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Update on Activities
Used Nuclear Fuel Disposition

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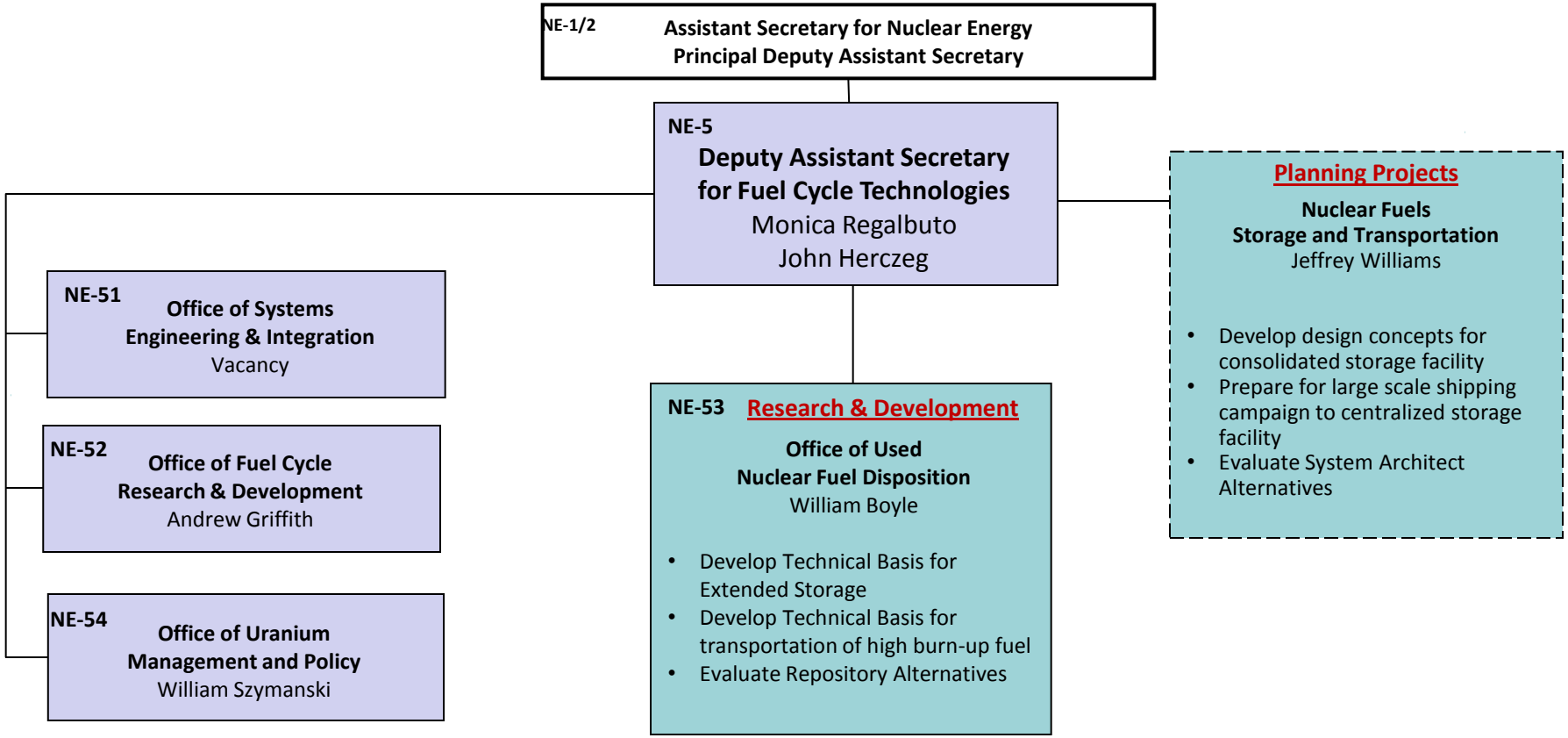
NE-5 Organizations Supporting Used Fuel Disposition (UFD)



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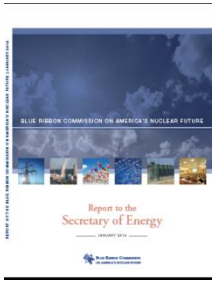
BRC Assessment of DOE-NE Program

(Chapter 13 Near-Term Actions)



"DOE remains responsible for nuclear waste management activities of the Federal Government, it is important that those steps that do not require the new organization to be in place be initiated as soon as possible"

DOE should :

- **Begin laying the groundwork for implementing consolidated storage (perform system analyses, design studies)**
- **Begin proving funding, for working with state and regional state-government groups and training local and tribal officials in preparation for movement of spent fuel from shutdown reactor site to consolidated storage**
- **Keep a repository program moving forward through valuable, non-site specific activities, including R&D on geological media and work to design improved engineered barriers.**

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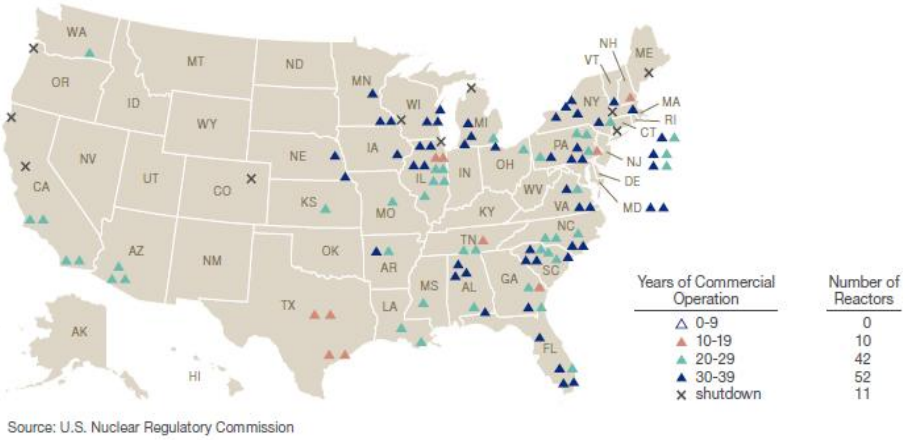
NFST Planning Projects
Transportation Activities

Objective:

Ensure the implementation of a staged, adaptive, consent-based transportation for SNF and HLW

- *Re-engage with regional groups to better understand stakeholder issues related to the movement of spent fuel*
- *Employ successful approaches from past experiences*



Source: U.S. Nuclear Regulatory Commission

BRC recommends that the development of routes from shut down reactors in the region be developed in a collaborative manner and in a similar process found in successful DOE shipping campaigns, such as WIPP

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NFST Planning Projects
Transportation Activities (cont'd)

- **Planning report for shipping stranded fuel from shutdown sites to a consolidated interim storage facility**
- **Finalize NWPA 180 (c) policy regarding financial and technical assistance to states along transportation routes for UNF**
- **Develop communication products**
- **Complete assessment of transportation hardware needs (e.g., cask, rail cars, support and security)**

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NFST Planning Projects
Storage Activities

Objective:

Begin laying the ground work implementing consolidated storage

- **Build on previous DOE work and industry storage licensing efforts**
  - *Evaluation of design concepts for consolidated storage*
  - *Develop communication packages for use in interaction with potential host communities which describe various attributes of a consolidated storage facility*
- **Siting - initiate development of consent based process**
- **PEIS - evaluate the benefits of a Programmatic EIS**
- **Evaluate system benefits of standardizing packaging**

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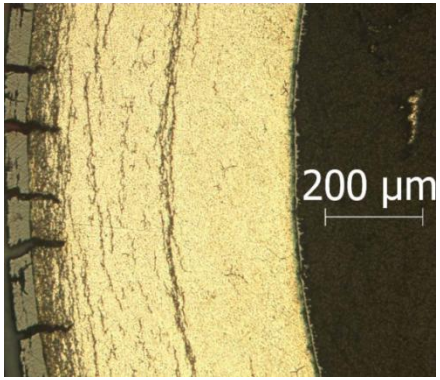
Research & Development: Storage and Transportation

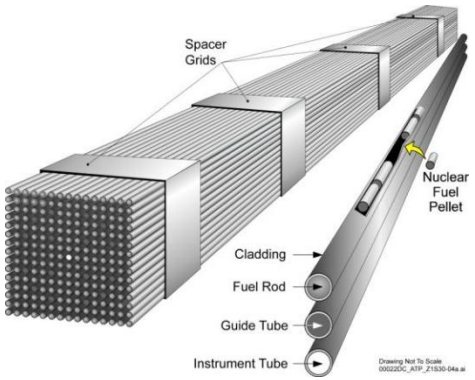
Objective

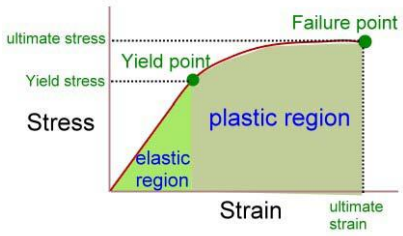
Prepare for the eventual large-scale transport of spent nuclear fuel and high level waste

Develop the technical basis for:

- **Extended storage of used nuclear fuel**
- **Fuel retrievability and transportation after extended storage**
- **Transportation of high burn-up used nuclear fuel**







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Research & Development: Storage and Transportation (cont'd)

- **Better understand potential degradation mechanisms in long term dry cask storage including:**
  - *Complete the identification of data gaps to support license amendments beyond 40 years for dry storage*
  - *Continue material testing to support modeling and simulation of used fuel aging*
  - *Participate with industry and others on full-scale storage demonstration of high burn-up used fuel*

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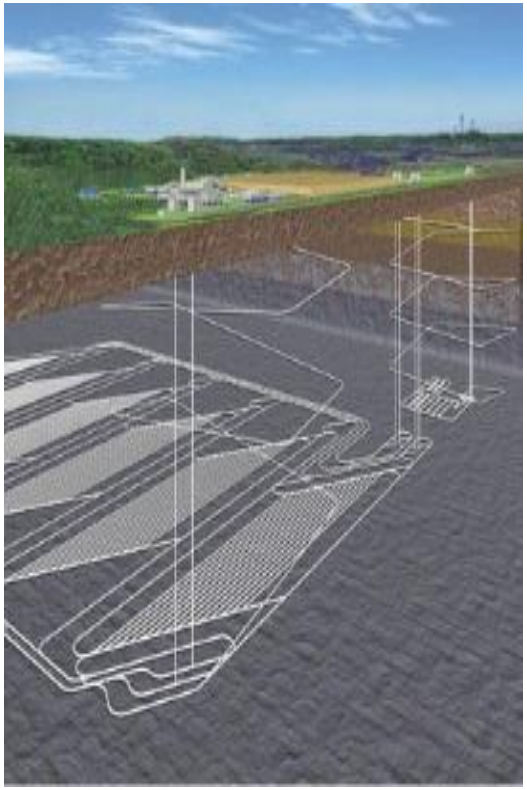
Research & Development Disposal

Objectives:

1. Provide a sound technical basis for the assertion that the U.S. has multiple viable disposal options
2. Increase confidence in the robustness of generic disposal concepts
3. Evaluate the BRC recommendation for developing a near term plan for taking the borehole disposal concept to the point of a demonstration



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Concluding Remarks

- **The Office of Fuel Cycle Technologies is developing used fuel waste management strategies**
- **The Used Fuel Disposition program is laying the foundation for the development of storage, transportation and disposal options**
  - **Program plans are closely tied to BRC near term technical recommendations and continue to adjust to meet changing priorities**

Projects and R&D underway to address key issues