A Look at the Past, Present, and Future

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U.S. Nuclear Regulatory Commission
INMM Spent Fuel Seminar 2016
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Overview

• Ghost of Spent Fuel Past

• Ghost of Spent Fuel Present

• Ghost of Spent Fuel Future
Ghosts of Spent Fuel Past

• Almost 2,300 storage systems deployed around the U.S. and growing

• Completed 51 transportation cases
  – NAC-LWT
  – West Valley Melter Package (WVMP)

• Completed 19 storage cases
  – Calvert Cliffs ISFSI License Renewal
  – HISTORM UMAX CoC

• Met processing time metrics
Ghosts of Spent Fuel Past

- Issued Revised NUREG-1927, Rev. 1 for public comment
- Completed the review of NEI 14-03 and provided comments
- Published Part 71 to harmonize with IAEA SSR-6
- Risk tasks - Completed Defense-in-Depth framework
Ghosts of Spent Fuel Past

- Continued extensive public interaction
- Completed NRC feedback on NEI 12-04
- Established concrete expert panel, conducted a workshop and completed technical report
Ghosts of Spent Fuel Present

- Issued Prairie Island ISFSI renewal
- SFM RegCon
- Completed the analyses and reviews of the MacArthur Maze and Newhall Pass severe fire studies and published NUREG/CR-7206
- Issued the Draft ISG-2 rev. 2 on Fuel Retrievability for public comment
Ghosts of Spent Fuel Present

- Complete draft Managing Aging Process for Storage (MAPS) NUREG
- Issue High Burnup Fuel (HBF) Regulatory Issue Summary (RIS)
- Issue HBF Consequence Analyses
- Issue HBF Phase 2 test results
Ghosts of Spent Fuel Present

• Complete technical report on functional monitoring of dry cask storage systems (DCSS)
• Complete technical report on stress analysis of fuel cladding in DCSS
• Complete technical report on vertical DCSS thermal analysis for TN-32
Ghosts of Spent Fuel Present

• Continue validation studies of thermal computer codes
• Continue with progress on LPI – Retrieveability
• Continue engagement ASME Code Committee
• Risk Informed Pilot
## Current Regulatory Research on Spent Fuel Storage and Transportation

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### Phases
- **Phase 1**: Green
- **Phase 2**: Orange
- **Pending DOE**: Blue

### Parts
- **Part 71 & 72**: Criticality, Safety, Compliance
- **Criticality**: Yellow
- **Safety**: Green
- **Compliance**: Orange
- **Part 71**: Criticality
- **Part 71 Ongoing**: Safety, Margin
- **Part 71, Structural**: Margin
- **Part 72**: Thermal Compliance
- **Part 72 Ongoing**: Thermal Compliance
- **Part 72, Research**: Thermal Compliance
- **Part 72, Subsequent Compliance**: Thermal Compliance
- **Part 72, Subsequent Compliance**: thermal compliance
- **Cask System Component Integrity**: Blue

### Observations
- **Ghosts of Spent Fuel Present**: Research Roadmap
- **Current Regulatory Research on Spent Fuel Storage and Transportation**: Table and Diagram

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**United States Nuclear Regulatory Commission**

**Protecting People and the Environment**
Ghosts of Spent Fuel Future

- Interim Consolidated Storage Facility application(s)
- Renewal Applications
- Additional canister inspections?
- YGIAGAM, but I feel the present and future are bright and filled with opportunities
  - Build on excellent collaboration and successes
  - Continue to turn words into action
Ghost of Spent Fuel Future
Integrated Schedule

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Questions