HI-STORE CISF:
A Consolidated Interim Storage Facility for Spent Nuclear Fuel and HLW

2018 National Cleanup Workshop
New Potential Disposition and Storage Pathways
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Topics

- Holtec International Corporate Overview
- HI-STORE: A Consolidated Interim Storage Facility for Spent Nuclear Fuel & High Level Waste (HLW)
- Opportunities and Challenges Associated with State, Regional and Local Jurisdictions
- Project Status and Path Forward
Holtec International Overview

- A vertically integrated turnkey supplier of goods and services to the power generation industry
  - Design & Engineering
  - Licensing
  - Fabrication
  - Critical Material Supply
  - Construction
  - Site Installation
  - Operations
- Three U.S. manufacturing plants (1.3M ft²)
- Financially strong with self-financed R&D: SMR-160, Decommissioning & Consolidated Interim Storage
- 115 nuclear plants worldwide: 64 domestic, 51 international
- 1,200 Holtec supplied systems are loaded: 141 systems in 21 campaigns scheduled for 2018
HI-STORE CISF Site

- Holtec & ELEA Team – Public Private Partnership (2016)
- 1,000 acres: Geologically stable, dry, elevated land
- Developed infrastructure: Electric, water, roads & rail
- Remote location:
  - ✓ 35 miles from nearest town
  - ✓ Midway between Carlsbad & Hobbs, NM
- Populace: Robust scientific & nuclear workforce
  - ✓ WIPP
  - ✓ URENCO
Initial Storage Capacity = 500 canisters (8,680 MTU)
Total Storage Capacity = 10,000 canisters (173,000 MTU)
Facility utilizes 500 of the 1,000 acres available
Operations could commence by 2023
HI-STORE CISF Utilizes the HI-STORM UMAX Technology

- Below-grade, passive, vertical, air-cooled
- Maximizes Safety & Security
- Store canisters up to:
  - ✔️ 75 ¾ in dia. / 213 in tall
- Any US-origin commercial nuclear fuel:
  - ✔️ Packaged in dry storage canisters
  - ✔️ Stored in fuel pools
- Operational Advantages
- No repackaging required
Strong Local Support

- Strong support:
  - Local communities
  - State & Local government
- Letters from the Cities of Carlsbad and Hobbs
- Letters from Counties of Eddy and Lea
- Letter from Governor of New Mexico
- Memorial Letters from House and Senate of New Mexico
- Resolution from the New Mexico State Radioactive & Hazardous Materials Committee
- Resolution from the City of Tatum
Continue Our Public Outreach

- Outreach Paths:
  - Township meetings
  - Chamber of Commerce
  - One on one with community leaders, elected officials, candidates, editorial boards

- Start with the Basics
  - What is the issue?
  - What is nuclear fuel?

- Holtec focus – safety, security & technology
- ELEA focus – economic development
What is the No. 1 Issue We Hear?

TRANSPORTATION

12-Axle Railcar for Ukraine Central Storage Project
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 of Spent Nuclear Fuel is Proven and Safe

- According to a report prepared by Oak Ridge National Laboratory and Argonne National Laboratory (2016):
  - More than **25,000 shipments of used nuclear** fuel have been made worldwide, shipping more than **87,000 Metric Tons of Fuel**.
  - All shipments were undertaken without any injury or loss of life

- According to the NRC, more than **1,300 used fuel shipments** have been completed safely in the United States over the past 35 years
  - Most of the used fuel was shipped by rail
  - All shipments were completed with no release of radioactivity

- The U.S. Navy reports that, over the past 60 years, it has completed nearly **850 shipments of used fuel** from naval propulsion reactors, covering **1.6 million transportation miles**.
  - All shipments were also completed with no release of radioactivity
HI-STORE Site-Specific License Timeline

- Application submitted to USNRC: March 2017
- Application accepted by USNRC: March 2018
- NRC Public Meetings in DC: April 25, 2018
- 5 NRC Public Meetings in NM: April – May 2018
- RAI #1 Expected: Sep 2018
- RAI #2 (if needed): February 2019
- NRC Completes Review: July 2020
- Pending Agreement w/DoE and/or Nuclear Utilities:
  - Construction Start: 2020
  - Construction Complete: 2023
  - Accept First Shipment: 2023
Questions?
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