Risk Prioritization Initiative (RPI)
Demonstration Pilot Guidance for NRC Staff Participation

I. Purpose and Conduct

Purpose of these site visits is to participate in the demonstration pilot of Nuclear Energy Institute's (NEI) draft plant-specific prioritization process. The staff has been tasked with the development of a Commission notation vote paper describing potential options for using a risk-informed process to prioritize regulatory activities on a plant-specific basis and in an integrated manner. These demonstration pilots will assist the staff in completing that task.

- During the demonstration pilots, the Nuclear Regulatory Commission (NRC) staff will not make any regulatory decision or take any regulatory action. This activity is NOT considered an NRC inspection and/or an audit.

- In order to facilitate the sharing of technical information between the industry participants, the demonstration pilots are not scheduled to be open to the public. The information shared is anticipated to be of a proprietary and/or security-related nature. However, the final results and documentation of the Integrated Decision-Making Panel (IDP) and the Aggregation will be made publically available.

- The NRC staff will actively participate in the demonstration of the prioritization process. During the demonstration pilot activities, the staff will inquire on details for clarification and to gain a better understanding of the essences of the assessment and bases underlying the licensee's implementation of the prioritization process.

- The NRC staff will not be providing any specific direction or endorsement of the contents, related documents, and/or NEI/licensee conclusions.

- At the conclusion of the demonstration pilots, the NRC staff plans to prepare a publicly available summary delineating the observations and insights gained from the pilots to ensure appropriate sharing of information will be made public with other interested parties. This information will then be used in the development of a Commission paper describing potential options for using a risk-informed process to prioritize regulatory activities.

II. High-Level Objectives

The main objectives of the NRC staff participation in the demonstration pilots is to critically assess the following items with respect to the observed activities with respect to informing the Commission in the subsequent March 2015 voting paper:

1) Evaluate the extent to which the prioritization process is reliable, repeatable, and transparent, and

2) Assess the level of incentive to develop enhanced probabilistic risk assessment (PRA) tools and models as included in the process and whether additional options or

considerations should be eventually considered as part of the communications with ACRS and the Commission.

3) Critically evaluate the licensee's use of deferral and elimination processes for regulatory activities of low risk and safety significance for appropriateness (e.g., as supported by the use of PRA and a clear regulatory vehicle) and its impact on regulatory stability.

4) Consider how the process informs (or not) an eventual discussion on how corrective actions for findings, violations, and degraded or nonconforming conditions adverse to quality will be treated as part of the risk prioritization initiative.

5) Evaluate how regulatory and non-regulatory activities are treated and the implications of the integrated assessment of priority of all items in the aggregation process. Since the demonstration pilots will (by necessity) include a limited set of initiatives, consider how an expanded scope could impact the understanding of the observed process

6) Obtain the most recent NEI guidance on the Risk Prioritization Initiative and comparing during the demonstration pilot observations how (a) clear the guidance is followed in the exercises, (b) consistency applications across issues/licensees influence the outcomes, and (c) the extent to which the demonstration pilots indicate a needed clarification or gap that needs to be communicated to NEI by the end of the demonstration pilot activities.

7) Assess the ability of the RPI under review to appropriately prioritize initiatives from multiple disciplines (e.g., Radiation Protection, Security, and Emergency Planning).

8) Observe, note, and collect any items of importance for communication in an eventual full briefing to the ACRS in advance of the transmission of the March 2015 paper to the Commission.

III.   **Supporting Elements**

The following supporting elements demonstrated during the pilot activities should be considered by staff to assess whether the prioritization process in its entirety (or portions/variations of) is acceptable to use generically by all licensees in order to communicate the available options to the Commission in the March 2015 voting paper.

• Assess whether that the process is reliable and technically correct (e.g., it includes an appropriate balance of PRA modeling quantitative and qualitative information in areas amenable to modeling as well as more subjective arguments for those not-amenable to modeling? Are there mechanisms that could be included in the process that would further incentivize the use of PRA as appropriate? Is the licensee over relying on subjective/qualitative judgment where better justification could be provided via quantitative modeling?)

• For PRA applications, how are the different hazards being considered/incorporated? Are hazards with wide uncertainty being appropriately considered versus more

well-defined issues (e.g., external versus internal events)? How is the uncertainty treated and what role does it play on the final decision?

- Is the process repeatable (e.g., will the same plant configuration consistently achieve the same result in the long run and across attributes/issues? Will two plants with similar designs and configurations achieve similar results?)

- Consider whether the process is observable/inspectable/auditable with proper documentation (e.g., What documentation should be reasonably produced to support the process and how would NRC evaluate this information? What type of regulatory processes should be considered for the implementation of RPI for both licensing and oversight? What would be the role of the NRC (if any) at the different stages of the process?)

- Is the process exportable/scalable (i.e., is the initiative/process applicable to all licensee plants?). What level of resources will industry/NRC need to develop in order to implement this process across the entire fleet (e.g., is it feasible, sustainable)?

- Evaluate the experience and qualification of the Subject Matter Experts who provided the plant-specific evaluation.

- Did the integrated decision-making panel (IDP) include knowledgeable plant personnel whose expertise represents the important process and functional elements of the plant operation?

- Are the members of the IDP are familiar with the technical approach and guidance for prioritization?

- Can a "backstop" be defined/implemented in such a way that Low or Very Low regulatory activities/requirements will not be deferred indefinitely or dropped?

- Is there a nexus between the "Reliability" attribute and plant safety? Is the "Reliability" attribute needed for the success/clarity of the guidance?

- How effective is the pairwise comparison?

- How is the proposed guidance utilized to determine the levels of importance for Security, EP and RP? Does it provide a technically and regulatory bases for an effective comparison between/among the levels of importance for Safety, Security, EP, and RP?

- Are the thresholds between the different prioritization levels appropriately set such that the results are meaningful (e.g., is the result that all regulatory activities are considered Low or Very Low with respect to non-regulatory activities? Are there any Category 1 activities? If the results are concentrated in one priority level, how does the licensee then prioritize these activities? Can activities within the same priority level (e.g.,

Medium) be appropriately re-prioritized using meaningful safety criteria or are other non-safety aspects used (e.g., cost, availability of personnel)?

- How does the IDP use information obtained from GAET? Is there clarity/consistency between the two stages? Are the GAET insights appropriate for site-specific information? Should there be a feedback loop between GAET and IDP at different stages of the process (e.g., is the GAET missing potentially important insights that can only be achieved at the IDP level and could benefit multiple licensees?)

- How will the NRC ensure multiple stakeholders will remain informed with the opportunity for engagement as appropriate, if the process were to be implemented? What impacts would RPI have on Regional activities? How would a disagreement on a specific GAET or site-specific IDP decision be documented and addressed (i.e., what enforcement mechanisms could be implemented if needed)?

IV.   Scope

The NRC staff will participate during the IDP meeting, the aggregation process, and the scheduling assessments for Palisades and Robinson. Based on a smart sample, the staff will participate in additional demonstration pilot activities at the other facilities: Hatch, Prairie Island, Davis-Besse, and VC Summer.

V.   Key Deliverable

At the conclusion of the demonstration pilots, the NRC staff plans to prepare a publicly available summary delineating the observations and insights gained from the pilots. These insights will be eventually used to inform the ACRS and to develop a March 2015 voting paper for the Commission's consideration.