



Status of Risk-Informed and Performance-Based Regulation for Nuclear Power Plants

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Acronym Slide

- ANS – American Nuclear Society
- ASME – American Society of Mechanical Engineers
- COL – Combined License
- EPRI – Electric Power Research Institute
- LERF – Large Early Release Frequency
- MOU – Memorandum of Understanding
- PRA – Probabilistic Risk Assessment
- RG – Regulatory Guide
- RPP – Risk-Informed and Performance-Based Plan

Agenda

- Introduction
- PRA quality activities
- Risk-informed activities for operating reactors
- Risk-informed activities for new reactors
- Summary

Introduction

- Risk-informed activities since Commission Briefing of May 2006
- RPP – integrated plan addressing operating reactors, new reactors, materials, waste, and security activities
- Communication
 - PRA Steering Committee
 - PRA Leadership Team
 - NRC web site

PRA Quality Recent Accomplishments

- Phased Approach to PRA Quality
- Revision 1 to RG 1.200 and Standard Review Plan Section 19.1
- Internal fire PRA standard
- Level 1/LERF integrated standard
- Collaborative effort with ASME on training

PRA Quality Near Term Activities

- Treatment of Uncertainties
- Revision 2 to RG 1.200
 - endorsement of ASME/ANS Integrated Standard
- PRA training
- Revisions to RG 1.17x series (e.g., 1.174)
- MOU with EPRI on PRA technical issues

Operating Reactors Recent Accomplishments

- Technical specification initiatives
- Fire protection
- Special treatment requirements
- Reactor oversight process improvements

Operating Reactors Near Term Activities

- Implementation of fire protection requirements
- Clarification of maintenance rule PRA scope
- Emergency core cooling system requirements
- Pressurized thermal shock

New Reactors Recent Accomplishments

- Revised 10 CFR Part 52
- Regulatory Guide (RG 1.206) and Standard Review Plan (Section 19.0) issued to reflect PRA requirements for new reactors
- Public meeting held on PRA information to support design certifications and COLs

New Reactors Near Term Activities

- PRA reviews for design certification and COL applications
- PRA/risk insights being used to enhance staff's review process including:
 - Acceptance review
 - Design certification and COL reviews

Summary

- Steady progress continues to be accomplished in implementing Commission PRA policy and directions
- The new Risk-Informed and Performance-Based Plan will provide:
 - specific objectives and goals in each regulatory arena for achieving Commission policy and direction
 - enhanced communication via an improved website