U.S. DEPARTMENT OF ENERGY | Nuclear Energy

Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste

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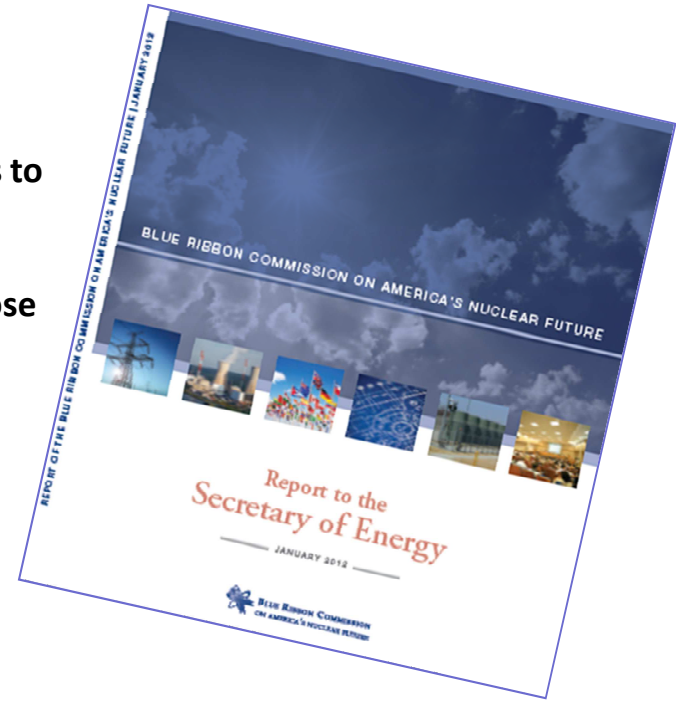
Blue Ribbon Commission Recommendations

1. A new, consent-based approach to siting future nuclear waste management facilities.
2. A new organization dedicated solely to implementing the waste management program and empowered with the authority and resources to succeed.
3. Access to the funds nuclear utility ratepayers are providing for the purpose of nuclear waste management.
4. Prompt efforts to develop one or more geologic disposal facilities.
5. Prompt efforts to develop one or more consolidated storage facilities.
6. Prompt efforts to prepare for the eventual large-scale transport of spent nuclear fuel and high-level waste to consolidated storage and disposal facilities when such facilities become available.
7. Support for continued U.S. innovation in nuclear energy technology and for workforce development.
8. Active U.S. leadership in international efforts to address safety, waste management, non-proliferation, and security concerns.



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Secretary of Energy Dr. Steven Chu Statement on the BRC Recommendations

The Department recognizes that the BRC Report represents "*a critical step toward finding a sustainable approach to disposing used nuclear fuel and nuclear waste".*

The Department acknowledges that *"the specifics of a new strategy for managing our nation's used nuclear fuel will need to be addressed in partnership with Congress".*

The Department *"will work in parallel to begin implementing the new strategy"* by taking sensible steps toward the implementation of near-term recommendations.

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Summary of the Administration's UNF and HLW Strategy

- **Statement of Administration policy regarding the importance of addressing the disposition of used nuclear fuel and high-level radioactive waste**
- **Response to the final report and recommendations made by the *Blue Ribbon Commission on America's Nuclear Future***
- **Initial basis for discussions among the Administration, Congress and other stakeholders**
- **10-year program of work that:**
  - Sites, designs, licenses, constructs and begins operations of a pilot interim storage facility
  - Advances toward the siting and licensing of a larger interim storage facility
  - Makes demonstrable progress on the siting and characterization of geologic repository sites

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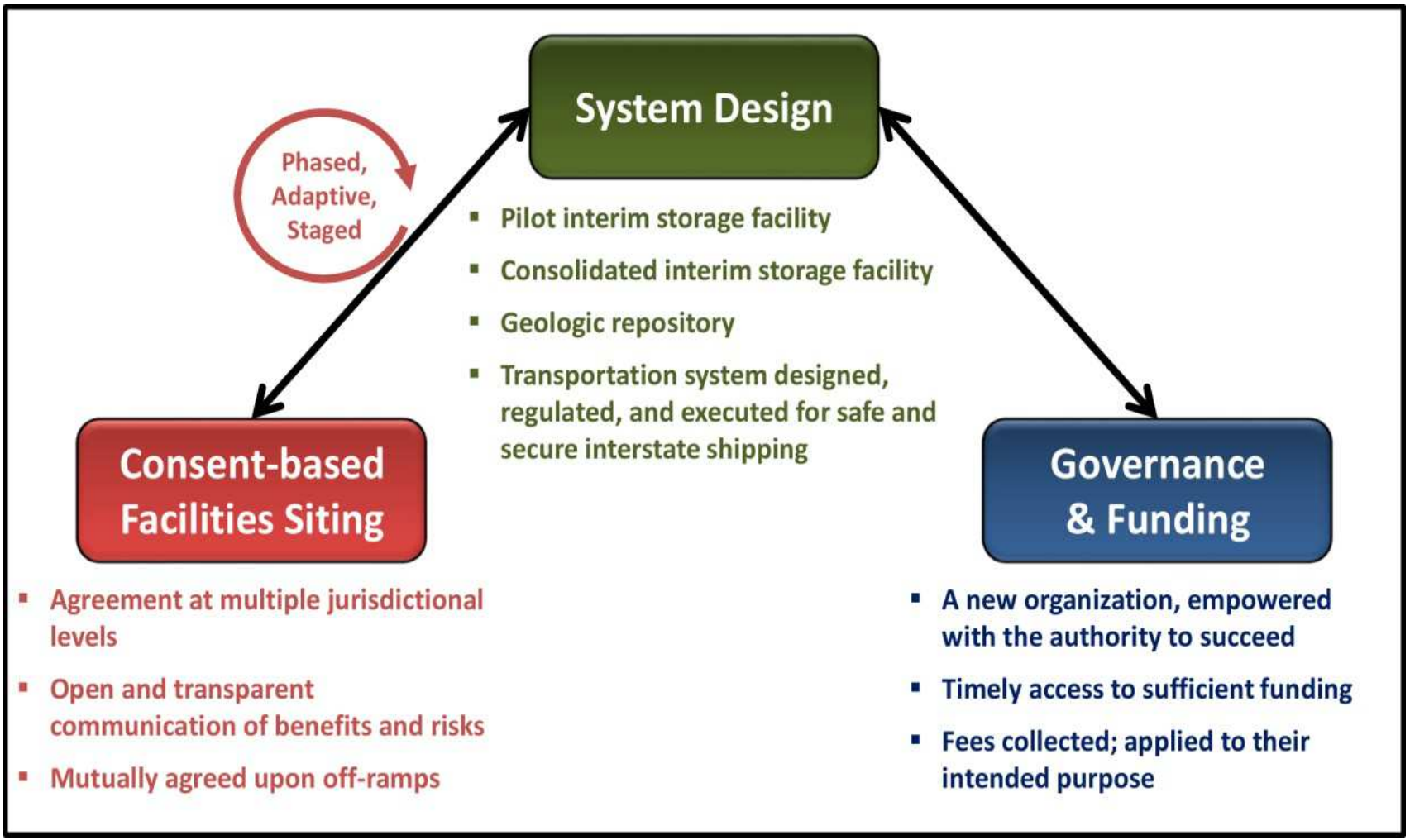
Key Strategy Elements



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Implementation: Interim Storage Facilities

- **Facilities sited using consent-based process and licensed by the Nuclear Regulatory Commission**
- **Pilot-scale interim storage facility**
  - Focused on servicing shutdown reactors
  - Operational in 2021
- **Consolidated interim storage facility**
  - Larger capacity to provide system flexibility
  - Operational in 2025
- **Facilities could service environmental cleanup and defense sites**

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Implementation: Geologic Disposal and Transportation

- **Geologic Repository**
  - Sited using consent-based process by 2026
  - Designed and licensed by 2042
  - Operational in 2048
- **Transportation**
  - Build on experience in industry and with WIPP
  - Capability to service facilities safely and securely
  - Ongoing planning activities provide foundation for implementation
- **One of each facility for now, possible additions based on consent-based process**

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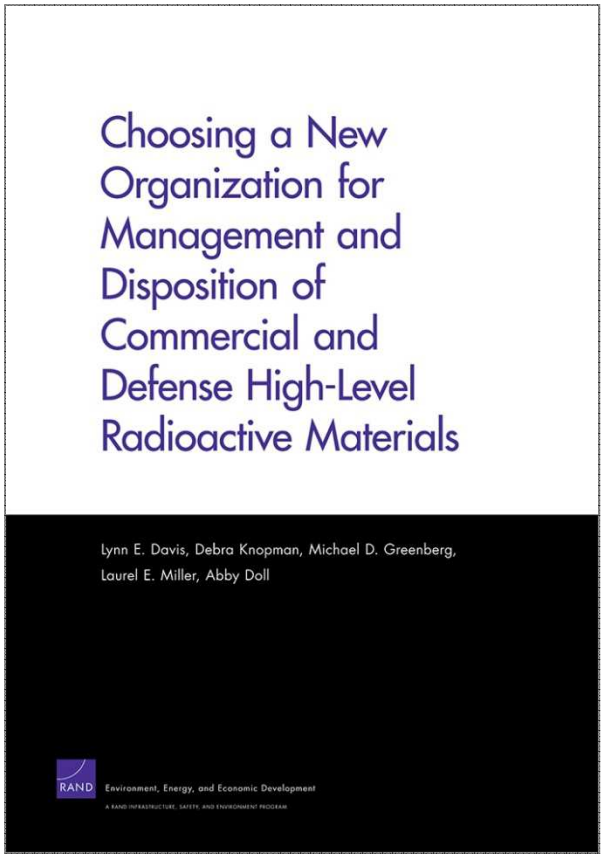
Implementation: Consent-based Process and New Organization

Consent-based process

- Host jurisdictions to be recognized as partners
- Consent required at multiple levels
- Public trust and confidence necessary for success
- Defining process and terms is critical initial step

New Organization

- Multiple workable models
- RAND study looked at independent government agency and government corporation models
- Critical attributes: accountable, autonomous, mission-oriented, stable
- No specific model endorsed at this time



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Implementation: Funding

- **Ongoing appropriations**
  - Ongoing role for Appropriations Committees with funds from the General Fund
  - Could fund specific activities – e.g., management, personnel, regulatory development activities
  - Could meet obligation to fund disposal of government UNF and HLW
- **Reclassification of fee income or spending**
  - Needed to support:
    - interim storage facility development and operations
    - repository siting and licensing
  - Could move fee income to discretionary or move spending to mandatory
  - Annual amounts limited by incoming fees (~$750M/year)
- **Access to "corpus" of the Nuclear Waste Fund**
  - Needed for construction of repository
  - Could be tied to specific milestones or performance triggers

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Conclusion: Legislation Needed for Implementation

- Active engagement in a broad, national, consent-based process to site storage and disposal facilities
- Siting, design, licensing, and commencement of operations at a pilot-scale storage facility
- Significant progress on siting and licensing of a larger consolidated interim storage facility
- Development of transportation capabilities to begin movement of fuel from shut-down reactors
- Reformation of the funding arrangements
- Establishment of a new organization to run this program

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Backup

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Nuclear Fuel Storage and Transportation Planning Project: Transportation Activities

Objective:

Ensure the implementation of a staged, adaptive, collaborative transportation process for UNF and HLW

- **Prepare planning report for shipping stranded fuel from shutdown sites to a consolidated interim storage facility**
- **Publish revised NWPA 180(c) policy regarding financial and technical assistance to states along transportation routes for SNF**
- **Develop communication products**
- **Develop draft National Transportation Plan**
- **Identify preliminary routes for shipments from shutdown sites**

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Nuclear Fuel Storage and Transportation Planning Project: Storage Activities

Objective:

Begin laying the ground work for implementing consolidated storage

- **Build on previous DOE work and industry storage licensing efforts**
  - Evaluation of design concepts for consolidated storage
  - Conduct system analyses on operational strategies
  - Develop communication packages which describe various attributes of a consolidated storage facility for use in interaction with potential host communities
- **Initiate development of consent-based siting process**
- **Evaluate system benefits of standardized packaging**