RIC 2014
Consensus Standards for New & Improved Plants (TH-25)

Tom Boyce, NRC
Regulatory Guidance Branch/RES
March 13, 2014

Perspectives on Reactor Codes and Standards

- Use of standards is the preferred approach from a design, licensing, and safety perspective.
  - Advantages include reduced resources, reduced costs, faster reviews, greater predictability, wider acceptance
- Considerations when developing and using new standards
  - Licensees/vendors may prefer to use standards previously accepted by NRC to enhance predictability of reviews
  - NRC reviews standards when proposed by licensees/vendors; NRC resource constrained to review standards without industry users
- So - How do we know the full demand signal from industry users for new and revised standards?

NRC Standards Activities

- NRC Standards Executive - Mike Case, RES/DE
- NRC Regulatory Guidance branch facilitates and coordinates participation by NRC program offices in standards activities
- Challenges to standards development
  - Priorities
  - Resources
  - Timeliness
  - Harmonization

NRC/SDO Engagement

- NRC Staff participates in many Standards Development Organizations (SDOs), from standards writing committees to board levels
- Consensus process for standards and NRC approval in regulations and/or guidance (e.g., Regulatory Guides, Standard Review Plans) takes time and commitment from multiple parties
- Holding management meetings with individual SDOs to discuss priorities and timeliness

How to get NRC to review a standard?

- Identify the potential application of the standard for users (e.g., SMR vendors, utilities, NRC), and the value added of the standard
- Get an NRC representative to participate in developing the standard
- Engage an NRC representative to consider approving the standard in a regulation or guidance
- Send a letter to the NRC Standards Executive
  - Note: A few SDOs do this routinely for their standards

Nuclear Energy Standards Coordinating Cooperative (NESCC)

- NESCC established in 2009 as a forum for SDOs to collaborate to accelerate the development and adoption of significant new and revised standards for nuclear power plants
- Sponsored by DOE and NRC, in coordination with the National Institute of Standards and Technology (NIST) and the American National Standard Institute (ANSI)
- ~15 SDOs

NESCC Accomplishments

- Standards Database v1.0 listing the standards referenced and endorsed in NRC Regulatory Guides can be found at:
  - http://publicaa.ansi.org/sites/apdl/NESCCDocs/Forms/standardsdatabase.aspx
- Task group reports with recommendations for standards development (web search for "NESCC")
  - Concrete
  - Concrete Repair
  - High Density Polyethylene Pipe
  - Welding
  - Buried Cable

NESCC Reports

- Concrete Report
  - AISC N690, Appendix N9, steel concrete composite for modular construction, currently in development
  - NRC plans to review/endorse N9 in a new RG 1.225
- Concrete Repair Report
  - ACI 349-2012, Code Requirements for Nuclear Safety-Related Concrete Structures
  - NRC plans to review/endorse in RG 1.142 Rev. 3 in 2014
- High Density Polyethylene (HDPE) piping
  - Significant interest to industry; precedent from gas pipelines
  - NESCC initiated a "Roadmap" to prioritize issues and coordinate development efforts; report on NESCC site

Summary/Takeaways

- User demand signal is an important enabler
- Challenges exist to standards development
- NRC is open to new standards to support NRC regulatory activities
- Collaborative approach can be the success path

Slide 7

g4 Should not use brand names, esp where we are talking aobut a generic function/activity - web search.
gsm, 2/4/2014

Slide 9

g3 Not sure we can say this with respect tot NRC, given resoruce constratints, and we certainly cannot represent the SDOs/
gsm, 2/4/2014