

NRC Storage Renewal Team

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Background

ISFSI License and Storage Cask Design Renewal

- Renewal for a period not to exceed 40 years
- Time-limited aging analyses (TLAAs) that demonstrate that SSCs important to safety will continue to perform their intended function for the requested period of extended operation
- Description of the Aging Management Program (AMP) for issues associated with aging that could adversely affect SSCs important to safety
- Design bases information as documented in the most recently updated FSAR



Current Challenges

Current and Future License Renewals & Guidance



- 3 ISFSI license and storage CoC renewal applications currently under staff review
- Currently, multiple year reviews & RAI cycles
- Staff review experience of renewal applications indicates that NUREG-1927 (SRP for Renewal of ISFSI licenses & CoCs) may need clarification in several areas, e.g. AMPs, TLAA's, etc.
- ~12 ISFSI license and storage CoC renewal applications expected within next 6 years



Current Challenges

Materials Degradation Modes



- Storage & reactor operating experience indicate potential unanticipated degradation of SSCs:
 - IN 2013-07: Premature degradation of cask structures & components from environmental moisture
 - IN 2012-20: Cl-induced Stress Corrosion Cracking
 - Site-Specific License Renewal for the TMI Unit 2 ISFSI Public Meeting Presentation (ML13353A611)
 - NRC TIN Report (ML120580143)
- Unanticipated known vs. unknown degradation modes
- **Difficult to define and assess all operable degradation modes for all potential chemistries for all locations**

Future Approach

Storage Renewal Strategy Team



- Established renewal strategy team from across NRC:
 - NMSS/SFST & SFAS
 - RES/DE
 - NRR/DLR
- Mission: assess current storage renewal regulatory framework and investigate guidance update needs
 - Interim Staff Guidance
 - NUREG-1927 Update
- Develop learning, proactive, and reactive regulatory approach to address current and future renewals
- Focused on operational experience loop providing data to support AMPs and TLAAs rather than RAI loop for extensive technical bases development



Future Approach

Storage Renewal Strategy Team



- Focused on achievable operational methodologies:
 - Condition based monitoring and/or intelligent in-service inspections based on technically defensible criteria
 - Living AMPs feeding operational data to analyses
 - Analyses feeding prevention, mitigation, or repair decisions
- CISCC RIRP screening criteria and EPRI FMEA project results may provide defensible inspection/monitoring criteria
- Long term research incorporation into learning AMPs
- In turn, this may provide a basis for defining the appropriate lead canister(s)

Future Approach

Storage Renewal Strategy Team



- Phase I:
 - Team/Charter Development & Kickoff Meetings
 - October – December 2013
- Phase II:
 - Strategy Development
 - Dialogue, Review, and Consideration of Stakeholder Input
 - January – June 2014
- Phase III:
 - Publish Draft Guidance for Public Comment
 - Publish Final Guidance
 - 2014/2015

