

NRC Level 3 PRA Project Industry Perspective

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**Biff Bradley
Director, Risk Assessment
Nuclear Energy Institute**



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Industry Supports Concept of Updated Level 3 Study

- **NUREG 1150 provided significant value to the understanding of safety, and was foundational to risk-informed regulation**
- **A new Level 3 study would reflect improvements to plant design and operation, state of knowledge, and analytical techniques**
- **The study should complement, not replace NRC's existing risk-informed regulatory approach using CDF and LERF**

NRC Task Force Report Observation on Level 3 PRA

- **“The Task Force also considered the value of requiring a Level 3 PRA (i.e., a probabilistic assessment of accident dose and health effects) as part of a new regulatory framework. The Task Force concluded that for large light-water reactors, the metrics of core damage frequency and large early release provide very effective, relatively simple, well-documented and understood measures of safety for decision-making. Therefore, the Task Force has not recommended including Level 3 PRA as a part of a regulatory framework.”**

Considerations

- **To be beneficial, study must conform to consensus standards and NRC methods expectations**
- **A pilot plant or plants is essential**
- **Level 1 model for all modes/initiators is a logical first step**
- **Level 2 and 3 considerations can be deferred to allow consideration of severe accident insights from Japan**

Industry Perception of Benefits

- **Provide and document acceptable methods for Level 1 for expanded scope of modes and hazards**
- **Inform, and pilot where needed, PRA Standards development (Levels 1, 2 and 3)**
- **Once complete, would provide reference study that documents methods and Standards compliance**
- **Full Level 3 PRA is a logical application of NRC's SOARCA technology**

NRC Staff Proposed Options

- 1. Maintain Status Quo – Evolutionary development of PRA technology without conducting a full Level 3 PRA**
- 2. Perform focused research to address gaps before performing a full Level 3 PRA (Proposed by SECY-11-0089)**
- 3. Perform full Level 3 PRA with pilot plant (ACRS letter)**

Pilot Considerations

- **Proposed study would be resource intensive effort for NRC and pilot plant**
- **While supportive of Level 3 effort, industry agrees that competing priorities could be an issue for both NRC and industry**
- **NRC proposed timeline is optimistic based on our experience with PRA, especially in areas with limited application**

Pilot Plants

- **Several possible pilot plants have expressed interest**
- **Not clear that all NRC expectations (e.g. multi-unit, external hazards, etc) can be addressed with single pilot**
- **Should study proceed, we are ready to engage in discussions on piloting**

Summary

- **New Level 3 study could provide important insights to complement and confirm NRC's risk-informed regulatory approach**
- **A practical additional benefit is development of Level 1 methods and demonstration of Standards**
- **Timing, overall schedule, and piloting need careful consideration should study proceed**