

January 11, 2016

MEMORANDUM TO: Mohamed K. Shams, Chief
Hazards Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

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

SUBJECT: SUMMARY OF SEPETEMER 3, 2015, CATEGORY 2 PUBLIC
MEETING WITH THE NUCLEAR ENERGY INSTITUTE TO DISCUSS
SEISMIC HAZARD REEVALUATIONS ASSOCIATED WITH
IMPLEMENTATION OF NEAR-TERM TASK FORCE
RECOMMENDATION 2.1: SEISMIC

On September 3, 2015¹, the U. S. Nuclear Regulatory Commission (NRC) staff held a Category 2 public meeting with the Nuclear Energy Institute (NEI) at NRC Headquarters, Three White Flint North, 11601 Landsdown Street, Rockville, Maryland. The purpose of this meeting was to discuss seismic reevaluations activities associated with NRC request for information issued pursuant to Title 10 to the *Code of Federal Regulations* Part 50, Section 50.54(f) (hereafter referred to as the 50.54(f) letter²).

During this meeting NEI representatives introduced NEI 12-06 "Diverse and Flexible Coping Strategies Implementation Guide," Appendix H, "Mitigation of Beyond-Design-Basis Events Basis Events (MBDBE) Incorporating Reevaluated Seismic Hazard," to the NRC staff and sought feedback on the approach^{3,4}. During the meeting the NRC staff discussed initial high-level comments on the approach. Subsequently, NRC communicated comments to NEI via email dated September 30, 2015⁵. Representatives of the Electric Power Research Institute (EPRI) discussed recent progress with the development of a spent fuel pool (SFP) evaluation white paper⁶.

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¹The meeting notice is available via the Agencywide Documents Access and Management System (ADAMS) under Accession No. ML15233A119.

² The 50.54(f) letter and Enclosure 1 are available via ADAMS under Accession Nos. ML12053A340 and ML12056A047, respectively.

³ By email dated August 20, 2015, NEI provided a draft of NEI 12-06, Appendix H (ADAMS under Accession No. ML15233A050).

⁴ The NEI public meeting slides for Appendix H (ADAMS Accession No. ML15245A714).

⁵ The NRC staff comments on Appendix H can be found at ADAMS under Accession No. ML15273A265.

⁶ The EPRI Spent Fuel Pool Seismic Evaluations slide presentation and white paper are available under ADAMS Accession Nos. ML15245A720 and ML15243A559, respectively.

The NRC staff comments on SFP evaluation white paper were communicated to NEI/EPRI via email dated October 1, 2015⁷.

Additionally, the NRC staff provided the status of the planned issuance of a letter communicating the final list of licensees plants are expected to completed seismic probabilistic risk assessment (SPRA)⁸ and representatives of NEI discussed the proposed schedule for staggering the SPRA submittals⁹ to support availability of NRC and industry experts.

The NRC staff and NEI representatives' discussions included the following meeting highlights:

Discussion related to the development of Appendix H to NEI 12-06 to address proposed rule on MBDBE

1. The NEI representatives provided details of the five proposed alternative paths licensees could follow, depending on a comparison of the ground motion response spectrum and safe shutdown earthquake, to support the proposed rulemaking. The NEI provided a description of each path and the planned evaluation mitigation strategies evaluation approach.
2. The NRC staff asked for clarification on equipment that is considered permanently installed. The NEI clarified that some equipment is pre-deployed or stored inside the plant structure.
3. The NRC and NEI discussed that path three provides for indefinite coping and Individual Plant Examination of External Events acceptability for path three was based on the previously completed NRC screening reviews.
4. The NRC staff sought clarity on how path five demonstrates that an alternative mitigation strategy is provided to address the reevaluated seismic hazard.

Discussion related to SFP Evaluation Approach

1. The NRC staff provided several comments on the seismic SFP evaluation approach from the prior July 15, 2015, public meeting which included:

Additional bases should be provided to support use of the screening criteria in EPRI report NP 6041 (Table 2-3):

- Insights confirming that SFPs do not have physical degradations that might limit the applicability of these criteria.
- A discussion should be provided on how the screening criteria account for the potential effects of out-of-plane response for SFP walls and floor.

⁷ The NRC staff comments on the SFP evaluation white paper can be found in ADAMS under Accession No. ML15293A606.

⁸ The NRC's slide presentation (including status SPRA Reassessment) is available via ADAMS under Accession No. ML15247A225.

⁹ The NEI public meeting Slide No. 10 proposed a Seismic PRA submittal schedule (ADAMS Accession No. ML15245A714).

- Results should be compared to H.B. Robinson Steam Electric Plant, Unit No. 2 and Vermont Yankee Nuclear Power Station design features, which were used in previous detailed studies.

The screening report should clarify that boiling-water reactors with Mark III components are more similar to pressurized-water reactors SFP designs.

Discussion related to SPRA Final Decisions and Submittal Schedules

1. The NRC staff stated it has been reviewing the additional seismic risk insights licensees have provided and will document the rationale for deciding whether a SPRA is necessary in the forthcoming staff letter. By letter dated October 27, 2015, the NRC issued its final determinations regarding SPRAs (ADAMS Accession No. ML15194A015).

No regulatory decisions or commitments were made during the meeting. The public was invited to observe the meeting and was given several opportunities to communicate with the NRC during the public meeting and before adjourning. The NRC staff received one meeting feedback form and no public comments during the meeting.

Enclosure:
List of Attendees

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ADAMS Accession No.: ML15310A317

*concurrence via e-mail

OFFICE	NRR/JLD/JHMB/PM	NRR/JLD/LA	NRO/DSEA/RGS/BC
NAME	NDiFrancesco	SLent	DJackson
DATE	11/02/15	11/09/15	01/06/16
OFFICE	NRR/JLD/JHMB/BC	NRR/JLD/JHMB/PM	
NAME	MShams	NDiFrancesco	
DATE	1/7/2016	1/11/2016	

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List of Attendees

U.S. Nuclear Regulatory Commission
Public Meeting with the Nuclear Energy Institute
Concerning Seismic Hazard Reevaluations
Japan Lessons-Learned Near-Term Task Force Recommendation 2.1: Seismic

September 3, 2015

Attendees				
Name	Organization		Name	Organization
Michael Tschultz	NEI		Jana Bergman	Curtis-Wright/Scientech
Andrew Mauer	NEI		Tim Lupold	NRC/NRR
Greg Hardy	SGH		Nilesh Chokshi	NRC/NRO
John Richards	EPRI		Eric Bowman	NRC/NRR
Bret Tegeler	ERIN Engineering		Steve Jones	NRC/NRR
Andrea Kock	NRC/NRO		Daniel Vasquez	Dominion
Mohamed Shams	NRC/NRR		Andrea Maioli	Westinghouse
Divakar Bhargava	Dominion		Carl Costontina	Contacto to the NRC
Diane Jackson	NRC/NRO		Thomas Houston	Contacto to the NRC
Brittain Hill	NRC/NRO		Yong Li	NRC/NRR
Nicholas DiFrancesco	NRC/NRR			
Stephanie Devlin-Gill	NRC/NRO			
Kamal Manoly	NRC/NRR			
Steve Wyman	NRC/JLD			
Michael Marshall	NRC/NRR			
Marc Hotchkiss	Dominion		(continues to next page)	

Abbreviations:

- EPRI - Electric Power Research Institute
- NEI – Nuclear Energy Institute
- NRO – Office of New Reactors
- NRR – Office of Nuclear Reactor Regulation
- RES – Office of Nuclear Regulatory Research
- SGH – Simpson, Gumpertz and Heger
- TVA – Tennessee Valley Authority
- WCNOC – Wolf Creek Nuclear Operating Company

Enclosure

Webinar Attendees:

First Name	Last Name	Organization
Vish	Patel	Southern
Richard	Rohrer	Xcel Energy
on	yee	NRC
Tim	Solberg	WCNOC
Tuan	Le	NRC
philip	tarpinian jr.	Exelon
Richard	Drake	Entergy
Ben	Kosbab	SC Solutions
Penny	Selman	TVA
Fernando	Ferrante	NRC
James	Lin	ABS Consulting
Donald	Moore	
Winston	Stewart	Duke Energy
Marlene	Delaney	
arun	pal	Exelon
JoAnn	Ireland	NRC
Wendy	Brost	South Texas Project
Dan	Madden	Dominion
Thomas	John	Dominion
Ed	Wiegert	EPM Inc.
John	Fields	Xcel Energy
Kevin	Roche	NRC
Paul	Karavoussianis	VECSA
Farzin	Beigi	ABS Consulting
Nozar	Jahangir	Pacific Gas & Electric
Jan	Bostelman	
roger	gish	
Wing	Ho	Exelon
Mutiu	Ayoola	Duke Energy
Mark	Stewart	Areva
AJ	Vasquez	Duke Energy
Emily	Gibson	DNFSB

First Name	Last Name	Organization
John	Reddington	
Brenda	Kovarik	AEP
Bob	Jackson	
Ogden	Sawyer	Areva
Steve	Sheahan	Energy Northwest
Doug	True	Erin Engineering
Justin	Huber	TVA
Erica	Gray	
Douglas	Peterson	APS
Boback	Torkian	Enercon
David	MARTIN	
Barbara	Owens	Entergy
Christopher	Canniff	DTE
Joshua	Reinert	Areva
Charlotte	Geiger	PSEG
Dale	Wuokko	Toshiba
Paul	Guill	Duke Energy
Jeffrey	Clark	Exelon
Richard	Rogalski	Energy Northwest
Jim	Peschel	Certrec