

Spent Fuel Storage Renewal Framework



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DSFM Regulatory Conference
November 18, 2015

Background

- NRC staff experience with storage renewal reviews indicated a need for expanded guidance
- NRC team assessed current regulatory framework to determine what changes were needed
- Extensive stakeholder engagement and valuable input received from stakeholders

Identified Needs

- Operations-focused approach to storage renewals
 - Learning, proactive and responsive
- Sustainable regulatory framework for storage renewals
- NRC guidance development and external infrastructure development

NRC Guidance Development

- NUREG-1927, Rev. 1 (Standard Review Plan for storage renewals)
- Managing Aging Processes in Storage (MAPS) Report
- Guidance for NRC inspections of licensees' aging management activities
- Regulatory Guide

NUREG-1927, Rev. 1

- Revisions and updates made throughout Rev. 1
- Includes example aging management programs
- Draft guidance published for public comment in July 2015
- Path forward:
 - Staff is currently considering public comments and finalizing guidance; will engage with ACRS in March/April 2016
 - Publish final guidance in summer 2016

MAPS Report

- Provide an acceptable generic approach to aging management for dry storage systems
- Comparable to NUREG-1801 (Generic Aging Lessons Learned Report) for the renewal of reactor licenses
- Increase efficiency of preparation and review of storage renewal applications
- Path forward:
 - Engage with stakeholders and ACRS
 - Publish draft guidance for public comment (summer 2016)
 - Publish final guidance (summer 2017)

Other NRC Guidance Development

- Guidance for NRC inspections of licensees' aging management activities
 - Temporary Instruction, Inspection Procedure
 - Under development
- Regulatory Guide that discusses storage renewal guidance framework
 - Vehicle for potential endorsement of industry guidance in NEI 14-03
 - Future development, pending NEI 14-03 review and MAPS development

External Infrastructure Development

- Consensus ASME Boiler and Pressure Vessel Code Section XI Code Case for inservice inspection of dry storage canisters
- Consensus American Concrete Institute Guide for inservice inspection of concrete overpacks
- NEI 14-03, Rev. 1
- In-situ nondestructive examination capabilities

Sustainable Renewal Framework

- Informed by review experience, operating experience, and research
- “Learning” – aging management plans consider and respond to operating experience
- “Living” – guidance will be updated over time, as needed
- Applicable to first and subsequent renewal periods

References

- Draft NUREG-1927, Rev. 1, Standard Review Plan for Renewal of Specific Licenses and Certificates of Compliance for Dry Storage of Spent Nuclear Fuel
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1927/r1/>
- NUREG-1801, Generic Aging Lessons Learned (GALL) Report
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1801/>
- NEI 14-03, Rev. 1, Format, Content and Implementation Guidance for Dry Cask Storage Operations-Based Aging Management
ADAMS Accession No. ML15272A329

Acronyms

- ACRS – Advisory Committee on Reactor Safeguards
- ASME – American Society of Mechanical Engineers
- DSFM – Division of Spent Fuel Management
- MAPS – Managing Aging Processes in Storage
- NEI – Nuclear Energy Institute
- NMSS – Office of Nuclear Material Safety and Safeguards
- RMB – Renewals and Materials Branch