

Holtec International – Central Interim Storage Facility for Spent Fuel and HLW (HI-STORE)

NRC DSFM REG CON 2015 - November 19, 2015

Dr. Stefan Anton, Vice President of Engineering
Holtec International

HI-STORE

- Project Overview
 - Partnership and Site Location
 - Technology
 - Site Layout
 - Licensing
 - Schedule
- Holtec Experience
 - PFS
 - Humboldt Bay
 - Trojan
 - Callaway
 - Ukraine Central Storage Facility



Below-grade Storage at Humboldt Bay
Power Plant, in Eureka, CA

Partnership

- Partnership between Holtec and ELEA (Eddy-Lea Energy Alliance) to license, construct and operate a central interim storage facility
- ELEA is an Alliance of the Cities of Carlsbad & Hobbs and the Counties of Eddy & Lea

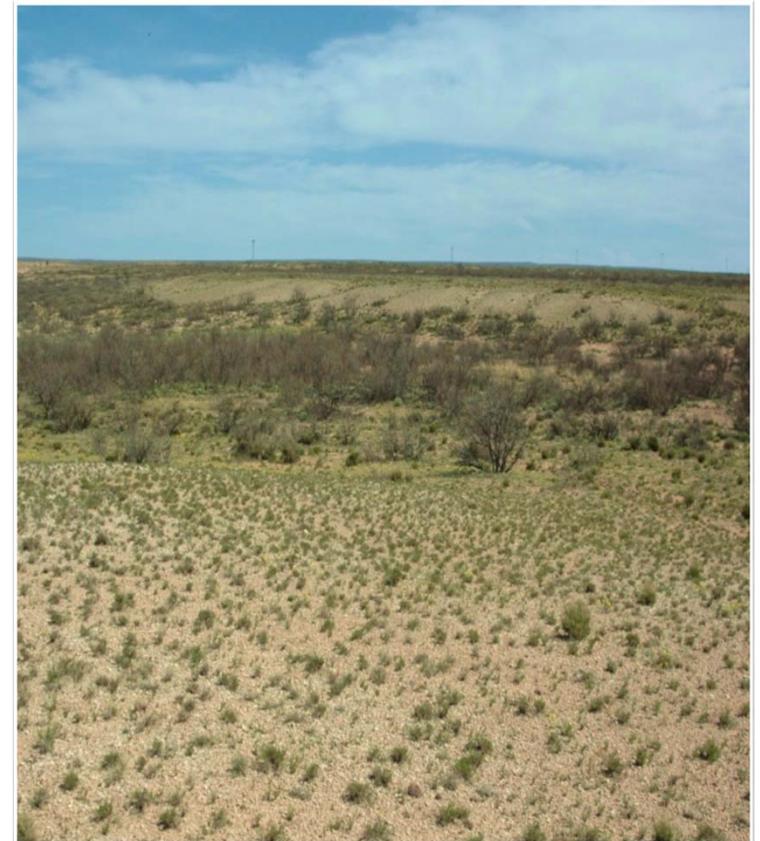


Community-Backed Solutions to National Problems

The ELEA Site

- ELEA purchased 1,000 acres of land approximately halfway between Carlsbad and Hobbs, N.M.
- Land studied extensively during Global Nuclear Energy Partnership (GNEP) process
- Remote location, 35 miles from nearest population
- Geologically stable
- Dry area
- Infrastructure present, including rail
- Preexisting robust scientific and nuclear operations workforce
- Excellent location for future repository nearby
- **STRONG CONSENT FROM AREA**

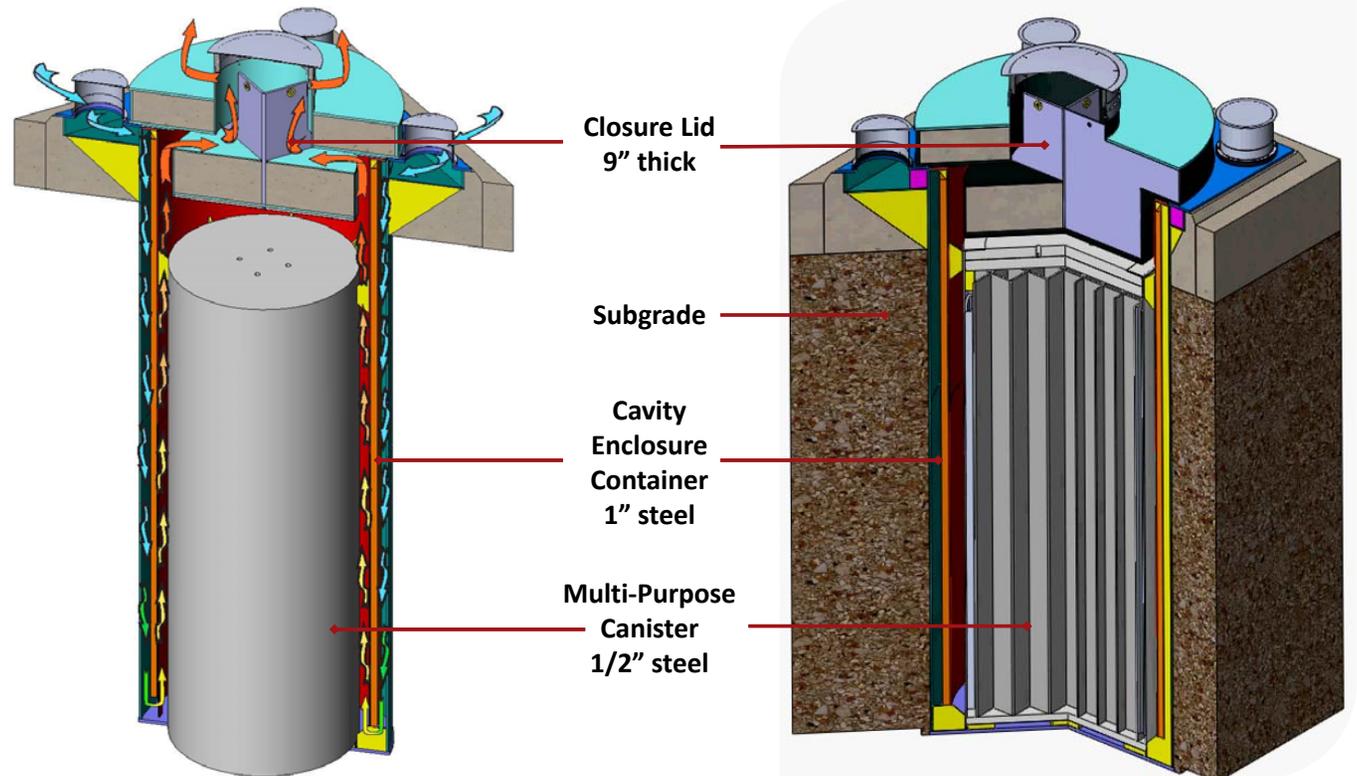
SE New Mexico's Nuclear Corridor



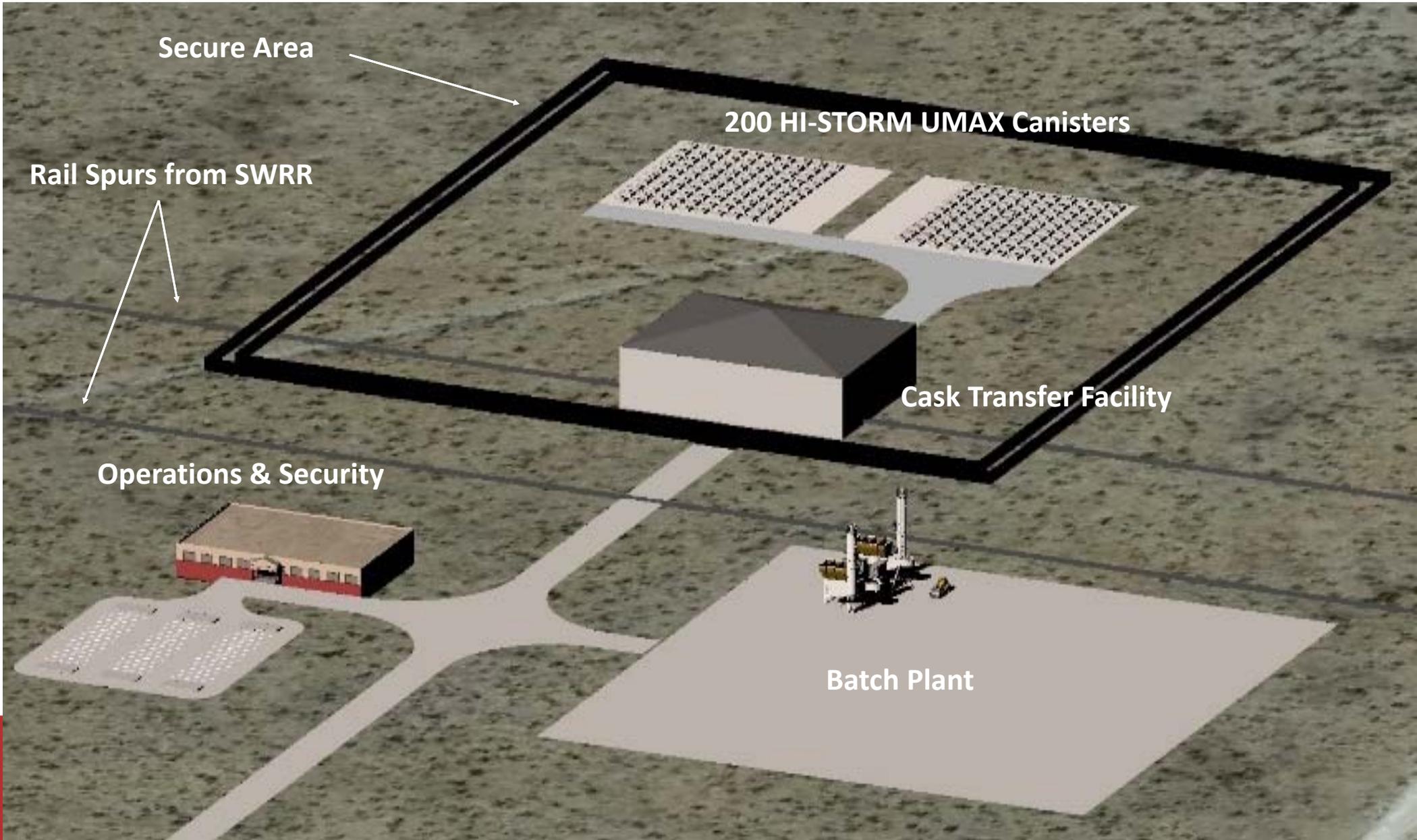
HI-STORM UMAX

Holtec's Belowgrade Dry Storage Technology

- Canister is entirely below grade
- Licensed to store canisters up to 75 ¾ inches in diameter, and up to 213 inches tall

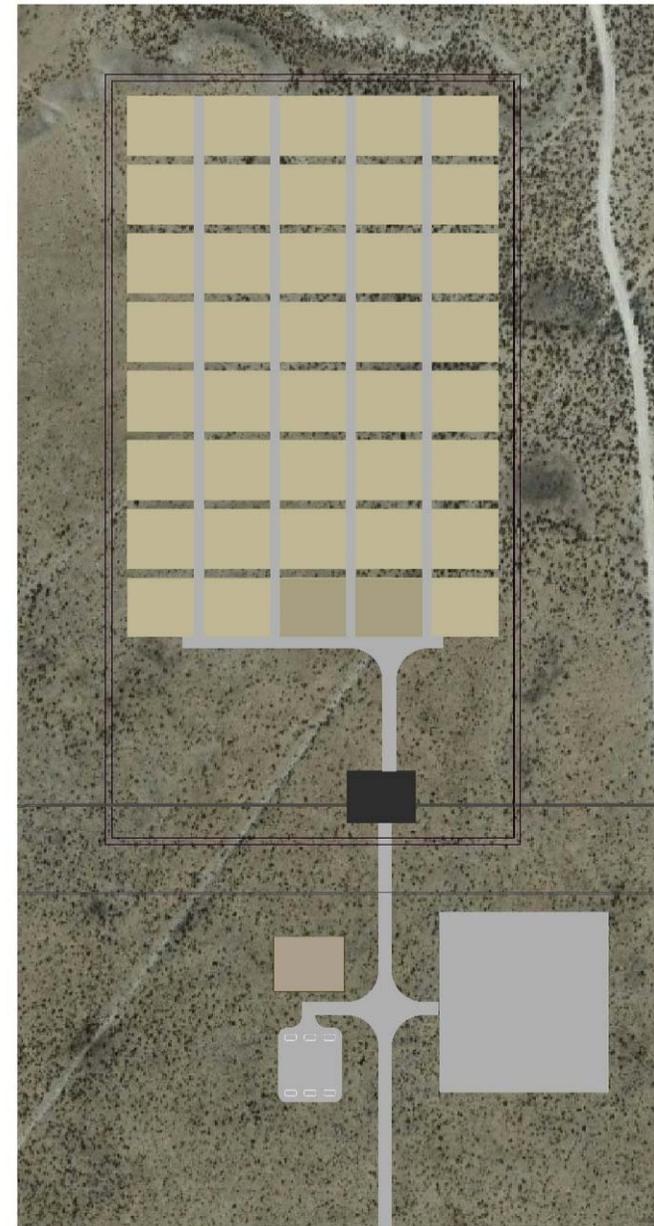


Site Layout - Phase 1 Construction



Site Layout

- Final configuration provides space for 4000 canisters, requiring approximately 130 of the 1000 acres



Two Part Approach to Licensing

- Amend HI-STORM UMAX General License:
 - Update General License for canisters from shutdown / decommissioned plants – Priority Waste
 - Add additional Holtec canisters
 - Future: Update General License for all canisters with SNF or HLW

- License Holtec Facility under 10 CFR 72 site-specific license
 - Initial application will request 500 canisters - Priority Waste
 - Future amendments for additional canisters up to 4000

Project Timeline



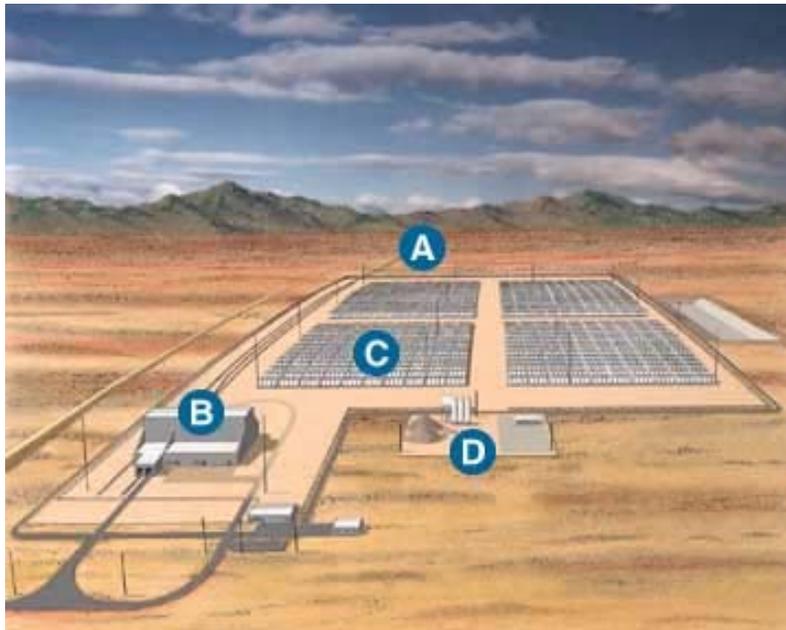
Phases	Activities	2015	2016	2017	2018	2019	2020
Pre-Application	LOI Issued to NRC – 3 Aug 2015	◆					
	First NRC Pre-Application Meeting – Dec 2015		◆				
	Second NRC Pre-Application Meeting – Mar 2016		◆				
Licensing	Generic UMAX Application Submittal – Jun 2016		◆				
	Generic UMAX Application NRC Review		—	—	—		
	Generic UMAX Amendment Effective – Dec 2018				◆		
	Submit Site-Specific License Application– Jun 2016		◆				
	RSI Period		—	—			
	License Application Accepted for Review – Sept. 2016		◆				
	Technical Review / RAI Period		—	—	—		
	SER Issued – October 2018				◆		
	License Application Approved – June 2019					◆	
	Future License Amendment Submitted						◆
Construction	Begin Construction Design			◆			
	Begin Detailed Design			—	—		
	Begin Construction – September 2019					◆	
	Construction Phase 1					—	—
	Begin Operations/Receipt of first UNF Shipments						◆

On Track for License Application Submittal in June 2016

Holtec's Relevant Experience

- Private Fuelstorage (PFS)
- Humboldt Bay
- Trojan
- Callaway UMAX
- Ukraine Central Storage Facility

Private Fuelstorage (PFS)



Rendering of Private Fuel Storage

- Holtec gained valuable experience by supporting the licensing of PFS
- Holtec's above ground storage system was approved for use
- Over 4,000 systems were expected to be used
- Demonstrated integrity even considering aircraft impact (F-16)

Belowgrade Dry Storage at Humboldt Bay Site

- 6 transportable Holtec HI-STAR HB systems stored on-site
 - Each canister is stored completely below grade
- 390 spent BWR fuel assemblies stored on-site



Trojan ISFSI

- Hybrid dry storage system :
 - VSC-24 Overpack
 - Holtec MPC-24E/EF
- Site Specific License
- Holtec designed ancillary equipment to work with the hybrid system
- Holtec loaded 34 casks in 9 months

HI-STORM UMAX (Callaway)– CECs in Storage at HMD



HI-STORM UMAX (Callaway) – CEC Placement



HI-STORM UMAX (Callaway)– Completed ISFSI



Holtec has Interim Storage Experience - Ukraine's Central Storage Facility

- Holtec is under contract with Ukraine's national utility to establish (turnkey) a Central Storage Facility for Ukraine's Reactors
- Expected Completion date: 2017
- Savings to Ukraine's treasury: over \$1 billion in six years of operation



HI-STORE Summary

- Holtec has the knowledge, technology and experience for the projected Central Interim Storage Facility in New Mexico
- Under the partnership with ELEA, a 1000 acre area is available for the facility
- Licensing effort is well underway for submittal to USNRC in June 2016

Thank You!



Corporate Technology Center
One Holtec Drive
Marlton, NJ 08053

Tel: (856) 797-0900
www.holtec.com