



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

October 3, 2014

The Operating Power Reactor Licensees
on the Enclosed List

SUBJECT: SCREENING AND PRIORITIZATION RESULTS REGARDING SEISMIC
HAZARD REEVALUATIONS FOR RECOMMENDATION 2.1 OF THE
NEAR-TERM TASK FORCE REVIEW OF INSIGHTS FROM THE FUKUSHIMA
DAI-ICHI ACCIDENT

The purpose of this letter is to transmit the Nuclear Regulatory Commission (NRC) staff's updated screening and prioritization determination (Enclosure 1) to licensees (Enclosure 2) based on the seismic hazard report review and information provided in public meetings.

BACKGROUND

On March 12, 2012, the NRC issued a request for information pursuant to Title 10 of the *Code of Federal Regulations* (10CFR), Part 50, Section 50.54(f) (hereafter referred to as the 50.54(f) letter) (Agencywide Documents Access and Management System (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,"¹ as supplemented by the EPRI Report, "Seismic Evaluation Guidance: Augmented Approach for the Resolution of Fukushima Near-Term Task Force Recommendation 2.1: Seismic"² (referred to as the expedited approach).

In response to the 50.54(f) letter, licensees submitted their reevaluated seismic hazard in March 2014. 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 that a determination could not be made and interactions with the licensee were needed to reach resolution. The staff designated several plants as conditionally screened-in because additional information was needed to support a screening and prioritization decision.

¹ 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.

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

SCREENING PROCESS

As discussed in the May 2014 letter, the NRC staff's screening review was performed using the SPID guidance. The SPID provides guidance on seismic screening when the ground motion response spectra (GMRS) are above the safe shutdown earthquake (SSE). The ability of equipment and structures in the plant to withstand the effects of ground motions is frequency specific. The frequency range of 1-10 Hertz (Hz) is the focus for conducting further risk evaluations, as this range has the greatest potential effect on the performance of equipment and structures important to safety. If the SSE is greater than the GMRS in the 1-10 Hz range, a plant screens out of conducting a seismic risk evaluation. Additionally, if the GMRS exceeds the high hazard threshold, which is described in the SPID, and exceeds the SSE greater than 10 Hz, the licensee will perform a limited-scope evaluation of equipment potentially susceptible to high frequency motion.

SCREENING REVIEW ASSESSMENT

Several public meetings were held in June and July of 2014 between the NRC staff and licensees, in part, to address the staff's questions regarding the reevaluated seismic hazard for certain plants. After reviewing the information provided during these meetings, the staff was able to make a screening determination. Using SPID guidance, the staff's review of information included seismic model inputs, analysis assumptions, level and application of uncertainty, and site characteristics to better understand the differences between the staff's independent preliminary GMRS and the licensees' GMRS provided in the March 2014 submittals. The plants listed in Enclosure 2 were designated as conditionally screened-in by letter dated May 9, 2014, (ADAMS Accession No. ML14111A147) to perform a seismic risk, high frequency, and spent fuel pool evaluation. The NRC staff verified that the reevaluated seismic hazard for the plants listed in Enclosure 2 is adequate for seismic screening purposes in accordance with the SPID guidance. For Quad Cities Nuclear Power Station and Surry Power Station, the SSE bounds the GMRS and therefore both plants screen out of any further evaluations. For Salem Nuclear Generating Station, the IPEEE capacity bounds the GMRS and therefore screens out of conducting a seismic risk and high frequency evaluation. However, Salem Nuclear Generating Station has committed in the March 2014 reevaluated seismic hazard submittal to perform the expedited approach and evaluate the spent fuel pool at the reevaluated hazard level since the spent fuel pool was not analyzed in the IPEEE program. For Clinton Power Station and Limerick Generating Station, the SSE bounds the GMRS in the 1-10 Hz range therefore, these plants screen out of performing a seismic risk and spent fuel pool evaluation. However, Clinton Power Station and Limerick Generating Station will perform a high frequency evaluation because the plant's GMRS exceeds the SSE in the greater than 10 Hz range.

This letter does not convey the staff's final determination regarding the adequacy of the calculated hazard. The NRC staff is continuing its review of the submitted seismic hazard reevaluation, and may request additional information to support this review. The NRC staff plans to issue a staff assessment of the reevaluated seismic hazard no later than the third quarter 2015. Enclosure 1 provides the staff's updated screening and prioritization determination and identifies the limited-scope evaluations to be completed.

If you have any questions on this matter, please contact Michael F. Balazik, Japan Lessons-Learned Division Project Manager at (301) 415-2856 or at Michael.Balazik@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Daniel H. Dorman".

Daniel H. Dorman, Acting Director
Office of Nuclear Reactor Regulation

Enclosures:

1. Seismic Screening and
Prioritization Final Results
2. List of Addressees

cc: Listserv

Seismic Screening and Prioritization Updated Results

Plant Name	Screening Result	Expedited Approach Evaluation	Seismic Risk Evaluation (Prioritization Group)	Limited-scope Evaluations		
				High Frequency Evaluation	Low Frequency Evaluation	Spent Fuel Pool Evaluation
Clinton Power Station, Unit 1	Out			X ³		
Limerick Generating Station, Units 1 and 2	Out			X ⁴		
Quad Cities Nuclear Power Station, Units 1 and 2	Out					
Salem Nuclear Generating Station, Units 1 and 2	Out	X ⁵				X ⁵
Surry Power Station, Units 1 and 2	Out					

³ Consistent with licensee commitment in the March 31, 2014, letter (ADAMS Accession No. ML14091A011).

⁴ Consistent with licensee commitment in the March 31, 2014, letter (ADAMS Accession No. ML14090A236).

⁵ Consistent with licensee commitment in the March 31, 2014, letter (ADAMS Accession No. ML14090A043).

List of Addressees

Clinton Power Station

Docket No. 50-461
Exelon Generation Co., LLC
License No. NPF-62

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

Limerick Generating Station

Exelon Generation Co., LLC
Docket Nos. 50-352 and 50-353
License Nos. NPF-39 and NPF-85

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

Surry Power Station

Virginia Electric and Power Company
Docket Nos. 50-280 and 50-281
License Nos. DPR-32 and DPR-37

Mr. David A Heacock
President and Chief Nuclear Officer,
Dominion Nuclear
Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, VA 23060

Quad Cities Nuclear Power Station

Exelon Generation Co., LLC
Docket Nos. 50-254 and 50-265
License Nos. DPR-29 and DPR-30

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

Salem Nuclear Generating Station

PSEG Nuclear, LLC
Docket Nos. 50-272 and 50-311
License Nos. DPR-70 and DPR-75

Mr. Thomas Joyce
President and Chief Nuclear Officer
PSEG Nuclear LLC - N09
P.O. Box 236
Hancocks Bridge, NJ 08038

If you have any questions on this matter, please contact Michael F. Balazik, Japan Lessons-Learned Division Project Manager at (301) 415-2856 or at Michael.Balazik@nrc.gov.

Sincerely,

/RA/

Daniel H. Dorman, Acting Director
Office of Nuclear Reactor Regulation

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ADAMS Accession No: ML14258A043

***concurrence via e-mail**

OFFICE	NRR/JLD/JHMB/PM	NRR/JLD/LA*	NRO/DSEA/RGS2/BC	NRR/JLD/JHMB/BC
NAME	MBalazik	SLent	DJackson	SWhaley
DATE	09/14/14	09/15/14	09/16/14	09/18/14
OFFICE	OGC	NRR/JLD/D	NRR/D (A)	
NAME	BHarris	JDavis (MFrnovich for)	DDorman	
DATE	09/22/14	09/30/14	10/03/14	

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