



U.S. DEPARTMENT OF
ENERGY

Nuclear Energy

The Case for Interim Storage Remains Valid Today

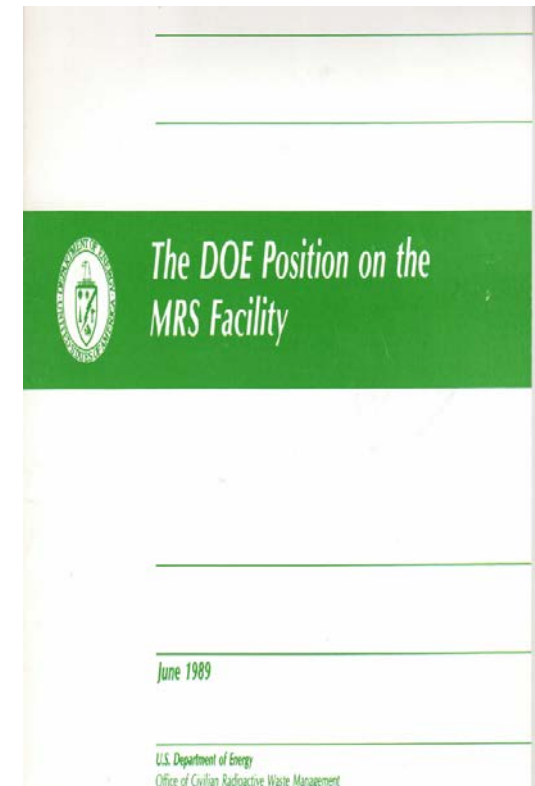
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Waste Management 2014
PHOENIX, AZ
March , 2014



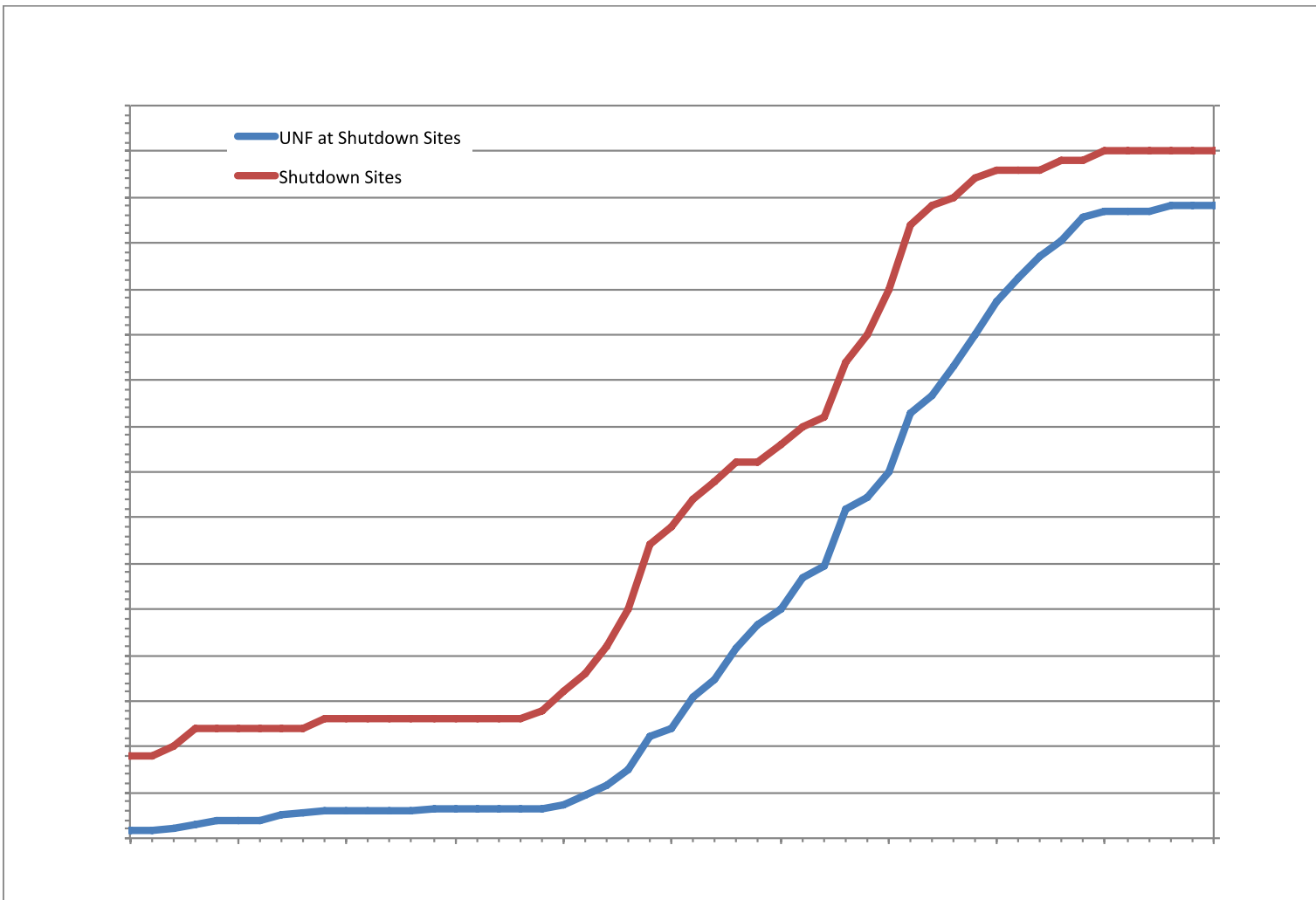
The DOE supports the development of an MRS facility as an integral part of the waste-management system – 1989 DOE Position on Interim Storage

- An integrated MRS facility can enhance the performance of the Federal waste-management system (FWMS).
- An MRS can play an important role in a stepwise process for the development of the FWMS.
- Allows the interface between the Federal system and reactors to be defined independent of uncertainties about the waste package to be used at the repository.
- Experience would directly increase the likelihood of timely and reliable operation of the FWMS.
- DOE prefers an MRS facility that is sited at a volunteer site.
- Prefers that the current linkages be revised to allow other MRS advantages to be more fully realized.





Projected Commercial Used Fuel at Shutdown Sites and Projected Shutdown sites



Assuming
Transfer to
Dry
Storage at
Reactor
Shutdown

BRC emphasized that ISF can be developed in phased, adaptive, staged approach

- **Developing ISF does not require irreversible commitment to long-term operational plan**
- **Capabilities can be developed over time as need becomes clearer**
- **Money “at risk” to site, design, license an ISF is relatively low (<\$100 million) – so cost of providing option is small**
- **Developing small initial facility will reduce uncertainties about time and costs that will inform decisions about future expansion**

Summarized from BRC report, p. 40

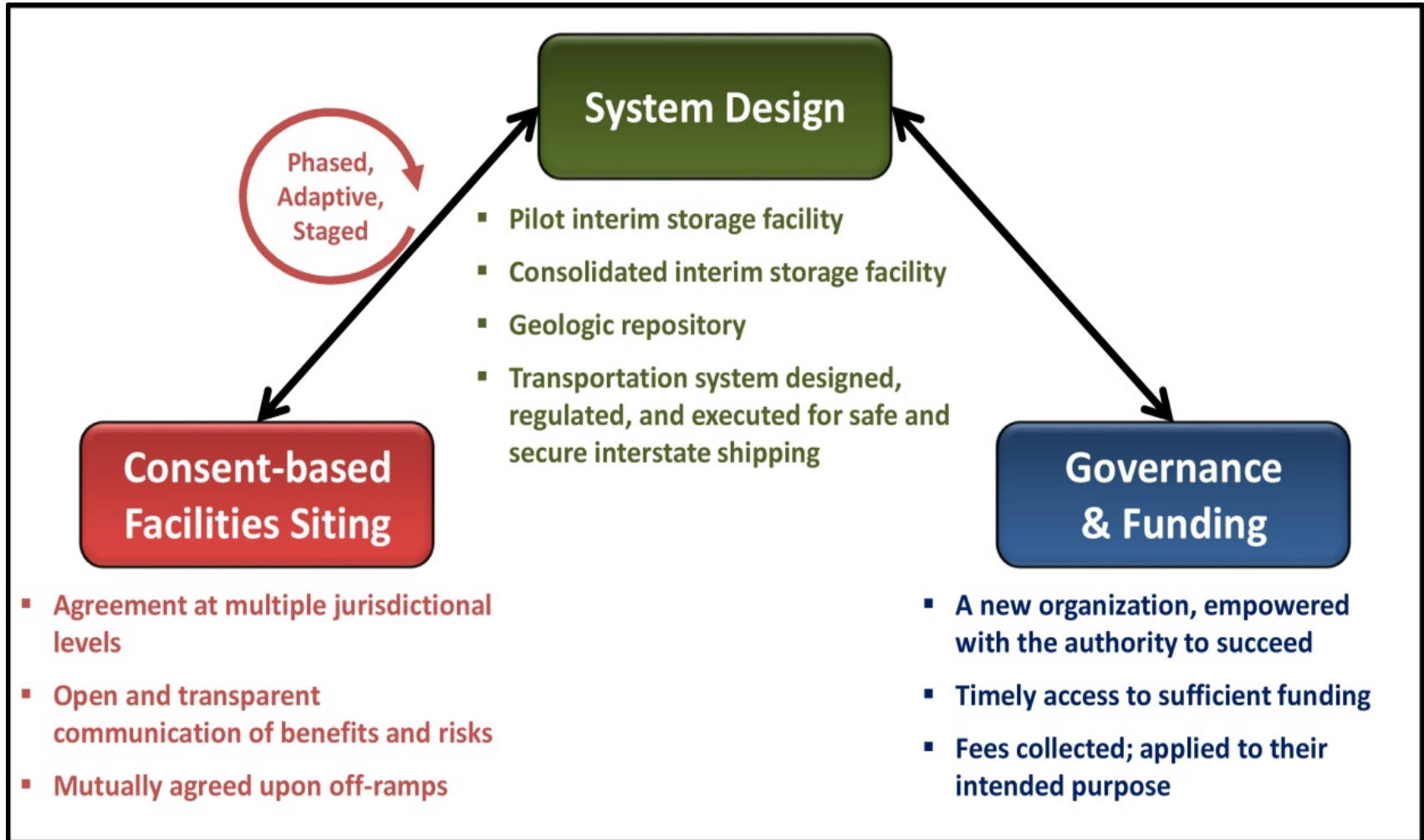


Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste, 2012

- **Based on the work of the Blue Ribbon Commission on America's Nuclear Future**
- **Facilities sited using consent-based process and licensed by the Nuclear Regulatory Commission**
- **Pilot-scale interim storage facility operational in 2021**
- **Consolidated interim storage facility operational in 2025**
- **Geologic repository**
 - Sited using consent-based process by 2026
 - Designed and licensed by 2042
 - Operational in 2048
- **Transportation capabilities deployed and scaled up as each facility becomes available**



Key Elements of Administration Strategy



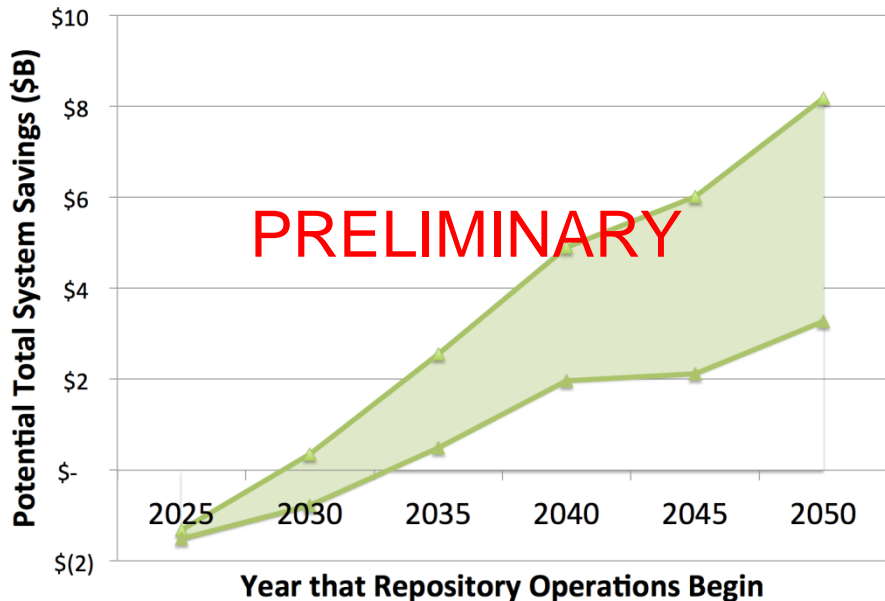
STRATEGY FOR THE MANAGEMENT AND DISPOSAL OF USED NUCLEAR FUEL AND HIGH- LEVEL RADIOACTIVE WASTE, 2012

- Supports the development of a pilot interim storage facility with an initial focus on accepting used nuclear fuel from shut-down reactor sites.
- Interim storage has several benefits, including flexibility in system planning and execution and the opportunity to move expeditiously to fulfill government contractual responsibilities.
- Linkage between repository and interim storage should not be such that it overly restricts forward movement on a pilot or larger storage facility.
- Demonstrate the capability to safely transport and store used nuclear fuel, and therefore to make progress on demonstrating the federal commitment to addressing the used nuclear fuel issue.
- Build trust among stakeholders: host community for the facility itself, jurisdictions along transportation routes, and communities currently hosting at-reactor storage facilities.
- A consent-based process offers a greater probability of success.



The cost benefits of an ISF increase as the repository start date is delayed

- Analyses are being performed to understand the cost implications of an ISF
- An ISF's potential benefits increase with the duration between ISF and repository start dates
 - Scale of savings dependent on many factors, including waste throughputs, expected facility costs and functionality, reactor shutdown projections, etc.
- Detailed systems evaluations are ongoing



Potential total system savings (not including transportation costs) by incorporating an ISF (full scale in 2025) into an integrated waste management system versus repository start date (**Direct costs only - Indirect cost and other benefits from meeting contractual responsibilities and added system flexibility are not included**)