

# Risk-Informed Performance-Based Revision to 10 CFR Part 50

Public Meeting  
August 25, 2005



# Purpose of Meeting

- To solicit stakeholder input on a risk-informed, performance-based revision to 10 CFR Part 50
  - “RES staff should work with NRR to develop a formal program plan to make a risk-informed and performance-based revision to 10 CFR Part 50, including revisions to the applicable Regulatory Guides, Standard Review Plans, or other guidance documents.”

# Meeting Agenda

<u>Time</u>	<u>Topic</u>
● 1:30 to 2:00 pm	Introduction NRC presentation
● 2:00 to 2:30 pm	Stakeholders presentations
● 2:30 to 3:30 pm	Open discussion
● 3:30 to 4:00 pm	BREAK
● 4:00 to 4:30 pm	Meeting wrapup/summary

# Two Programs Impacted

- Risk-informing the technical requirements of Part 50 (Implementation of SECY-98-0300: known as “Options 1, 2 and 3”)
  - Continue with current, ongoing rulemakings
  - Risk-informed scope of SSCs for special treatment requirements
  - Risk-informing specific regulations one at a time
- Regulatory structure for new plant licensing
  - Development of a technology-neutral framework to support development of technology-neutral, risk-informed, performance-based regulations (that can serve as either a replacement or alternative to 10 CFR Part 50)

# Background/History

## *Risk-informing the technical requirements of Part 50*

- Sept 2, 1998: Briefing to the Commission on PRA Implementation Plan where staff proposed options for making requirements in Part 50 risk-informed
- Sept 14, 1998: SRM directed staff to present set of options and assessment of each
- Dec 23, 1998: SECY-98-0300 presented three options
- June 8, 1999: SRM approved all three options (continue with ongoing efforts, revise scope to special treatment, risk-inform technical requirements of Part 50)
- July 1999 to present: Activities focused on risk-informing 10 CFR Part 50 one regulation at a time

# Background/History cont'd

## *Risk-informing the technical requirements of Part 50*

- 50.36: Technical Specifications -- ongoing plant specific licensing actions
- 50.44: Combustible Gas Control -- rulemaking complete
- 50.46: Acceptance criteria for ECCS for LWRs -- rulemaking underway to change break size, technical basis for developing performance-based acceptance criteria for fuel cladding ongoing
- 50.48(c): Fire Protection -- rulemaking complete, implementation guidance in development
- 50.55(a): Codes and standards -- revised guidance documents only, complete
- 50.59: Changes, Tests and Experiments -- rulemaking complete
- 50.61: Pressurized Thermal Shock -- technical basis complete, rulemaking to start
- 50.65: Monitoring the Effectiveness of Maintenance -- rulemaking complete
- 50.67: Accident Source Term -- rulemaking complete
- 50.69: Special Treatment of SSCs -- revise the scope, rulemaking complete, implementation guidance near completion
- 50.72: Notification requirements -- rulemaking complete
- 50.73: Licensee event report -- rulemaking complete
- GDC 35: LOCA/LOOP, SFC -- feasibility study ongoing

# Background/History cont'd

## *Regulatory Structure for New Plant Licensing*

- March 28, 2003: SECY-03-0047 identified key policy and technical issues associated with licensing non-LWRs
  - To be developed via the framework
- April 18, 2003: SECY-03-0059 described the staff's plan to develop a technology neutral, risk-informed performance-based structure for new plant licensing
  - Framework providing criteria and guidelines for development of technology-neutral, risk-informed performance-based regulations
  - Development of the regulations
- June 26, 2003: SRM approved staff approach on the framework issues
- June 2003 to present: Activities focused on developing the technology-neutral framework and associated policy and technical issues

# Background/History cont'd

## *Regulatory Structure for New Plant Licensing*

- Technology-Neutral Framework (provides the guidelines and criteria for writing an integrated set of technology-neutral, risk-informed, performance-based regulations)
  - Concept established
  - Developing staff position on various policy and technical issues
  - Resolution of issues supporting ongoing pre-application reviews
  - Working draft issued for public review and comment
  - Public workshop March 13-15, 2005
  - Initiated effort to start testing the criteria
  - SECY-05-0130 on two policy issues (level of safety, integrated risk)
- Technology-Neutral Requirements
- Technology-Specific Framework
  - Provides the guidance and criteria for applying the technology-neutral requirements on a technology-specific basis
- Technology-Specific Regulatory Guides
  - Provides the guidance and criteria for the meeting the regulations for the specified technology



# Parallel Paths

- Activities associated with the technology-neutral framework
  - Issuance of an ANPR for a new risk-informed technology-neutral version of 10 CFR Part 50
  - Application of a specific technology
- Activities to risk-inform specific regulations within the current 10 CFR Part 50

# Schedule

- October/November: meet with ACRS
- Staff program plan due to Commission  
December 2005



# Stakeholder Presentations



# Open Discussion

# Open Discussion

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- Eight topics proposed for discussion, to seek stakeholder input
- Discussion not limited to the eight topics

# Topic #1

- In developing a risk-informed performance-based revision to 10 CFR Part 50 (and associated regulatory guidance documents), the following possible approach has been identified:
  - 1) Continue to revise each existing regulation (and associated regulatory guidance documents) one at a time
  - 2) Write a new alternate technology-neutral “Part 50” (and associated regulatory guidance documents)
- What are the advantages and disadvantages of this approach?
- Should only one of the proposed paths be pursued? Is there another approach of interest?
- Would a current licensee be interested in changing their licensing basis to this new Part 50?

# Topic #2

- Given the first path identified in #1 (risk-inform regulations one at a time),
  - Should the entire Part 50 (and associated regulatory guidance documents) be revised? If so, why? If not, where does it make sense to stop?
  - Which regulations would be the most beneficial to revise?
  - What would be the anticipated safety benefits?
  - Which regulations in particular are stakeholders interested in having revised?

# Topic #3

- Given the first path identified in #1 (risk-inform regulations one at a time),
  - Should only the technical regulations be risk-informed and performance-based?
  - What are the benefits in risk-informing, performance-basing the “administrative” regulations or a specific administrative regulation? For example, 50.2, 50.59, 50.72, 50.92?



# Topic #4

- Given the first path identified in #1 (risk-inform regulations one at a time),
  - Are there any particular regulations that do not need to be revised, but their associated regulatory guides, for example, need to be risk-informed and performance-based?
  - What are the safety benefits associated with revising these guides?
  - Which ones in particular are stakeholders interested in having revised?

# Topic #5

- The first path identified in #1 (risk-inform regulations one at a time), maintains the focus for LWRs.
- For the second path (write a new alternate technology-neutral "Part 50")
  - Should the technical basis (i.e., technology-neutral framework) be completed prior to or in conjunction with rulemaking?
    - Should the policy and technical issues be addressed as part of rulemaking?
  - Should the focus be for LWRs?
  - Should it be applicable for all/any reactor technology?
    - Should it be technology-neutral?
    - Should it be focused to another specific reactor technology?

# Topic #6

- In developing the associated regulatory guides for a technology-neutral “Part 50,”
  - Should the first guides be LWR focused, or some other reactor technology focused (e.g., PBMR)?
- Is a stakeholder interested in a specific reactor technology?

# Topic #7

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- In the short-term (2006-2008), what are industry's needs, expectations and priorities regarding the implementation of existing and future risk-informed activities?

# Topic #8

- To achieve a risk-informed performance-based regulatory structure, industry work is also needed (e.g., codes, standards, industry guidance documents, training, research).
- What work is industry pursuing or planning to pursue to support development of a risk-informed performance-based regulatory structure?

# Other Topics

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# Wrap-Up – Summary of Views on Discussed Topics

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- TBD during the meeting break (see next slide)

# Summary

- Parallel paths good approach
- Between the two paths, higher priority on completing ongoing activities (e.g, 50.46, technical specifications)
- Focus on implementation (e.g., 50.46, 50.69) vs additional rulemaking
- PRA quality for current and future activities a key element
- Implementation of TNF to be focused on new reactor designs vs LWRs (existing and advanced)
- Some resources need to be dedicated to review and update of RG and SRPs with a risk screen
- Recognize additional challenges associated with pursuing TNF rulemaking in parallel with finalizing the TNF
- Single failure criterion as part of TNF (and not as a separate effort for existing Part 50)