

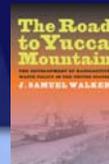
NRC's Integrated Strategy for Spent Fuel Management

Earl Easton
U.S. Nuclear Regulatory Commission
May 25, 2010

1



Road to Yucca Mountain



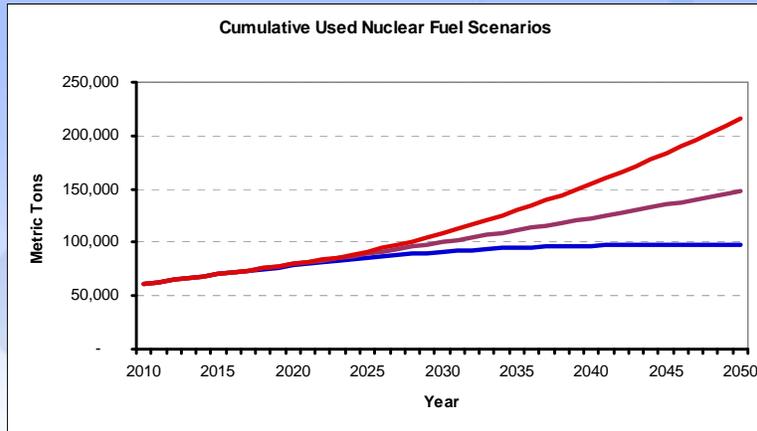
- 20+ years of preparation for the licensing review
- DOE application received in June 2008 and accepted for review in September 2008
- President Obama pursues alternatives to Yucca Mountain
- DOE motion to withdraw in March 2010
- Blue Ribbon Commission on America's Nuclear Future

2

Protecting People and the Environment



Growing Spent Fuel Inventory



Reference: Crozat, March 2010

3

Protecting People and the Environment



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

4

Protecting People and the Environment



Long Term Dry Storage

- **Long term dry storage of spent fuel is a likely outcome**
 - Additional technical data to confirm safety basis and resolve issues
 - Regulatory enhancements
 - Long-term environmental impact

5

Protecting People and the Environment



Reprocessing

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

6

Protecting People and the Environment

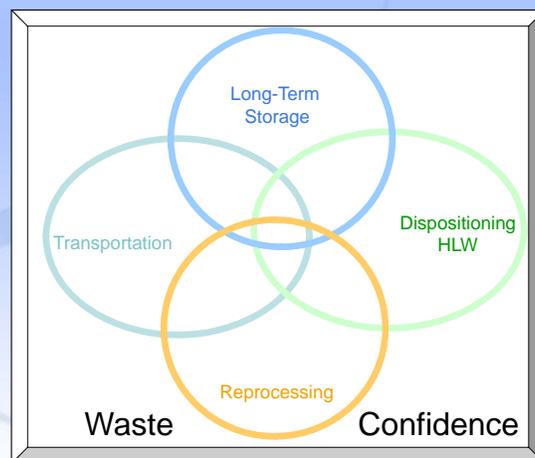
Disposal

- 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

7

Protecting People and the Environment

Integration



8

Protecting People and the Environment



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

9

Protecting People and the Environment



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

10

Protecting People and the Environment



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**

11

Protecting People and the Environment



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**

12

Protecting People and the Environment



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**

13

Protecting People and the Environment



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**

14

Protecting People and the Environment



Summary

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