

February 6, 2009

MEMORANDUM TO: Christiana H. Lui, Director
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THRU: Gary DeMoss, Chief **/RA/**
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SUBJECT: SUMMARY OF JANUARY 8, 2009, CATEGORY 2 PUBLIC
MEETING WITH THE PUBLIC AND INDUSTRY TO DISCUSS
RISK-INFORMED AND PERFORMANCE-BASED ACTIVITIES

On January 8, 2009, the Nuclear Regulatory Commission (NRC) staff met with the public and stakeholders to discuss the results of the risk-informed and performance-based activities. The meeting took place at NRC headquarters in 21 Church Street, Rockville, MD.

A public meeting notice was issued on December 17, 2008, and was posted on the NRC's external public web page and can be accessed at Agencywide Document Access Management System (ADAMS) Accession No. ML083520595. The meeting agenda and attendance list are at Accession Nos. ML090130265 and ML090130253, respectively.

The following is a summary of comments from Nuclear Energy Institute (NEI), industry, the NRC staff, and the public:

Comments from NEI/industry on PRA analyses and standards

- Change of wording of “applications” to “activities” in regulatory guide (RG) 1.200

NEI noted that in RG 1.200, “An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities,” Rev. 1, the word “applications” was changed to “activities” everywhere. Even though the NRC staff responded that the change of the wording was semantic, NEI is concerned the change of the wording implied an expansion of applicability.

- Overly aggressive schedule for implementing RG 1.200

NEI commented that the schedule for 1 year implementation of RG 1.200 is overly aggressive. NEI suggested that it is important to first obtain the lessons learned, determine what PRA

models needed to be improved, and make improvements to the PRA models and standards before endorsing it for trial use. NEI suggested an implementation period of 2 to 5 years because of the complexity associated with fire and internal events. NEI wanted one more interaction meeting with the staff on RG 1.200 to discuss wording and other issues, and pushed out the schedule for the next public meeting.

- Endorsing the PRA standards before a full review

NEI noted that the NRC staff has not performed a full review of the PRA standards (for example, PRA standards for external events). NEI suggested that the NRC needs to have a full review of the PRA standards before endorsing it.

- Lack of realism in PRA modelling

NEI commented that the NRC staff imposes conservatism into fire PRA, Significance Determination Process (SDP) evaluation, and PRA standards. NEI noted that when there is a lack of data, the NRC staff often use conservative values and rely on deterministic analyses. To incorporate risk informing into the regulatory decisionmaking, NEI suggested that the staff should use more realistic values in risk assessment.

- Lack of development of PRA databases

There is a need to develop databases for various applications. For risk assessment of fire sequences, there is a need to develop a fire database so more realistic values can be used in the risk assessment. On a similar note, human actions are very important in a shutdown scenario; however, there is a lack of data to model human actions for a shutdown scenario.

- Comments on Risk Assessment Standardization Project (RASP) handbook

NEI is interested in comments about common cause failure (CCF) and human reliability analysis (HRA) in the RASP handbook and how comments are going to be addressed.

- Use of risk-based methods or thresholds

Instead of using risk-informed approach, the staff relied on risk-based methods or thresholds for some applications. As a result the staff did not incorporate the important risk insights which can be obtained from a risk-informed approach into the process for regulatory decisionmaking.

- Not implementing the NRC's PRA policy

Even though the NRC has issued the PRA policy statement that endorses using PRA to support a technical position, there are some areas (for examples, digital instruments and control (I&C), and tornado missile risk) that the staff still do not accept risk assessment for analysis. It appears that there is a resistance for some of NRC staff to use PRA. This is contrary to the intent of the NRC's PRA policy.

- Imposing the PRA standards before the PRA applications

Most plants use qualitative approach to manage low power shutdown (LPSD) risk. A licensee should consider the driver and the user need for doing a PRA, and use the best method to manage the LPSD risk. If plants do not do quantified studies to manage the LPSD risk, then the PRA standard is not needed. The intent of the PRA standards is to use the standards in the application space. The NRC should not impose the PRA standards on the utilities before the merit of applying the standards is determined.

- Resource requirement for implementing fire protection standards

It is very resource-intensive for the nuclear industry to implement National Fire Protection Association (NFPA) 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants."

- Problems with NUREG/CR-6850

Guidance in NUREG/CR-6850, "EPRI/NRC-RES Fire PRA Methodology for Nuclear Power Facilities," is resource intensive, has unnecessary conservatisms, and many unresolved issues.

- Success in risk-informing technical specifications

Risk informing technical specification has been successful for some licensees (for example, the Diablo Canyon technical specifications).

Comments from NEI/industry comments on other topics

- Expanding the scope for the maintenance rule

The NRC staff is expanding the scope for the maintenance rule to include LPSD and external events. NEI questioned why a regulatory analysis was not performed for the maintenance rule.

- Revisit of integrated leak rate testing (IRT) issue

NEI would like to reexamine the interval required for performing the Appendix J Type C tests to measure containment isolation valve leakage rates.

NRC comments

- Risk-informed performance-based (RIPB) activities in RES

RES has the lead in developing the PRA quality and standards, standardized plant analysis risk (SPAR) models, and analyzing various HRA modelling. RES is working with NASA on digital I&C issues. RES has a memorandum of understanding (MOU) with Electric Power Research Institute (EPRI) on addressing various PRA issues including the fire PRA methodology.

- RIPB activities in NRR

For the near-term RIPB activities, the staff is reviewing pilot plant submittals related to 10 CFR 50.48 (c) on fire protection, establishing fire PRA guidelines, and addressing plant-specific technical issues. The staff is also working on implementing 10CFR50.36 Initiatives 4B and 5B on technical specifications, and addressing the risk-informed safety class (RISC) 3 treatment for 10CFR 50.69 on special treatment requirements. The staff is also embarking on longer-term RIPB activities such as 10CFR 50.46(a) on ECCS acceptance criteria and digital systems.

- RIPB activities in NRO

The staff noted that the risk insights from applicants' PRAs are used to inform NRC reviews, and support issue resolution and inspection program. The staff commented that the current risk metrics may be not appropriate for new reactors. The staff is looking at different risk metrics and will hold public meetings to solicit public stakeholders' input. The staff also commented on the benefit of Westinghouse AP 1000 piping study in prioritizing the risk of components in the piping study.

- Importance of LPSD risk

The staff noted that configuration-based risk management is important to control the LPSD risk. However, the staff believes that since it is not known whether the LPSD risk may be significant for some plants, there is merit for quantifying the LPSD risk.

- Revamp of staff's training in PRA

The staff noted that there has been a revamp of PRA courses for training of NRC staff. All new hired are now required to take courses on PRA and risk informing. This is an attempt to emphasize the importance of using risk-informed approach for regulatory decisionmaking.

Comment from a public stakeholder

Mr. Steven Dolley, Associate Editor from Platts Nuclear, inquired about when the risk-informed and performance-based briefing for the Commission would take place. The staff responded that the date of briefing is slated to be February 4, 2009.

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