DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE

HANFORD SITE UPDATE

Hanford Advisory Board

Doug Shoop, Deputy Manager

February 5, 2010

the 2015 Vision
Hanford Site Cleanup

Safe and Effective Cleanup that Protects the Columbia River

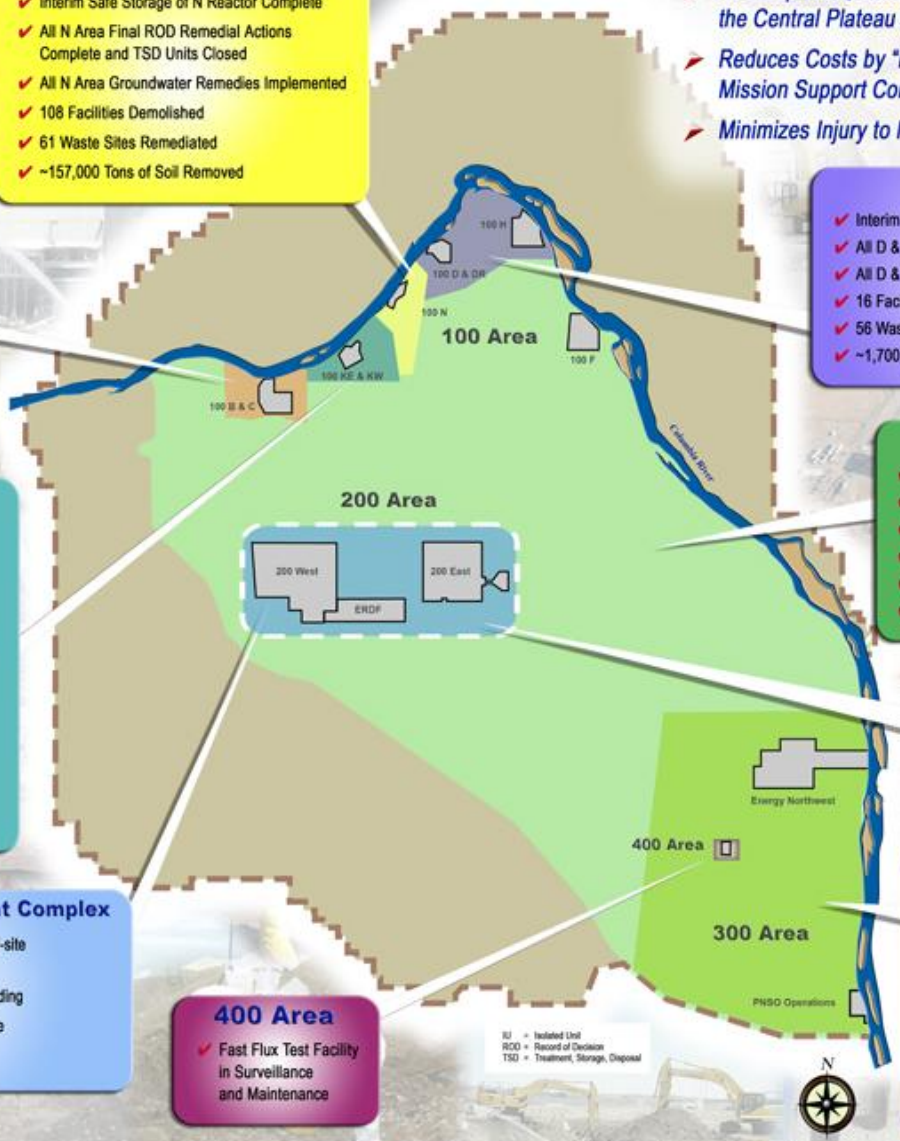
- *Reduces the Active Site Footprint of Cleanup to 75 Square Miles (586 → 75)*
- *Significantly Reduces Long-Term Mortgage Costs*
- *At Completion, Shifts Emphasis and Resources to Full Scale Cleanup of the Central Plateau (75 square miles)*
- *Reduces Costs by "Right Sizing" Hanford's Infrastructure via a Mission Support Contract*
- *Minimizes Injury to Natural Resources*

Richland Operations Office

N Area
- ✔ Interim Safe Storage of N Reactor Complete
- ✔ All N Area Final ROD Remedial Actions Complete and TSD Units Closed
- ✔ All N Area Groundwater Remedies Implemented
- ✔ 108 Facilities Demolished
- ✔ 61 Waste Sites Remediated
- ✔ ~157,000 Tons of Soil Removed

B & C Area
- ✔ Interim Safe Storage of C Reactor Complete
- ✔ B Reactor Designated as a Museum or Interim Safe Storage Complete
- ✔ All B & C Area Final ROD Remedial Actions Complete
- ✔ All B & C Area Groundwater Remedies Implemented
- ✔ 6 Facilities Demolished
- ✔ 40 Waste Sites Remediated
- ✔ ~381,000 Tons of Soil Removed

D & H Area
- ✔ Interim Safe Storage of D, DR, and H Reactors Complete
- ✔ All D & H Area Final ROD Remedial Actions Complete
- ✔ All D & H Area Groundwater Remedies Implemented
- ✔ 16 Facilities Demolished
- ✔ 56 Waste Sites Remediated
- ✔ ~1,700,000 Tons of Soil Removed



IU2 & IU6 Areas
- ✔ Interim Safe Storage of F Reactor Complete
- ✔ All IU2 & IU6 Area Final ROD Remedial Actions Complete
- ✔ All IU2 & IU6 Area Final ROD Groundwater Remedial Actions Complete
- ✔ 1 Facility Demolished
- ✔ 50 Waste Sites Remediated
- ✔ ~962,000 tons of Soil Removed

K Area
- ✔ K East Basin Demolished
- ✔ Interim Safe Storage of K East Reactor Complete
- ✔ K West Sludge Removed from the River Corridor
- ✔ Interim Safe Storage of K West Reactor Initiated
- ✔ All K Area Final ROD Remedial Actions Complete and TSD Units Closed with the exception of those associated with K West
- ✔ All K Area Groundwater Remedies Implemented
- ✔ 2,300 Tons of Scrap Nuclear Fuel Removed
- ✔ 109 Facilities Demolished
- ✔ 2 Waste Sites Remediated
- ✔ ~361,000 Tons of Soil Removed

Central Plateau Cleanup
- ✔ All 200 West Carbon Tetrachloride, Uranium and Technetium 99 Groundwater Remedies Implemented
- ✔ Conduct Additional Cleanup as Funds Become Available

Plutonium Finishing Plant Complex
- ✔ All Special Nuclear Material Shipped Off-site
- ✔ Slightly Irradiated Fuel Shipped to the Canister Storage Building for Safe Guarding
- ✔ PFP Complex Reduced to Slab on Grade
- ✔ 18 Facilities Demolished

300 Area
- ✔ All 300 Area Final ROD Remedial Actions Complete and TSD Units Closed
- ✔ All 300 Area Groundwater Remedies Implemented
- ✔ 186 Facilities Demolished
- ✔ 95 Waste Sites Remediated
- ✔ ~923,000 Tons of Soil Removed
- ✔ Final Remediation of 618-10 & 618-11 Burial Grounds Complete

400 Area
- ✔ Fast Flux Test Facility in Surveillance and Maintenance

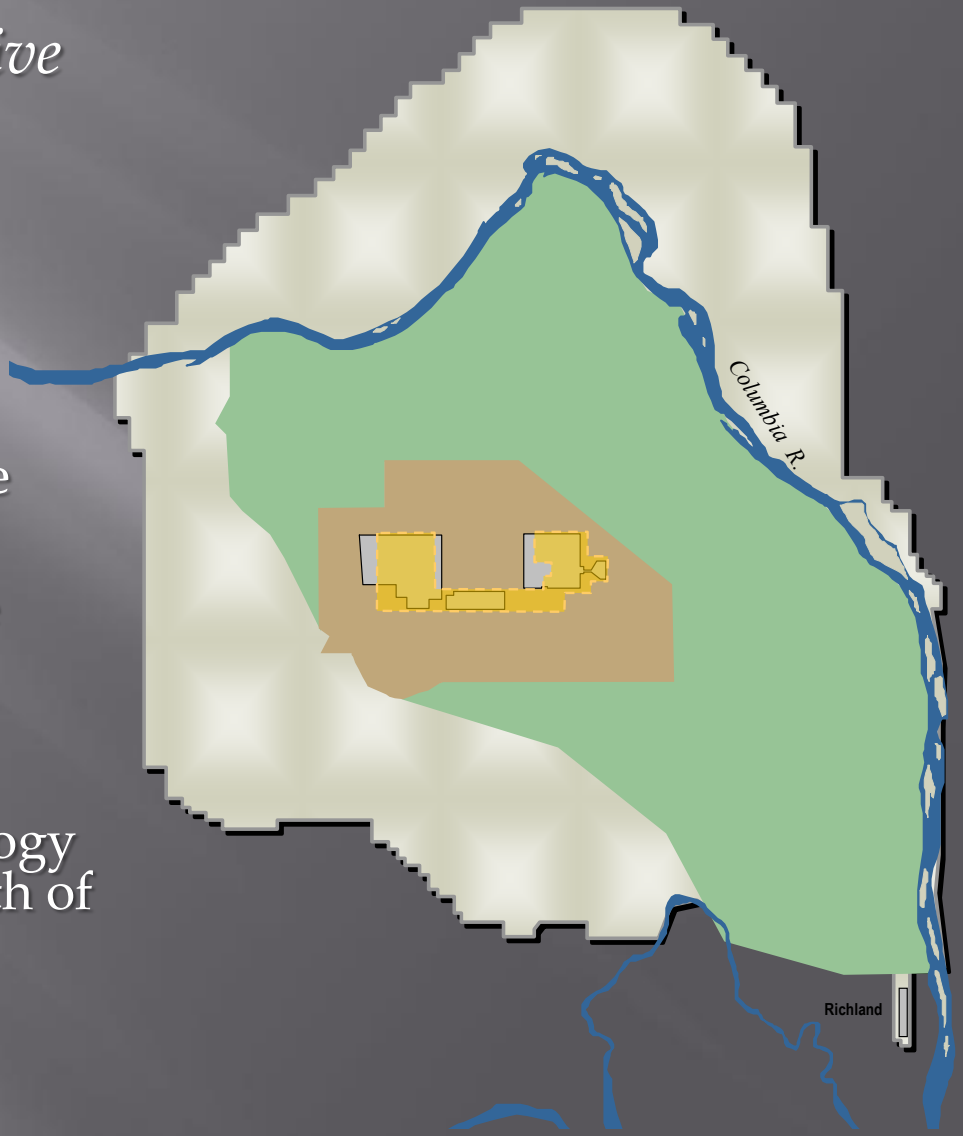
* Does not reflect all work

Cleanup Strategy

Go from 586-square-mile active cleanup footprint to 10 square miles

Work in four areas

- River Corridor (~220 sq. miles)
- Central Plateau, Outer Zone (~65 sq. miles)
- Central Plateau, Inner Zone (~10 sq. miles)
- Hanford Reach National Monument (including Arid Lands Ecology Reserve Hanford lands north of the Columbia River)



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618-10 Burial Ground

A machine drives steel tubes into the ground at 618-10 Burial Ground in order to allow monitoring to take place.

Steel are tubes placed within the ground as workers perform characterization work.

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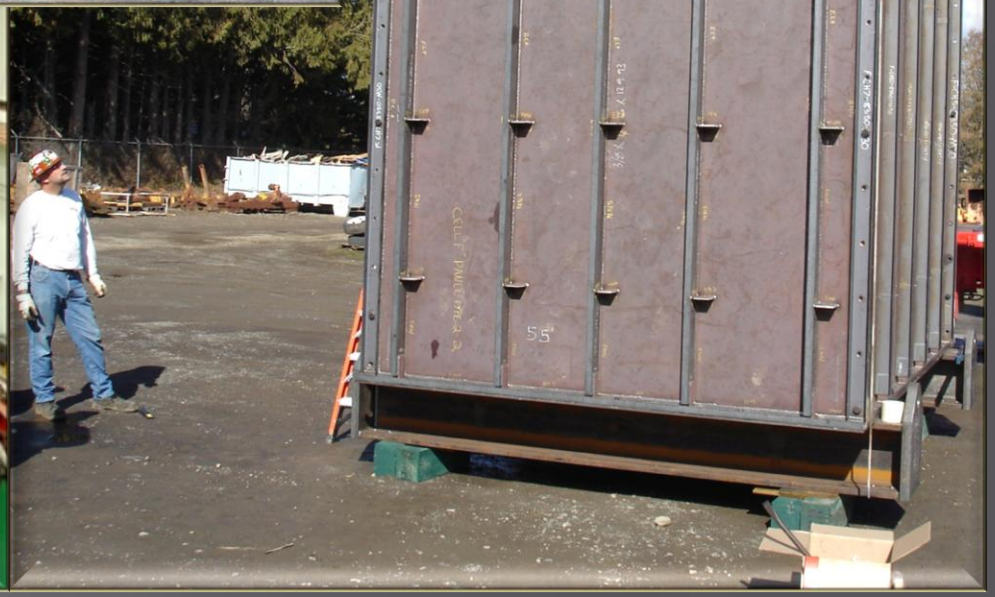
FACT OR FICTION?

A cone penetrometer is hydraulically pushed into the ground at up to 20,000 pounds of pressure.

327 Building



327 Canyon Cells

Boxes for hot cells

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324 Cell Vacuuming

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Other 300 Area Demo

3718 Building

338 panel removal

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Archeological Dig

Workers separate artifacts from the dirt during an archeological excavation of a burn pit/landfill near the old Hanford town site.

A piece of old pipe and a Coke bottle sit in an open excavation. Workers excavated and cataloged materials recovered from one of Hanford's early landfill burn pits.

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B/C Control Area

Soil remediation in the 13-square-mile BC Control Area, located near the center of the Hanford Site.

An excavator moves soil in a load-out trench near the BC Control Area. The soil is loaded into a dump truck and transported to the Environmental Restoration Disposal Facility.

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FACT OR FICTION?

CHPRC and subcontractor Federal Engineers & Constructors are removing an estimated 180,000 tons of shallow soil contamination in the BC Control Area.

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B 27

Before

After

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100-C-7

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ERDF Super Cell 9

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ERDF Super Cell 9

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ERDF Access Roads

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ERDF Scale

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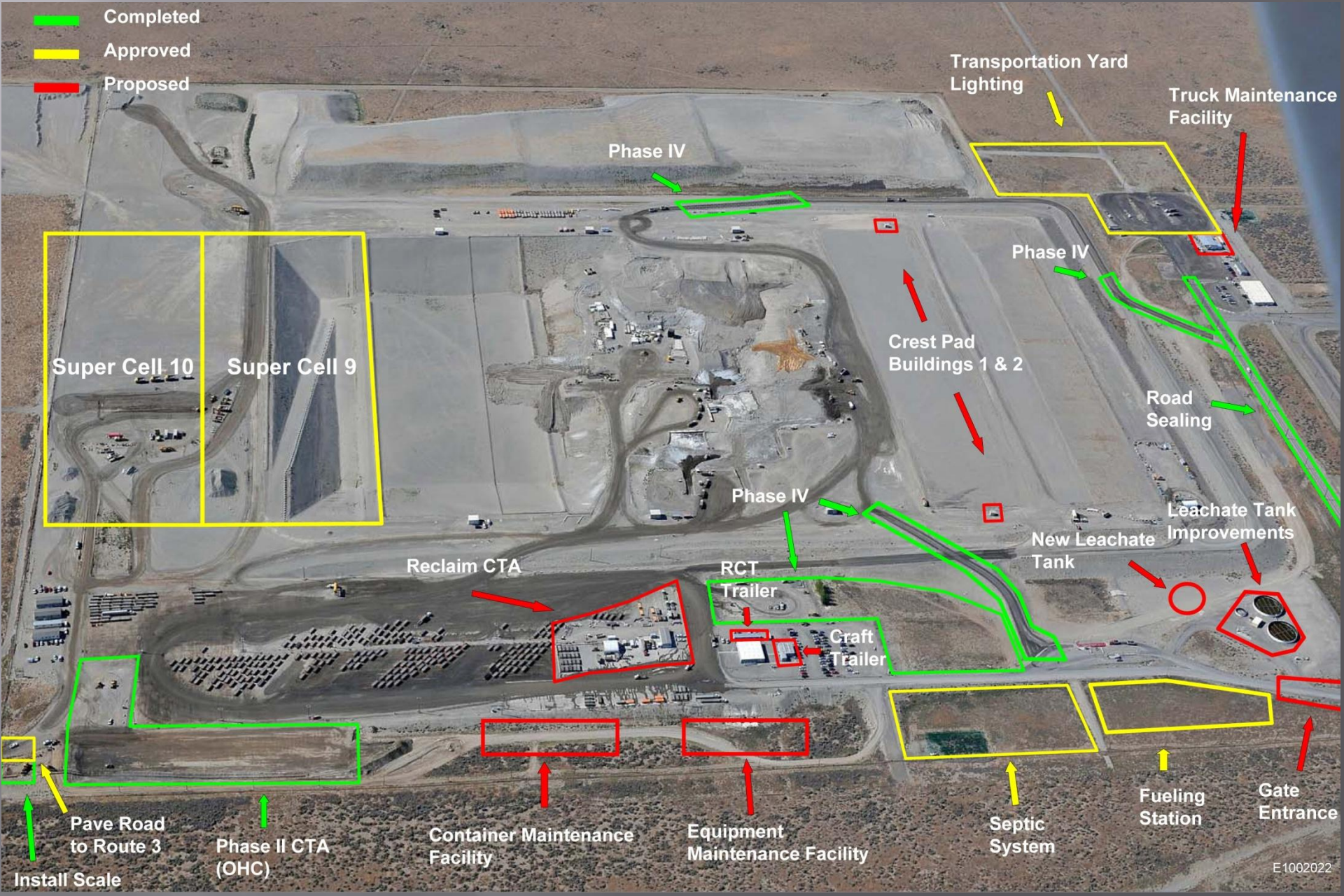
Completed
Approved
Proposed
Transportation Yard Lighting
Truck Maintenance Facility
Phase IV
Phase IV
Super Cell 10
Super Cell 9
Crest Pad Buildings 1 & 2
Road Sealing
Phase IV
Leachate Tank Improvements
New Leachate Tank
Reclaim CTA
RCT Trailer
Craft Trailer
Pave Road to Route 3
Install Scale
Phase II CTA (OHC)
Container Maintenance Facility
Equipment Maintenance Facility
Septic System
Fueling Station
Gate Entrance
E1002022

FACT OR FICTION?

More than 1.49 million cubic yards of dirt has been removed during Super Cell 9 excavation.

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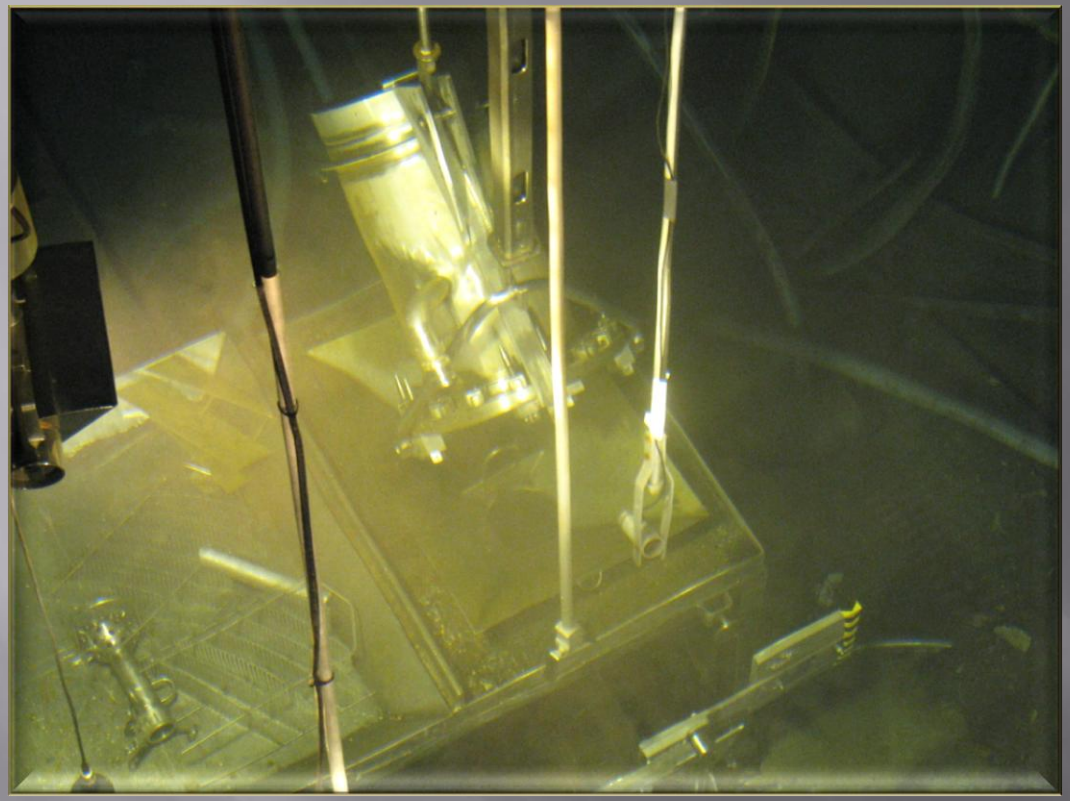
MASF Knockout Post Testing



A knockout pot in the K West Basin being emptied into fuel canisters

Replica of the stainless steel knockout pot vessels

Workers are developing equipment at the Maintenance and Storage Facility (MASF) to separate the Knock Out Pot (KOP) fuel-like material from other materials which are different in both size and density. Last fall, four stages of testing confirmed that the fuel can be separated. Once the material has been sorted, it will be packaged into multi-canister over packs (MCO), dried in the Cold Vacuum Drying Facility and stored at the Canister Storage Building on the Central Plateau.

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K Area Site

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118 K Waste Site

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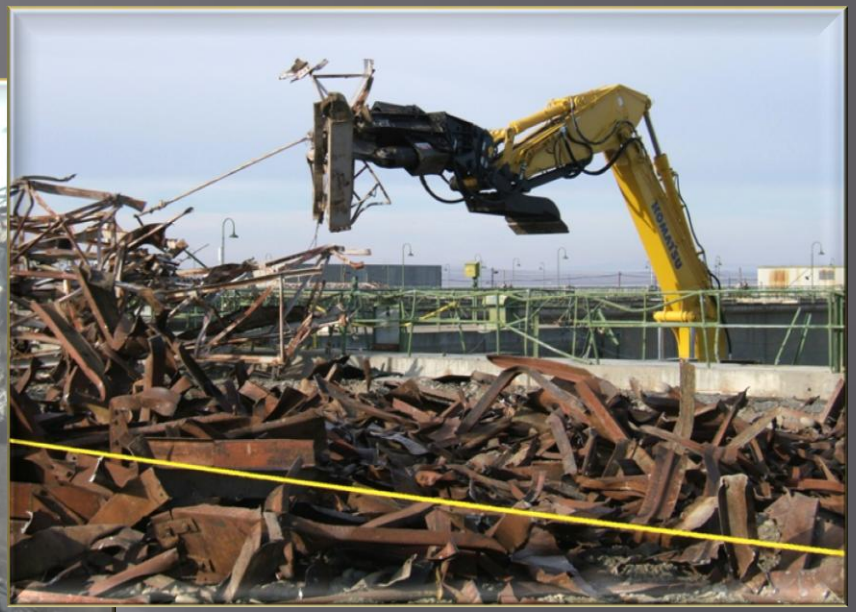
118 K Waste Site in January 2010

K West Demolition

Demolition at the 183KW Sedimentation Basin



183KW Sedimentation Basin debris removal

Inside the basin

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FACT OR FICTION?

The 183 K West Sedimentation Basin is approx. 300,000 square feet.

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K East Demolition

117 KE Exhaust Air Filter Building roof removal

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K East Demolition

105 KE Demolition

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K East Soil Remediation

Findings

- Contamination levels have not decreased with depth

Path Forward

- Perform additional sampling
- Remove 2 " of the discharge chute outer wall
- Sample soil under cold discharge chute wall
- Continue soil remediation

Soil remediation occurring on the west side (viewer's right) is 15 feet below the KE Basin floor (total of 35 feet below the surface)

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K East Soil Remediation

The first bucket of soil from the waste site known as UPR-100-K-1 is being placed into a container on a truck

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100 N Demolition

Start of 109 N Machine Demo

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100 N Demolition

Demolition at 107N

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100 N Demolition

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FACT OR FICTION?

The previous structure was affectionately nicknamed the "astronaut's cap."

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100 D Waste Site Remediation

•D Area is 90% complete with respect to the TPA milestone scope
•The milestone completion date is 12/31/2011

•950,000 tons of contaminated materials shipped to ERDF

•2 of 3 major cleanup areas are complete. The third is expected to be completed in March

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100 D Water Tower

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Groundwater Wells

Wells under construction in the 100 D Area, where CHPRC is using Recovery Act funds to drill 14 wells that will support the new $20 million DX Groundwater Treatment Facility to treat chromium-contaminated groundwater.

FACT OR FICTION?

Workers are constructing 14 wells in the 100 D Area that will support the new groundwater treatment facility.

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PFP De-inventory

Visit to PFP during a visit to the plant in Dec.

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FACT OR FICTION?

PFP is no longer classified as a Protected Area

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PFP Glove Boxes

Workers expand an opening into room to allow access to remove four glove boxes at one time.

Four glove boxes isolated and ready for removal

Workers load four inter-connected glove boxes from the Plutonium Finishing Plant's Analytical Laboratory into a groutable container for disposal at ERDF.

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N,P, & R

Demolition in the area below the former 212-P building complex in the 200 North Area. Demolition and waste load out from 212-P is finished, completing all planned demolition work at the 212-NPR building complex.

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U Plant

Fixative

Condenser relocation

Tank 30

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FACT OR FICTION?

Workers will *begin* to fill in the U Plant Cells next month.

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TRU Waste Retrieval

Trench 3 A

Workers build supports for a damaged box

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Arid Lands Ecology Reservation

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ZP 1 Site

After cleaning, workers install the permanent well casing at the 200-**ZP-1** site where water monitoring wells will support the Groundwater Treatment Facility.

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Congressional Budget Request

FY 2010 Funding and FY2011 Budget Request

($$ in Thousands)

PBS	PBS Title	FY 2010 Approp. (AFP Changes)	FY 2011 President's Budget
RL-0011	NM Stabilization and Disposition - PFP	86,700	64,969
RL-0012	SNF Stabilization and Disposition	126,712	94,016
RL-0013	Solid Waste Stabilization and Disposition - 200 Area	131,070	135,026
RL-0020	Safeguards and Security	82,771	69,234
RL-0030	Soil and Water Remediation - Groundwater/Vadose Zone	205,390	129,629
RL-0040	Nuclear Facility D&D - Remainder of Hanford	90,313	139,641
RL-0041	Nuclear Facility D&D - River Corridor Closure Project	327,955	386,028
RL-0042	Nuclear Facility D&D - Fast Flux Test Facility Project	7,652	3,659
RL-0100	Richland Community and Regulatory Support	21,940	19,620
Total - RL Office Base Funding Total		1,080,503	1,041,822

ARRA Funding

PROJECT	WORKSCOPE	FY09-FY11
Plutonium Finishing Plant D&D	• Cleanout, deactivation and decommissioning activities of the Plutonium Finishing Plant 234-5Z and its ancillary facilities including glove boxes (total estimate of 174), removal of highly contaminated ducts and filter boxes, deactivation of the process vacuum system set, tunnels and piping, process equipment, and cleanout and removal of the HVAC system • 20 Ancillary buildings ready for demolition	$330.2M
MLLW Treatment	• Treatment and disposal of an estimated 1800 cubic meters (~475,500 gallons) of the current backlog of legacy waste	$43.0M
TRU Waste	• Retrieval of an estimated 2,500 cubic meters of TRU waste from 218-E-12B, 218-W-3A and 218-W-4B • Retrieval of an estimated 50 cubic meters of RH TRU waste from the burial grounds, including preparation to retrieve RH TRU from the 200W area caissons • Repackaging an estimated 850 cubic meters of TRU waste in drums requiring remediation	$198.2M
Central Plateau Soil and Groundwater	• Construct groundwater remedies in River Corridor (100 Areas) and Central Plateau	$235.5M
U Plant/Other D&D	• Demolition ready of U Plant Zone canyon • Complete deactivation, decontamination, decommissioning and demolition (D4) of 16 facilities	$256.4M
Outer Zone D&D	• Remediation of outer zone areas (200 and 600 areas), Arid Lands area (Rattlesnake Mountain) and North Slope area (Saddle Mountain) • Complete deactivation, decontamination, decommissioning and demolition (D4) of 18 facilities • Remediation 24 waste sites • Disposal of 15 rail cars/locomotives • Completion of scope results in a minimum 45% reduction of overall footprint of the Hanford Site	$114.9M
100 K Area Remediation	• Complete deactivation, decontamination, decommissioning and demolition (D4) of 12 facilities in the 100-K Area • Complete remediation of 49 waste sites in the 100-K Area	$202.7M
ERDF Cell Expansion	• Expand operational capacity including completion of Environmental Restoration Disposal Facility (ERDF) Super Cells 9 and 10	$92.2M
Accelerated Remediation and Disposal	• Complete procurement of equipment for expanded ERDF operations • Complete operational enhancements of ERDF to provide improved transportation, treatment, and disposal services for waste generated by other Hanford contractors • Remediation of 18 waste sites and completion of confirmatory sampling for 67 orphan/discovery sites located in the inter areas of the Columbia River Corridor	$89.0M
River Corridor Soil and Groundwater	• Characterization and remediation of the twelve (12) 618-10 burial ground trenches	$72.4M

ARRA Update

RECOVERY WORK UPDATES

Jobs Saved/Created
3,718[1]

	Lives Touched[1]	FTEs[2]
DOE Office of River Protection	803	153
DOE Richland Operations Office	2,915	1,309
Hanford Total	**3,718**	**1,462**

[1]Lives Touched: The total number of people that have ever had a job at least partially funded by the Recovery Act.
[2]FTEs (Full-Time Equivalents): Converts cumulative hours worked to an estimated number of jobs if all were full-time and completely funded by the Recovery Act.

Both Lives Touched and FTEs figures include hours worked by employees of contractors receiving ARRA funding, employees of teaming subcontractors, as well as some jobs created by subcontracts for highly specialized goods and services.

Funding Received and Spent

	Funding Received	Funding Spent
DOE Office of River Protection	$326,035,000	$44,842,417
DOE Richland Operations Office	$1,634,500,000	$273,948,714
Hanford Total	**$1,960,535,000**	**$318,791,131**

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HAB field trip?
June 2, 2010