

NRC Strategy and Priorities

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April 26, 2017

Standards are Important to NRC

- Consensus codes and standards have been integral to the regulatory process for over three decades
- Federal law requires Government staff to use consensus standards where possible
 - National Technology Transfer and Advancement Act of 1995
 - OMB Circular A-119
- Congressional bill (HR 590) encourages “..the incorporation of consensus-based codes and standards into the advanced reactor regulatory framework to minimize time to completion and provide flexibility in implementation.”
- NRC Vision and Strategy for non-LWR mission readiness - Near-term strategy to facilitate industry codes and standards for non-LWRs

NRC's Use of Standards

- NRC staff participates in many Standards Development Organizations (SDOs), from standards writing committees to board levels
- Standards endorsed or referenced in:
 - NRC regulations (e.g., 10 CFR 50.55a, Codes and Standards)
 - Regulatory guidance (e.g., Regulatory Guides, Standard Review Plans)
- Numerous standards from multiple SDOs

Perspectives

- NRC's perspective
 - 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
 - NRC does not have resources to review standards if there is no “demand signal” from industry users

Perspectives

- Applicants/vendors
 - May not know of applicable standards, particularly if early in design development
 - May prefer to use existing standards to minimize development work and improve reliability
 - May prefer standards previously accepted by NRC to enhance predictability of reviews, rather than use new standards
 - Existing standards may not be applicable to the design
 - Assess if technical needs can be addressed by standards development (if needed by others as well); otherwise needs may be design-specific

Perspectives

- SDOs
 - Opportunity to leverage experience and resources of multiple participants
 - Need a “Champion” on standards committees to drive development of standards

- Technical organizations (EPRI, DOE, etc.) and suppliers
 - May have existing information
 - May be able to contribute if demand signal identified

Perspectives

- Overall perspectives
 - If standards used, resources are much lower
 - Without standards, much greater resources are needed
 - If new standards are desired, licensees/vendors need to communicate their intent
 - Standards can take a long time to develop, so decide and communicate early
 - Organizations need to collaborate to prioritize and focus on the most important standards to develop

NRC Standards Forum

- NRC Standards Forum (formerly the NESCC)
 - Origins in the nuclear renaissance - initiated in 2009
 - Collaborative effort of SDOs, government, academia, and industry
 - Purpose is to “Collaborate to Accelerate” development of standards
 - Held annually - Sept 2016 inaugural meeting
- Examples of successes - Issued technical reports
 - Concrete and Concrete repair
 - High Density Polyethylene (HDPE) piping
 - Welding
 - Electrical Cables
- NRC endorsed several developed standards

Selected NRC Standards Activities for non-LWRs

- ASME Section III, Division 5 – High Temperature Materials
 - NRC staff on 11 working groups and Subgroups
- ANS Committees
 - Risk-informed Principles and Policy Committee
 - Research and Advanced Reactor Consensus Committee
- ANS Working Groups
 - ANS 20.1 - Safety Criteria for Fluoride Salt-Cooled High-Temperature Reactors
 - ANS 20.2 - Safety Criteria for Liquid-Fuel Molten-Salt Reactors
 - ANS 54.1 - Safety Criteria for Liquid-Sodium-Cooled-Reactors
 - ANS 30.2 - Categorization and Classification of SSCs for NPPs
- ASME/ANS Joint Committee on Nuclear Risk Management Working Group for non-LWRs

Collaboration: Technology Working Groups

- Three advanced reactor technology-specific working groups (TWGs) have been organized
 - High Temperature Gas Reactor
 - Fast Reactor
 - Molten Salt Reactor
- Aligned with DOE's Gateway for Accelerated Innovation in Nuclear (GAIN)
- Presentations by TWGs later today

Path Forward

- NRC will continue active participation in ASME and ANS standards activities
- Feedback from TWGs to inform standards development needs and priorities
- Based on TWG inputs, consider collaborative participation in standards by additional SDOs
- Continued collaboration is important for success!