



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

May 30, 2018

MEMORANDUM TO: John D. Hughey, Chief (Acting)  
Probabilistic Risk Assessment  
Operations and Human Factors Branch  
Division of Risk Assessment  
Office of Nuclear Reactor Regulation

FROM: Matthew S. Leech, Reliability and Risk Analyst */RA/*  
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SUBJECT: SUMMARY OF MAY 03, 2018 PUBLIC MEETING TO CONTINUE  
DISCUSSIONS BETWEEN THE U.S. NUCLEAR REGULATORY  
COMMISSION AND INDUSTRY RISK-INFORMED STEERING  
COMMITTEES

On May 03, 2018, the U.S. Nuclear Regulatory Commission (NRC) staff held a Category 2 public meeting to continue discussions between the NRC and industry Risk Informed Steering Committees (RISCs). The meeting notice and presentations used to facilitate discussion are available in the Agencywide Documents Access and Management System, Accession Number ML18136A536. 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 RISCs discussed their priorities list. During these discussions staff provided status updates on 50.69 License Amendment Request reviews, New Probabilistic Risk Assessment (PRA) Methods, Fire PRA Realism, Treatment of FLEX in Risk Informed Decision Making, Finding and Observation Closure Process, Tornado Missile Risk Evaluator, and Technical Specification Task Force (TSTF) 505. The Industry RISC provided the NRC with an update on Electric Power Research Institute's (ERPis) White Paper for Margins to the Safety Goals, and Nuclear Energy Institute's (NEI's) Industry Playbook for Risk Informed Decision Making. The NRC RISC members also presented an update of how their NRC offices are supporting risk-based activities.

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### EPRI White Paper on Margins to Safety Goals

Fernando Ferrante, Principal Technical Leader at the EPRI, discussed a draft EPRI white paper on technical aspects related to margins in relation to the Quantitative Health Objectives and subsidiary risk goals in the United States. The white paper surveys the latest available information regarding the progression of severe accidents at nuclear power plants and the risks to the public posed by these accidents to understand how risk characterizations compare to quantitative expressions of safety goals. A draft of the white paper was shared in advanced with NRC staff for technical feedback, and EPRI's goal is to make it publicly available at no cost by the end of May 2018.

The sharing of the White Paper in advance with the NRC staff was done in accordance with the Memorandum of Understanding between EPRI and NRC's Office of Regulatory Research (RES) as collaborative research.

### Progress on NRC and Industry Priorities List

Some key observations noted by either the NRC RISC members or the industry RISC members are provided below:

#### Technical Specification Task Force 505

NRC RISC informed the industry that a revised traveler is being sent to the TSTF in early May for their review. After the NRC receives the comments back, the NRC anticipates issuing a revision to the traveler and model SE in October of 2018.

Industry RISC mentioned that steady progress has been made, but the industry is looking for opportunities to make up time. The industry RISC also mentioned that there are utilities waiting for the TSTF 505 suspension to be lifted so they can submit applications. Staff indicated that they are also looking for ways to make up time, and may be able to unsuspend sooner if TSTF comments are not extensive.

The question was raised if licensees can submit applications now, while TSTF 505 remains in suspension.

The NRC's answer to that question is as follows: The industry may begin submitting TSTF-505 applications in accordance with the draft revision, however, that path includes the risk that changes or supplements to these early submittals may be required by staff if the final, approved revision differs substantially from that draft. Such deviations could increase the level of effort of review for such submittals.

#### 10CFR 50.69

NRC staff mentioned that applications from licensees with Probabilistic Risk Assessments (PRAs) that haven't been peer reviewed since the late 1990's are causing delays. Additionally there are instances where Appendix X of NEI 05-04, NEI 07-12, and NEI12-13, "Close-out of Facts and Observations", guidance is not being adhered to which also creates delays. NEI indicated that they are aware of these issues and are sharing that information to improve future applications. The NRC also mentioned that we are looking at resources to accommodate additional 50.69 reviews.

### New Methods

The NRC mentioned that the NRC staff is reviewing the NEI response for Option 3, which was recently received by the NRC on April 30th. The NRC provided feedback that the review time for this process would be lengthy due to the different NRC organizations involved, and would not be finished by the June timeline shown on the NEI milestone chart. The NRC suggested that another public meeting take place to share feedback on the path forward once the NRC staff has reviewed the NEI response from April 30<sup>th</sup>. NEI agreed with the need for another public meeting.

### Crediting FLEX

The NRC provided an update on crediting of FLEX in plant safety and regulatory activities. Industry continues with its efforts to optimize the use of FLEX (post-Fukushima strategies and equipment for beyond design basis external events) in plant operations.

NRC mentioned that the NRC received NEI's revised language for revision 4F to NUMARC 93-01 on April 27, 2018 regarding the FLEX supporting guidelines (FSGs) and impacts to licensees' maintenance rule (50.65) programs if the FSGs are noted as defense-in-depth provisions in the plant's Emergency Operating Procedures. NRC has started the review and endorsement process for RG 1.160 and will have it released for public comment by the first week of July.

The NRC also mentioned again that access to FLEX equipment failure data is important for the NRC staff to continue in actions that credit FLEX, and the NRC staff is looking forward to getting access to that information. The industry RISC mentioned that a proposal to allow the pressurized-water reactor (PWR) and boiling-water reactor owner's groups to take over the collection and sharing of FLEX data is being proposed to Nuclear Strategic Issues Advisory Committee (NSIAC) next week.

The NRC shared that the NRC is placing emphasis on engaging regional SRAs for more consistent application of FLEX in risk informed decision making.

The industry mentioned that they intend to track FLEX failure data and FLEX HRA issues on their RISC milestone chart in more detail.

### Industry Fire Probabilistic Risk Assessment Realism

Industry RISC mentioned that progress on risk informed issues relating to Fire PRA Realism has improved. They believe that the RISC Milestone charts have helped. Industry remains concerned on issues related to fire testing being representative to plant specific component configurations, as compared to field test experiments.

### TMRE (Tornado Missile Risk Evaluator)

Industry RISC mentioned that items on the Industry RISC chart that indicate delays are due to delays associated with pilot plant staff resource availability concurrent with other priority onsite activities. Current activities are planned to combine pilot plant audit reviews. The staff and industry were confident that milestone dates can be regained through efficiencies.

### Reactor Oversight Process Realism

The NRC RISC mentioned that they no longer plan on carrying an item on the NRC RISC chart for Reactor Oversight Process realism because they feel sufficient progress is being made at the staff level and that the for the sake of time-management focus of the meeting would be better spent on other priorities. Industry RISC was aligned with this decision.

### Integrated Risk Informed Decision Making

NEI provided a high-level description of an industry initiative (“Playbook”) to help coordinate and articulate a common industry strategy to improve risk informed processes in support of regulatory decision making. The Playbook is being developed to drive better coordination within the industry to support NRC interaction on risk initiatives, and consideration of new information that demonstrates the understanding of margin to the regulatory safety goals is much greater than previously perceived. It is recognized that the NRC has embarked on a parallel approach involving the integration of risk concepts/insights for decision-making and therefore the industry Playbook is being designed to align with those initiatives as well. Lastly, the document is creating a framework for the various industry stakeholders to facilitate a common use of terminology and discussion topics, including the use of margin, in support of a risk-informed decision making process.

### NRC RISC Members

Mike Franovich, Director of the Division of Risk Assessment, informed the industry that the NRC RISC intends to modify the Charter of the NRC Risk Informed Steering Committee. Pending recommendations of the NRR Risk Informed Decision Making action plan, upcoming recommendations from the NRC Transformation team, and many other changes over the past few years, are prompting the NRC to revise the charter. NRC noted that the NRC’s and industry’s RISCs need to move in a strategic direction and that the NRC is revising the RISC charter and future topics to reflect the changes. The NRC’s goal is to complete a draft of the revised charter in August of 2018. Representing the regional offices, Mr. Franovich provided a summary of the regions’ interest in the inspection program to support oversight of the anticipated approvals of key risk-informed licensing actions such as 50.69 and TSTF-505.

The NRC RISC members briefly spoke to give updates on how their offices are supporting focused risk-informed activities.

RES mentioned they are performing SPAR model updates for FLEX, updating regulatory guidance documents such as RG 1.174, American Society of Mechanical Engineers (ASME), Fire PRA Realism activities, Level 3 PRA and leveraging insights to enhance HRA tools to embrace realism. A more risk informed approach to RES activities is also being considered and some outdated activities may be sunset.

Office of Nuclear Security and Incident Response (NSIR) mentioned they are looking to incorporate risk-informed approaches to items like Significance Determination Process for Emergency planning. NSIR is also considering increasingly risk-informing areas including Emergency Preparedness rulemaking for small modular reactors (SMRs) and non-light water reactors (non-LWRs), consequence-based security for SMRs and non-LWRs, and force-on-force exercise program realism for the operating reactors.

Office of New Reactors (NRO) mentioned they were looking at more risk informed applications for new reactors and the issue of reasonable assurance of adequate protection. NRO mentioned their risk-informed Enhanced Safety Focus Review Approach (ESFRA) and requested time in the next RISC public meeting to share information with RISC stakeholders.

Closing Remarks

The public was given an opportunity to speak and ask questions; no public comments were provided. The NRC RISC chair thanked the participants for their attendance and closed the meeting.

Enclosures:

List of Meeting Attendees

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OFFICE	NRR/DRA/APHB	NRR/DRA/APHB*
NAME	MLeech	JHughey for CJ Fong (w/comments)
DATE	05/30/2018	05/30/2018

**OFFICIAL RECORD COPY**

## LIST OF MEETING ATTENDEES

<b>Name</b>	<b>Organization</b>
Matt Leech	NRC
Jeff Stone	Exelon
Greg Krueger	NEI
Mary Drouin*	NRC
Chris Nolan	Duke Energy
Jeff Circle*	NRC
Fernando Ferrante	EPRI
Doug True	Jensen Hughes
Steve Vaughn	NEI
Stephen Geier	NEI
Paul Harden	FENOC
Bob Bement	Arizona Public Service
Vic Cusumano	NRC
Ed Hackett	NRC
Joe Pollock	NEI
Stacey Rosenberg	NRC
Brian Holian	NRC
Ed Miller	NRC
Greg Casto	NRC
Russell Felts	NRC
Matt Humberstone	NRC
Tony Nazario	NRC
Don Helton	NRC
Vonna Ordaz	NRC
Sunil Weerakkody	NRC
Mike Franovich	NRC
Jon Kaptiz	NEI
JS Hyslop*	NRC
Victoria Anderson	NEI
Thomas Zacharia	NEI
Jeff Mitman*	NRC
Ami Agrawal*	NRC
Beth Wetzal	NEI
Deann Raleigh	Curtiss-Wright
Roy Linthicum	PWROG
Mike Cheok	NRC
John Hughey	NRC
Jonathan Evans*	NRC
Anil Julka*	NextEra Energy
Brian Ford*	Entergy
Hunter Young*	
Tracy Sinclair*	
Bob Budnitz*	ASME/ANS JCNRM

\*Participated by teleconference

Enclosure