

April 4, 2016

MEMORANDUM TO: Kevin Hsueh, Chief  
Licensing Processes Branch  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

FROM: Joseph J. Holonich, Sr. Project Manager **/RA/**  
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Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF FEBRUARY 19, 2016, PUBLIC MEETING WITH NUCLEAR  
ENERGY INSTITUTE ON NEI 12-16, REVISION 1, "GUIDANCE FOR  
PERFORMING CRITICALITY ANALYSES OF FUEL STORAGE AT  
LIGHTWATER REACTOR POWER PLANTS"

On February 19, 2016, U.S. Nuclear Regulatory Commission (NRC) staff met with representatives of the Nuclear Energy Institute (NEI) and industry. The enclosure provides a list of those who were in attendance.

The purpose of the public meeting was to discuss the NRC staff review of the request for additional information (RAI) responses on NEI 12-16, Revision 1, "Guidance for Performing Criticality Analyses of Fuel Storage at Light Water Reactor Power Plants" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14112A517) and to discuss the path forward for finalizing the development of this guidance. The NRC staff began by stating that the expected outcome of the meeting is a better understanding of the scope of applicability for application of the NEI 12-16 document. The NRC staff also expected to align on a common understanding for the role of the document and resolution of outstanding open items. The NRC staff described that the guidance document should define a "box" that addresses the majority of issues associated with spent fuel criticality analyses (SFCA) with certain issues being addressed on a licensee-specific basis rather than through generic guidance.

The NEI representatives made a brief presentation (ADAMS Accession No. ML16062A084) covering the background of the document, a breakdown of the RAI responses, proposed updates to NEI 12-16 and the role of NEI 12-16. Both NRC staff and the NEI representatives agreed that endorsing the guidance in NEI 12-16 via an NRC regulatory guide (RG) would be the best path forward. The common understanding of using the RG approach would help frame the NRC staff's evaluation of the RAI responses and the scope of the NRC staff review. The NRC staff communicated some concerns about making broad statements in NEI 12-16 that would allow licensees to no longer have to address certain issues or groups of issues in their SFCA and wanted to ensure that any approval the NRC staff gave was not open-ended. To assist in common understanding, the NRC staff and NEI representatives reviewed the RAI responses NEI had provided, discussed response clarifications, guidance updates, and the open items, and noted any potential exceptions.

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The discussion started with RAI responses binned under the “Agreed to Request” category. In order to improve the formatting of future criticality-analysis submittals, the NEI representatives proposed adding a checklist to the guidance to assist licensees with preparing their submittals and to assist the NRC staff with focusing their reviews. The NRC staff stated that the checklist would assist with pre-submittal meetings and with understanding where licensees deviated from the guidance. The NRC staff also expects that the checklist will create more efficient reviews.

It was agreed that there was a need to accelerate the development of the checklist to assist the NRC staff with its review of the guidance document. The NRC staff also requested that discussions on the intent of the checklist and instructions on how to complete it be provided in NEI 12-16. Further checklist implementation discussions were tabled until the NRC staff receives the draft checklist.

The NRC staff requested that the checklist include the ability for licensees to identify the cross section library used in their analysis. The NRC staff and the NEI representatives agreed that the scope of the guidance was clarified to indicate that NEI 12-16 is not applicable to operability determinations but focused instead on license amendment requests.

Another discussion topic identified by the NRC staff was whether the guidance would address future challenges such as plants operating under supply shedding conditions, new fuel designs, and new operational paradigms. This topic was tabled for future discussion.

The NRC staff raised questions about how other reactivity changes due to irradiation of the mechanical components (such as the grid straps) had been or could be addressed in the guidance. This topic was tabled for future discussion.

The next discussion centered on the RAIs covered under the “Provided Clarification” category. The NRC staff expressed the need for a process to explicitly identify which uncertainties were excluded along with sufficient justification for the exclusion. The NRC staff believes a primary goal of the guidance document is to provide clarity and certainty on the spent fuel criticality issues that licensees need to address in their license amendment requests. The guidance would help increase licensee submittal consistency and help ensure NRC staff reviews are more efficient by minimizing the need for RAIs.

Some RAI response discussions, such as RAI 17, did not achieve resolution as the NRC staff needed to see the specific wording changes that would be included in NEI 12-16 as a result of the RAI response. Other RAI responses pointed to updated data to be submitted at a future date. The NEI representatives noted that some RAIs were now outside the scope of the review of NEI 12-16 due to certain proposed topics now excluded in the document and as a result including the document in the NRC process for endorsement as a guidance document.

The meeting concluded with a focus on the next steps of the review including intermediate milestones and schedule. To facilitate further progress on the review, the NRC staff agreed to have a monthly status phone call.

The actions from the meeting are:

- 1) NEI will provide a draft checklist that will assist licensees with preparing their submittals to the NRC staff to assist in resolving remaining RAI responses.
- 2) The NRC staff and NEI representatives will hold a teleconference in March 2016 to focus on partial RAI responses that were not covered.
- 3) Setup a monthly status telephone call between the NRC staff and NEI representatives to facilitate the continued review of NEI 12-16.

Project No. 669

Enclosure:  
List of Attendees

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**ADAMS Accession Nos.: Pkg.: ML16062A074; Summary: ML16062A080;**  
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<b>DATE</b>	03/29/2016	03/17/2016	03/29/2016
<b>OFFICE</b>	NRR/DSS/SRXB	NRRDPR/PLPB	NRR/DPR/PLPB
<b>NAME</b>	EOesterle	KHsueh	JHolonich
<b>DATE</b>	03/29/2016	04/01/2016	04/04/2016

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### List of Attendees

<b>U.S. NUCLEAR REGULATORY COMMISSION (NRC) STAFF MEETING WITH NUCLEAR ENERGY INSTITUTE ON NEI 12-16, REVISION 1 “GUIDANCE FOR PERFORMING SPENT FUEL POOL CRITICALITY ANALYSES OF FUEL STORAGE AT LIGHT WATER REACTOR POWER PLANTS” REQUEST FOR ADDITIONAL INFORMATION RESPONSES</b>	
<b>FEBRUARY 19, 2016</b>	
<b>Name</b>	<b>Organization</b>
William MacFee	NRC
Kent Wood	NRC
Amrit Patel	NRC
Eric Oesterle	NRC
Robert Taylor	NRC
Michael King	NRC
Don Mueller	ORNL
Kris Cummings	NEI
Hatice Akkurt	EPRI
Dave Orr	Duke Energy
Dave Phegley	Exelon
Saleh Alafifi	Holtec
John McCulloch	APS
Ed Mercer	Westinghouse
Mike Wenner	Westinghouse
Robin Jones	Southern
Bob Hall	Dominion
Bret Brickner	Holtec
Spencer Feuerstein	Enercon
John Fields	Monticello
Jana Bergman	Curtiss-Wright
Kristin Bennett	GEH
Steve Tipps	Certrec
Richard Reid	EPRI
Brian Holman	Entergy
Philip Loehr	Entergy

Enclosure