



RIC 2014
Moving Forward...Opportunities to Use Risk for New Reactors

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What Can We Learn from Risk-Informed Licensing Initiatives?
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Opportunities to Use Risk for New Reactors

- **Technical specifications (voluntary initiatives)**
- **Special treatment of structures, systems and components**
- Risk-informed inservice inspection
- Risk-informed inservice testing
- Reliability assurance program and the maintenance rule
- Moving forward...



Probabilistic Risk Assessment (PRA)
Technical Adequacy

- Industry and regulatory guidance:
 - PRA standards on Level 1 internal events, internal fires, internal floods, seismic PRA (endorsed by Regulatory Guide 1.200)
 - Standard Review Plan Sections 19.0 and 19.1
- Potential issue to overcome...
 - Draft PRA standards not yet endorsed by NRC for use (e.g., Advanced Light Water Reactors, Low Power/Shutdown)
- Path forward...
 - Discuss NRC expectations in public meetings
 - Endorse standards or develop interim staff guidance



Technical Specifications (Voluntary Initiatives)

- Industry and regulatory guidance:
 - “Risk-Informed Technical Specifications Initiative 4b: Risk-Managed Technical Specifications (RMTS) Guidelines,” Nuclear Energy Institute (NEI) 06-09 (endorsed by NRC safety evaluation)
 - “Risk-Informed Technical Specifications Initiative 5b: Risk-Informed Method for Control of Surveillance Frequencies,” NEI 04-10 (endorsed by NRC safety evaluation)
 - Regulatory Guide 1.177, “An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications”



Technical Specifications (Voluntary Initiatives) (cont.)

- Potential issue to overcome...
 - Documentation of NRC expectations for new reactor applicants and licensees interested in risk-informed technical specification applications
- Path forward...
 - Develop draft regulatory guidance and obtain comments from industry and the public



Special Treatment of Structures, Systems and Components (SSCs)

Risk-Informed	1 “RISC-1” SSCs Safety-Related Safety-Significant	2 “RISC-2” SSCs Nonsafety-Related Safety-Significant
	3 “RISC-3” SSCs Safety-Related Low-Safety-Significant	4 “RISC-4” SSCs Nonsafety-Related Low-Safety-Significant
	Deterministic	

- Risk-Informed Safety Class (RISC)



Special Treatment of Structures, Systems and Components (cont.)

Title 10 of the Code of Federal Regulations, Part 50.69(b):

“Applicability and scope of risk-informed treatment of SSCs and submittal/approval process. (1) A holder of a license to operate a light water reactor (LWR) nuclear power plant under this part; a holder of a renewed LWR license under part 54 of this chapter; an applicant for a construction permit or operating license under this part; or an applicant for a design approval, a combined license, or manufacturing license under part 52 of this chapter; may voluntarily comply with the requirements in this section as an alternative to compliance with the following requirements for [Risk-Informed Safety Class] RISC-3 and RISC-4 SSCs:...”



Special Treatment of Structures, Systems and Components (cont.)

- Industry and regulatory guidance:
 - “10 CFR 50.69 SSC Categorization Guideline,” NEI 00-04 (endorsed by Regulatory Guide 1.201)
- Issue to overcome...
 - Applicability of the voluntary regulation does not specifically address design certification applicants or combined license holders under Part 52
- Path forward...
 - Obtain comments from the industry and the public and consider whether/how to revise voluntary regulation



Moving forward...

- Support risk-informed improvements for new plants
- Clarify PRA technical adequacy for applications
- Continue to engage with new plant applicants, licensees, and other stakeholders to address regulatory or guidance issues
