



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

September 23, 2015

Mr. Bryan C. Hanson  
Senior Vice President  
Exelon Generation Company, LLC  
President and Chief Nuclear Officer  
Exelon Generation  
1650 Calvert Cliffs Parkway  
Lusby, MD 20657-4702

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2 – STAFF  
REVIEW OF INTERIM EVALUATION ASSOCIATED WITH REEVALUATED  
SEISMIC HAZARD IMPLEMENTING NEAR-TERM TASK FORCE  
RECOMMENDATION 2.1 (TAC NOS. MF5231 AND MF5232)

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 pursuant to Title 10 of the *Code of Federal Regulations* Part 50, Section 50.54(f) (hereafter referred to as the 50.54(f) letter). The request was issued as part of implementing lessons-learned from the accident at the Fukushima Dai-ichi nuclear power plant. Enclosure 1 to the 50.54(f) letter requested that licensees reevaluate seismic hazards at their sites using present-day methodologies and guidance. Enclosure 1, Item 6, of the 50.54(f) letter requested that licensees identify “interim evaluation and actions taken or planned to address the higher seismic hazard relative to the design basis as appropriate, prior to completion of the [seismic] risk evaluation.” In addition to the interim evaluation provided in the March 2014 Seismic Screening and Hazard report, the licensees for the Central and Eastern United States committed to providing the Expedited Seismic Evaluation Process (ESEP) report, an interim evaluation, by December 31, 2014.

By letters dated December 17, 2014<sup>1</sup>, Exelon Generation Company, LLC, previously as Constellation Energy Nuclear Group, LLC (Exelon, the licensee), provided its ESEP report in a response to Enclosure 1, Item (6) of the 50.54(f) letter, for Calvert Cliffs Nuclear Power Plant Units 1 and 2 (Calvert Cliffs). The NRC staff assessed the licensee’s implementation of the ESEP guidance through the completion of a reviewer checklist<sup>2</sup>. In support of NRC staff questions, Exelon provided a response dated June 18, 2015<sup>3</sup>, clarifying submittal information. Based on the NRC staff review of the ESEP report and responses to the staff’s questions, the NRC staff concludes that the licensee’s implementation of the interim evaluation meets the intent of the guidance.

---

<sup>1</sup> The December 17, 2014, letter can be found under ADAMS Accession No. ML14365A138.

<sup>2</sup> The Calvert Cliffs ESEP NRC review checklist can be found under ADAMS Accession No. ML15231A397.

<sup>3</sup> The Exelon response to NRC staff questions can be found ADAMS Accession No. ML15218A411.

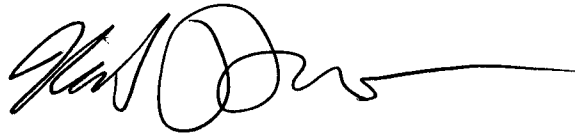
B. Hanson

- 2 -

The NRC staff concludes that, through the implementation of the ESEP guidance, the licensee identified and evaluated the seismic capacity of certain key installed mitigating strategies equipment that is used for core cooling and containment functions to cope with scenarios that involve a loss of all alternating current power and loss of access to the ultimate heat sink to withstand a seismic event 1.17 times the safe shutdown earthquake for Calvert Cliffs. The licensee's ESEP assessment provides additional assurance which supports continued plant safety while the longer-term seismic evaluation is completed to support regulatory decision making. The NRC staff concludes that the licensee responded appropriately to Enclosure 1, Item (6) of the 50.54(f) letter. Application of this review is limited to the interim evaluation as part of the Recommendation 2.1 Seismic review.

If you have any questions, please contact me at (301) 415-1115 or via e-mail at [Nicholas.DiFrancesco@nrc.gov](mailto:Nicholas.DiFrancesco@nrc.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'Nick DiFrancesco', with a long horizontal flourish extending to the right.

Nicholas J. DiFrancesco, Senior Project Manager  
Hazards Management Branch  
Japan Lessons-Learned Division  
Office of Nuclear Reactor Regulation

Docket Nos. 50-317 and 50-318

cc: Distribution via Listserv

B. Hanson

- 2 -

The NRC staff concludes that, through the implementation of the ESEP guidance, the licensee identified and evaluated the seismic capacity of certain key installed mitigating strategies equipment that is used for core cooling and containment functions to cope with scenarios that involve a loss of all alternating current power and loss of access to the ultimate heat sink to withstand a seismic event 1.17 times the safe shutdown earthquake for Calvert Cliffs. The licensee's ESEP assessment provides additional assurance which supports continued plant safety while the longer-term seismic evaluation is completed to support regulatory decision making. The NRC staff concludes that the licensee responded appropriately to Enclosure 1, Item (6) of the 50.54(f) letter. Application of this review is limited to the interim evaluation as part of the Recommendation 2.1 Seismic review.

If you have any questions, please contact me at (301) 415-1115 or via e-mail at Nicholas.DiFrancesco@nrc.gov.

Sincerely,

/RA/

Nicholas J. DiFrancesco, Senior Project Manager  
Hazards Management Branch  
Japan Lessons-Learned Division  
Office of Nuclear Reactor Regulation

Docket Nos. 50-317 and 50-318

cc: Distribution via Listserv

**DISTRIBUTION:**

PUBLIC

JLD R/F

RidsOeMailCenter

RidsNrrDorlpl1-1

RidsRgn1MailCenter

DJackson, NRO

NDiFrancesco, NRR

RidsNrrPMCalvert Cliffs

RidsNrrLASLent

RidsNrrOd

MShams, NRR

ADAMS Accession Number: ML15238A429

\* via concurrence e-mail

OFFICE	NRR/JLD/JHMB/PM	NRR/JLD/LA	DSEA/RGS2
NAME	SWyman	SLent	DJackson*
DATE	8/27/2015	9/1/2015	8/10/2015
OFFICE	NRR/JLD/JHMB/BC	NRR/JLD/JHMB/PM	
NAME	MShams	NDiFrancesco	
DATE	9/3/2015	9/15/2015	

OFFICIAL RECORD COPY