



U.S. DEPARTMENT OF
ENERGY

Nuclear Energy

Update on the Activities of the DOE-NE Office of Used Nuclear Fuel R&D

William Boyle

Director DOE-NE Office of Used Nuclear Fuel R&D

**Nuclear Waste Technical Review Board
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Secretary of Energy Dr. Steven Chu Statement on the BRC Recommendations



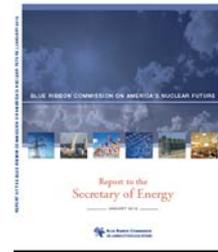
The Department recognizes that the BRC Report represents *“a critical step toward finding a sustainable approach to disposing used nuclear fuel and nuclear waste”*.

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.



BRC Assessment of Current DOE-NE UFD Program (Section 7.8 Near-Term Steps)



Confirms the importance for “DOE to keep the program moving forward through non-site specific activities, including R&D on geological media and work to design improved engineered barriers”

Recommends the continuation of activities currently conducted under the DOE-NE Used Nuclear Fuel Disposition Campaign

“Identify alternatives”

“R&D on transportation, storage, and disposal options for SNF from existing and future fuel cycles”

“Other non-site specific generic activities, such as support for and coordination with states and regional state government groups on transportation planning”

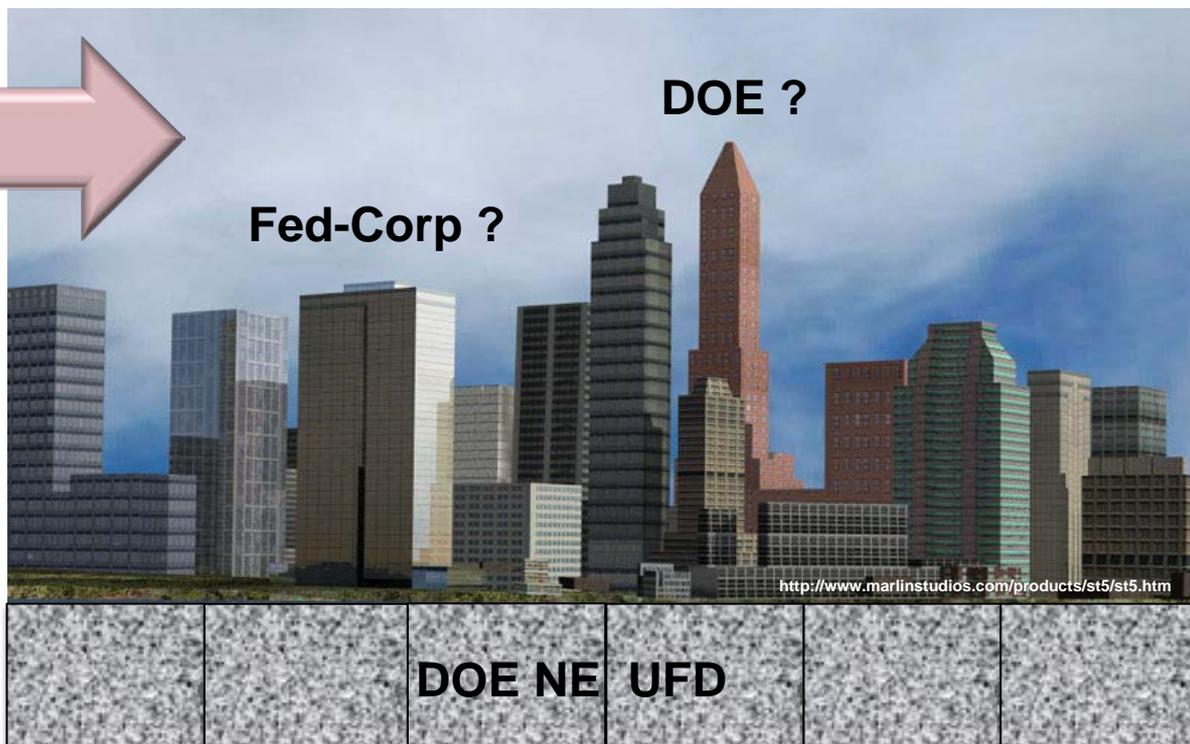


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Building the Foundation to Support the Potential New Waste Management Organization

**DOE- NE
UFD Campaign**





FY 2012 - Activities in Storage

(Blue items are new/expanded activities in FY12 funding provided over the President's Budget Request)

■ Begin laying the ground work for evaluating consolidated storage.

- Building on previous DOE work and industry storage licensing efforts, evaluation of design concepts for consolidated storage will be initiated.
- Develop communication packages for use in interaction with potential host communities, which describe various attributes of a consolidated storage facility.



■ R&D to better understand potential degradation mechanisms in long term dry cask storage including:

- Continue material testing to support modeling and simulation of used fuel aging;
- Complete the identification of data gaps to support license amendments beyond 40 years for dry storage;
- Define facilities needed to conduct the required additional testing of irradiated nuclear fuel. Data with respect to high burn-up fuel is particularly needed.



FY 2012 - Activities in Transportation

(Blue items are new/expanded activities in FY12 funding provided over the President's Budget Request)

- In conjunction with the R&D identified previously to support extended storage, data gathered will continue to support the licensing of transportation casks required to transport used fuel following extend periods of storage.
- Revisit the recommendations of the 2006 National Academy report on transportation of used fuel and high level radioactive waste and prepare a report on an approach to address these recommendations, including re-engaging the regional transportation groups to understand stakeholder issues.
- Finalize the policy and procedures for providing technical assistance and funds to States, pursuant to section 180 (c) of the Nuclear Waste Policy Act, for training local and tribal public safety officials through whose jurisdictions the Department of Energy plans to transport used nuclear fuel or high-level waste.
- Begin conducting evaluations of transportation from the decommissioned sites. This will include evaluation of the hardware requirements, timing, and costs.



FY 2012 - Activities in Disposal

(Blue items are new/expanded activities in FY12 funding provided over the President's Budget Request)

- Continue conducting R&D on generic geological media. The lessons learned in this country and internationally in evaluating the performance of repositories in various geologic environments are valuable; however, we need a more advanced understanding of various disposal concepts in geologic media.
- Work on geologic disposal will include:
 - Initiating work to determine the best approaches for understanding the behavior of salt in response to heat producing radioactive waste;
 - Working with industry to initiate the development of an RD&D plan and roadmap for the borehole disposal concept;
 - Expanding work with our international partners for disposal in granite and clay rocks.

FY 2012 - Other Strategic Near-Term Activities

(Blue items are new/expanded activities in FY12 funding provided over the President's Budget Request)

- **Initiate work on standardized cask systems to enable storage, transportation, and disposal without repackaging of the used fuel including:**
 - Initiating the evaluation of transporting and disposing existing nuclear power plant storage and transportation systems;
 - Expanding the efforts already initiated on a “can-in-can” packaging concept that would allow flexibility in used fuel handling;
 - Conducting system evaluations of various used fuel packaging approaches. Work with the cask vendors and users, to evaluate possible approaches and specifications for advanced standardized packaging systems that would reduce handling of used fuel.
- **Initiate development of models for potential partnerships to manage waste**

FY 2013 Budget

- ***“The Commission’s near-term research and development-related priorities align with how the funding is allocated within the Used Nuclear Fuel Disposition subprogram in FY 2012.”***
- ***“The Department’s FY 2013 Congressional budget request builds on these efforts by including \$60 million to continue activities initiated in FY 2012”***
- ***“Today, I am announcing an internal working group to assess the Blue Ribbon Commission recommendations and develop a strategy that builds on its excellent work.” 2/15/2012***



Nuclear Energy

- **Continue system analyses on consolidated interim storage, standardized containers, and transportation.**
- **Continue R&D on extended storage of used fuel. Include material testing in support of modeling and simulation.**
- **Complete plans for a Test Validation Complex to support the technical basis for extended storage of used fuel.**
- **Expand interactions with potential stakeholders on transportation of used fuel.**
- **Begin to implement actions identified in a review of the National Academy of Sciences report on safe transport of used fuel and high-level waste.**
- **Continue R&D on geologic disposal alternative environments. Complete an RD&D plan and roadmap for the borehole disposal concept.**