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80FR 27191

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June 10, 2015

Ms. Cindy K. Bladey  
Office of Administration  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**Subject:** Industry Comments on "NRC Staff White Paper on Options for Responding to the June 4, 2012 Chairman's Tasking Memorandum on Evaluating Options for a More Holistic Risk-Informed, Performance-Based Regulatory Approach," [Docket ID NRC-2013-0254]

**Project Number: 689**

Dear Ms. Bladey,

On behalf of the nuclear energy industry, the Nuclear Energy Institute (NEI)<sup>1</sup> appreciates the opportunity to provide comments on the "NRC Staff White Paper on Options for Responding to the June 4, 2012 Chairman's Tasking Memorandum on Evaluating Options for a More Holistic Risk-Informed, Performance-Based Regulatory Approach" [Docket ID NRC-2013-0254].

We appreciate this effort by the NRC to consider: 1) options for dispositioning issues related to the recommendations in NUREG-2150, "A Proposed Risk Management Regulatory Framework," and 2) expectations for defense-in-depth and a design-basis extension category in the context of the Commission's direction concerning a long-term Risk Management Regulatory Framework policy statement.

If you have any questions or require additional information, please contact me (202-739-8083; mdt@nei.org).

Sincerely,

Michael D. Tschiltz

<sup>1</sup> The Nuclear Energy Institute (NEI) is the organization responsible for establishing unified industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations and entities involved in the nuclear energy industry.

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Template = ADM - 013  
E-RIDS= ADM-03

Add= R. Dudley (rfd)

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Attachment

c: Mr. Lawrence Kokajko, NRR/DPR, NRC  
Mr. Richard Dudley, NRR/DPR/PRMB, NRC

**Industry Comments on "NRC Staff White Paper on Options for Responding to the June 4, 2012 Chairman's Tasking Memorandum on Evaluating Options for a More Holistic Risk-Informed, Performance-Based Regulatory Approach," [Docket ID NRC-2013-0254]**

**Option 1: Maintain the Current Regulatory Framework**

The industry believes that the existing Policy Statements on the 'Use of Probabilistic Risk Assessment Methods in Nuclear Regulatory Activities' (60 FR 42622) and the 'Safety Goals for the Operation of Nuclear Power Plants' (51 FR 30028), in concert with increasing experience with risk-informed regulation and integrated risk-informed decision-making processes, have established a workable structure for risk informed applications. The industry understands the current risk-informed structure and basis documents (e.g., Regulatory Guide (RG) 1.174, RG 1.200), and encourages the staff to enhance the current processes, including risk-informed decision-making, to make them more predictable and efficient.

**Option 2: Implement a Risk-Informed Alternative Licensing Basis**

While this option would be voluntary, the industry does not feel that there is sufficient detail provided in the white paper to determine if pursuing this voluntary initiative would be worthwhile. In particular, the staff has not provided any detail on what existing requirements could be risk-informed. The staff should, as a minimum, characterize the requirements that would be the best candidates for a risk-informed process. A list of regulatory requirements that would be amenable to a risk-informed approach would also be beneficial to Option 1. The industry is willing to work with the staff to develop a candidate list that would be applicable regardless of which option the Commission selects.

The staff should consider specifying the mechanism for approving this alternative approach, i.e., some less onerous than a submittal per requirement per licensee. The staff should also consider interaction with other relevant regulations (e.g., 10 CFR 50.12, 10 CFR 50.59).

The white paper is also not clear on what probabilistic risk assessment (PRA) scope and technical adequacy requirements would be imposed on a licensee to adopt this voluntary initiative. Accordingly, without more information, the industry cannot gauge the cost-benefit, and it would be difficult to consider implementing this approach at this time.

Finally, the white paper states that for licensees that would adopt this 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." This statement is too open-ended for the industry to recommend this option; some details on the criteria and implementing regulation would need to be established before this could be considered a viable option.

In short, with the lack of information provided in the white paper on Option 2, the industry cannot support this option.

**Option 3: Implement the NUREG-2150 Plant-Specific Risk Management Regulatory Framework (RMRF)**

The industry does not find Option 3 to be a viable option. This is a mandatory option and would require every licensee to upgrade the scope and technical adequacy of its PRA. For some plants with limited projected lifetimes, the cost to upgrade the PRA may be so expensive as to result in early plant closures.

The concerns raised for Option 2 would also apply to Option 3, particularly in terms of the vagueness of PRA scope and technical adequacy expectations. This is crucial for Option 3, as a risk management goal would be established with regulation requiring all licensees to meet the goal with a plant-specific PRA. However, the risk management goal has not been defined. While not explicit in the white paper, Option 3 would likely also require the development of an over-arching, agency-wide policy statement using the risk management approach to ensure safety and security (see item 3 below).

The white paper also discusses the staff reevaluation of NTTF Recommendation 1 Improvement Activities 1 and 2.

**Improvement Activity 1: Design-Basis Extension Category**

For Improvement Activity 1, the staff proposed a category in addition to safety-related and non-safety related, called the design-basis extension category. The white paper indicated that such a category (called a "design enhancement category") would not be necessary for Options 1 and 2. The industry concurs with this statement.

However, a third category would be created for Option 3. This is another reason that Option 3 is not a viable option for the industry. The industry was not supportive of the third category during the discussions related to NTTF Recommendation 1. These concerns are addressed in the PWROG comments (under Option 4a and Option 4b) submitted to the staff in Letter OG-12-505, to Richard F. Dudley, from N. Jack Stringfellow, "Comments on Draft NRC Staff Response to Fukushima Near-Term Task Force Recommendation 1 (Docket ID NRC-2012-0173) (PA-SC-0933 Rev 1)," dated December 12, 2012.

**Improvement Activity 2: Defense-in-Depth**

The text of the white paper and the table in Enclosure 1 of the white paper makes it clear that the staff sees a need to develop a definition of and decision criteria for determining the adequacy of defense-in-depth for power reactors for all three options. The white paper further suggests that the staff would "also consider whether a Commission policy statement on defense-in-depth for nuclear power reactor would be appropriate." Under Option 1, the industry encourages the staff to clarify the defense-in-depth guidance and criteria as provided in RG 1.174. The industry supports the need to provide additional guidance on the treatment of defense-in-depth, provided the guidance meaningfully integrates defense-in-depth and risk information, rather than treating the two approaches as separate decision criteria.

The white paper discusses the possible development of an over-arching, agency-wide policy statement using the risk management approach to ensure safety and security. The white paper does not explicitly link the development of a new policy statement to any of the three proposed options, though a new policy statement would most likely be needed for the implementation of mandatory approach under Option 3.

The white paper acknowledges the development of a conceptual example of an RMRF policy statement (ML 13273A517), made available on November 8, 2013. This paper was the subject of two public meetings, as well as a meeting with the Advisory Committee on Reactor Safeguards (ACRS) subcommittee on Reliability and Probabilistic Risk Assessment. A number of public comments were also made. Although the white paper notes that the public comments were considered, no formal comment responses were published.

In the PWROG comments (Letter OG-14-83, to Cindy Bladey, from N. Jack Stringfellow, "PWR Owners Group Comments on the Nuclear Regulatory Commission (NRC) White Paper on a Conceptual Example of a Proposed Risk Management Framework Policy Statement," [NRC-2013-02541], dated February 28, 2014), a general comment bears repeating here:

The White Paper proposes using the same (new) framework across the entire scope of the NRC's regulated areas, i.e., areas that include reactors, industrial, medical, waste, fuel cycle, and transportation. The development, testing, and implementation of such a regulatory framework would be a significant task for one area within the NRC. Accomplishing this across the entire agency in a coordinated, consistent manner would appear to be an extremely challenging task for the NRC that will require a long period of time, inter-agency coordination, and perhaps a dilution of methodological approaches to satisfy all of the agency's desires.

The example policy statement concepts provided in Enclosure 2 of the white paper are high-level and less specific than the contents of the November 8, 2013 paper. Therefore, it is difficult to assess which, if any, of the industry comments were accepted and adopted. If the Commission decides to pursue the development of this policy statement, the industry expects to be involved as an external stakeholder during the process.

For any decision to develop a new risk-informed initiative, e.g., Option 2, Option 3, use of a "design enhancement category," implementation of a defense-in-depth "quantification" and criterion, development of a risk management policy statement, the industry recommends that one or more pilots are performed prior to the finalization of any NRC process (e.g., rulemaking, Regulatory Guide, etc.) to test any new process and ensure that implementation is cost-effective (i.e., the value gained is commensurate with the effort expended) and produces the intended results.