

***RIC 2005
Research Activities PRA
Session G2***



***James F. Mally, Chair
ANS Standards Board
March 8, 2005***

Regulatory Information Conference

ANS Standards Board

Framework for the Development of Risk-Informed Standards

James F. Mally, Chair

March 8, 2005

Rockville, MD



Activities on Risk-Informed Standards

- > Formation of the Nuclear Risk Management Coordinating Committee (NRMCC)**
- > Current Activities Chartered by the NRMCC**
- > Future Identification and Management of Risk-Informed Documents**



Formation of the NRMCC

- > Formed in February 2004**
- > Sponsored by ASME and ANS**
- > Other members: IEEE, NEI, NRC, DOE, EPRI, several utility owners, and selected experts**
- > NRMCC meets quarterly**



> Purpose:

- ◆ To determine the need for additional risk-informed standards.
- ◆ To assign the development of new consensus standards to appropriate standards development organizations.
- ◆ To provide direction on the scope of new standards so that all important facets of risk-informed techniques are addressed in a seamless way.



Activities Chartered by the NRMCC

- > ASME: Developing an integrated, level 1 standard that incorporates all the requirements (“shall” statements) from the ASME standard and the three ANS standards.**
- > ANS: Developing integrated level 2 and 3 standards.**
- > ANS: Revising its three standards to incorporate explanatory material from these documents (the non-“shall” statements), which provide guidance on the application of the criteria that will be captured in the new ASME standard.**



Initial Framework for the Development of PRA Standards

- > PRA Standard developed by ASME**
- > Series of PRA standards generated by ANS**
- > Trial Use Regulatory Guide Issued by the NRC**



ASME Standards

- > RA-Sa-2003: Probabilistic Risk Assessment for Nuclear Power Plant Applications**
 - ◆ Chartered in late 1997**
 - ◆ Committee on Nuclear Risk Management formed in 1998**
 - ◆ Standard published in April 2002**
 - ◆ Addendum A published in December 2003 (addresses NRC comments)**
 - ◆ Addendum B (addresses lessons learned); balloted and approved; to be issued in mid-2005**



ANS Standards

- > Risk-Informed Standards Committee formed in August 1999.**
- > ANSI/ANS-58.21-2003, “External Events PRA Methodology.” Approved March 2003.**
- > ANS-58.22, “Low Power and Shutdown PRA Methodology.” Review by RISC in spring 2005; ballot in late 2005.**
- > ANS-58.23, “Methodology for Fire PRA.” Review by RISC in summer of 2005; ballot in early 2006.**



Trial Use Regulatory Guide 1.200

- > “An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities.”**
- > Issued in February 2004 with Two Appendices:**
 - ◆ Appendix A, “NRC Regulatory Position on ASME PRA Standard.”**
 - ◆ Appendix B, “NRC Position on the NEI Peer Review Process (NEI 00-02).”**



Trial Use Regulatory Guide 1.200 (cont.)

- > Revision 1 Scheduled for December 2005.**
 - ◆ Update of Appendices A and B, which will address revisions to ASME standard and NEI peer review process.**
 - ◆ New Appendix C, “NRC Position on ANS External Events Standard.”**
- > Intent to endorse subsequent standards as they are approved.**



Future Identification and Management of Risk-Informed

- > Attention is Focused on Two Objectives:**
 - ◆ Integration of requirements as standards are issued**
 - Conflicting needs of developing narrowly-focused standards (necessary to produce a usable product in a reasonable time) versus a fully integrated set of standards that are seen as user-friendly.**
 - Currently struggling with how to establish a usable set of standards while proceeding with individual documents.**
 - ◆ Continuing to apply existing standards as regulatory expectations change.**



Future Standards Activities

- > **Emphasis on maintaining regulatory acceptance**
 - ◆ **Objective is to continue to use what is already issued while completing new standards.**
- > **Need to define what it means to “meet” the requirements in a standard.**
 - ◆ **Each standard provides two or three levels of compliance.**
 - ◆ **Each standard permits the use of alternative methods.**



Interaction between Standards and RG-1.200

- > Initial objective of RG-1.200 was to facilitate the endorsement of approved consensus standards using a three-phase process in which all standards are expected to be completed by December 2008.**
 - ◆ NRC participates as a member of the consensus committee and as a balloter on the standard.**
 - ◆ NRC then comments on each standard after it is issued.**



Interaction between Standards and RG-1.200 (cont.)

- ◆ **Even if standard is revised to reflect NRC comments, the endorsement is annotated by exceptions and additions.**
- > **Result is a regulatory conundrum: expected compliance with a Reg Guide that is outside the consensus process but that directs licensees to meet consensus standards.**

