



Integrated Strategy for Spent Nuclear Fuel Management

NRC Regulatory Information Conference

March 10, 2010

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Background

- In response to the evolving national debate on spent fuel management strategy, NRC initiated a number of actions:
 - Evaluation of technical and regulatory requirements to support very long-term dry storage of spent fuel
 - Identified regulatory gaps and initiated development of a regulatory framework for reprocessing
 - Reviewing YM application commensurate with reduced resources
 - Commenced preparations for alternative disposal options
 - Considering a revised Waste Confidence rulemaking
- NRC is developing 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

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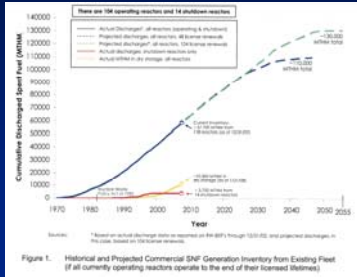
Key Drivers

- Increasing Spent Fuel Inventories
- Renewed interest in commercial reprocessing
- Uncertainties concerning long-term strategy

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Increasing Spent Fuel Inventories



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Very Long Term Dry Storage

- Very long term dry storage of spent fuel is a potential outcome of an evolving strategy.
 - Additional technical data may be needed to support very long term dry storage
 - Regulatory enhancements warranted
 - Must address long-term environmental impact

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Reprocessing

- Limited experience in licensing reprocessing facilities
- Need for the development of a technical basis to support rulemaking/licensing

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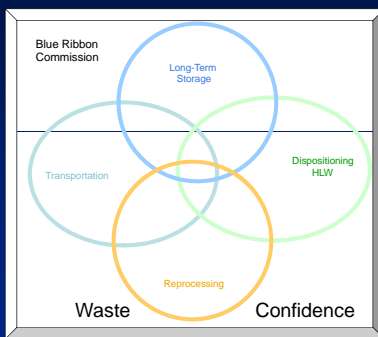
Uncertainties with Disposal

- Administration's desire for a re-evaluation of the national waste policy
- Statutory responsibilities under the Nuclear Waste Policy Act remain in effect
- NRC's technical and regulatory basis mostly Yucca Mountain specific

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Integration



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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
 - Internal NRC
 - Industry
 - Public and other interested stakeholders
 - Federal, State, and Local Governments
 - International Counterparts

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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

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Integrated Licensing Activities

- Enhance NRC spent fuel storage licensing process
- Develop flexible regulatory tools to assess alternative disposal options
 - Modify NRC's Performance Assessment code to enhance assessment capabilities to help inform regulatory perspectives

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Integrated Rulemaking Activities

- 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
- Revise regulatory framework for licensing reprocessing facilities
- Respond to requests for information from the Blue Ribbon Commission
- Identify and resolve the regulatory gaps associated with moving to different disposal media and different waste forms
 - Review adequacy of Part 60 and Part 63 for ultimate disposal

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International Liaison

- Increase international collaboration to leverage the available knowledge on very long-term spent fuel storage, reprocessing, and different disposal media, methodologies, and waste forms
 - Explore international collaboration on research activities
 - Participate in IAEA Consultancy, Forum for Stakeholder Confidence, RWMC, visits to facilities, etc.
 - Interact with international counterparts to learn from their operating experience and gain insights on the international regulatory framework
 - Focused effort in 2010 to better understand regulatory frameworks of various international disposal programs including their socio-economic programs supporting ultimate disposal

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Integrated Research Activities

- Develop technical basis for resolving key aging issues of long-term storage, fuel handling issues, and deferred transportation issues
 - Update assessments of data needs
 - High Burnup cask demonstration
- Develop technical and regulatory guidance documents for reprocessing
- Develop insights on the types of regulatory issues associated with advanced reprocessing technologies
- Assess/address technical and environmental gaps associated with moving to different disposal media and different waste forms
 - Building from 2010 report of regulatory/technical gaps, begin to resolve issues in an effective and efficient manner
 - Expand flexibility of NRC's PA tool to address different waste forms, different media, different waste streams
 - Expand NRC's PA tool to provide overall risk insights of an integrated spent fuel management program

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Summary

- Integrates NRC's spent fuel management oversight activities to leverage limited resources in an effective and efficient manner
- Optimizes NRC's ability to adapt to the changing national environment
- Preserves NRC's knowledge and assets

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