

Southern Nuclear

*SNC Perspective on
NRC's Level 3 PRA Project*

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Risk-Informed Engineering



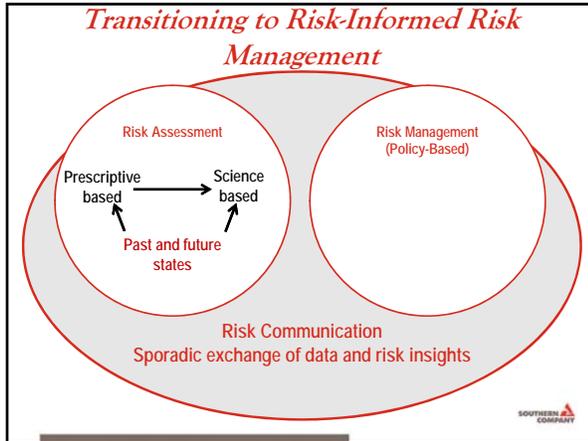
Why is SNC Participating in the Level 3 Study?

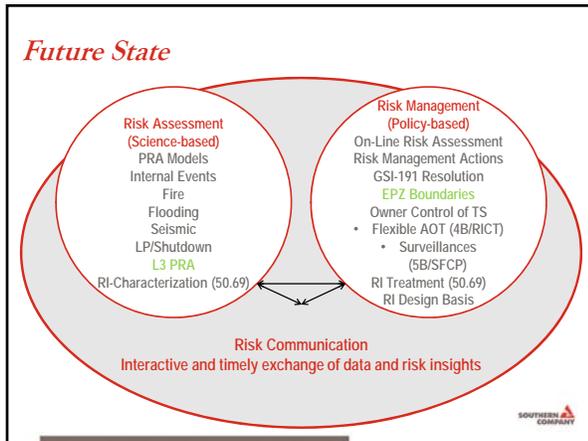
It facilitates the realization of SNC Risk Informed Engineering's vision:

To facilitate generation of safe, clean, reliable and affordable energy through a risk-informed framework that incentivizes continuous performance improvements through state-of-knowledge advancements and plant specific safety margin enhancements.









- SNC's "Support Industry Initiatives" Strategy**
- Cooperate with the NRC's Level 3 Project
 - Achieve mutual objectives
 - Pilot Risk-Informed Initiatives (e.g., 4b, 50.69)
 - 4b (Risk-Informed Completion Time).
 - 50.69 (Risk-Informed Categorization and Treatment).
 - Significant industry interest has been generated due to our efforts.
 - Work with Owners Groups, NEI, EPRI
 - Substantial upgrades to EOOS to support RI programs.
 - Development of robust Seismic PRA methods.
 - Participation in 5b/SFCP Task Force.
- A Southern Company logo is in the bottom right corner.

Objectives of Level 3 Cooperation

- Assist in developing high-quality PRA models that provide realistic insights.
- Increase regulator's confidence in the PRA insights and peer review process.
- Acquire several PRA models that SNC has not developed yet.
 - Level 3 PRA
 - Spent Fuel Pool
 - Shutdown PRA
- Use the NRC Models as a platform to develop SNC PRA models/expertise
- Achieve SNC's operational and strategic goals, including:
 - Developing talent
 - Change EPZ boundary and requirements
 - Address GSI-191 resolutions
 - Explore promise of SECY-98-300, Option 3 (Risk-Informed changes to the body of the Part 50 regulations, to incorporate risk-informed attributes)
 - Explore Risk-Informing Part 52



SNC's Insights

- NRC Leadership highly supportive and fully engaged.
- NRC senior PRA staff highly knowledgeable.
- High quality PWROG peer reviews
- As evident by the peer review results, NRC's PRA model quality consistent with the industry PRA models
- There will be limitations in assessing the true costs of developing Level 3 PRAs given the objectives of the NRC's project
- Our man-hours contribution is well in excess of original estimate
- There is a difference in dealing with the model uncertainties - NRC takes a more conservative approach most of the time.
- Additional industry engagement is needed (potential areas: HRA, Common Cause Failure, MAAP vs. MELCOR outcomes, etc.)



Near-term Challenges

- Potential introduction of NFPA-805 related conservatisms in the Fire PRA model
- Large differences in uncertainties between internal events and external hazards should be properly characterized
 - Use of a single aggregate value may be unrealistic if results from the models for each hazard are not "ready" to be added together
 - Potential masking of safety improvements
 - Best risk insights are obtained by evaluating relative risks from each hazard to manage them properly
 - Value in identifying what is driving hazard-specific risk



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Questions?

[Redacted]

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