



U.S. DEPARTMENT OF
ENERGY

Nuclear Energy

**DOE/NE UFD Campaign
FY10 Used Fuel Dry Storage Activities**

**National Spent Nuclear Fuel Program Meeting
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UFD Campaign: Storage Activities

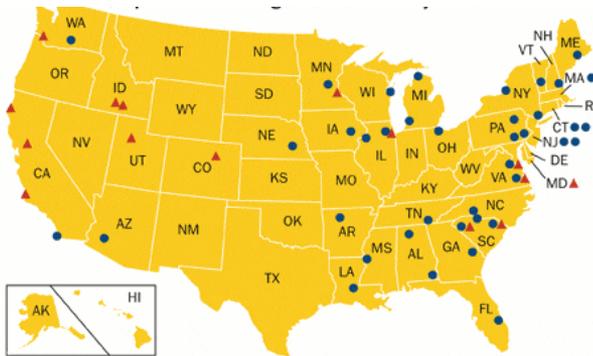
- **FY10 UFD storage activities are divided into three categories:
Near term focus will be on long-term storage of LWR used fuel.**
 - R&D Opportunities
Identify technical issues associated with long-term storage of used fuel, high-level wastes, and low-level wastes; develop an R&D path forward.
 - Concept Evaluation
Evaluate potential alternatives to continued on-site storage.
 - Security
Evaluate systems for protecting and securing used fuel and HLW during long-term interim storage; identify opportunities for technology development of physical protection systems.



UFD Campaign: Storage Activities

■ Concept Evaluation

- Develop roadmap that defines potential alternatives for management of fuel cycle material in extended long-term storage
 - *NRC and DOE licensed sites*
 - *Identify issues associated with current law and regulations*
 - *Although near-term focus is on LWR used fuel storage, consider all wastes currently generated and projected to be generated from advanced fuel cycles*
 - *Consider operational aspects of storage; i.e., ALARA*

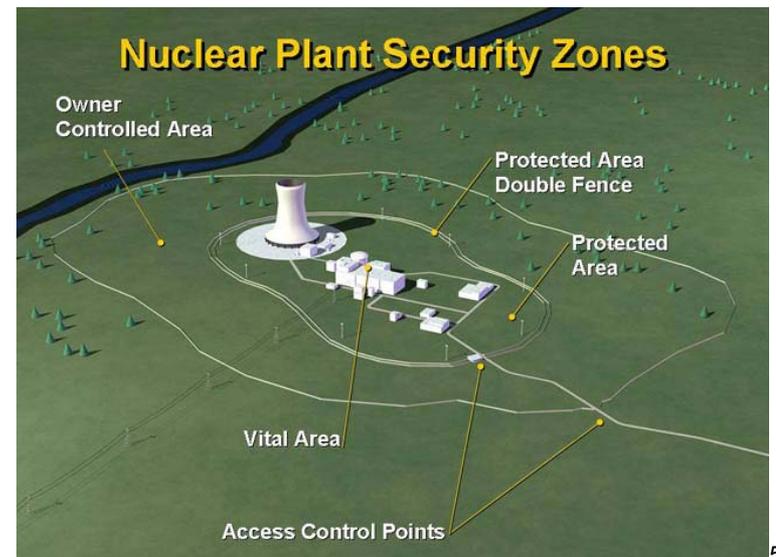




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■ Security

- Identify security issues associated with long-term storage of LWR used fuel and other materials generated from advanced fuel cycle operations
- Consider integrated aspects of security; i.e., facility security integrated with aspects of cask/fuel design that contribute to security
- Evaluate existing regulatory positions relative to security and long-term impacts of these positions



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■ 5-year UFD Campaign Goals for Storage

- Develop an interim storage roadmap that provides a systems perspective of alternatives that address safety, security, and flexibility to accommodate the evolution of disposal options;
 - *Includes R&D plan to address technical issues*
 - *Includes trade studies that address storage options*
 - *Develops technical basis for extended long-term storage and verification of fuel integrity and packaging prior to shipment after storage*
 - *Includes a plan for a demonstration storage facility*

■ 10-year UFD Campaign Goals for Storage

- In collaboration with DOE/RW, field an NRC-licensed interim storage facility to demonstrate long-term storage capability that addresses strategic goals
- Develop a plan to field a commercial-scale long-term interim storage facility
- Develop advanced analytical approaches for evaluating storage options based on the five-year recommendations



UFD Campaign: Collaborative Activities

DOE/NE

Program Direction, Management

DOE/RW, EM

Collaboration, experience from related programs

Nat'l Labs

SNL, PNNL, ANL, INL, SRNL

Technical support for the 3 Work Packages

Industry

EPRI, NEI, Utilities, Suppliers

EPRI Extended Fuel Storage Collaboration Program

NEI Dry Storage Information Forum

International

BAM (Germany), CRIEPI (Japan)

*Both organizations interested in collaboration – link to EPRI program
IAEA Int'l Conference on Management of Spent Fuel from Power Reactors
Special session at PATRAM 2010 on Used Fuel Dry Storage*

Nuclear Regulatory Commission
Supports efforts on a collaborative basis

UFD Campaign: Storage Activities

Conclusion

DOE/NE is committed to assessing and enabling viable long-term storage options to support the existing and advanced development of the nuclear fuel cycle.