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Draft ISG-2, Revision 2 Fuel Retrievability

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Public Meeting on Retrievability for Spent Fuel in Storage
October 29, 2015

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Outline

- Public comment period
- Applicable regulations
- Background
- Draft ISG-2, Rev. 2
- Ready retrieval
- Retrievability in storage
- Licensing
- Path forward

Public Comment Period

- Draft guidance (ML15239A695)
- FRN (80 FR 63843): 30 day period ending November 20, 2015
- Electronically on Federal Rulemaking Website: http://www.regulations.gov, **Docket ID NRC-2015-0241**
- Mail comments to: Cindy Bladey, Chief, Rules, Announcements, and Directives Branch (RADB), Division of Administrative Services, Office of Administration, Mail Stop: OWFN-12-H08, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001

Applicable Regulations

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- Applies to general and specific licensed ISFSIs
- 10 CFR 72.122(l) - Retrievability

  "Storage systems must be designed to allow ready retrieval of spent fuel, high level radioactive waste, and reactor-related GTCC waste for further processing or disposal"

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Applicable Regulations (con't)

- Applies to storage Certificate of Compliance
- 10 CFR 72.236(m)

  "To the extent practicable in the design of storage casks, consideration should be given to compatibility with removal of the stored spent fuel from the reactor site, transportation, and ultimate disposition by the Department of Energy."

Background

- Current guidance reflected near term repository
- Long-term performance of aging components
  - Ongoing agency and industry research
- Unintended consequences of current guidance
  - Difficulties in assessing internals may lead to opening the cask/canister
  - May increase worker dose & degrade the confinement boundary

Draft ISG-2 Rev. 2

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2015 July Public Meeting
Retrievability of Spent Fuel

2015 FRN & Draft ISG-2 Rev. 2
Fuel Retrievability

2015 October Public Meeting
Draft ISG-2 Rev. 2

- Focuses on safety and design bases to allow maximum flexibility to maintain safety for an undefined storage duration
- Provides guidance to the NRC staff on licensing reviews

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Ready Retrieval

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The ability to safely remove, with no operational safety problems, the spent fuel from storage for further processing or disposal.

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Ready Retrieval (con't)

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Ability to do one or a combination of the following:

A. remove individual or canned spent fuel assemblies from wet or dry storage,
B. remove a canister loaded with spent fuel assemblies from a storage cask/overpack,
C. remove a cask loaded with spent fuel assemblies from the storage location.

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Retrievability in Storage

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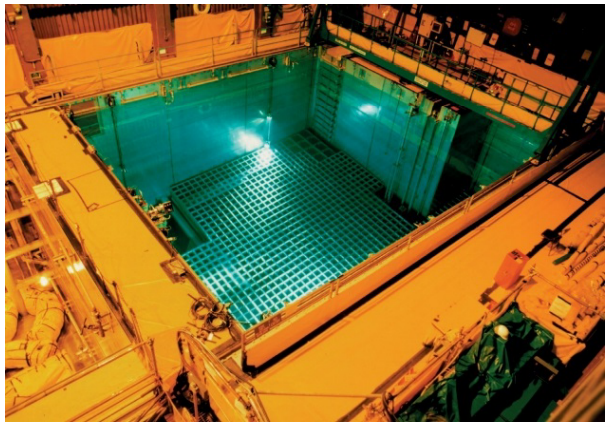
- Dry storage design
  - New alternative
    - Choose only B or C
- Wet storage design
  - Choose A
- Program to identify, monitor and mitigate possible degradation



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Licensing

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- Initial and amendment applications
  - System designed for retrievability
  - Identified important SSCs & subcomponents
  - TS ensure retrievability capability is maintained
- Renewal applications
  - Ensure design basis is maintained
  - Review AMPs and TLAAs
  - Review operating experience
    - Inspections and analyses of SSCs and subcomponents
  - For more information refer to NUREG-1927

Path Forward

- Public comment period ends 11/20/15
- ACRS subcommittee meeting to Discuss Spent Fuel Storage and Transportation – 11/20/15
- Resolution of public comments
- Additional public interactions as necessary

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Questions/Comments

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References

- Draft ISG-2, Revision 2, “Fuel Retrievability in Spent Fuel Storage Applications,” ML15239A695
- Draft NUREG-1927, Rev. 1, “Standard Review Plan for Renewal of Specific Licenses and Certificates of Compliance for Dry Storage of Spent Nuclear Fuel,” ML15180A011
- FRN requesting public comment (80 FR 63843) and comments, ML15238B384
- ISG-2, Revision 1, “Fuel Retrievability,” ML100550861
- NUREG-1536, Revision 1, “Standard Review Plan for Spent Fuel Dry Cask Storage Systems at a General Facility,” ML091060180
- NUREG-1567, Revision 0, “Standard Review Plan for Spent Fuel Dry Storage Facilities,” ML003686776
- NUREG-1927, Revision 0, “Standard Review Plan for Renewal of Specific Licenses and Certificates of Compliance for Dry Storage of Spent Nuclear Fuel,” ML111020115
- NUREG/CR 7198, “Mechanical Fatigue Testing of High-Burnup Fuel for Transportation Applications,” ML15139A389
- Public Meeting Summary for July 29, 2015 Meeting, ML15126A272

Abbreviations

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- ACRS – Advisory Committee on Reactor Safeguards
- AMP – Aging Management Program
- CFR – Code of Federal Regulations
- FRN – Federal Register Notice
- GTCC – Greater than Class C
- ISFSI – Independent Spent Fuel Storage Installation
- ISG – Interim Staff Guidance
- SSC – Structures, Systems, and Components
- TLAA – Time Limited Aging Analysis
- TS – Technical Specification