

July 1, 2015

Title: Staff Recommendations Regarding a Risk Management Regulatory Framework

Meeting Identifier: 20150653

Date of Meeting: Wednesday, May 27, 2015

Location: NRC Two White Flint North, Room T-2B03  
11545 Rockville Pike  
Rockville, MD

Type of Meeting: Category 3

Purpose of the Meeting:

The purpose of the public meeting was to clarify the intent of three issues described in the NRC staff's April 20, 2015, draft white paper entitled, "NRC Staff White Paper on Options for Responding to the June 14, 2012 Chairman's Tasking Memorandum on "Evaluating Options Proposed for a More Holistic Risk-Informed, Performance-Based Regulatory Approach."

General Details:

The NRC conducted an open meeting at 1:00 p.m. eastern standard time (EST) where NRC staff, along with members of the public and industry representatives, discussed information associated with developing a risk management regulatory framework. There were 19 NRC staff members present as well as members of the public and representatives from the Nuclear Energy Institute and the Union of Concerned Scientists, among others.

Summary of Presentations:

The staff presented the slides in Attachment 1 summarizing the three topics addressed in Sections I, II, and III of the white paper. There were specified intervals after each presentation, allotted for information exchanges between NRC staff and meeting attendees. This time was used by NRC staff to answer questions or concerns expressed by industry representatives and members of the public. Many of the comments or questions expressed by meeting attendees are captured in the "discussion" sections below as they relate to each of the three topics discussed during the meeting. During the meeting, formal statements were made by Michael Tschiltz of the Nuclear Energy Institute (NEI) and Ed Lyman of Union of Concerned Scientists (UCS). Their comments are also included in the "discussion" sections of this meeting summary.

## Section I. Risk Management Regulatory Framework Implementation Options for Nuclear Power Reactors

The staff discussed three risk management regulatory framework implementation (RMRF) options that it will present to the Commission. These options are:

1. Maintain the Current Regulatory Framework – There would be no wholesale revision of NRC’s regulatory framework, although ongoing and planned risk-informed initiatives would continue.
2. Implement a Risk-Informed Alternative Licensing Basis – The NRC would retain its existing generic regulatory structure but would promulgate a rule that allows licensees and applicants to comply with a risk-informed alternative licensing basis. The alternative licensing basis would utilize a suitable PRA model to provide plant-specific risk insights. Licensees/applicants of plants with a suitable PRA model would be able to risk inform how they address certain accidents and transients included in their licensing basis. Licensees/applicants that choose to adopt the risk-informed alternative licensing basis would also be required to use their PRAs to search for and mitigate risk-significant events and/or accident sequences on a plant-specific basis in accordance with criteria to be developed and specified in the implementing regulation.
3. Implement the Plant-Specific RMRF as recommended in NUREG-2150, “A Proposed Risk Management Regulatory Framework,” (April 2012; Agencywide Documents Access and Management System (ADAMS) Accession No. ML12109A277) – The NRC would develop a plant-specific regulatory framework for nuclear power reactors derived from the approach recommended in NUREG-2150. A risk management goal would be established to provide protections to meet the higher level risk management objective. The NRC would issue a regulation requiring all licensees to have plant-specific PRAs meeting specified criteria. The NRC would create a “design enhancement category” of events that complement the design-basis accidents and transients to provide additional safety. A formal, risk-informed decision-making process would be implemented similar to the process described in Chapter 3 of NUREG-2150. In addition, the NRC would reevaluate and disposition each of the specific regulatory framework recommendations for nuclear power reactor safety contained in NUREG-2150.

### Discussion:

A stakeholder asked why Option 1 did not include an integrated decision-making process. He also asked why Option 1 is not considered broad enough to encompass Options 2 and 3. The NRC staff responded that the risk-informed decision-making process in Regulatory Guide 1.174, “An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis,” would be included in all options.

Several stakeholders asked questions about the implementation details of Option 2. The staff responded that the NRC would review all of its power reactor regulations and identify those that would be amenable to being risk-informed under Option 2. However, the NRC staff could not provide additional implementation details because the Option 2 process has not been fully

developed. Michael Tschiltz, of NEI, stated that without additional details of how the Option 2 process would work, it is very difficult to assess safety benefits and costs. He stated that the staff should not present its recommendations to the Commission without having developed more details regarding how the processes would work. He also stated that Option 3 should not be implemented at existing plants.

Ed Lyman of UCS specified that he did not think the recommendations made by the Fukushima Near-Term Task Force (NTTF) and the recommendations for the three RMRF options are consistent with one another. He also specified that Option 2 should not be pursued because it would result in inconsistent requirements being applied to individual plants across the industry and would further exacerbate the "patchwork" of different requirements that NTTF Recommendation 1 proposed to eliminate. He suggested that, in looking for vulnerabilities, clear and consistent requirements need to be applied across the industry by a new effort to reevaluate the Independent Plant Examinations (IPEs) and Independent Plant Examinations – External Events (IPEEEs) on a consistent basis across the industry.

A stakeholder asked if Options 2 and 3 would allow licensees to make changes to their technical specifications without public knowledge or review. The NRC staff stated that changes to technical specifications require NRC review and approval of a license amendment. The license amendment process is open to public involvement.

A member of the public asked if licensees will self-determine if proposed changes at reactor sites will fit into the risk categories defined in this draft, as "low risk." Furthermore, what assurances are there to protect stakeholders from licensees proposing changes which would go beyond the low risk category? The NRC affirmed that further work in this area will be necessary to develop clearer guidance, and define the processes as they apply to Options 2 and 3.

## Section II. Staff Reevaluation of NTTF Recommendation 1 Improvement Activities 1 and 2

The staff noted that this section of the paper responds to Commission direction in staff requirements memorandum (SRM)-SECY-13-0132, "U.S. Nuclear Regulatory Commission Staff Recommendation for the Disposition of Recommendation 1 of the Near-Term Task Force Report," (ADAMS Accession No. ML14139A104), which directs the staff to reevaluate two of its proposed "improvement activities" from SECY-13-0132 in light of the RMRF effort. The first improvement activity is to establish a new design-basis extension category of events and associated regulatory requirements. The second improvement activity is to establish Commission expectations for defense-in-depth, including possible development of a Commission policy statement on defense-in-depth.

### **Improvement Activity 1 – Establish Design Basis Extension category of events and associated requirements**

The NRC staff now believes that creating a new design-basis extension category is not necessary.

Instead, for Option 1 (maintain existing framework) and Option 2 (risk-informed alternative licensing basis), the staff would develop clear internal rulemaking guidance to ensure consistent criteria for specifying performance goals, treatment requirements, documentation requirements, change processes, and reporting requirements whenever new regulations (especially beyond

design-basis) are developed. Developing internal rulemaking guidance on addressing all pertinent regulatory attributes would eliminate the need to establish new design-basis extension category.

For Option 3 (plant-Specific RMRF), instead of design-basis extension category, the staff would establish a design-basis enhancement category of events/requirements as recommended in NUREG-2150. However, because full implementation of Option 3 is expected to take longer than 10 years, the staff would still need to revise internal rulemaking guidance (as recommended for Options 1 and 2) to ensure that all new regulations issued during this interim implementation period fully address all necessary regulatory attributes.

Discussion:

Michael Tschiltz of NEI agreed with the staff's proposal for Improvement Activity 1. A reporter asked about the difference between the design-basis extension category and the design-basis enhancement category. The staff responded that the design-basis enhancement category included mitigation requirements for risk-significant plant-specific scenarios identified by mandatory probabilistic risk assessments that were not included in the design-basis enhancement category.

Improvement Activity 2 – Establish Commission expectations for defense-in-depth

The staff recommended that for Options 1, 2, and 3 the NRC should proceed with the proposed Recommendation 1 effort to establish a definition of and criteria for adequacy of defense-in-depth.

Discussion:

Michael Tschiltz from NEI and Ed Lyman from UCS agreed with the staff's proposal.

Section III. Development of an Agency-Wide Risk Management Policy Statement

The staff has developed a revised example of an over-arching risk management policy statement. The purpose of this example policy statement would be to improve and make more consistent the regulatory framework used for all program areas including reactors, industrial, medical uses of radioactive material, nuclear waste storage and disposal, fuel cycle facilities, and radioactive material transportation for both radiological safety and common defense and security. Such a policy statement could be written at a high level, thereby permitting each program office to implement the agency-wide policy tailored to the specific goals of each regulated activity in a manner commensurate with the hazards and technology of the regulated program area. The risk management policy statement would establish by policy that the NRC uses a risk management approach; as such, the policy statement would establish an aspirational vision for the agency to improve existing agency policies and practices as guided by this vision.

Discussion:

A stakeholder asked if the Commission's decision on an agency-wide policy statement would affect the choice of RMRF implementation options discussed in Section 1 of the white paper.

The staff responded that if the Commission directed that an agency-wide policy statement be developed, all of the RMRF implementation options were expected to be consistent with the policy statement.

Michael Tschiltz of NEI stated that the pursuit of an agency-wide policy statement did not appear to be an efficient use of existing resources. In his opinion, it would be better to focus resources on addressing issues involving defense-in-depth, uncertainties and aggregation.

Ed Lyman of UCS stated that a risk management policy statement should first be developed for power reactors. It could be expanded later to address other regulatory program areas.

A stakeholder asked how the policy statement would impact the PRA policy statement and whether the PRA policy statement would continue to exist. The staff responded that the PRA policy statement would continue to exist either as a separate policy statement or, if the Commission decided, it could be moved into the RMRF policy statement.

However, the preference would be to keep it as a separate policy statement. Because the PRA policy statement is restricted to the use of PRA, it is limited primarily to power reactors since other program areas are not presently suited for using PRAs. In this regard, the current PRA policy statement could be viewed as a RMRF policy statement for power reactors with the expectation that other program areas could also develop a similar implementing statement for their areas.

A stakeholder asked if the RMRF policy statement would improve safety. The staff responded that it should improve safety.

There were additional comments and questions from other stakeholders regarding other topics such as the effects of solar storms on nuclear power plants. These comments were addressed by NRC staff during the meeting but are not included in the meeting summary because they were not directly related to the purpose of the meeting.

Attachments:

1. Presentation slides (ML15177A190)
2. List of meeting attendees (ML15177A201)

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**ADAMS Accession Nos.: Pkg. (ML15177A209);  
Notice (ML15134A235); Summary (ML15177A175);  
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NAME	TInverso	NJordan
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