



Overview of NRC's Spent Fuel Storage and Transportation Program

Anthony Hsia

Deputy Director, Division of Spent Fuel Management
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission

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Topics

- NWPA and NRC/DOE/DOT Roles and Responsibilities
- NRC Spent Fuel Storage and Transportation Program
- Key Issues
- Looking to the Future
- Q&A



Nuclear Waste Policy Act of 1982

- Established schedule for siting, construction and operation of repositories
- Defined relationship between Federal and State governments with regard to waste disposal
- Assigned responsibilities to DOE, EPA, NRC
- Established the Nuclear Waste Fund





Roles and Responsibilities

- NRC: Independent agency that regulates nations' civilian use of radioactive materials. Includes packaging for the transport, storage, and disposal of nuclear materials.
- DOT: Coordinates with NRC to set rules for packaging of nuclear materials. Works with NRC and affected Tribes and States to regulate transport.



Roles and Responsibilities

- DOE: Responsible for disposal of spent fuel from nation's power reactors. Follow NRC's and DOT's regulations regarding package safety and transportation, respectively.



Statutory Direction to the NRC

- Issue phased repository criteria for:
 - Construction authorization
 - Receipt and possession of waste
 - Closure and decommissioning
- NRC criteria for spent fuel and HLW disposal must:
 - Provide for a system of multiple barriers
 - Include restrictions on retrievability



License Application Review

- June 2008 – DOE files its license application for a geologic repository at Yucca Mountain
- September 2008 – NRC staff docket DOE’s license application and adopts DOE’s Environmental Impact Statement (EIS), with further supplementation needed as identified in NRC’s Adoption Determination Report (ADR)
- September 2011 – NRC staff review stopped and adjudication suspended
- November 2013 – NRC staff review resumes; adjudication remains suspended
- January 2015 – NRC staff completes the Safety Evaluation Report
- May 2016 – NRC staff completes Supplement to DOE’s Yucca Mountain EIS



DOE License Application, Environmental Impact Statements, and supporting documents -- June 2008



NRC Spent Fuel Storage and Transportation Program

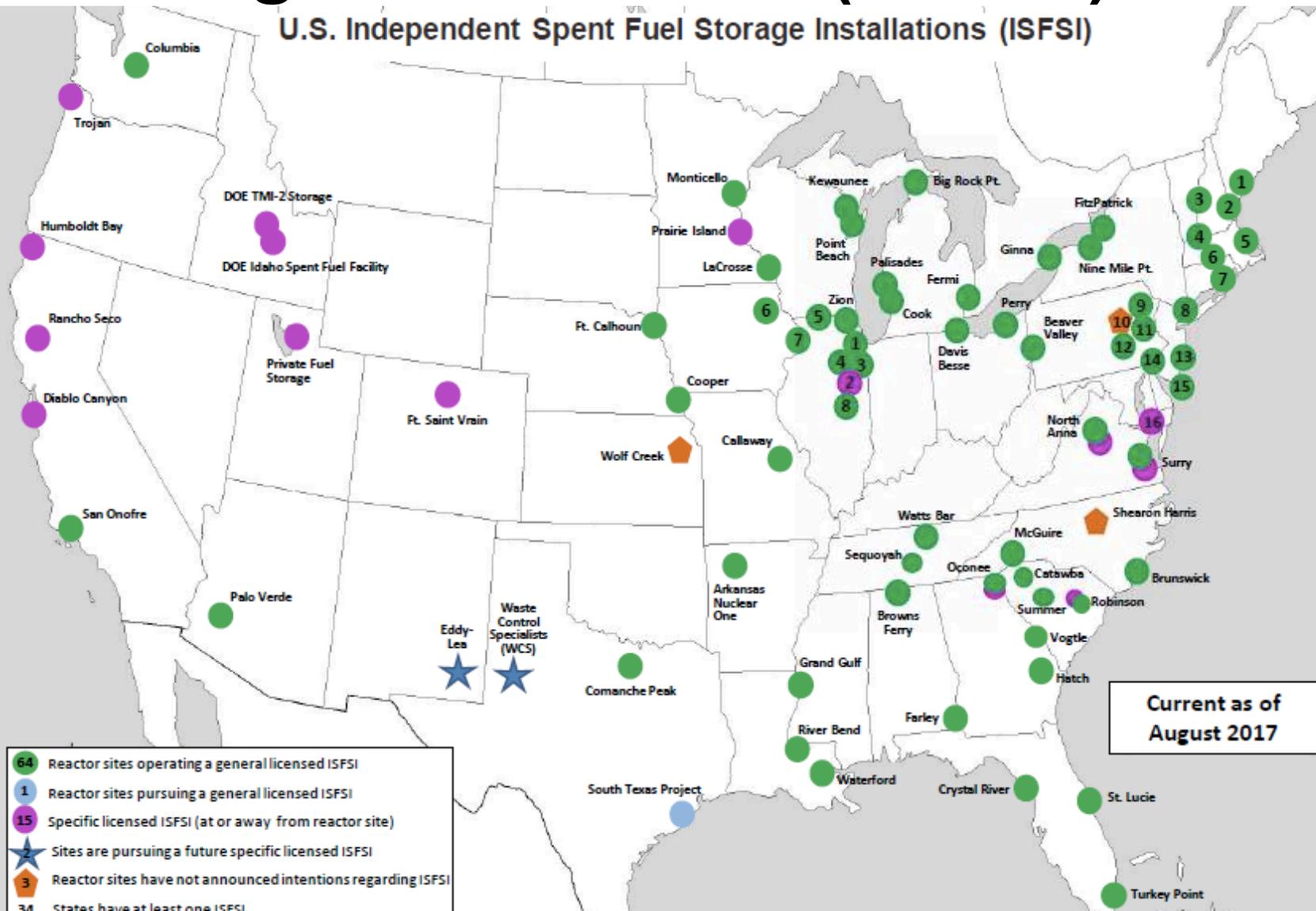
- Licensing, Certification, Inspection:
 - Spent fuel storage facilities
 - Spent fuel dry cask storage systems
 - Radioactive material transportation packaging
 - Vendor, QA, and ISFSI inspections
- Coordination with:
 - Other NRC offices/divisions/Regions
 - Tribes
 - State and Federal agencies (primarily DOT and DOE; also DHS, EPA)
 - Foreign regulatory agencies
 - International safety committees
- Public outreach





Independent Spent Fuel Storage Installations (ISFSIs)

U.S. Independent Spent Fuel Storage Installations (ISFSI)



- Midwest**
- 1 Dresden
 - 2 GE Morris (wet)
 - 3 Braidwood
 - 4 LaSalle
 - 5 Byron
 - 6 Duane Arnold
 - 7 Quad Cities
 - 8 Clinton

- Northeast**
- 1 Maine Yankee
 - 2 Seabrook
 - 3 Vermont Yankee
 - 4 Yankee Rowe
 - 5 Pilgrim
 - 6 Haddam Neck
 - 7 Millstone
 - 8 Indian Point
 - 9 Susquehanna
 - 10 Three Mile Island
 - 11 Limerick
 - 12 Peach Bottom
 - 13 Oyster Creek
 - 14 Hope Creek
 - 15 Salem
 - 16 Calvert Cliffs

Current as of August 2017

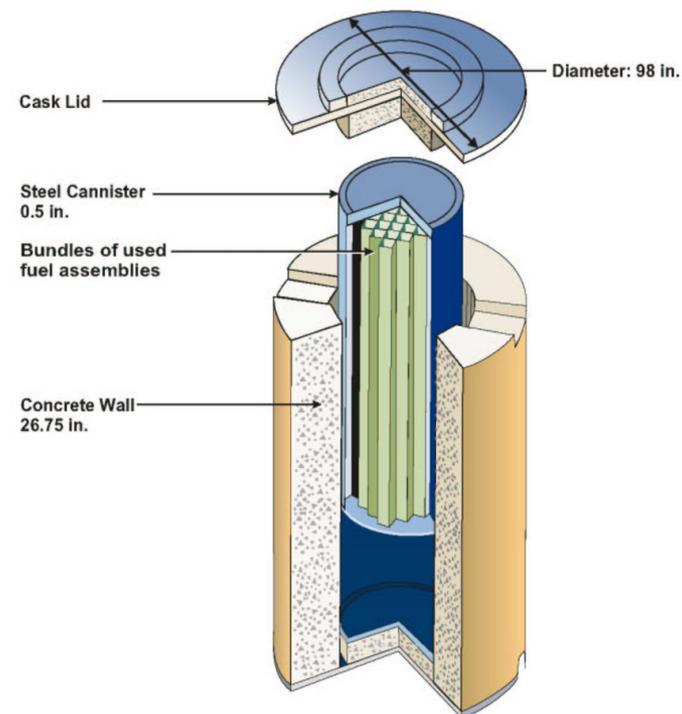
- 64 Reactor sites operating a general licensed ISFSI
- 1 Reactor sites pursuing a general licensed ISFSI
- 15 Specific licensed ISFSI (at or away from reactor site)
- ★ Sites are pursuing a future specific licensed ISFSI
- 3 Reactor sites have not announced intentions regarding ISFSI
- 34 States have at least one ISFSI



Dry Cask Storage, Certificates of Compliance, 10 CFR Part 72

- Approximately 12 Certificates of Compliance (CoCs)
- 20-30 storage cases each year
- Increased engagement with stakeholders on dry storage matters
- Coordination with DOE project planning and research

Dual Purpose Storage Cask*



(Holtec International
HI-STORM 100)

Overall Length: 197 to 225 in.
Loaded Weight: 360,000 lbs.
Typical Payload: 24 PWR Bundles

* Storage and Transportation





Overview of Transportation

Part 71

- Approximately 85 Certificates of Compliance (CoCs)
- 50-70 transportation cases each year
- Support transport of nuclear materials used in:
 - Medical and industrial applications
 - Power and research reactors
 - Fuel cycle facilities
 - Of course, spent fuel from reactors
- Work closely with DOT in both domestic and international transportation
- Also coordinate with DOE, States, Tribes, and IAEA



Consolidated Interim Storage

- Waste Control Specialists (WCS) Consolidated Interim Storage Facility (CISF) Application
 - Application received April 2016
 - Accepted in January 2017
 - Suspension requested in April 2017
 - NRC suspended WCS CISF application review
- Holtec CISF Application
 - Application received March 2017
 - Currently in Acceptance Review
- Engage interested parties and stakeholders



Key Issues

- High Burn Up Fuel
- 72-71-72
- Graded Approach
- Aging Management



Future of Spent Fuel

- Renewals:
 - Several ISFSIs will request license renewal in next few years
- Status of HLW Repository:
 - NRC is conducting information gathering activities related to infrastructure to support the conduct of potential HLW hearings
 - NRC will engage stakeholders



Questions?

