



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

**2018 National Cleanup Workshop
New Potential Disposition and Storage Pathways**

**By: Myron M. Kaczmarzsky
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September 13, 2018

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



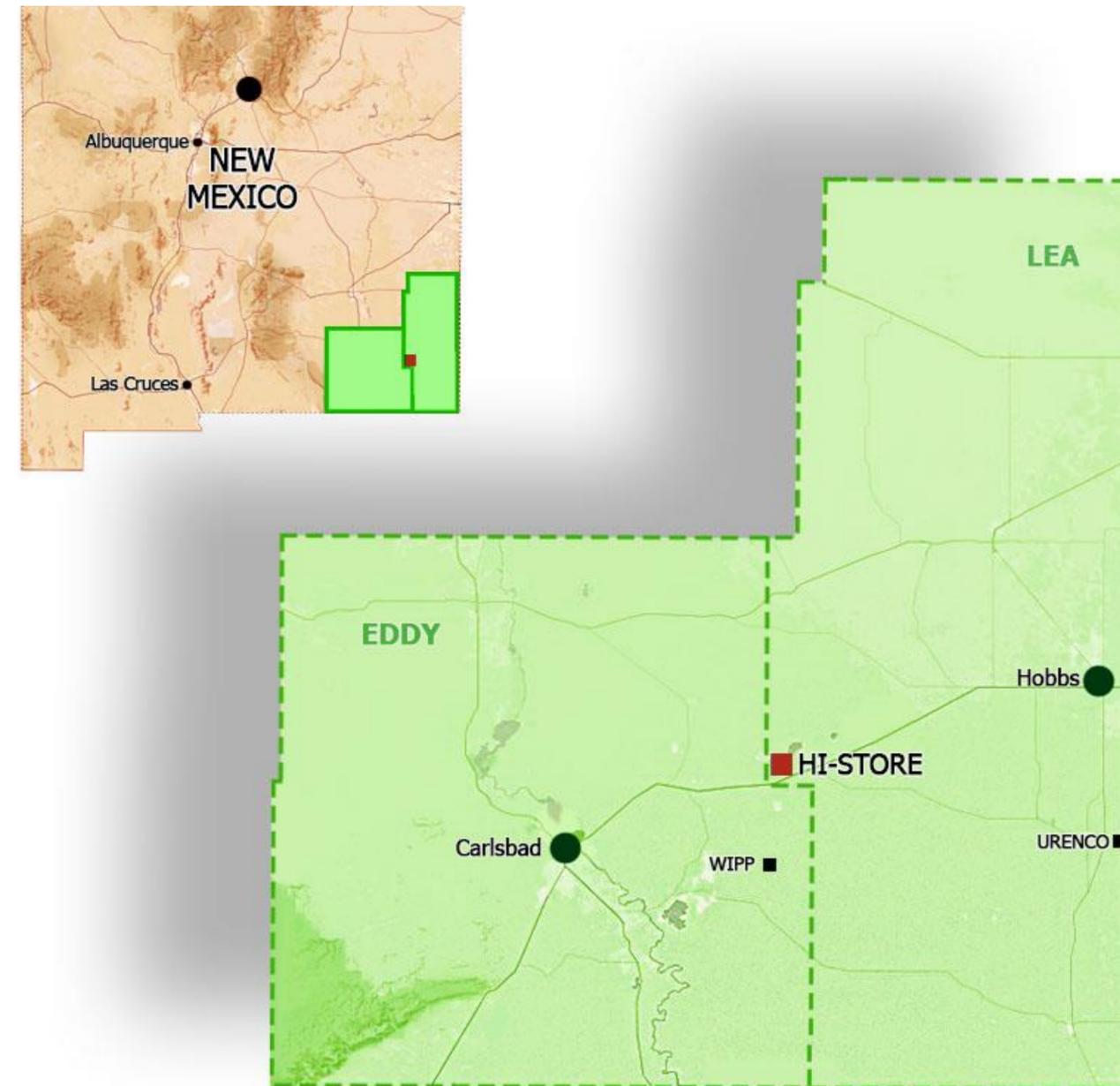
Holtec International Overview

- 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

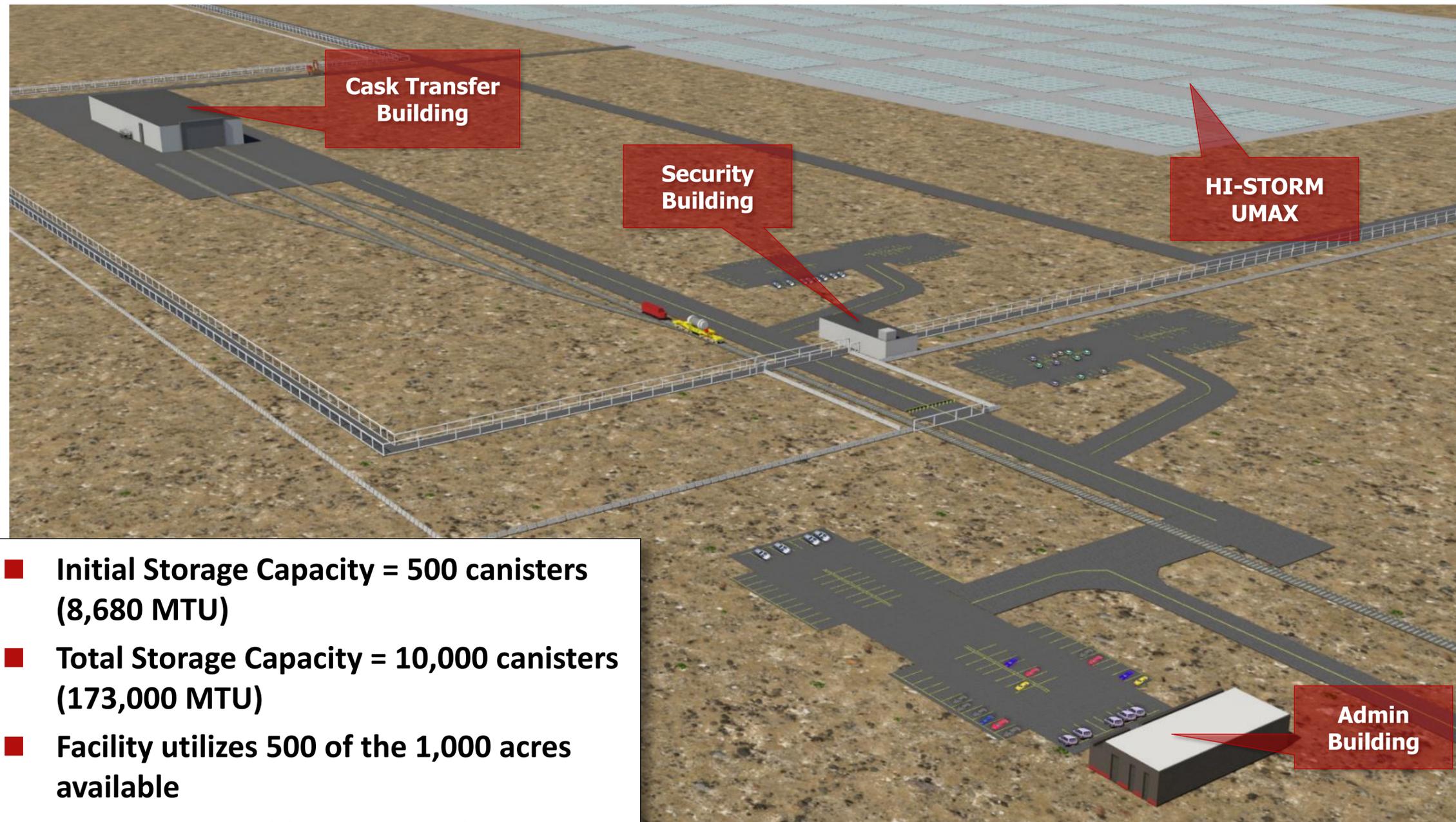


HI-STORE CISF Site

- 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



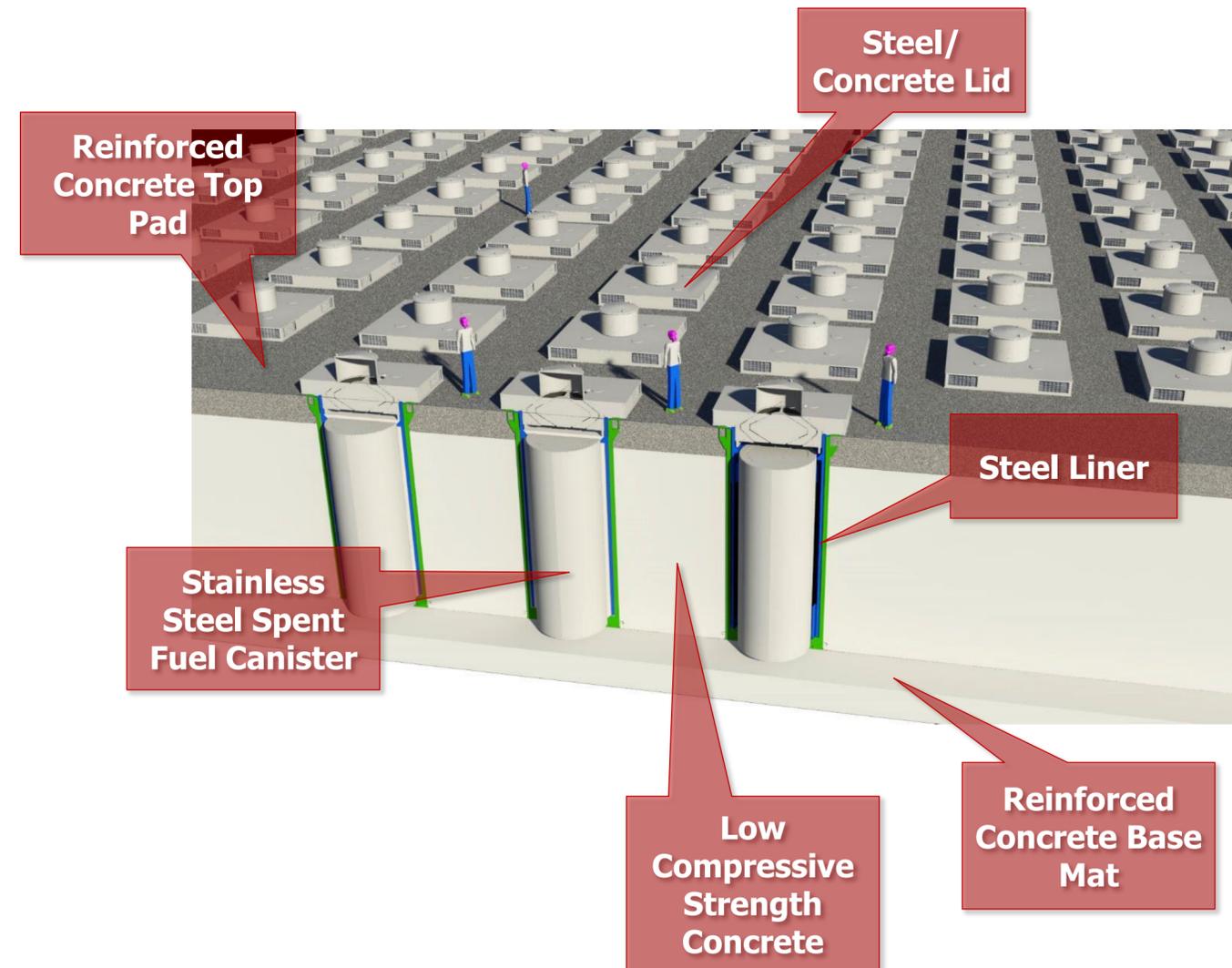
Site Layout



- 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

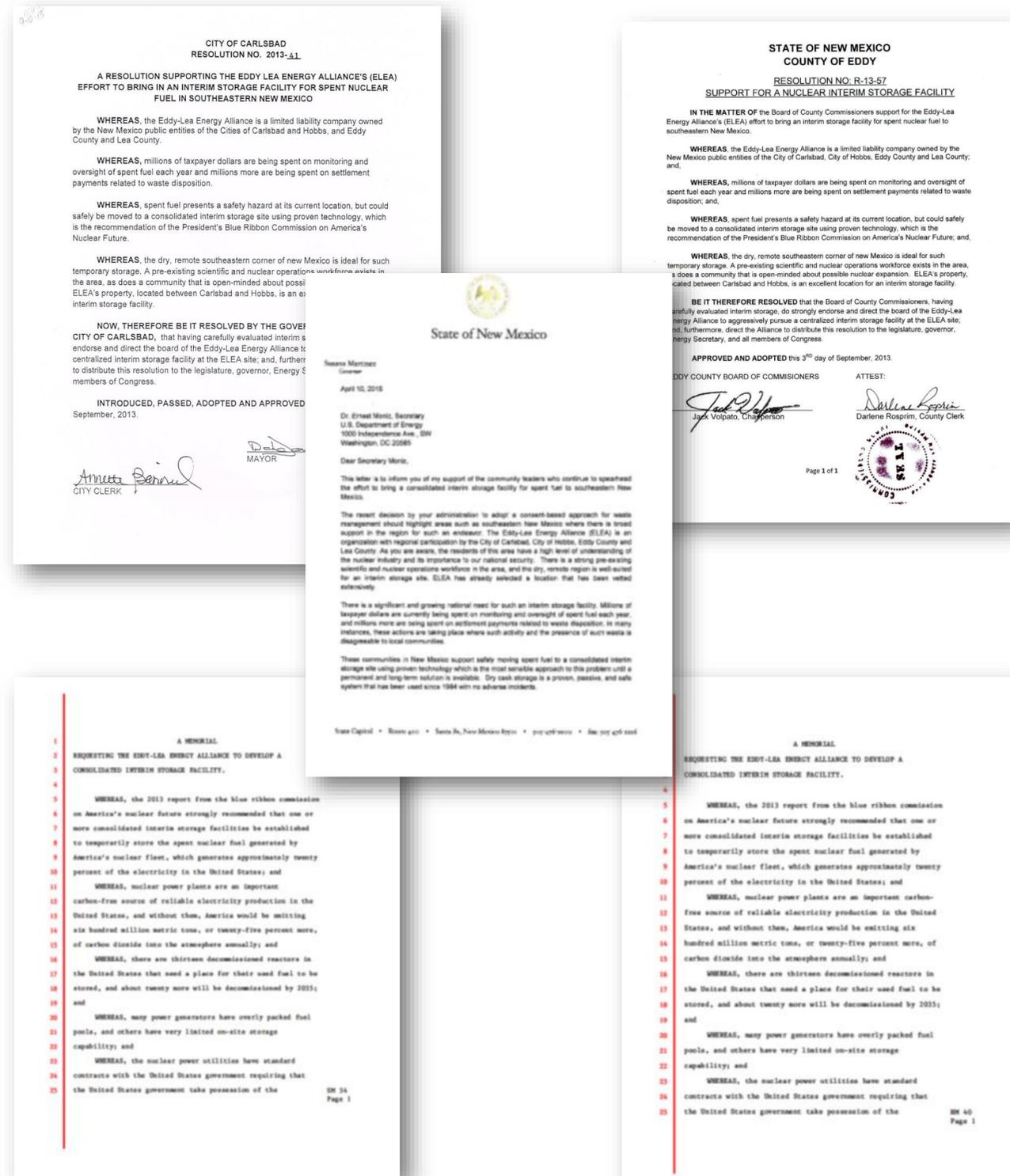
HI-STORE CISF Utilizes the HI-STORM UMAX Technology

- 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



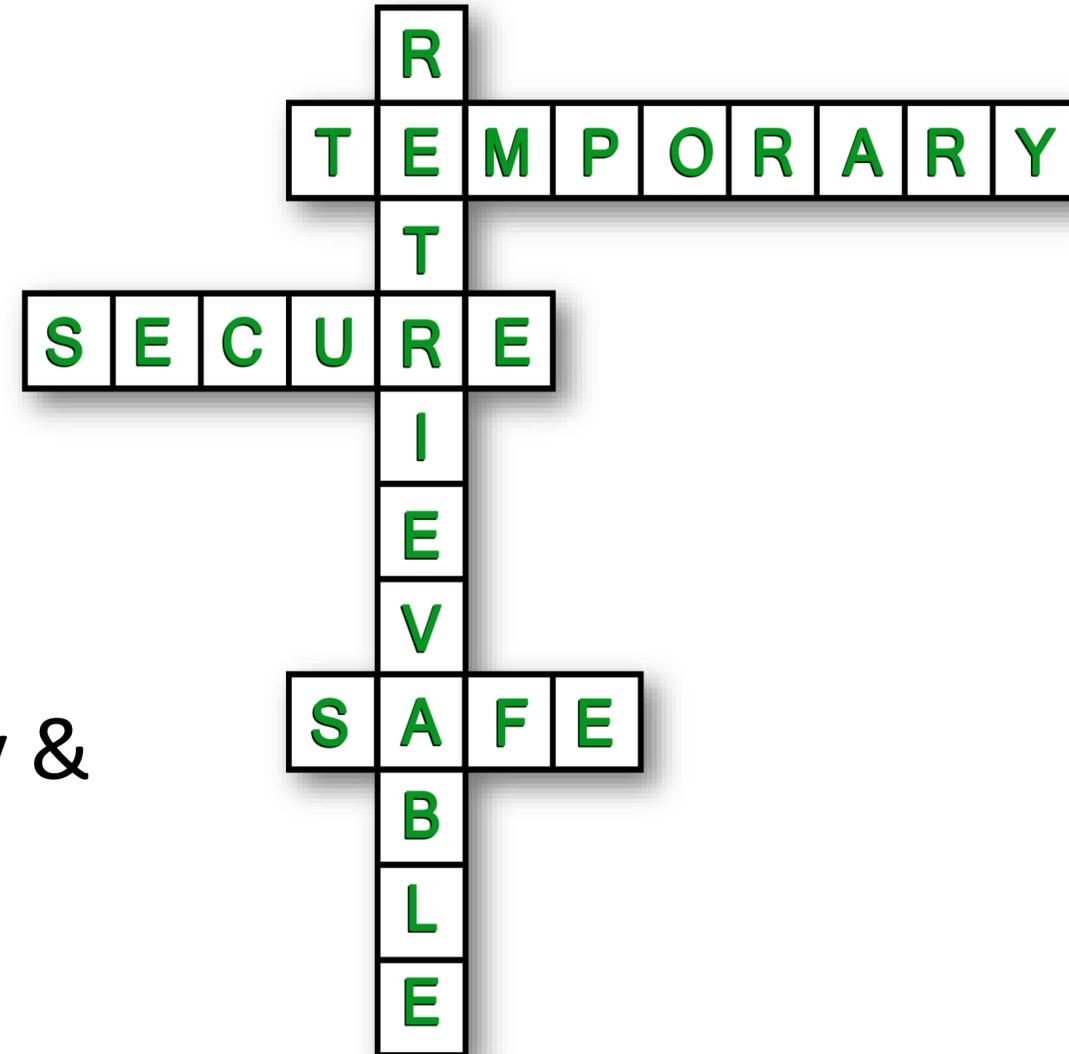
Strong Local Support

- 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?

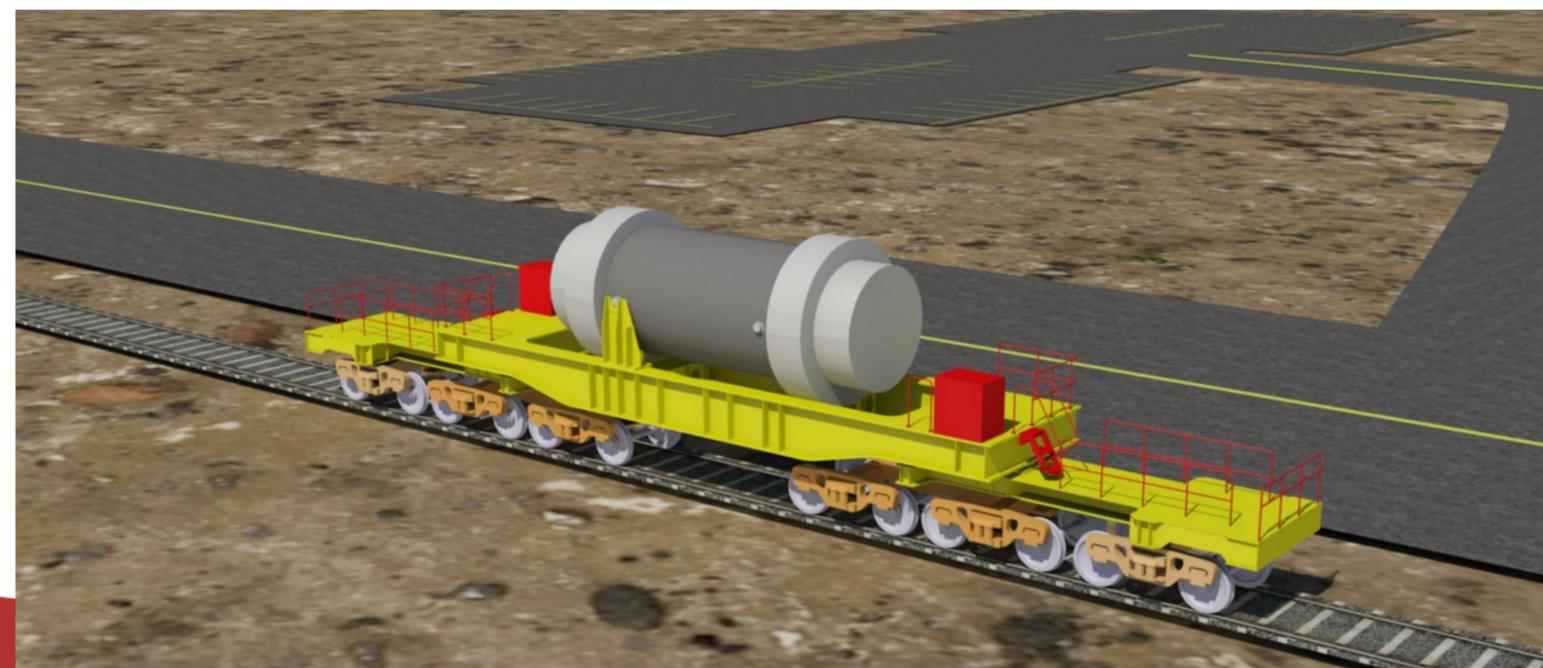
TRANSPORTATION



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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