

# NRC Strategy and Priorities

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# 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

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# 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

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# 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

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# 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

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# 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

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# 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

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# 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!