001

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/RENEWED LICENSE NO. DPR-23

**DUKE ENERGY H. B. ROBINSON FLOOD HAZARD MITIGATING  
STRATEGIES ASSESSMENT (MSA) REPORT SUBMITTAL**

**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, (ADAMS Accession No. ML12056A046).
2. Duke Energy Letter, H. B. Robinson Steam Electric Plant, Unit No. 2, Flood Hazard Reevaluation Report, Response to NRC 10 CFR 50.54(f) 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, 2014, (ADAMS Accession No. ML14086A384).
3. Duke Energy Letter, Response to NRC Request for Additional Information Regarding H. B. Robinson Steam Electric Plant, Unit No. 2 Flood Hazard Reevaluation Report (FHRR), dated May 26, 2015, (ADAMS Accession No. ML15146A390).
4. Nuclear Energy Institute (NEI), Report NEI 12-06, Rev. 2, Diverse And Flexible Coping Strategies (FLEX) Implementation Guide, dated December 2015, (ADAMS Accession No. ML16005A625).
5. NRC (2016), 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," dated January 22, 2016, (ADAMS Accession No. ML15357A163).

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6. NRC Letter, H. B. Robinson Steam Electric Plant, Unit No. 2 - Interim Staff Response to reevaluated Flood Hazards Submitted in Response to 10 CFR 50.54(f) Information Request - Flood Causing Mechanism Reevaluation, dated December 23, 2015, (ADAMS Accession No. ML15357A065).
7. NRC Letter, Supplemental Information Related to Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) regarding Flooding Hazard Reevaluations for Recommendation 2.1 of the Near Term Task Force Review of Insights from the Fukushima Dai-ichi Accident, dated March 1, 2013, (ADAMS Accession No. ML13044A561).
8. NRC Letter, H. B. Robinson Steam Electric Plant, Unit No. 2 - Staff Assessment of Response to 10 CFR 50.54(f) Information Request - Flood Causing Mechanism Reevaluation, dated January 5, 2017, (ADAMS Accession No. ML16355A381).
9. NRC Letter, H. B. Robinson Steam Electric Plant, Unit 2 - Request for Additional Information Regarding Flood Hazard Reevaluation Report, dated June 18, 2014, (ADAMS Accession No. ML 14168A050).
10. Duke Energy Letter, Compliance Letter and Final Integrated Plan in Response to the March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049) For H. B. Robinson Steam Electric Plant, Unit No. 2, dated August 19, 2015, (ADAMS Accession No. ML115232A007).
11. NRC Process Outlined in COMSECY-15-0019, Closure Plan for the Reevaluation of Flooding Hazard for Operating Nuclear Power Plants, dated June 30, 2015, (ADAMS Accession No. ML15153A104).
12. Duke Energy Letter, H. B. Robinson Unit 2 - Submittal of Revision to Flooding Hazard Reevaluation Report to Provide a Revised Site Specific Local Intense Precipitation Storm, dated August 29, 2015, (ADAMS Accession No. ML15243A077).
13. Duke Energy Letter, H. B. Robinson Unit 2 - Submittal of Response to the NRC Request for Additional Information Regarding Flood Hazard Reevaluation Report, Related to Selection of the Dam Breach Trigger Elevation, dated December 15, 2015, (ADAMS Accession No. ML15349A796).
14. NRC email from Victor Hall, Project Manager, Japanese Lessons-Learned Division to Steve Callis and Dean Hubbard, Duke, Request for Additional Information - H.B. Robinson 2.1 Flood Hazard Reevaluation Report, dated March 4, 2015, (ADAMS Accession No. ML 15065A085).
15. Duke Energy Letter, H. B. Robinson Unit 2 - Submittal of Response to the NRC Request for Additional Information Regarding Flood Hazard Reevaluation Report, dated July 9, 2014, (ADAMS Accession No. ML14206A787).
16. NRC email from Juan Uribe, Project Manager, Japanese Lessons-Learned Division to Al Maysam and Paul Guill, Duke, Robinson RAI regarding NTTF 2.1 Flooding, dated December 14, 2015, (ADAMS Accession No. ML 15348A340).



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Ladies and Gentlemen:

On March 12, 2012, the NRC issued Reference 1 to request information associated with Near-Term Task Force (NTTF) Recommendation 2.1 for Flooding. Enclosure 2 to 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 (ESPs) and combined licenses (COLs). Per Reference 7, the NRC considers the reevaluated flood hazard to be "beyond the current design/licensing basis of operating plants."

For H. B. Robinson Steam Electric Plant, Unit 2 (RNP), the Flood Hazard Reevaluation Report (FHRR) was submitted on March 12, 2014 (Enclosure 1 to Reference 2). The reevaluated flood hazard was further developed in response to a series of requests for additional information (RAI), dated June 18, 2014, March 4, 2015, and December 14, 2015 (References 9, 14 and 16). Duke Energy responded to the RAI by letters dated July 9, 2014, May 26, 2015, and December 15, 2015 (References 15, 3 and 13). A revised FHRR with a new Local Intense Precipitation (LIP) and associated site drainage analysis that included a site-specific Probable Maximum Precipitation (ssPMP) evaluation was submitted on August 29, 2015 (Reference 12).

On December 23, 2015 (Reference 6), the NRC issued a revised Interim Staff Response (ISR) letter to the licensee. The purpose of the ISR letter is to inform Robinson that the flood hazard information provided is suitable for the assessment of the mitigating strategies developed in response to Order EA-12-049, "Requirements for Mitigation Strategies for Beyond-Design-Basis External Events." As stated in the ISR letter, the reevaluated flood hazard results for local intense precipitation, streams and rivers, failure of dams, storm surge, and seiche were not bounded by the current design-basis flood hazard. In response to the unbounded flood-causing mechanism, Duke Energy has completed an assessment of the mitigation strategies (MSA) developed in response to the Order EA-12-049.

By References 6 and 8, the NRC acknowledged that the Robinson FHRR and responses to the associated RAIs provide the flood hazard input necessary to complete assessments consistent with the process outlined in COMSECY-15-0019 (Reference 11). Guidance for performing Mitigating Strategies Assessments (MSA) is contained in Appendix G of Reference 4, which was endorsed by the NRC (with conditions) by Reference 5.

The Robinson site Current Design Basis (CDB) is that external flooding does not exceed site grade; i.e., Robinson is a dry site. The FHRR concluded that several flooding mechanisms could result in site flooding that exceeds the CDB. In terms of the flood controlling parameters (i.e., flood height, inundation time, warning time), all applicable flood mechanisms are bounded by the LIP event and the Rivers and Streams Probable Maximum Flood (PMF) event. FLEX strategies as described in the Final Integrated Plan (Reference 10) are impacted by the LIP and PMF events. Based on impacts to the FLEX strategies, Robinson developed Alternate Mitigating Strategies (AMSs) for the LIP and PMF events (NEI 12-06, Revision 2, Appendix G.4.3). The enclosure to this letter provides the Alternate Mitigating Strategies based on the Robinson FHRR.

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The enclosure contains Security-Related Information, withhold from public disclosure under 10 CFR 2.390, in accordance with 10 CFR 2.390(d)(1).

There are no regulatory commitments associated with this letter.

Should you have any questions regarding this matter, please contact Mr. Tony Pilo, Manager – Nuclear Regulatory Affairs, at (843) 857-1409.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 12 APRIL 2017.

Sincerely,



Ernest J. Kapopoulos Jr.  
Site Vice President

EJK/am

Enclosure: ROBINSON NUCLEAR PLANT FLOOD HAZARD MITIGATING STRATEGIES  
ASSESSMENT FOR NEW FLOOD HAZARD INFORMATION

cc: NRC Resident Inspector, HBRSEP Unit No. 2  
Juan Uribe, NRC Project Manager, NRR, Japan Lessons-Learned Division  
NRC Regional Administrator, NRC, Region II  
Dennis Galvin, NRC Project Manager, NRR