

NRC's Integrated Strategy for Spent Fuel Management

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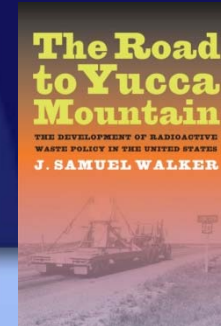


Overview

- **Beginning with an Ending**
- **Integrated Strategy**
 - Long-term storage
 - Deferred transportation
 - Reprocessing
 - Disposal
- **Defining Success**
- **Summary**



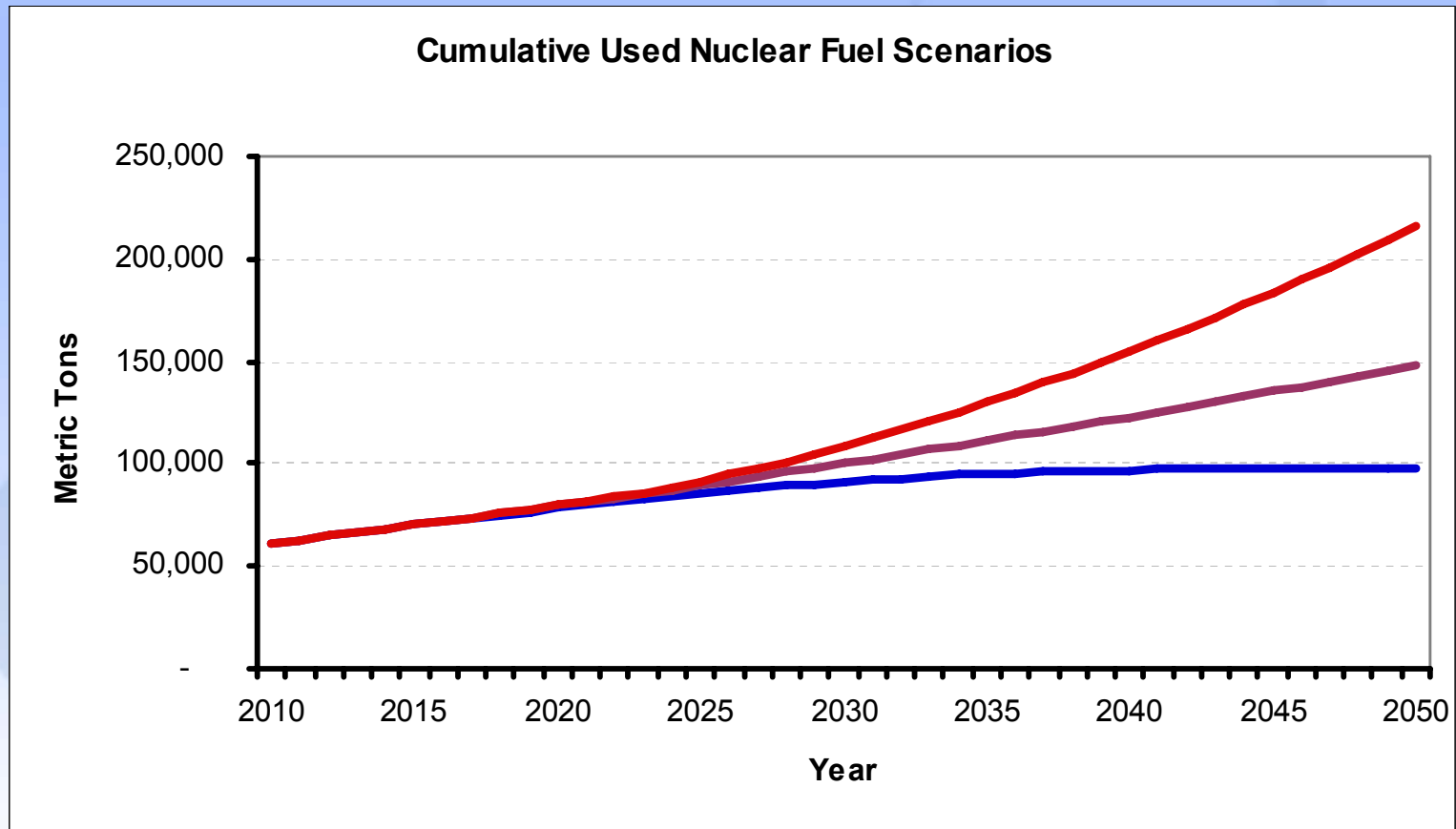
Road to Yucca Mountain



- 20+ years of preparation for the licensing review
- DOE application received in June 2008 and accepted for review in September 2008
- President Obama pursues alternatives to Yucca Mountain
- DOE motion to withdraw in March 2010
- Blue Ribbon Commission on America's Nuclear Future



Growing Spent Fuel Inventory



Reference: Crozat, March 2010



Integrated Strategy

- **In response to the evolving national debate on spent fuel management strategy, NRC initiated a number of actions:**
 - **Evaluating technical and regulatory requirements to support very long-term dry storage of spent fuel**
 - **Identifying and assessing regulatory gaps and initiated development of a regulatory framework for reprocessing**
 - **Reviewing YM application commensurate with reduced resources**
 - **Commencing preparations for assessing alternative disposal options**
 - **Considering a revised Waste Confidence rulemaking**
- **NRC is pursuing an integrated approach to regulating the back-end of the fuel cycle**
 - **maximize NRC's ability to adapt to the changing national environment**
 - **leverage limited resources**
 - **preserve assets**



Long Term Dry Storage & Deferred Transportation

- **Long term dry storage and deferred transportation are likely outcomes**
 - **Additional technical data to confirm safety basis and resolve issues**
 - **Regulatory enhancements**
 - **Long-term environmental impact**



Reprocessing

- **Limited recent experience in licensing reprocessing facilities**
- **Need to develop the technical basis to support rulemaking/licensing**
- **Identifying and resolving regulatory gaps**

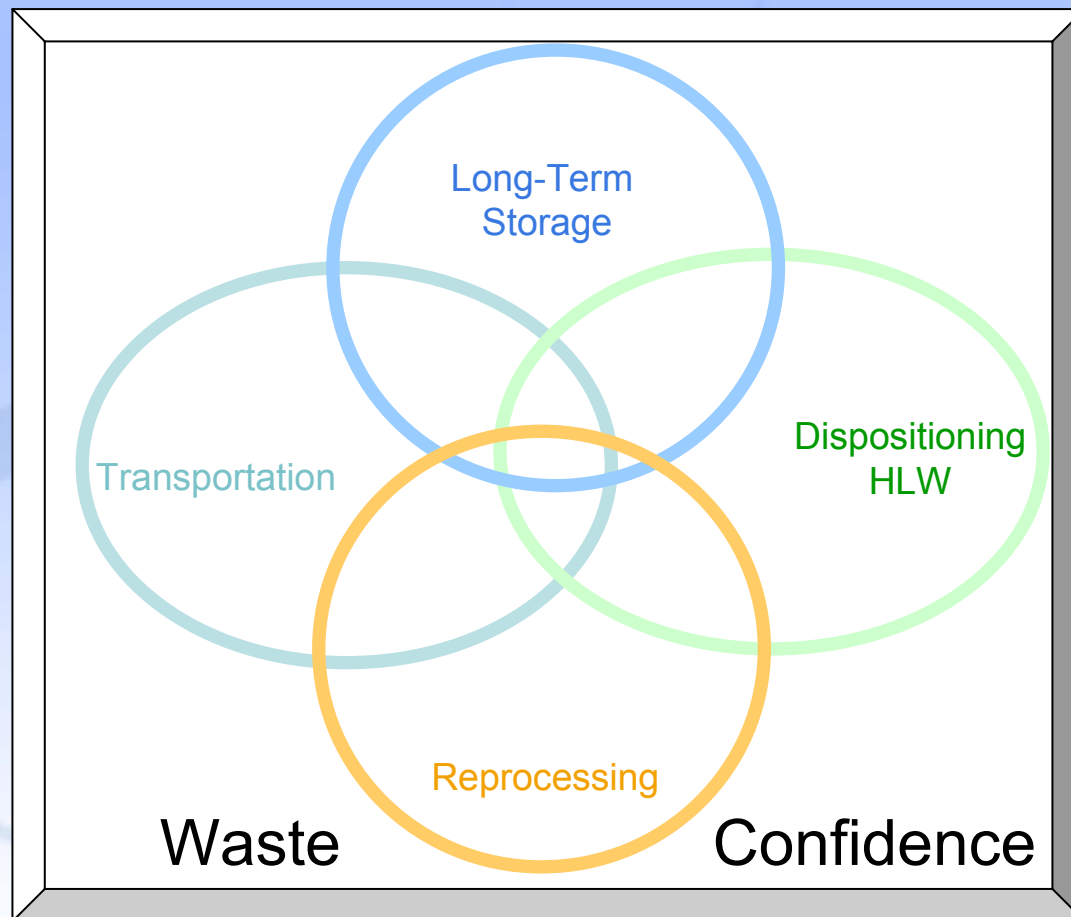


Disposal

- **Re-evaluation of the national waste policy**
- **Statutory responsibilities under the Nuclear Waste Policy Act remain**
- **NRC's technical and regulatory basis mostly Yucca Mountain specific**
- **Applying lessons learned over 60 years**



Integration





Integration

- **Provides a stable framework to evaluate, prioritize, and sequence necessary regulatory work**
- **Leverages technical interdependencies in accomplishing NRC's mission in an effective and efficient manner**
- **Provides an organized approach for sharing information and perspectives on interrelated activities with diverse stakeholders**



Defining Success

- **Ensure safety, security, and environmental protection**
- **Prepare NRC to regulate effectively and efficiently under a broad range of scenarios**
- **Respond to and support national decisions in a timely manner**



Integrated Licensing

- **Revisit the paradigm for spent fuel storage and transportation**
- **Enhance NRC spent fuel storage and transportation licensing process**
- **Develop flexible regulatory tools to assess alternative disposal options**



Integrated Rulemaking

- **Review requirements for spent fuel storage facilities and extended spent fuel storage**
 - **Possible combination of Parts 71 and 72**
 - **Possible new approaches to certifying spent fuel storage designs**
- **Develop technical basis, environmental impact statement, and proposed rule for the regulation of reprocessing facilities**
- **Review adequacy of Part 60 and Part 63 for disposal**



Integrated Research

- **Develop technical basis for resolving key aging issues of long-term storage, fuel handling issues, and deferred transportation issues**
- **Develop technical and regulatory guidance documents for reprocessing**
- **Develop insights on the types of regulatory issues associated with advanced reprocessing technologies**
- **Assess and resolve potential technical and environmental gaps associated with moving to different disposal media and methods**



International Liaison

- **Enhance international collaboration on research activities**
- **Participate in IAEA and NEA activities, such as Standards Development, Forum for Stakeholder Confidence, and Radioactive Waste Management Committee**
- **Interact with international counterparts to learn from their operating experience and gain insights on the regulatory framework**



Summary

- **NRC's integrated strategy**
 - **Leverages U.S. and international resources in an effective and efficient manner**
 - **Enhances ability to adapt to the changing national environment**
 - **Preserves knowledge and assets**