Update on Interim Storage Planning

Mike Reim
Nuclear Fuels Storage and Transportation Planning Project

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Outline

- **Administration's *Strategy***

- **Previous work**

- **Future work**

- **Regulatory topics of interest**

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

- **"With the appropriate authorizations from Congress, the Administration currently plans to implement a program … that:**

  - Sites, designs and licenses, constructs and begins operations of a **pilot interim storage facility …** with an initial focus on accepting used nuclear fuel from shut-down reactor sites

    - Development of transportation capabilities…to facilitate the acceptance of used nuclear fuel at a pilot interim storage facility

  - Advances toward the siting and licensing of a **larger interim storage facility …** that will have sufficient capacity to provide flexibility in the waste management system and allows for acceptance of enough used nuclear fuel to reduce expected government liabilities"
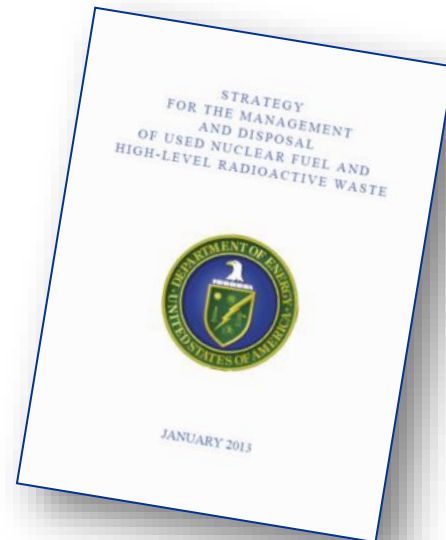
- **Explored alternatives for storage as well as cask handling methods and configurations**
- **Storage**
 - Above ground: vertical, horizontal
  - Underground: silo, vault
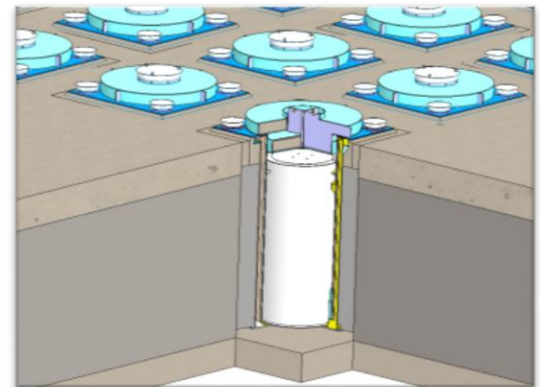
Pilot Interim Storage Facility - Assumptions for Task Order 16

- **5,000 to 10,000 MT capacity with a design receipt rate of 1,500 MT/year**
  - Accept dry storage canisters from shutdown reactors
  - Accept Greater-Than-Class C Low Level Waste from decommissioned power reactors, and other approved contents in canisters
  - Receive fuel in DPC in associated transportation casks
  - Deployed in modules for storage capacity and additional functional capability
- **Fully developed facilities will include:**
  - Shielded cask-handling building for transfer of the canister from transportation casks to storage overpacks
  - Storage pads with multiple vertical and horizontal storage overpack designs
  - Infrastructure and balance of plant facilities
- **Designed to Meet:**
  - 10 CFR Part 72, 10 CFR Part 73
  - Associated Regulatory Guides (e.g. RG 3.60, 3.48 & 3.62)
  - Guidance from NUREG – 1567 and 1927
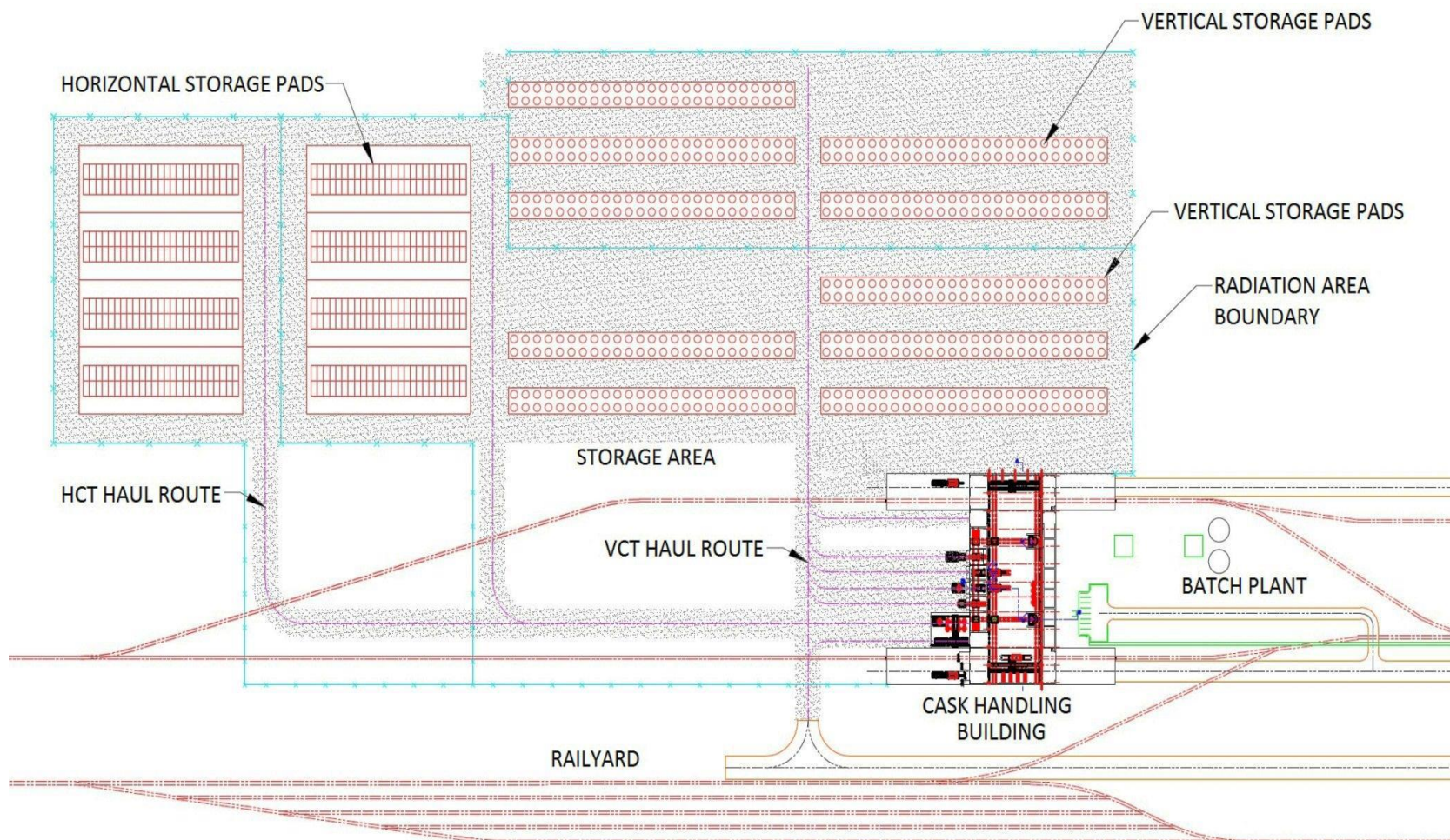
Future Work

- **Pilot Interim Storage of Spent Nuclear Fuel: Generic Design and Topical Safety Analysis Report**

  - Fully developing and documenting a generic pilot ISF design for the receipt and storage of SNF and GTCC-LLW currently in dry storage canisters at shutdown reactor sites

  - Not location specific

  - NRC review, approval, and issuance of a Safety Evaluation Report

Goals of Future Work

- **Focus on generic design**
  - Documents the types of components that makeup a Pilot Interim Storage Facility (ISF)

- **TSAR and SER for Pilot ISF**
  - Establish baseline understanding of regulatory topics for broad use

Regulatory Topics of Interest

- **"72-71-72" Issues**
  - Approach for ensuring canisters and contents meet Part 72 requirements for restoring them to storage service and performing the Part 72 confinement function
  - Plans for the capability to remediate a nonconforming canister
  - Applicability and implementation plans for aging management of canisters previously in service at ISFSIs once they reach their initial term of service from the time they were first placed in storage
  - Timing and approach for canister system license renewals

Task Order 16: Generic Design Alternatives for Dry Storage of Spent Nuclear Fuel, May 15, 2015.

https://curie.ornl.gov/content/task-order-16-generic-design-alternatives-dry-storage-spent-nuclear-fuel-1