



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

March 4, 2020

MEMORANDUM TO: Antonios Zoulis, Chief  
PRA Oversight Branch  
Division of Risk Assessment  
Office of Nuclear Reactor Regulation

FROM: Matthew Leech, Reliability and Risk Analyst /RA/  
PRA Oversight Branch  
Division of Risk Assessment  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF FEBRUARY 10, 2020 PUBLIC MEETING TO  
CONTINUE DISCUSSIONS BETWEEN THE U.S. NUCLEAR  
REGULATORY COMMISSION AND INDUSTRY RISK-  
INFORMED STEERING COMMITTEES

On February 10, 2020, the U.S. Nuclear Regulatory Commission (NRC) staff held a Category 2 public meeting between the NRC and industry Risk-Informed Steering Committees (RISCs). The meeting notice is available in the Agencywide Documents Access and Management System (ADAMS), at Accession Number ML20035E022. The presentations used to facilitate discussions during the meeting are available in ADAMS at Accession Numbers ML20042D146 and ML20042D110. The list of meeting participants is provided as an enclosure to this document. Staff did not receive any public meeting feedback forms as a result of this meeting.

Both the NRC and industry provided opening remarks and discussed the agenda. During the meeting the staff provided status updates on risk-informed licensing initiatives, the NRC's Risk Acceptance Initiative, Fire Probabilistic Risk Assessment (PRA) realism, High Energy Arc Faults (HEAFs), and Treatment of FLEX in Risk-Informed Decision Making and Human Reliability Analysis (HRA). Details on each of these topics are described below.

#### Risk-Informed Licensing Initiatives

The NRC pointed out that the RISC is now in its sixth year and during that time progress has been made on numerous risk-informed initiatives. As examples, the NRC has now approved 50.69 (Risk-informed Categorization and Treatment of Structures, Systems and Components for Nuclear Power Reactors) for eleven plants covering eighteen different units. And thus far, seven plants have been approved for Technical Specifications Task Force 505 (Provide Risk-Informed Extended Completion Times - Initiative 4B). Additionally, the NRC has begun targeted training for 50.69 to better train NRC staff and inspectors.

Enclosures:  
List of Meeting Attendees

CONTACT: Matthew Leech, NRR/DRA  
301-415-8312

The NRC acknowledged an area for improvement related to providing the industry with better resource estimates on risk-informed license reviews since some current license amendment requests (LARs) are being performed in less time than estimated. The industry agreed that more accurate resource estimates would be appreciated and would better support their overall corporate budget and resource planning.

The industry mentioned that a LAR proposing the use of the “tier 2” alternate seismic approach has been submitted to the NRC and asked the NRC if the industry should submit more “tier 2” LAR applications at this time or wait until the NRC had a chance to review it. The NRC responded that the first “tier 2” LAR was just recently received by the NRC and recommended waiting until the NRC is able to give the industry feedback on the feasibility of reviewing additional “tier 2” applications.

### Risk Acceptance Initiative

The NRC informed the industry of a new “Be riskSMART” initiative that the NRC is introducing to its staff in February of 2020. This initiative is driven by an agency-wide initiative to make the NRC a more modern, risk-informed regulator and intended for all NRC staff, not just NRC risk practitioners.

### Crediting FLEX in Risk-Informed Decision Making and HRA

NRC management and staff gave a brief update on the NRC’s crediting FLEX in regulatory applications effort. As part of this update, upcoming interaction opportunities were discussed along with updates on two remaining challenges to crediting FLEX in risk assessments.

A technical session on the Crediting FLEX project at the upcoming Regulatory Information Conference (RIC) was discussed. The industry and NRC speakers and associated topics were presented to the RISC members and attendees. Also, an upcoming FLEX summit was presented with a brief description of the purpose, proposed topics, and possible locations. Coordination between staff at the Nuclear Energy Institute (NEI), the Electric Power Research Institute (EPRI) and the NRC to schedule and organize the summit was publicized. As part of this discussion, the desire to have Strategic Alliance for FLEX Emergency Response (SAFER) center tours included as part of the summit was presented.

The NRC also gave status updates on the two remaining challenges to crediting FLEX in risk-informed activities. An update to the challenge of using current HRA methods to analyze complex FLEX actions was provided. This update summarized some of the recent work that the NRC’s Office of Regulatory Research (RES) has led to develop the IDHEAS-ECA method and associated tool. There was a discussion on the substantial effort to use industry experts to help develop FLEX scenarios that were then used to test the new IDHEAS-ECA tool as an HRA for FLEX workshop that was held in December of last year. The upcoming goals of releasing the tool to the public, and providing the results from the workshop, were presented.

The NRC staff also provided an update on the ongoing effort to gain access to the industry’s Operational Experience (OpE) data for FLEX to develop risk parameters to support both the NRC’s and the industry’s risk assessments. The upcoming goals to receive and review the industry’s data analysis report along with a scheduled audit was presented.

### Fire Probabilistic Risk Assessment Realism and High Energy Arc Fault (HEAF)

The NRC mentioned that over the past two years the NRC has been able to resolve and close eleven Fire PRA FAQs (Frequently Asked Questions). The NRC mentioned that work on the prioritized issues on fire PRAs has been completed jointly by the NRC and EPRI. These are being documented in four joint NUREG/EPRI reports. Three of the reports have been finalized and the fourth is out for public comment (with a closure date of February 18, 2020). EPRI has released their reports in the EPRI website. The NRC NUREG reports will be available soon.

The NRC mentioned that testing for HEAF was put on hold in August of 2019 so that the path forward can be better evaluated and discussed. To accomplish this, the NRC and EPRI are continuing to work in a HEAF working group to come up with risk models that better represent the different plant configurations. The working group is also evaluating data from already completed tests to identify data needs/gaps for the risk models and for the hazard simulation models. As part of the working group, EPRI developed a survey of licensees to better understand the population of aluminum equipment installed in the US nuclear power plants. Based on the information obtained from these tasks, the working group will finalize a detailed plan to integrate plant operating experience, realistic plant configurations, the PRA model, and test results (including future tests as applicable).

The industry mentioned that both the NRC and EPRI deserve a lot of credit for the positive work they have done. The industry mentioned that plants are continuing a HEAF, aluminum survey and hope to have the required information by the end of the first quarter.

### Goals for Integration of NRC Offices In RISC

The industry asked about actions the NRC Regional offices were taking to be more risk-informed.

The NRC mentioned that regional inspectors make risk-informed decisions on potential safety issues every day during ROP inspections, most of which are not visible to others. NRC also mentioned plans to increase coordination between NRR and Regions to enhance consistency, including training on the various risk-informed initiatives and regulations such as 10CFR50.69. Regional offices are also looking at developing risk-informed action plans. In the last year, the Regional Offices conducted Risk Cafes and table top exercises to increase their risk-informed thinking and understanding of the risk-informed initiatives and their implementation.

### New Reactors (Office Merging, Risk-Informed Efforts for New Reactors)

The industry asked about how risk-informed initiatives fit into new reactor designs, especially since the recent merger between Nuclear Reactor Regulation and the Office of New Reactors (NRO). The NRC responded that there are no disconnects between offices regarding risk-informed thinking. Even prior to the merger, the NRC staff that had been working on non-light water reactor designs had been participating in risk-informed workshops. And all new risk-informed initiatives consider new reactor designs as well as existing reactors.

### Closing Remarks

The public was given an opportunity to ask questions or make comments, and no one chose to do so. The NRC RISC chair then thanked the participants and closed the meeting.

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Matthew Leech, NRR

Antonios Zoulis, NRR

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OFFICE	NRR/DRA/APOB	NRR/DRA/APOB: BC*
NAME	MLeech	AZoulis
DATE	02/28/2020	02/28/2020

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### LIST OF MEETING ATTENDEES

<b>Name</b>	<b>Organization</b>
Stephanie Coffin	NRC
Roy Linthicum	PWROG
Jeff Stone	Exelon
George Gellrich	Exelon
Reed Anzalone	NRC
Victoria Anderson	NEI
Jeff Mitman	NRC
Greg Bowman	NRC
Stephen Grier	NEI
Matt Humberstone	NRC
Mike Check	NRC
Antonios Zoulis	NRC
Kelli Voelsing	EPRI
David Hamilton	FENOC
Andrea Veil	NRC
Thomas Basso	NEI
Jonathan Evans*	NRC
Don Vanover	Jensen Hughes
Doug True	NEI
Maria Lacal	APS
Sunil Weerakkody	NRC
Mike Franovich	NRC
Ho Nieh	NRC
Mirela Gavrilas	NRC
Michelle Kichline	NRC
Nick Melly	NRC
Stacey Rosenberg	NRC
Jennifer Whitman	NRC
Greg Bowman	NRC
John Monninger	NRC
Candae De Messieres	NRC
Pete Kissinger	NEI
Jon Kaptiz	NEI
Fernando Ferrante	EPRI
Matt Leech	NRC
John McKirgan	NRC
Eric Bowman	NRC
Shannon Rafferty-Czincila	Exelon
Julio Lara*	NRC
Brad Dolan*	TVA
Mark Brossart	Xcel Energy
Ronald Gaston*	Entergy Services In.
Chris Miller*	NRC
Shilp Vasavada*	NRC
Bob Rishel*	Duke Energy

\*Participated by teleconference