



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

October 5, 2015

Mr. Kelvin Henderson  
Site Vice President  
Duke Energy Carolinas, LLC  
Catawba Nuclear Station  
4800 Concord Road  
York, SC 29745

SUBJECT: CATAWBA NUCLEAR STATION, UNITS 1 AND 2 – INTERIM STAFF  
RESPONSE TO REEVALUATED FLOOD HAZARDS SUBMITTED IN  
RESPONSE TO 10 CFR 50.54(f) INFORMATION REQUEST – FLOOD-  
CAUSING MECHANISM REEVALUATION (TAC NOS. MF3625 AND MF3626)

Dear Mr. Henderson:

The purpose of this letter is to provide a summary of the U.S. Nuclear Regulatory Commission (NRC) staff's assessment of the re-evaluated flood-causing mechanisms described in the March 12, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14077A054), flood hazard reevaluation report submitted by Duke Energy Carolinas, LLC (Duke Energy, the licensee) for Catawba Nuclear Station, Units 1 and 2 (Catawba), as well as supplemental information resulting from requests for additional information and audits.

By letter dated March 12, 2012, the NRC issued a request for information pursuant to Title 10 of the *Code of Federal Regulations*, Section 50.54(f) (hereafter referred to as the 50.54(f) letter) (ADAMS Accession No. ML12053A340). The request 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 licensees to re-evaluate flood-causing mechanisms using present-day methodologies and guidance. Concurrently, with the reevaluation of flooding hazards, licensees were required to develop and implement mitigating strategies in accordance with NRC Order EA-12-049, "Requirements for Mitigation Strategies for Beyond-Design-Basis External Events" (ADAMS Accession No. ML12054A735). On March 30, 2015, the Commission provided Staff Requirements Memoranda (SRM) (ADAMS Accession No. ML15089A236) to COMSECY-14-0037, "Integration of Mitigating Strategies for Beyond-Design-Basis External Events and the Reevaluation of Flooding Hazards," dated November 21, 2014 (ADAMS Accession No. ML14309A256), affirming that licensees need to address the reevaluated flooding hazards within their mitigating strategies for beyond-design-basis external events.

The NRC staff has reviewed the information submitted by the licensee and has summarized the results of the review in the tables provided as an Enclosure to this letter. Table 1 provides the current design-basis flood hazard mechanisms. Table 2 provides the reevaluated flood hazard mechanisms; however, the reevaluated flood hazard mechanisms bounded by the current design-basis (Table 1) are not included.

The NRC staff has concluded that the licensee's reevaluated flood hazards information, as summarized in the Enclosure, is suitable for the assessment of mitigating strategies developed in response to Order EA-12-049 (i.e., defines the mitigating strategies flood hazard information described in guidance documents currently being finalized by the industry and NRC staff) for Catawba. Further, the NRC staff has concluded that the licensee's reevaluated flood hazard information is a suitable input for other assessments associated with Near-Term Task Force Recommendation 2.1 "Flooding". The NRC staff plans to issue a staff assessment documenting the basis for these conclusions at a later time.

In addition, Nuclear Energy Institute (NEI) guidance document NEI 12-06 "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide" is currently being revised. This revision will include a methodology to perform a Mitigating Strategies Assessment (MSA) with respect to the reevaluated flood hazards. Once this methodology is endorsed by the NRC, flood event duration parameters and applicable flood associated effects should be considered as part of the Catawba MSA. The NRC staff will evaluate the flood event duration parameters (including warning time and period of inundation) and flood-related associated effects developed by the licensee during the NRC staff's review of the MSA.

As stated above, Table 2 of the enclosure to this letter describes the reevaluated flood hazards that exceed the current design-basis. In order to complete its response to the information requested by Enclosure 2 to the 50.54(f) letter, the licensee is expected to submit an integrated assessment or a focused evaluation, as appropriate, to address these reevaluated flood hazards, as described in the NRC letter, "Coordination of Request for Information Regarding Flooding Hazard Reevaluation and Mitigating Strategies for Beyond-Design-Basis External Events" (ADAMS Accession No. ML15174A257). This letter describes the changes in the NRC's approach to the flood hazard reevaluations that were approved by the Commission in its SRM to COMSECY-15-0019, "Closure Plan for the Reevaluation of Flooding Hazards for Operating Nuclear Power Plants" (ADAMS Accession No. ML15209A682).

K. Henderson

- 3 -

If you have any questions, please contact me at (301) 415-3809 or e-mail at [juan.uribe@nrc.gov](mailto:juan.uribe@nrc.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'Juan Uribe', written in a cursive style.

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

Docket Nos. 50-413 and 50-414

Enclosure:  
Summary of Results of Flooding  
Hazard Re-Evaluation Report

cc w/encl: Distribution via Listserv

ENCLOSURE:

SUMMARY TABLES OF  
REEVALUATED FLOOD HAZARD LEVELS

If you have any questions, please contact me at (301) 415-3809 or e-mail at [juan.uribe@nrc.gov](mailto:juan.uribe@nrc.gov).

Sincerely,

*/RA/*

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

Docket Nos. 50-413 and 50-414

Enclosure:  
Summary of Results of Flooding  
Hazard Re-Evaluation Report

cc w/encl: Distribution via Listserv

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**ADAMS Accession Nos.: PKG ML15278A028; LTR: ML15278A017; ENCL: ML15268A298 \*via email**

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