



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

November 28, 2014

Mr. Michael J. Pacilio  
President and Chief Nuclear Officer  
Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: OYSTER CREEK NUCLEAR GENERATING STATION - SCREENING AND PRIORITIZATION RESULTS OF INFORMATION PROVIDED PURSUANT TO TITLE 10 OF THE *CODE OF FEDERAL REGULATIONS* PART 50, SECTION 50.54(f), SEISMIC HAZARD REEVALUATIONS FOR RECOMMENDATION 2.1 OF THE NEAR-TERM TASK FORCE REVIEW OF INSIGHTS FROM THE FUKUSHIMA DAI-ICHI ACCIDENT (TAC NO. MF3920)

Dear Mr. Pacilio:

The purpose of this letter is to transmit to Exelon Generation Company, LLC (Exelon, the licensee) the results for Oyster Creek Nuclear Generating Station (Oyster Creek, OCN GS) regarding the U.S. Nuclear Regulatory Commission's (NRC) screening and prioritization review. The NRC staff reviewed the OCN GS Seismic Hazard Evaluation and Screening Report, and the supplemental letter dated August 21, 2014, (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML14090A241 and ML14234A124, respectively), and evaluated the information using NRC-endorsed guidance. The results of the review are provided below.

#### BACKGROUND

On March 12, 2012, the NRC issued a request for information pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.54(f) (hereafter referred to as the 50.54(f) letter) (ADAMS Accession No. ML12053A340). The purpose of that request was to gather information concerning, in part, seismic hazards at each operating reactor site and to enable the NRC staff to determine whether licenses should be modified, suspended, or revoked. Further, the 50.54(f) letter stated that the NRC would provide screening and prioritization results to indicate deadlines, if necessary, for individual plants to complete seismic risk evaluations that assess the total plant response to the reevaluated seismic hazard. In response to the 50.54(f) letter, all addressees committed to follow the Electric Power Research Institute Report (EPRI), "Seismic Evaluation Guidance: Screening, Prioritization and Implementation Details (SPID) for the Resolution of Fukushima Near-Term Task Force Recommendation 2.1: Seismic,"<sup>1</sup> as supplemented by the EPRI Report, "Seismic Evaluation Guidance: Augmented Approach for the Resolution of Fukushima Near-Term Task Force Recommendation 2.1: Seismic"<sup>2</sup> (referred to as the expedited approach).

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<sup>1</sup> The SPID guidance document can be found in ADAMS under Accession No. ML12333A170. The staff endorsement letter for the SPID guidance can be found in ADAMS under Accession No. ML12319A074.

<sup>2</sup> The Expedited Approach guidance document can be found in ADAMS under Accession No. ML13102A142.

In response to the 50.54(f) letter, Exelon submitted its reevaluated seismic hazard for OCNCS by letter dated March 31, 2014, supplemented by letter dated August 21, 2014. The OCNCS Seismic Hazard Evaluation and Screening Report specified that based on the results, OCNCS committed to complete an expedited approach evaluation, high-frequency evaluation, and low frequency evaluation and screened out for performing a seismic risk evaluation.

Subsequently, by letter dated May 9, 2014 (ADAMS Accession No. ML14111A147), the NRC staff informed all licensees of operating reactors in the central and eastern United States of the screening and prioritization results to support completing seismic risk and limited-scope evaluations, as described in Enclosure 1 of the 50.54(f) letter. Accordingly, during the NRC's screening and prioritization 30-day review, the staff identified several plants where a determination could not be made and interactions with the licensee were needed to reach resolution. The staff designated these plants as conditionally screened-in because additional information was needed to support a screening and prioritization decision. In the May 9, 2014, letter, the NRC staff identified that OCNCS conditionally screens in to perform a seismic risk (Prioritization Group 2), high frequency, and spent fuel pool evaluation for the purposes of screening and prioritization.<sup>3</sup>

### SCREENING PROCESS

As discussed in the May 9, 2014, letter, and as previously stated above, the NRC staff's screening review was performed using the NRC-endorsed EPRI Report, "Seismic Evaluation Guidance: Screening, Prioritization and Implementation Details (SPID) for the Resolution of Fukushima Near-Term Task Force Recommendation 2.1: Seismic", as supplemented by the EPRI Report, "Seismic Evaluation Guidance: Augmented Approach for the Resolution of Fukushima Near-Term Task Force Recommendation 2.1: Seismic." For the purpose of the licensees' analyses and the NRC staff's review, the SPID identified three frequency ranges of particular interest: 1-10 Hertz (Hz), a low frequency range of less than 2.5 Hz, and a high frequency range of greater than 10 Hz. The frequency range of 1-10 Hz was the focus of the screening review for performing a risk evaluation, as this range has the greatest potential effect on the performance of equipment and structures important to safety. Additional information, including specific details related to the NRC staff's focus and scope of review, are contained in the May 9, 2014, letter.

### SCREENING REVIEW

By memorandum dated May 21, 2014, (ADAMS Accession No. ML14136A126), the NRC enclosed preliminary ground motion response spectra (GMRS) plots used to inform the NRC's decision on identifying and prioritizing the plants that would perform a risk evaluation. Through interactions with your staff, including a June 17, 2014<sup>4</sup>, public meeting, the NRC staff could not resolve primary differences between Exelon's submitted GMRS, NRC's preliminary GMRS, and the OCNCS design basis safe shutdown earthquake. Because the staff's preliminary GMRS exceeds the Safe Shutdown Earthquake (SSE) for OCNCS in both the 1-10 Hz range and greater than 10 Hz range, the NRC staff concludes that OCNCS screens in to perform a seismic risk evaluation, expedited approach, high frequency evaluation, and spent fuel pool evaluation.

<sup>3</sup> In the May 9, 2014, letter, the seismic risk evaluation superseded the licensee planned commitment to complete a low frequency evaluation.

<sup>4</sup> The public meeting summary can be found at ADAMS Accession No. ML14175A518.

As a result of the technical exchange which occurred during the June 17, 2014, public meeting between NRC and Exelon staff, and supplemental letter dated August 21, 2014, the staff has gained a better understanding of differences between the seismic hazard and plant capacity for plant system, structures, and components. OCNCS seismic risk evaluation priority is consistent with Group 3 sites. The May 9, 2014, letter discussed that after further NRC staff review of the seismic hazard reevaluations and the expedited approach submittals, the staff will decide which Group 3 plants need to complete a risk evaluation. Should a risk evaluation not be required, the licensee commitment to evaluate low and high frequency components remains warranted given the exceedance above the SSE for the frequency range less than 2.5 Hz and above 10Hz.

This letter transmits the NRC staff's result of the screening and prioritization of the seismic hazard submittal for OCNCS. It does not convey the staff's final determination regarding the adequacy of any plant's calculated hazard. As such, the NRC staff will continue its review of the seismic hazard reevaluation submittal, and the NRC staff may request additional plant-specific information to support this review. The NRC staff plans to issue an assessment for OCNCS on the reevaluated seismic hazard no later than the third quarter 2015.

#### FINAL SCREENING AND PRIORITIZATION

	Screening Result	Expedited Approach Evaluation	Seismic Risk Evaluation (Prioritization Group)	Limited-scope Evaluations		
				High Frequency Evaluation	Low Frequency Evaluation	Spent Fuel Pool Evaluation
Oyster Creek Nuclear Generating Station	In	X	3	X	X	X

If you have any questions on this matter, please contact Nicholas DiFrancesco, Senior Project Manager for the Japan Lessons-Learned Division at 301-415-1115.

Sincerely,



William M. Dean, Director  
Office of Nuclear Reactor Regulation

Docket No. 50-219

cc: Listserv

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Sincerely,

*/RA by Jennifer Uhle for/*

William M. Dean, Director  
Office of Nuclear Reactor Regulation

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