



HI-STORE CISF: A Consolidated Interim Storage Facility for Used Nuclear Fuel & HLW

Presentation To:
Legislative Rural & Economic Development Committee
Las Cruces

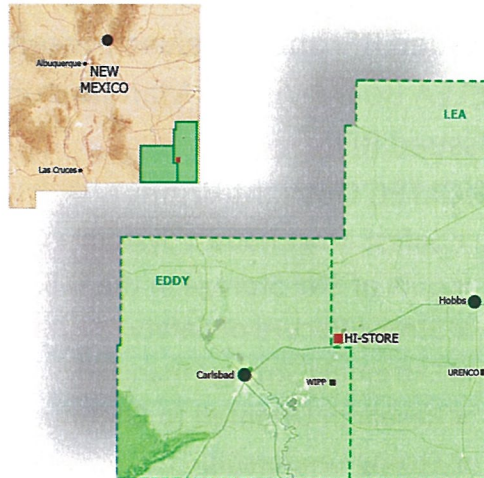
By: John Heaton
Vice Chair Eddy-Lea Energy Alliance
October 11, 2018



WHO IS EDDY-LEA ENERGY ALLIANCE



- JPA Between Carlsbad, Hobbs, Eddy & Lea Counties
- Formed For Joint Economic Development Efforts
- Bought 1,000 acres: Geologically stable, dry, elevated land
- BRC Strongly Recommending CIS
- Thoroughly Characterized
- Electric, water, roads & rail Access
- Remote location:
 - ✓ 35 miles from nearest town
 - ✓ Midway between Carlsbad & Hobbs, NM
- Robust scientific & nuclear workforce
 - ✓ WIPP
 - ✓ URENCO

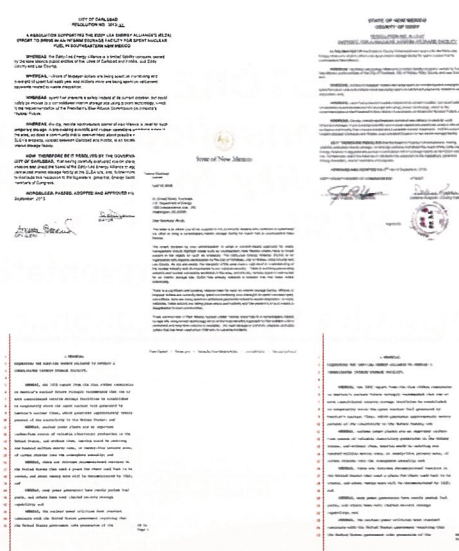




Strong Local Support



- 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
- New Mexico State Radioactive & Hazardous Materials Committee
- Letter from City of Tatum



WHY HOLTEC?



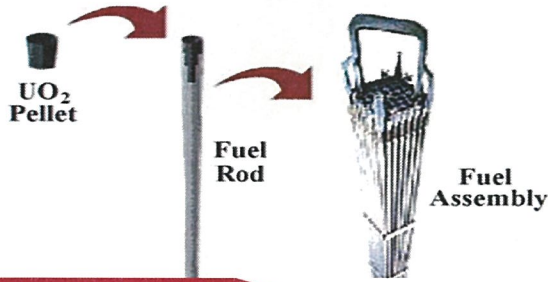
- Issued RFI and Received Presentations from Majors
- ELEA Board Visited Manufacturing, Storage Systems, Consulted Experts
- Issued RFP
- HOLTEC Outright Winner
 - ✓ Safest Most Robust System – Only System Approved for San Andres Fault
 - ✓ 60% of SNF Storage in the U.S.
 - ✓ Strong Record of Safety
 - ✓ Extremely Strong Financially
 - ✓ Research Oriented to Continue to Advance
 - ✓ Strong Leadership



WHAT IS NUCLEAR FUEL



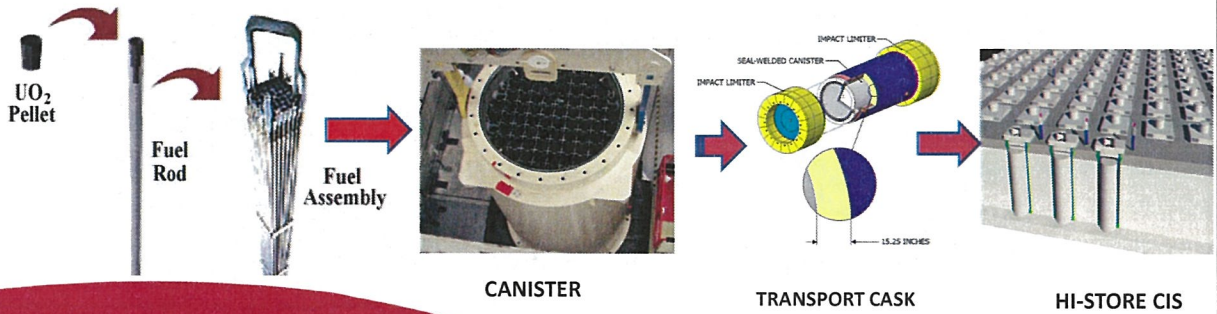
- Uranium 235 is Enriched to About 5%
- It Is Incorporated Into a Ceramic Pellet
- Placed into Zirconium Metal Tube about 12 feet long & welded shut
- Then Made into a Bundle of Fuel Rods Called an Assembly
- They Are Moved into The Reactor Core Where Fission Occurs



SHIPPING AND STORAGE (FOUR) LAYERS OF CONTAINMENT

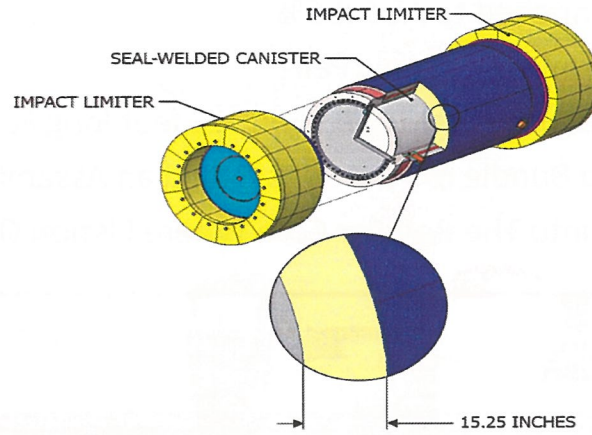


- FIRST: FUEL CONTAINING THE URANIUM IS A SOLID CERAMIC
- SECOND: FUEL ROD IS ZIRCONIUM METAL
- THIRD: CANISTER MADE OF STAINLESS STEEL CONTAINS USED FUEL
- FORTH: TRANSPORT CASK OR SUB-SURFACE STORAGE FACILITY

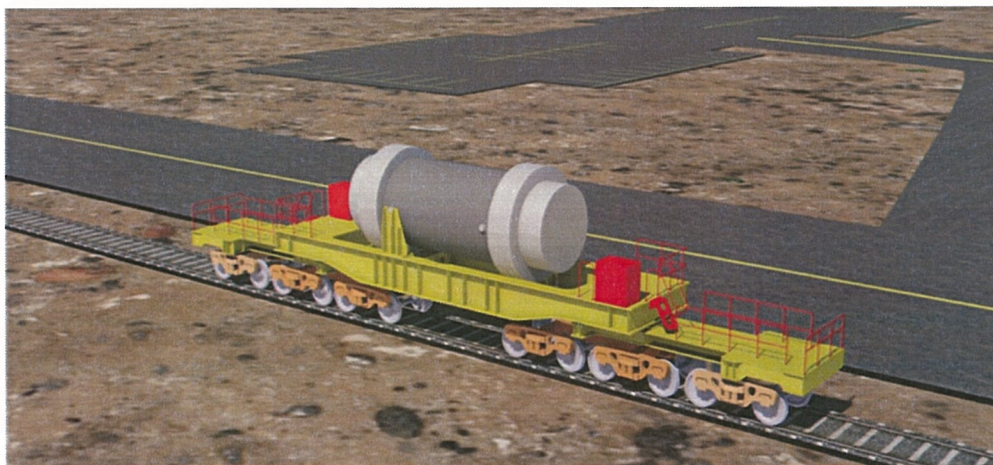





HOLTEC 190 TRANSPORTATION CASK




TRANSPORTATION SYSTEM



EDDY - LEA
ENERGY ALLIANCE, LLC.




HOW RAILROADS WORK




- 92% OF RAIL IS PRIVATELY OWNED
 - DOT, NRC, FRA MAKE THE ROUTE DETERMINATIONS
 - ✓ CHOOSE BEST RAIL, SAFEST ROUTES TO DESTINATION
 - ✓ CAREFULLY INSPECTED BEFORE DEPARTING TO MEET STANDARDS
 - DEDICATED TRAINS WITH 7 – 10 CARS
 - ✓ BUFFER CAR BETWEEN ENGINE & TRANSPORT CARS & SECURITY CAR
 - ✓ WILL HAVE A SECURITY CAR WITH GUARDS AND GUNS
 - ✓ SATELLITE TRACKED AND GIVEN RAIL PREFERENCE TO DESTINATION
 - SLOWER SPEED ON ALL CLASSES OF RAIL FOR SAFETY (50 MP MAX)
 - WEIGHT IS DISTRIBUTED BY ADDING AXLES TO CARS
 - LOCOMOTIVES WEIGH THE SAME AS THE LOADED RAIL CAR

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USED FUEL TRANSPORT HISTORY



- 1,300 Used Fuel Transports by Utilities Have Occurred in U.S. Without Incident or Release
- 850 Naval Fuel Transports by Navy Without Incident or Release
- 1,000s of Warhead Shipments Between Kirkland & Pantex
- 30,000 World Wide Transport Without Incident or Release
- WIPP 12,000 Shipments Without Release
- WIPP 14 Million Loaded Miles (moon and back 28 times)
- Sandia Does Cask Integrity Testing
- Casks are Virtually Indestructible

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HI-STORE CONSTRUCTION Excavation

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CEC Placement

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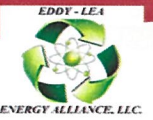


CLSM Pour – Controlled Low Strength Material

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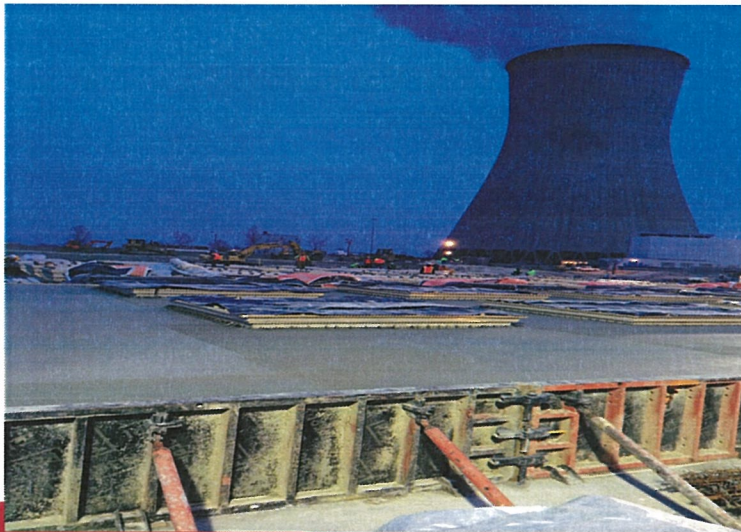


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Upper Slab Pours

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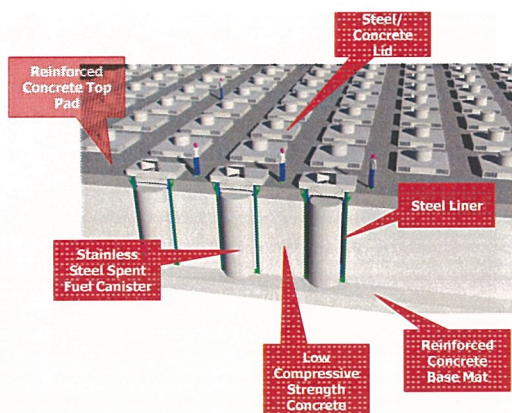




HI-STORE CISF Utilizes the HI-STORM UMAX Technology



- 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 approved by NRC:
 - ✓ Packaged in dry storage canisters
 - ✓ Stored in fuel pools
- Operational Advantages
- No repackaging required



WHAT ARE STATE & AREA BENEFITS?



- ❑ INCENTIVE PAYMENTS:
 - ❑ INCENTIVE PAYMENT IS TARGET OF GROSS REVENUE
 - ❑ ESTIMATE 25% LOCAL; 75% STATE FOR ROADS
 - ❑ \$2.4 BILLION CAPITAL INVESTMENT
 - ❑ 215 HIGHLY PAID JOBS
 - ✓ 100 CONSTRUCTION WORKER FOR 10 YEARS
 - ✓ 100 TECHNICAL RAD TRAINED MATERIAL HANDLERS & SECURITY FORCE
 - 10 RAIL CAR AND TRANSPORT CASK MAINTENANCE
 - 5 CENTER OF EXCELLENCE FOR HOLTEC WORLD WIDE TRAINING
 - ✓ 15-30 SILO CONSTRUCTION WELDERS AND FABRICATORS
 - ✓ OTHER POTENTIAL SPIN-OFFS (Research: Aging, Science, Heat Transfer, etc)

HI-STORE Site-Specific License Timeline



- Application submitted to USNRC: March 2017
- Application accepted by USNRC: March 2018
- NRC public meetings (phone & in NM): April – May 2018
- RAI #1 received (partial): September 2018
- Adjudicatory process closed: September 2018
- Holtec answers to petitions submitted: October 2018
- RAI #2 (if needed): February 2019
- Draft EIS: June 2019?
- Final EIS: Early 2020
- NRC completes review: July 2020
- Construction start: 2020
- Accept First Shipment: 2023



FINAL THOUGHTS



- THERE WILL BE A CONSOLIDATED INTERIM STORAGE FACILITY!!
- YOU CAN HAVE IT IN NEW MEXICO OR TEXAS?
- IF IN TEXAS:
 - ✓ EUNICE 2 MILES AWAY, HOBBS 15 MILES & JAL 15 MILES
 - ✓ RAIL ROUTE THROUGH JAL & EUNICE
 - ✓ NEW MEXICO HAS ALL THE EMERGENCY RESPONSE RESPONSIBILITY 37 miles to Andrews
 - ✓ **TEXAS GETS ALL THE BENEFITS & NEW MEXICO HAS ALL RESPONSIBILITY**
- WIPP & URENCO HAVE BEEN GREAT PROJECTS FOR OUR AREA
- RURAL AREAS HAVE TO FIND THEIR NICHE
- RURAL AREAS DON'T TELL OTHERS WHAT BUSINESS TO PURSUE
- NO INTERACTION WITH WATER OR O&G INDUSTRY
- VERY BENIGN – NO PUMPS – NO MOVING PARTS – GETS COOLER EVERY DAY.



THANK YOU & Questions?

