Southern Nuclear Company

Risk Informed Regulation –The Southern Perspective
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Regulatory Framework

- Alternative approaches to address new regulatory framework question are
  - Status quo- Current framework (patchwork) is sufficient and effective
  - Additive Regulation – Current prescriptive Regulations + New Performance-Based/Risk-Informed (PB/RI) Regulations
  - Holistic transition to PB/RI Regulation
- Southern is exploring the following proposition
  - Holistic and systematic transition to PB/RI regulatory framework is the preferred approach because it facilitates:
    a) NRC's objective of meeting "Principles of Good Regulation"
    b) Utilities goal of continuous performance improvement
    c) Collective goal of reducing cumulative effect of regulation

Principles of Good Regulation

- "Efficiency – Regulatory activities should be consistent with the degree of risk reduction they achieve."
  - Balance of burden reduction **and** enhanced requirements
- "Reliability – Regulations should be based on the best available knowledge from research and operational experience."
  - Requirements for model and program updates and upgrades
- "Clarity – Agency positions should be readily understood and easily applied."
  - Pre-defined processes for incorporation of state-of-knowledge improvements

Continuous Performance Improvement

- Incentivizes performance and safety improvements (e.g., Transitioning to Owners Controlled Surveillance Frequency Program (a.k.a. Initiative 5b) and PB/RI Categorization of SSCs (a.k.a. 50.69))
  - Programmatic relaxation of treatments based on good performance – Continuous learning is vital to improving safety.
  - Innovation is encouraged – One cannot engineer innovation, but can increase the odds of it occurring
- Incentivizes transitioning from unknowns to known (e.g., GSI-191)-
  - Unknown ⟶ Known = Consequences not as severe as assumed
    - "One size fits all" siloed conservatisms can be reduced or eliminated
  - Unknown ⟶ Known = Consequences as or more severe than assumed
    - "One size fits all" conservatisms can be replaced by targeted barriers

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Reducing Cumulative Effect of Regulation

- Reduces reliance on regulatory patchwork to deal with new information or interpretation of old information for existing programs (e.g., new fire-induced cable failure modes, Multiple Spurious Operation (MSO), containment sump plugging, or new seismic hazard curve)
  - PB regulation recognizes that state-of-knowledge is dynamic resulting in requirement for periodic updates and upgrades
  - Systematic, pre-defined, and predictable approach for incorporation of new information is an integral part of PB/RI Programs (e.g., RI-ISI program)

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General Strategy

- Focus on **Solutions** instead of **Products**
  - Focus on risk-informed programs rather than PRA models
- Focus on **Value** instead of **Cost**
  - Articulate the benefits of transitioning vs. benefits of status quo
- Focus on **Education** instead of **Promotion**
  - Collaborate with other utility representative organizations and the staff
- Focus on **Better Programs** instead of **More Programs**
  - What unmet needs do we still have?

    vs.
  - What additional programs should be added to improve performance?

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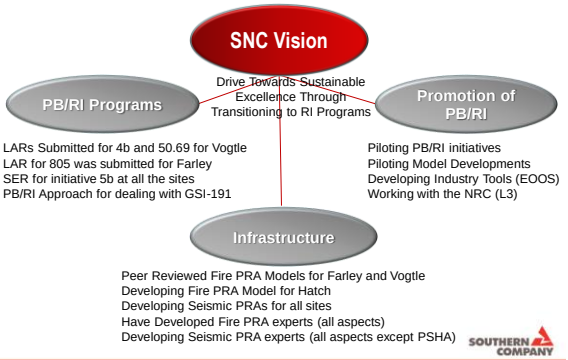
SNC Current Activities



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Successes and Challenges

NRC Principles	Successes	Challenges
Efficiency – Regulatory activities should be consistent with the degree of risk reduction they achieve.	Reactor Oversight Process's Significance Determination Process	Implementation of safety enhancing risk-informed programs such as NFPA-805
Reliability – Regulations should be based on the best available knowledge from research and operational experience.	Addressing GSI-191 – Sump Blocking- SECY 12-0093	Fukushima 2.1 SPRA requirement without establishing how results will be used
Clarity- Agency positions should be readily understood and easily applied.	Risk-Informed Inservice Inspection Program	Part 52 PRA requirements while no risk-informed applications provisions for new reactors

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Summary

- 2013 and 2014 are critical years in SNC's experiment with PB/RI approaches
  - Efficiency of NRC's review of SNC's three major risk-informed license amendment requests in 2013
  - Effectiveness of the industry collaboration efforts in transition PRA methods from "black box" to "glass box" (e.g., Success of PB/RI approach as a resolution path for GSI-191)
  - Demonstration of PB/RI promise of an efficient, reliable, and clear transition from the "Safe-Today/Safe-Tomorrow" mindset to "Safe-Today/Safer-Tomorrow" mindset (e.g., Successful response path for closing Fukushima 2.1)

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