U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

Looking to the Future as EM Marks 30 Year Record of Results

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National Cleanup Workshop
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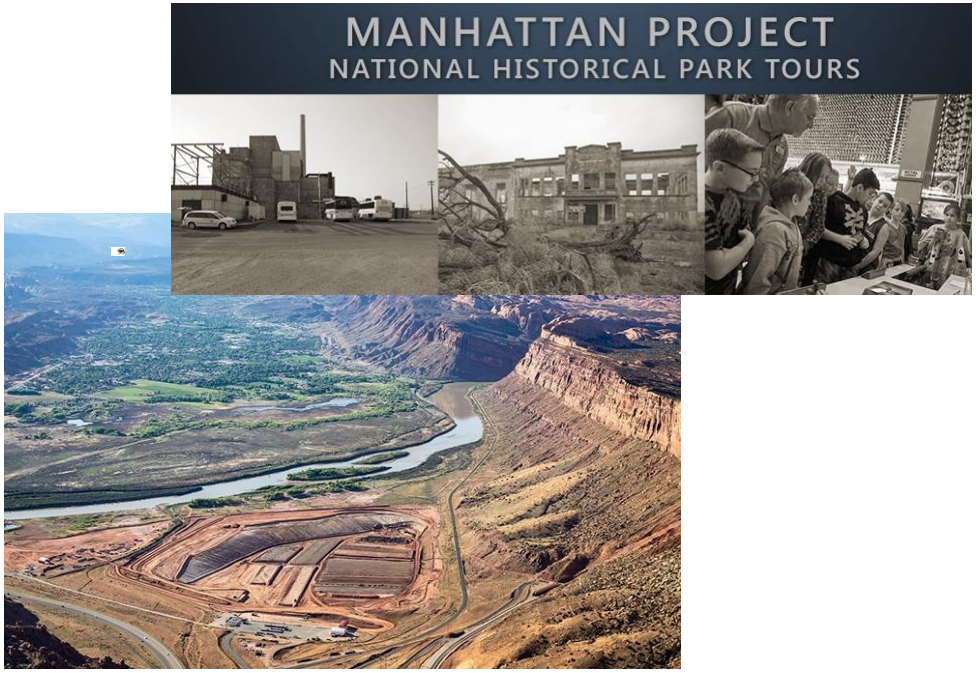
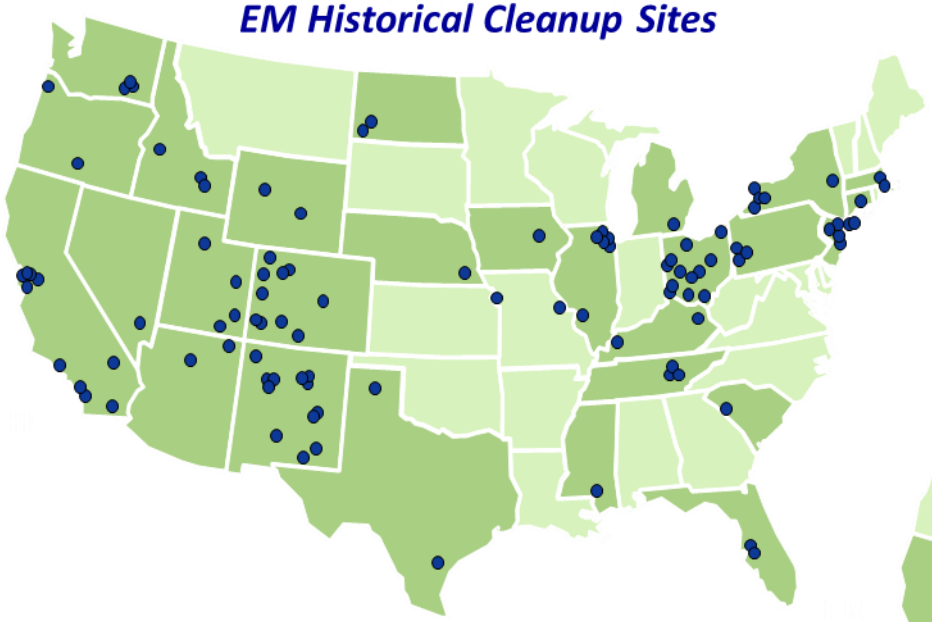
Completing Cleanup, Paving the Way for the Future



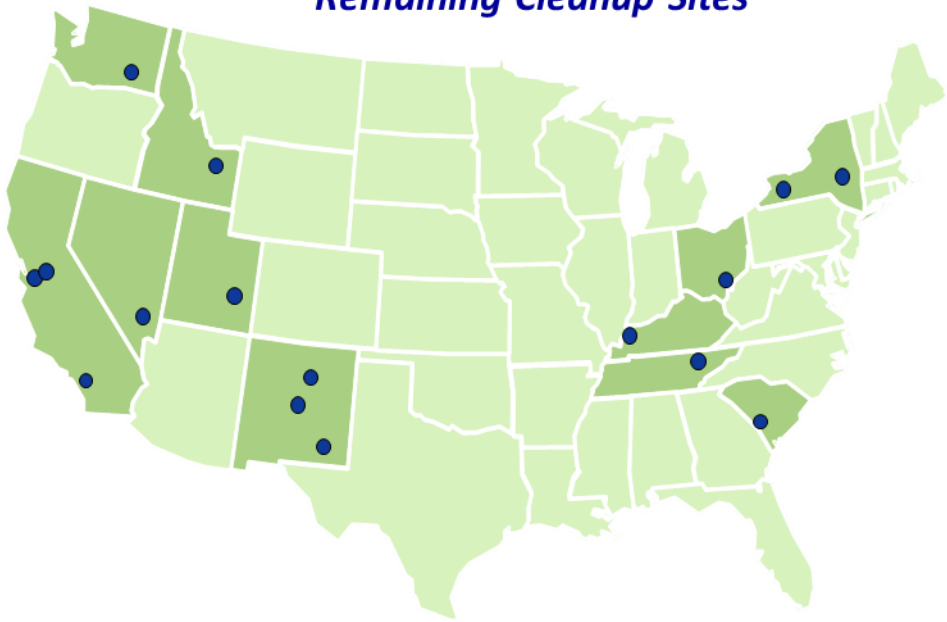
The EM Complex Today

EM Historical Cleanup Sites



DOE has completed its cleanup mission at 91 of the 107 major nuclear weapons and nuclear research sites.

Remaining Cleanup Sites



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Fernald - From Nuclear Waste Site to Wetlands Preserve

Starting Point:

- 1,065 acre site
- 14,000 cubic yards LLW
- 790,000 tons LLW
- 2.2 million cubic yards contaminated soil
- 31 million net pounds uranium product

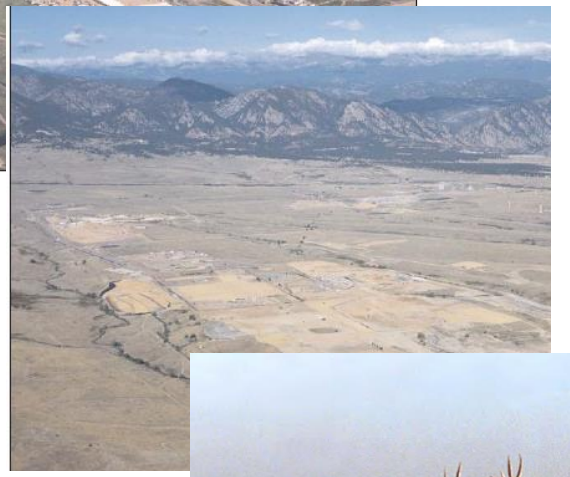
Outcome:

- Competed 2006 at $4.4 billion – under budget, ahead of schedule
- Dismantled 323 buildings including major uranium complexes
- Excavated and shipped 1 million tons of waste
- Treated 225-acre plume of uranium contamination in aquifer

Impact:

- Eliminated world's largest source of radon gas
- Wetlands preserve open to public
- Home to diverse wildlife

Rocky Flats – From Nuclear Waste Site to Wildlife Refuge



Starting Point:

- Legal cleanup agreement
- 6,500 acre site
- 800 buildings
- 21 tons of weapons grade materials
- 100 metric tons plutonium

Outcome:

- Ahead of schedule, under budget, no major injuries
- Stabilized, consolidated waste offsite
- D&D of facilities
- Soil and groundwater remediation

Impact:

- National Wildlife Refuge
- Closure contract lessons
- Technological innovations

Mound – From Weapons Production to Business Park

Starting Point

- One of the first atomic energy related facilities constructed after World War II
- 20,000 cubic meters of soil and debris

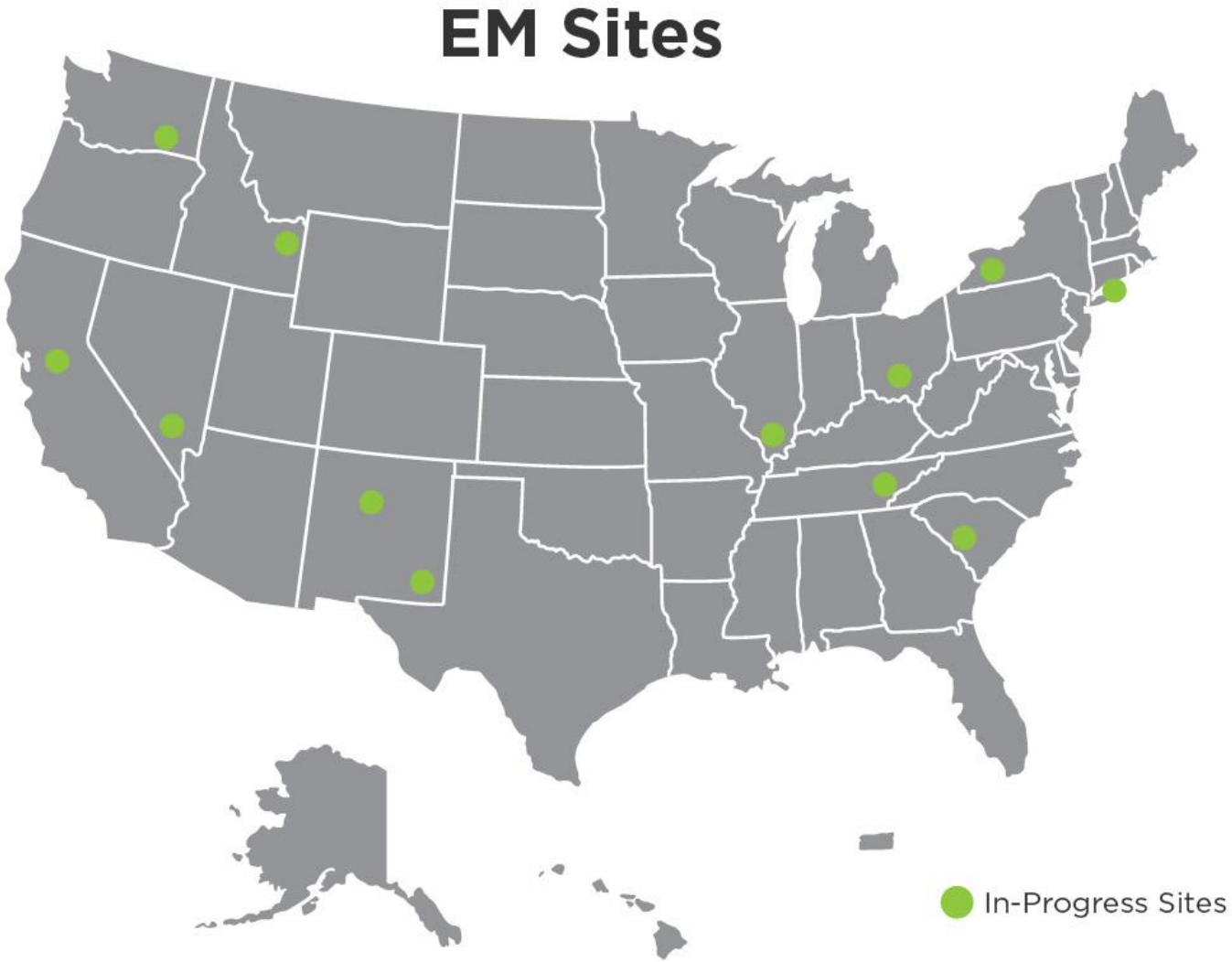
Outcome

- Cleanup completed in 2010
- More than 800,000 square feet of floor space demolished
- More than 6,000 trainloads and truckloads of waste
- 24 million cubic feet of soil waste removed

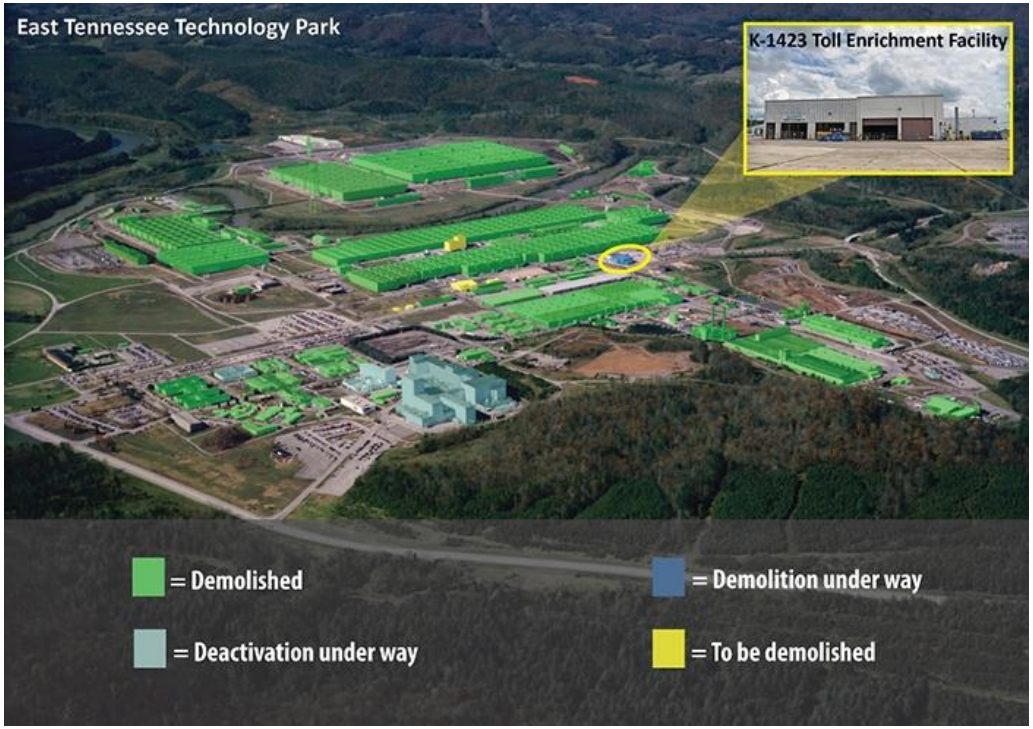
Impact

- Transitioned for reuse as Mound Business Park
- Providing for private sector job growth
- Boosting economic development in the area.

What the EM Complex Could Look Like in 2029



Countdown to Vision 2020 at Oak Ridge



ETTP: Past, Present, Future

Outfall 200 Mercury Treatment Facility

West Valley: 30 Years of Firsts

HLW Canisters in Dry Storage Casks

HLW Canister stored on site in Dry Cask Storage (5 canisiters/cask)

Historic Aspect:

First use of Dry Cask Storage of High-Level Waste in the country

Weather protective cover installed

Historic Aspect:

First Demolition of Full-Scale Vitrification Facility in the country

Spent Nuclear Fuel Shipment
West Valley Demonstration Project

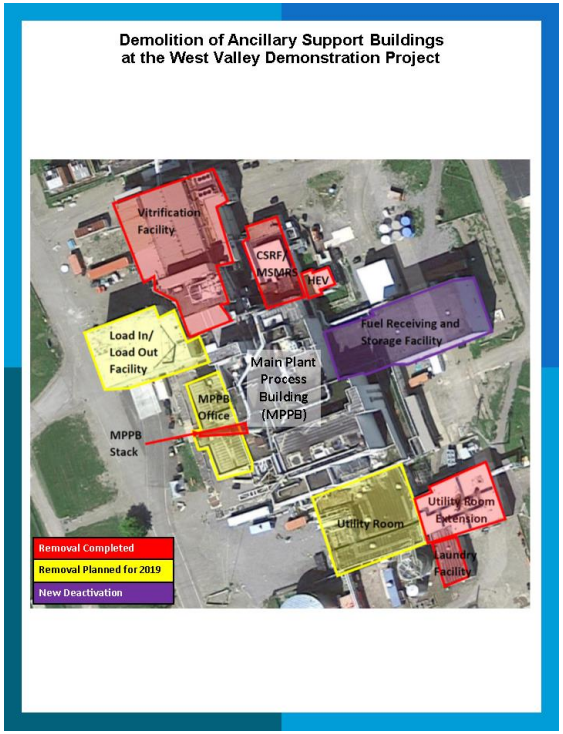
Spent Nuclear Fuel in Storage Pool

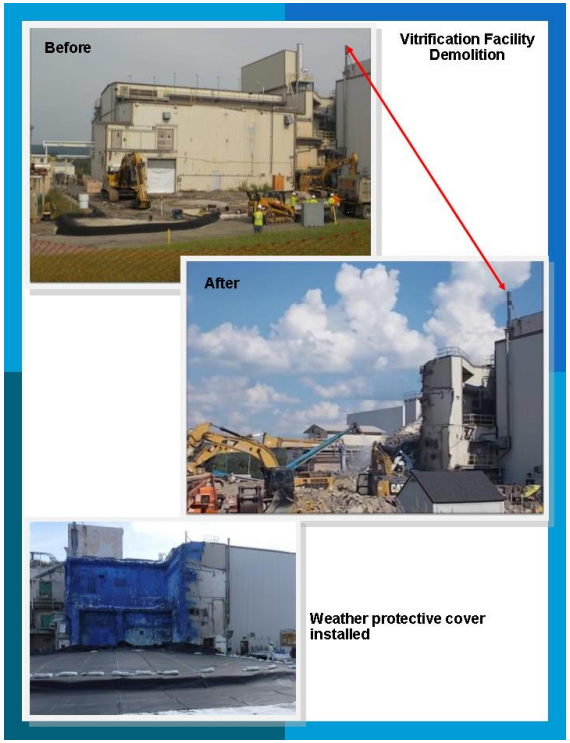
Train Shipment of West Valley Spent Nuclear Fuel

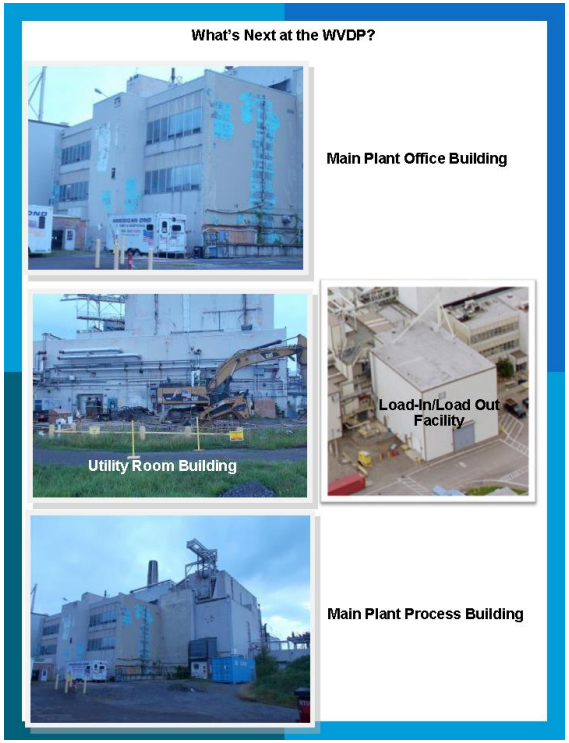
Historic Aspect:

Largest Shipment of Spent Nuclear Fuel in the country, and demonstration of duel purpose casks

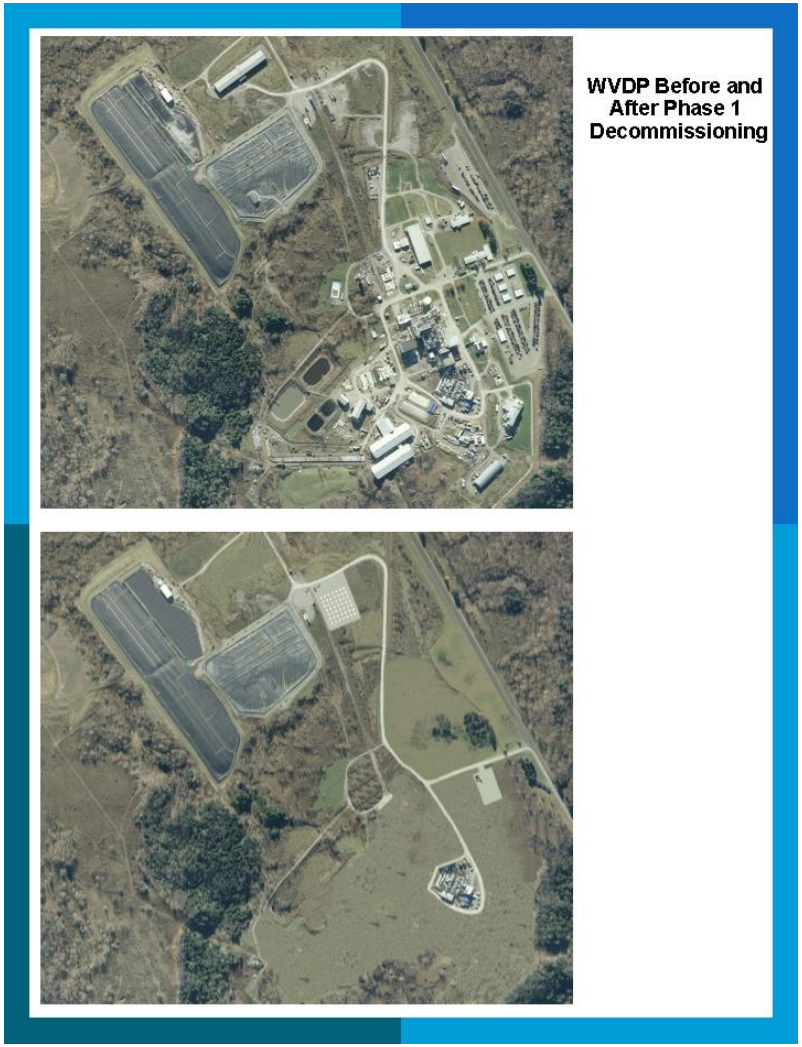
Recent Progress at West Valley



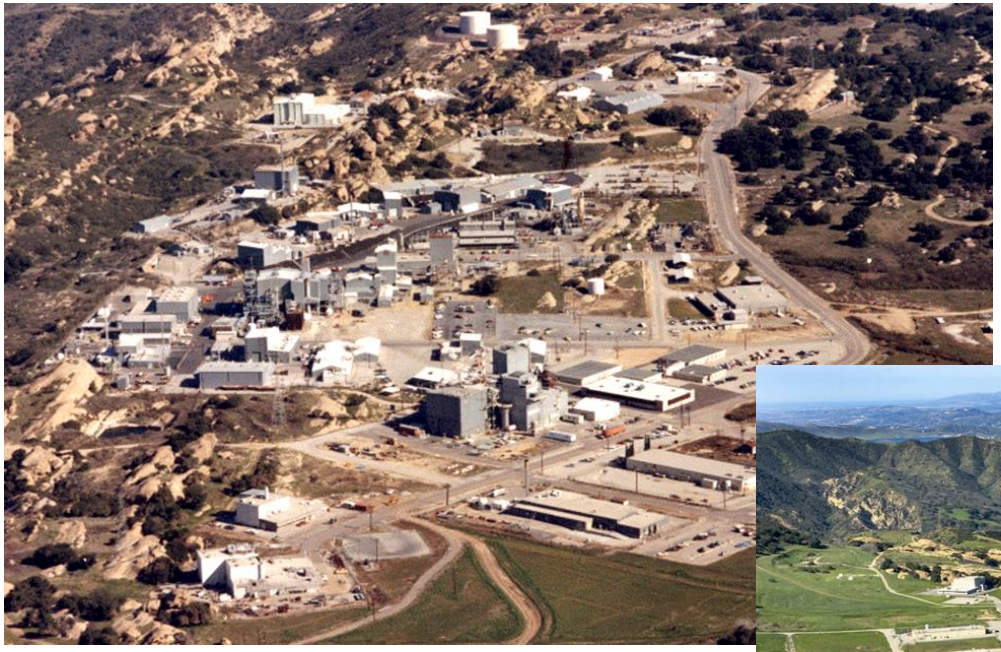


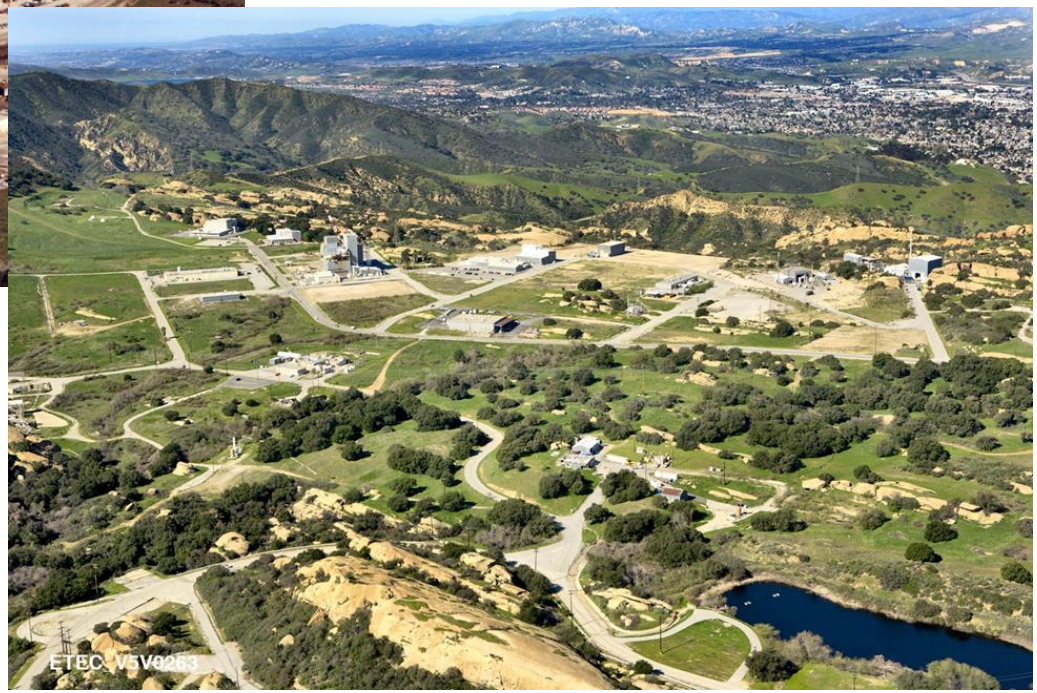


West Valley: A Look Toward 2029

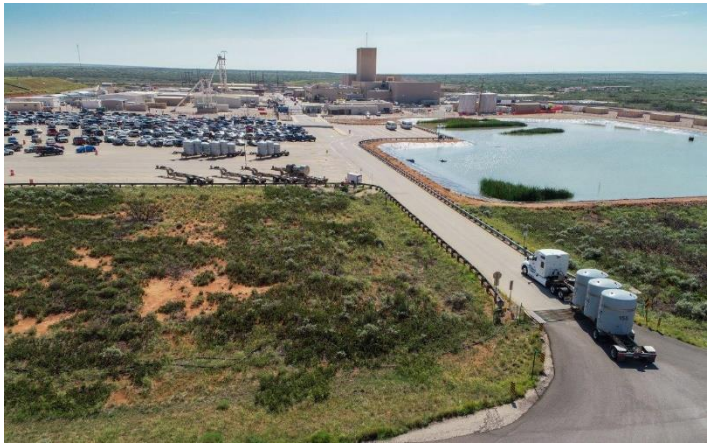


ETEC: Before and After

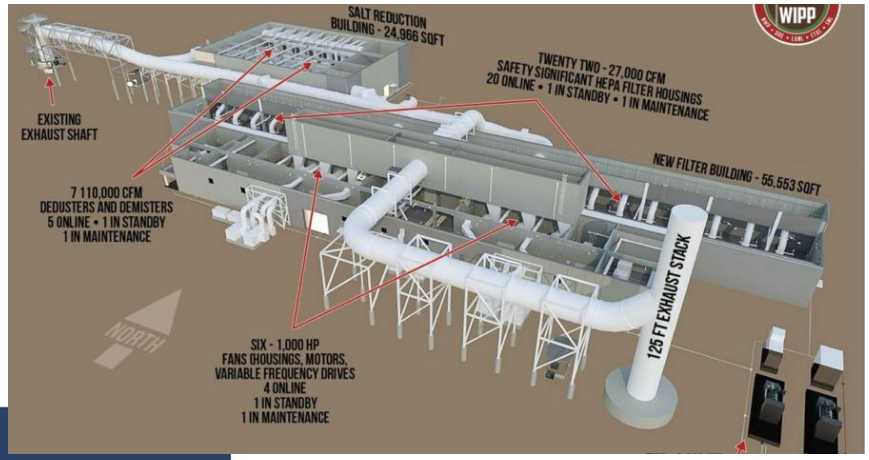


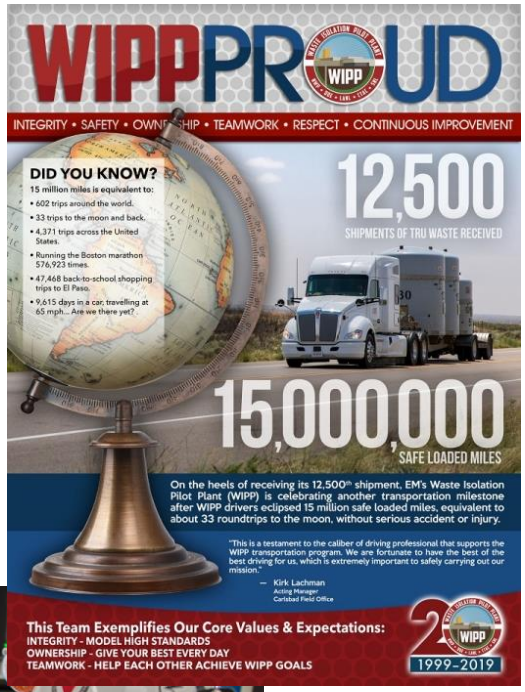


WIPP: Lynchpin of TRU Waste Mission



Preparing WIPP For the Future





Progress Across the Complex

Pivotal Time for SRS Tank Waste Mission

Bright Future for SRS and SRNL

Salt Waste Processing Facility (SWPF)

- Undergoing Commissioning and Testing
- Start up currently scheduled for December 2019
- Salt waste processing capacity of 6-9 million gallons per year will accelerate treatment of tank waste

Tank Closure Cesium Removal System (TCCR)

- Successful demonstration of ion exchange technology to treat tank waste
- 150,000 gallons of tank waste treated in January 2019.
- Processing of Batch 2 to begin in early June

Advanced Manufacturing Collaborative (AMC)

- Will provide SRNL with a state-of-the-art facility for developing innovative manufacturing techniques and capabilities

Progress on Hanford Tank Waste Mission

River Corridor Legacy of Success

River Corridor Achievements

- 502 Facilities Demolished
- 1,201 Waste Sites Remediated
- 6 Reactors Cocooned, 1 Preserved
- 16M Tons Waste Removed

Hanford 618-10 Burial Ground

K Basin Sludge Transfers Nearing Completion

PFP Demolition

Disposing of debris at Environmental Restoration Disposal Facility

Mentoring new workers

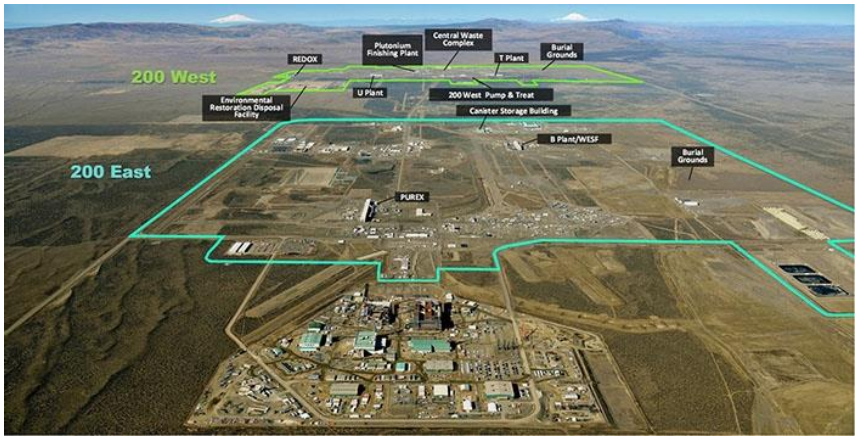
Completed Vault demolition and debris removal.
Began demolition of main processing facility (234-5Z)

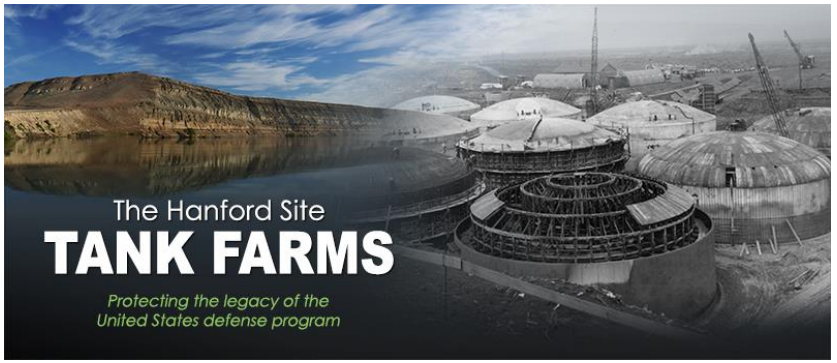
Evaluating Opportunities to Drive Tank Waste Mission

Contracting Approach Focused on Completion

By taking advantage of lessons learned from successful DOE cleanups and closures, end state contracting is an approach to driving progress through defined end states, even at sites with completion dates far into the future.

- ✓ Tank Closure Contract at Hanford DOE ($13 billion over 10-years)
- ✓ Central Plateau Cleanup Contract at Hanford ($10 billion over 10-years)





Progress Through Collaborations, Effective Decision-making

Commitment to Cleanup Communities

Questions?