HI-STORE CISF:

A Consolidated Interim Storage Facility for Used Nuclear Fuel in Southeast New Mexico

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Consolidated Interim Storage

Topics

- ✓ About Holtec International
- ✓ Nuclear Fuel and How it’s Stored
- ✓ Consolidated Interim Storage
- ✓ HI-STORE: Holtec’s Consolidated Interim Storage Facility
- ✓ Transportation
About Holtec International?

- Largest US exporter for capital equipment supporting the nuclear industry

- **116** nuclear plants worldwide: **65** domestic, **51** international

- Over **60,000** SNF assemblies loaded into Holtec Dry Cask Storage/Transport Systems

- **1,200+** Holtec supplied systems are loaded

- Orders booked for future deliveries: **$5.0B**

- Highest industrial credit rating [D&B-1R2]
  - ✔️ No history of long-term debt
  - ✔️ Financially strong with self-financed R&D
Core Business Activities

- Safe & Secure Used Fuel Storage
- Heat Transfer Equipment
- SMR-160 Delivery
- Decommissioning of Retired Nuclear Plants
- Consolidated Interim Storage
Holtec’s Worldwide Dry Storage and Transport Experience

1,200+ Systems Loaded

116 Nuclear Plants Worldwide Rely on Holtec’s Dry Storage Technology for their Storage & Transport; 65 Domestic, 51 International
Nuclear Fuel & How it is Stored

[Diagram showing various components and storage methods related to nuclear fuel.]
How Nuclear Fuel is Stored

Wet Storage

Dry Storage
Consolidated Interim Storage

- **Safe**: The spent fuel storage system is designed and built to withstand natural and man-made events with no release of radioactivity.

- **Secure**: The spent fuel storage system and the facility provide an impregnable fortress for protecting the spent fuel against even the most egregious attacks.

- **Retrievable**: Allows removal of used fuel canisters from the facility to the final repository in one shift.

- **Temporary**: The canisters containing the spent nuclear fuel will be shipped off site to the DOE facility in the same manner they were shipped to the site.
HI-STORE CISF: ELEA Holtec Partnership

- Eddy-Lea Energy Alliance
  - Long-standing NM alliance
  - Owners are:
    - Counties of Eddy & Lea
    - Cities of Carlsbad & Hobbs
  - Formed in 2006 under the NM Local Economic Development Act

- Holtec & ELEA Team – Public Private Partnership formed in 2016

- ELEA owns the property. Holtec has land purchase agreement.

- Holtec funding licensing.

- Robust scientific & nuclear workforce
  - WIPP
  - URENCO
HI-STORE CISF Utilizes HI-STORM UMAX Technology

- Maximizes safety & security
- Stores used nuclear fuel in strength-welded canisters in below ground vertical silos
- Produces no pollution
- Requires no water. Does not emit any water or chemical
- It makes no noise
- No aquifers or ground water will be affected
- The radiation dose at the site’s protected boundary will be a small fraction of the cosmic radiation in the state every single day
HI-STORM UMAX Construction
Controlled Low-Strength Material
Pours Complete
Rebar for Top Pad
HI-STORM UMAX Loaded
HI-STORE Site Layout

- Initial Storage Capacity = 500 canisters
- Total Storage Capacity = 10,000 canisters
- Facility utilizes 500 of the 1,000 acres available
- Operations could commence by 2023
Phase 1 – 500 HI-STORM UMAXs
Transport to HI-STORE CISF

- HI-STORE CISF 3.8 miles west BNSF spur
- Local area has well-developed rail infrastructure.
- Transportation rail car transferred to newly constructed rail spur along State Highway 243. Transportation casks remain on rail car until HI-STORE CISF.
Transport to HI-STORE CISF

- Spent nuclear fuel will arrive at the HI-STORE CISF by rail
  - Robust and safe transport casks using specialty designed railcars
- Transportation of radioactive material including Spent Nuclear Fuel is strictly regulated
  - The Nuclear Regulatory Commission (NRC) and the U.S. Department of Transportation (DOT)
- Two transport casks designed and licensed with the NRC by Holtec International will be used
  - HI-STAR 190 (licensed) and HI-STAR 100MB (pending)
Transport to HI-STORE CISF

- Transport casks are designed and fabricated to safely confine the fuel and shield workers and the public from radiation
  - Multiple layers of steel, lead, and other materials
- Inside the cask, the used fuel, in solid form, is contained in another sealed canister
- Fully loaded casks weigh 125 tons or more for rail shipments
Cask Design Robust & Proven Safe

- Robustly designed to protect the public from releases of radioactive material in the unlikely event of an accident.
- Must demonstrate to survive four successive accident conditions involving **free drop, puncture, fire, and submersion in water** before being certified.
HI-STORE Site-Specific License Timeline

- Application submitted to USNRC: March 2017
- Application accepted by USNRC: March 2018
- RAI #1 received 4 of 5 parts: various times in 2018
- Response to RAI #1 part 1 & half of 2: May & November 2018
- NRC ASLB Oral Arguments: January 23-24, 2019
- Response to RAI #1 part 2 remainder: January 31, 2019
- Response to RAI #1 part 3: March 30, 2019
- Response to RAI #1 part 4: March 15, 2019
- RAI #1 part 5 expected: August 2019
- RAI #2 (if needed): late 2019
- NRC completes review: Fall 2020
HI-STORE Construction Timeline

- Pending Agreement w/DoE and/or Nuclear Utilities and/or others:
  - ✔ Construction Start: 2021
  - ✔ Construction Complete: 2024
  - ✔ Accept First Shipment: 2024
Questions?