

March 29, 2016

MEMORANDUM TO: Sunil Weerakkody, Chief
PRA Operations and Human Factors Branch
Division of Risk Assessment
Office of Nuclear Reactor Regulation

FROM: Candace Spore, Reliability and Risk Analyst */RA/*
PRA Operations and Human Factors Branch
Division of Risk Assessment
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF FEBRUARY 09, 2016 PUBLIC MEETING TO
CONTINUE DISCUSSIONS BETWEEN THE NRC AND INDUSTRY
RISK-INFORMED STEERING COMMITTEES (RISC)

On February 09, 2016, 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 (RISC). The purpose of the meeting was to engage the industry and public in discussions on risk-informed topics of interest. The meeting notice is available in the Agencywide Documents Access and Management System (ADAMS) Accession Number ML16019A492. The RISCs received an update on the status of the Probabilistic Risk Assessment (PRA) Technical Adequacy Working Group, had a discussion on the path forward for crediting mitigating strategies (MS) in risk-informed decision making (RIDM), discussed a potential pilot to use industry PRA models in regulatory applications, and had a presentation about how to combine quantitative risk results with deterministic criteria to facilitate RIDM. The presentations are available in ADAMS Accession Numbers ML16048A596, ML16048A605, and ML16048A603 respectively. A list of individuals that participated in the meeting is provided as an enclosure to this document. No public meeting feedback forms were received after the meeting.

The NRC RISC chair welcomed the participants to the meeting, providing the purpose of the meeting and introducing the topics to be covered. He emphasized the work that is in progress concerning crediting MS in RIDM and the importance to both the industry and NRC in moving forward with this initiative. The industry RISC co-chair provided opening comments echoing the statements of the NRC RISC chair including that the initiatives discussed by these committees enhance safety by utilizing risk insights in decision making. He also stressed the importance of continuing the work from the previous initiatives so that the full benefits can be realized.

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PRA Technical Adequacy Working Group NRC and Industry Working Group Status Update

NRC staff provided an update on continuing progress on the working group initiatives. Similar to the Treatment of Uncertainties in RIDM working group, this working group has issued a memo to the NRC RISC outlining the activities and the NRC working group's recommendations for path forward. In summary, the working group supports development of the required guidance required to pilot the proposed new methods vetting panel process, supports the development of guidance for the hybrid approach to closing out peer review facts and observations (F&Os), and supports development of additional guidance for verification of peer reviewer qualification. Additionally, the NRC working group acknowledged the industry's effort to develop a catalogue of NRC accepted methods. The NRC working group chair stated that NEI has submitted draft documents for guidance on the vetting panel process and the approach to closure of peer review F&Os and those documents were being reviewed with comments to be provided by May of this year. Once the guidance is agreed upon, a pilot will be undertaken with periodic status update briefings to the RISCs.

Discussion on Crediting MS in RIDM

NRC staff provided an update on activities performed to date with respect to crediting MS in RIDM. NEI developed white papers on behalf of the industry that were distributed to interested NRC stakeholders. The staff received a large number of comments on the white papers and held a public teleconference with NEI in January to discuss the status of the project. The industry RISC chair emphasized the large investment made by utilities for this equipment and the desire to extract the most benefit. He provided a specific example related to shutdown risk where some utilities were reducing the risk profile of the plant to green for the entirety of the outage by utilizing the equipment procured to comply with the MS orders issued by the Commission. NRC staff stated that the application specific guidance that would be developed with information provided in the white papers would be prioritized according to the most benefit and feedback from the RISCs. The industry stressed that agreement on how to provide some credit for license applications was a high priority. They stated that this could be accomplished with the insights provided by the qualitative white paper and the NRC staff agreed to elevate license application guidance to a higher priority. The next step for this initiative is to hold a public workshop with technical experts from industry and NRC to discuss specific comments on the white papers. This workshop is currently scheduled for March.

Use of Licensee PRA Models in Regulatory Applications

NRC staff provided a presentation on the possibility of using licensee PRA models in regulatory applications. The NRC project lead began by providing some background from the evaluation that was completed in 2007 and the ultimate decision to not pursue the effort. Those reasons included the lack of standardization throughout the industry, the independence required for the reactor oversight process, and the major logistical and resource issues with shifting to this type of approach. The reasons for re-evaluating this issue were also discussed including the cost to maintain and update SPAR models, the increased budget pressures, and the continued focus on identifying efficiency gains in NRC processes. The NRC project lead concluded by illustrating some of the logistical issues that would need to be evaluated to ensure a complete picture of the true implications are obtained. NRC staff is forming a project team with members from various offices to evaluate this issue. The NRC RISC members stressed the need to move quickly through the evaluation process and recommended a pilot to expose additional

challenges. The industry was amenable to the pilot approach and agreed to identify a pilot plant.

Aggregation of Risk Results and Decision Making

NRC staff provided a presentation on aggregation of risk results in RIDM. NRC staff noted that both the industry and NRC have been aggregating quantitative results since the 1970s. The real issue is how to combine quantitative risk results with deterministic criteria especially when quantitative risk results are near or exceed regulatory thresholds. It was noted that Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis", provides some guidance on this issue. Additionally, EPRI has issued a report "An Approach to Risk Aggregation for Risk-Informed Decision-Making" 3002003116, which also provides guidance. NRC staff noted that NRC review of this document has not been requested, but there is awareness of the document. The industry stated that a pilot is currently in progress with this document. The NRC recommended a workshop with industry to further explore this issue and the industry was amenable once the industry pilot is complete.

Treatment of Uncertainties Workshop

NRC staff provided a brief update on the NUREG-1855, "Guidance on the Treatment of Uncertainties Associated with PRAs in Risk-Informed Decision Making", workshop that was recently held. This workshop was associated with the previous RISC Treatment of Uncertainties in Decision Making working group activities. Overall the workshop was seen as a success and the decision was made to move forward with the current revision of NUREG-1855 while continuing to collaborate with industry and other stakeholders to make improvements to the document.

Closing Remarks

The industry RISC chair once again expressed the industry desire to keep these initiatives and the high level discussions between the management teams moving forward for the mutual benefit of both the industry and NRC. The NRC RISC chair agreed that this has been a successful forum for collaboration where necessary, thanked the participants for their attendance and closed the meeting.

Enclosure:
List of Meeting Attendees

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NAME	CSpore	SWeerakkody
DATE	03/29/2016	03/29/2016

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LIST OF MEETING ATTENDEES

Name	Organization
Candace Spore	NRC
Bill Dean	NRC
Robert Krsek	NRC
Thomas Zachariah	NEI
Stacey Rosenberg	NRC
Theresa Clark	NRC
Danny Bost	Southern Company
Joe Glitter	NRC
Victoria Anderson	NEI
Michael Montecalvo	NRC
Stuart Lewis	EPRI
Louise Lund	NRC
Doug True*	ERIN Engineering
Jeff Mitman	NRC
Jeff Circle	NRC
Sue Perkins-Grew	NEI
Michael Tschiltz	NEI
Paul Amico	Jensen/Hughes
Phil Tarpinian*	Exelon
Roy Linthicum	Exelon/PWROG
Fernando Ferrante	NRC
Rich Correia	NRC
Russ Felts	NRC
Sunil Weerakkody	NRC
Bob Bement	APS Palo Verde
Robert Rishel	Duke Energy/BWROG
Jana Bergman*	Sciencetech
N.P. Kadambi	ANS
John A. Nakoski	NRC
John Lai*	NRC
Stanley Levinson*	AREVA
David Miskiewicz*	Engineering Planning and Management
Brad Scott*	True North Consulting
Bill McTigue*	PSEG
See Meng Wong	NRC
James Slider	NEI
Joel Munday	NRC
Pete Appignani*	NRC
Alex Scwhab*	NRC
Donnie Harrison*	NRC
Laura Kozak*	NRC
Anders Gilbertson*	NRC

* Participated by teleconference

ENCLOSURE