



U.S. DEPARTMENT OF
ENERGY

Richland Operations Office Update

Hanford Advisory Board

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April 8, 2010



Agenda

- Hanford Site Active Cleanup Footprint Reduction
- Richland Operations Cleanup Progress Update
- American Recovery & Reinvestment Act Metrics Update



The 2015 Vision

Hanford Site Cleanup

Safe and Effective Cleanup that Protects the Columbia River

Richland Operations Office

- Reduces the Active Site Footprint of Cleanup to 75 Square Miles (586 to 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

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

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

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 Area

- ✓ 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
- ✓ 2300 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

400 Area

- ✓ Fast Flux Test Facility in Surveillance and Maintenance

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

* Does not reflect all work

IU = Isolated Unit
 ROD = Record of Decision
 TSD = Treatment, Storage, Disposal

Hanford Site Active Cleanup Footprint Reduction

- Key objective is shrinking the active cleanup footprint to:
 - Protect the Columbia River
 - Reduce cost
 - Make some lands available for mission-related uses such as Energy Parks
 - Show overall cleanup progress
- Significantly reduce operations
 - 45-60% and 85-90% in calendar years 2011 and 2015, respectively
 - Continue reductions after 2015

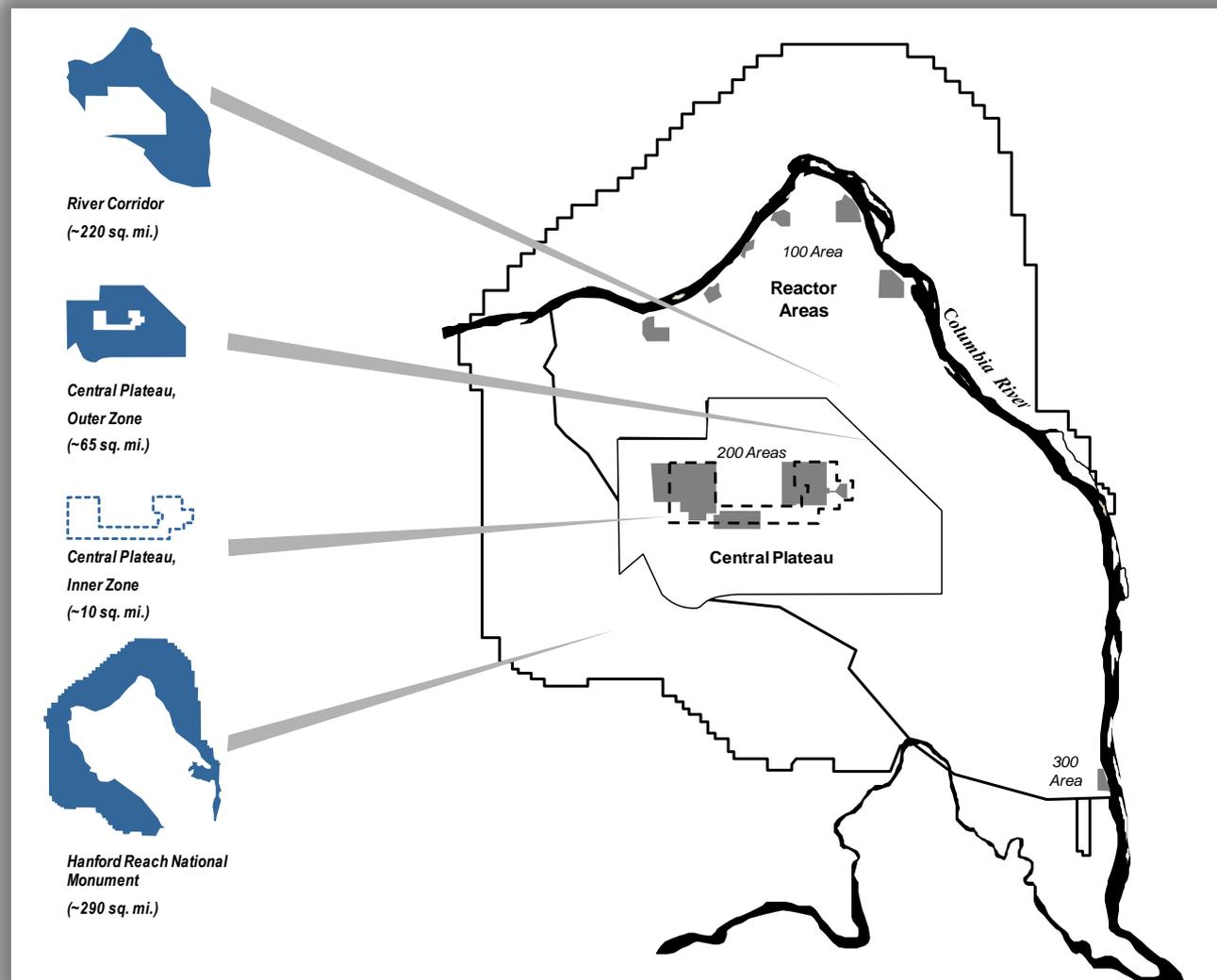
Active Footprint Reduction Criteria

- Complete surface waste site cleanup and remove excess facilities in compliance with regulatory requirements
- Implement groundwater remediation systems that will continue to operate and treat contaminants

Components of Footprint Reduction

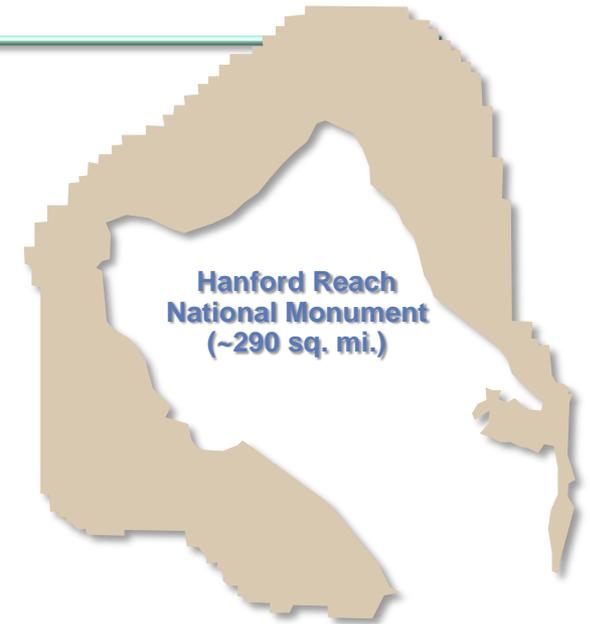
Three major geographic components

1. Hanford Reach National Monument
2. River Corridor
3. Central Plateau



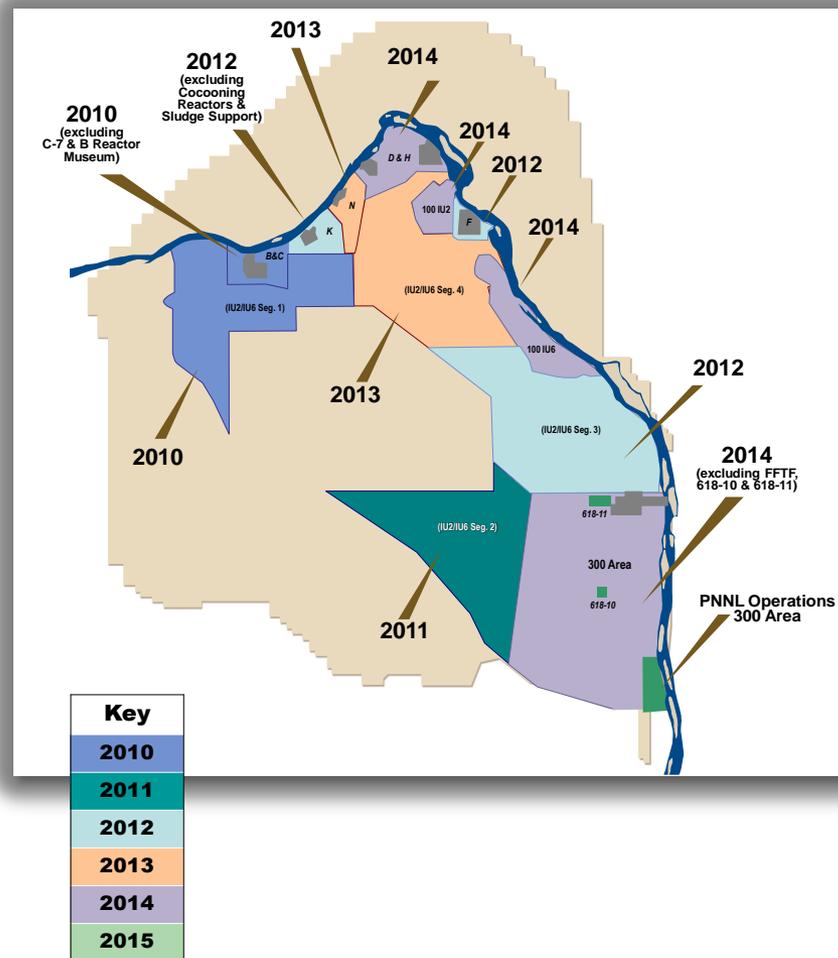
Hanford Reach National Monument

- 290 square miles
- Managed to protect natural and cultural resources as per Presidential Proclamation 7319 of June 9, 2000.
- DOE is cleaning up debris piles, excess facilities, and abandoned scientific experiments
- Active Cleanup Footprint Reduction expected in year 2011



River Corridor

- 220 square miles
- Includes the 100 and 300 Areas along the south shore of the Columbia River
- Phased completion planned to occur between years 2010 and 2015
- Active Cleanup Footprint Reduction expected to be achieved by 2015



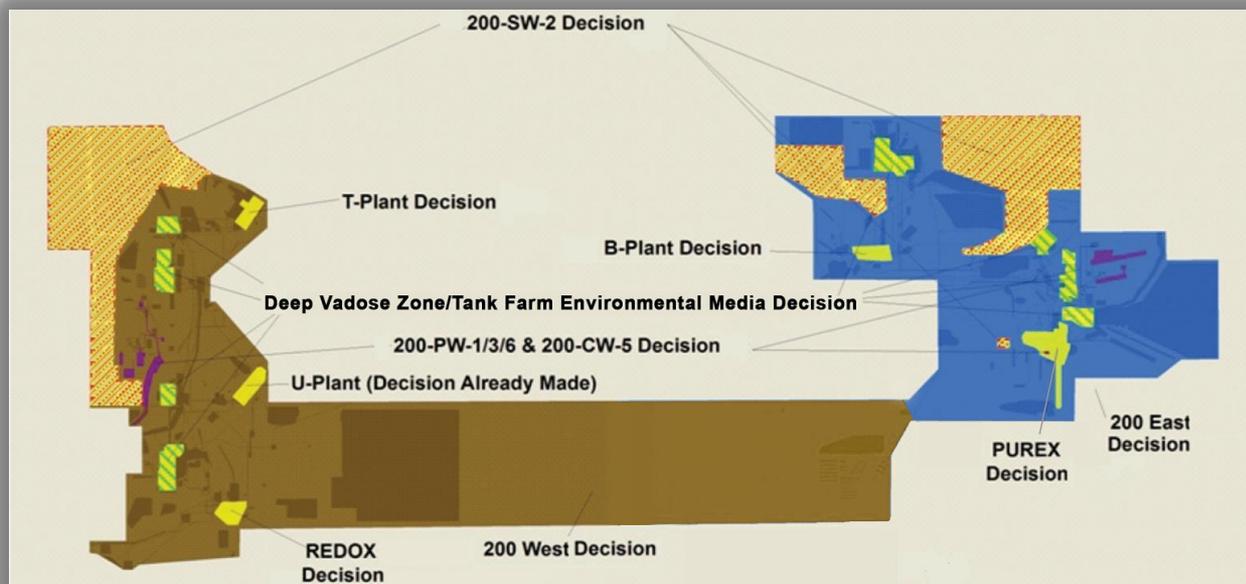
Central Plateau Outer Area

- About 65 square miles, includes all areas of the Central Plateau beyond the boundary of the Inner Area
- Cleanup planned similar to the River Corridor
- Active Cleanup Footprint Reduction expected between the years of 2015 and 2020



Central Plateau Inner Area

- Expected to be approximately 10 square miles
- Anticipated to be the final footprint of the Hanford Site, and will be dedicated to long term waste management and containment of residual contamination
- This area will include the Waste Treatment Plant and Environmental Restoration Disposal Facility



Activities Post-Footprint Reduction

- DOE will manage Hanford Site in accordance with the Hanford Comprehensive Land Use Plan (CLUP) and CERCLA Records of Decision
- Groundwater remediation activities will continue as needed to meet cleanup criteria
- CERCLA Five Year Reviews will assess the effectiveness of remedial actions and may identify additional remedial actions
- Results from the Natural Resource Damage Assessment may identify additional restoration activities
- Operation of Office of Science facilities (300A), Laser Interferometer Gravitational-Wave Observatory (LIGO), Columbia Generating Station, B Reactor National Historic Landmark with potential museum, and other mission-related activities will continue

Fact or Fiction

Following Hanford Active Cleanup Footprint Site reduction, DOE will consider the possibility of allowing certain land uses if they are consistent with the CLUP and applicable federal laws and regulations

Cleanup Progress Update

River Corridor Cleanup Progress

300 Area

- Washington Closure Hanford will remove hot cells from the 327 building beginning next week
 - Removal of all nine hot cells scheduled to be complete in late May
 - Hot cells will be disposed at ERDF
- 308 glove box removal (more than 50 glove boxes) is underway and expected to be completed by the end of the summer
- With the completion of the 618-1 Burial Ground, met a major TPA Milestone (M-16-62) two years early
- 336 Building safely demolished in March



308 Building Glove box

336 Building Video Demo

Video

100 Area

118-K-1 Silos

- Operated from 1955 to 1971
- Could contain basin sludge, cobalt 60 irradiators, spent nuclear fuel
- 2008 characterization indicates high-dose items in silos 1 & 2
- Start-up reviews March-May 2010
- Remediation June-August 2010



100 Area

N Reactor

- Continuing to eliminate excess walls and structures to prep the reactor for cocooning
- Reactor's Fission Product Trap - located in a tunnel 20' below grade - grouted for disposal at ERDF



Sealed face of the reactor



Workers pouring grout into the Fission Product Trap



Fact or Fiction

N Reactor was the last operating reactor at Hanford

Environmental Restoration Disposal Facility (ERDF)

- Upgrades funded by ARRA making a difference
- Excavation of super cell 10 about two months ahead of schedule
- Facility and equipment upgrades have contributed to ERDF setting new disposal records nearly every week since the first of the year
- Week of March 14th best ever and included best day with 578 containers of waste disposed – each containing 25 tons of contaminated material

Central Plateau Cleanup Progress

Transuranic Waste Shipments

- Resumed shipping radioactive waste (TRU) from Hanford Site to Waste Isolation Pilot Plant in Carlsbad, N.M.
- ARRA has allowed DOE to resume shipments
- Stimulus money enabling workers to expand waste packaging operations
- Begin with 2 shipments/week, planning for 5/week by late spring/summer



Transuranic retrieval

Fact or Fiction

DOE was able to complete 10 shipments of TRU waste to WIPP in March?



Central Plateau Cleanup Progress

U Canyon

- Placement and size reduction of equipment continue
- Loading of Cell 2 completed and cell has been closed
- Work currently in progress in Cells 25 and 26
- Approximately 76% of the large mapped items have been placed
- Approximately 125 major pieces of equipment will be relocated to prepare the U Canyon for demolition



Loading of Canyon Cell 2



U Canyon equipment lift for Cell 2

Central Plateau Cleanup Progress

U Plant Ancillary Facilities

- Asbestos removal is in progress at the 224-U and 224-UA Buildings, along with 203-UX
- These are the last of five ancillary facilities planned for demolition near U Plant



224U asbestos preparations

*Asbestos waste
load out*

Central Plateau Cleanup Progress

Deep Vadose Zone Desiccation Characterization Test

- Completed 7/28/09
- High air flow/high vacuum resulted in removal of sediment pore water (condensate recovery contaminated with Tc-99/Nitrate)
- Currently evaluating alternate test site to determine if this phenomenon can be replicated (purpose of test to determine volume and duration of removal)
- DVZ Desiccation Pilot Test
 - Scheduled to start October 1, 2010
 - 25 monitoring boreholes installed
 - >700 instruments to monitor test
 - Overall project and monitoring system reviewed by expert panel
 - Test will conclude by March 25, 2011



American Recovery & Reinvestment Act Metrics Update

American Recovery & Reinvestment Act (ARRA) Metrics



- Funding received and spent as of the end of February (Richland Operations Office)
 - \$1,634,500,000 Received
 - \$362,275,226 Spent
- Jobs reported to the DOE Office of Environmental Management through 4th quarter 2009 (calendar year)

	Recovery.gov Prime Contractor Jobs (FTEs)	Recovery.gov Prime Contractor plus Subcontractor Jobs (FTEs)	EM Recovery Act Headcount “Lives Touched” (Cumulative from start of project through 12/31/09)
Hanford-Richland Operations Office	913	1,485	2,924

ARRA Metrics Update, cont.



Metrics	Through 2/28/10	Recovery Act Total Target 9/30/11
Total Facilities Demolished	11	64
• Nuclear Facilities Demolished	1	3
• Radioactive Facilities Demolished	5	18
• Industrial Facilities Demolished	5	43
Facility Square Footage Demolished	36,224	294,323
Waste Sites Remediated	4	65
Cubic Yards Soil Excavated for Disposal Cell 9 of Environmental Restoration Disposal Facility	1,789,442	1,700,000
Glove Boxes Removed from Plutonium Finishing Plant	38	170
Groundwater Wells Installed	95	265
Cubic meters solid waste retrieved (suspect-transuranic) from underground storage	429	2,500
Transuranic (TRU) waste repackaged for certification for shipment to Waste Isolation Pilot Plant (WIPP)	196	850
Cubic meters mixed, low-level waste shipped for treatment	900	1,800
Cubic meters mixed, low-level waste treated	429	1,800