U.S. DEPARTMENT OF ENERGY | Richland Operations Office

Hanford Advisory Board
DOE-RL Update

Jon Peschong

December 11, 2013

The 2015 Vision

Hanford Site Cleanup

Richland Operations Office

Safe and Effective Cleanup that Protects the Columbia River

- *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*

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 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

September 2008

Data Last Updated:
Friday, October 04, 2013

Making the 2015 Vision a Reality

Fiscal Year 2013 Key Performance Goals

92% Complete!

Hanford Site

✓ Reduce Hanford's active cleanup footprint by a total of 75 percent	AMRP
✓ Complete all Tri-Party Agreement milestones on or ahead of schedule	AMRP
✓ Ensure there are no major occurrences that negatively impact the public and/or environment	AMSE
✓ Ensure the annual average Occupational Safety and Health Administration (OSHA) Total Recordable Case Rate is less than 1.1 and the annual average Days Away, Restricted, or Transferred (DART) rate is less than 0.6	AMSE
✓ Ensure there are no significant accidents, injuries or exposures	AMSE
✓ Complete the Site Wide Safety Standards project with 15 programs operational, including completion of all of the Phase I and II Chronic Beryllium Disease Prevention Program actions	AMSE
✓ Develop and implement a site wide Employee Concerns process and enhance the Differing of Professional Opinion process	MGR
✓ Based on employee input, continue to improve the organizational and safety culture	AMSE
✓ Complete all viable Phase I activities and initiate Phase II of Hanford's Small Business Plan	AMB
✓ Support DOE achieving an unqualified opinion on the Financial Statement Audit	AMB
✓ Achieve a DOE Hiring Reform fill rate of 80 days or less	AMB
✓ Finalize contract changes within 180 days of action initiation and ensure the approved performance measur[illegible] ues to be aligned with the contract price	[illegible]
✓ Analyze and initiate implementation of 10 technical im[illegible]ts that w[illegible]nificantly reduce "operatin[illegible]s and enable more cleanu[illegible]	AMR[illegible]

River Cor[illegible]

● Com[illegible] the rea[illegible]tion of the River [illegible] Closu[illegible] Ca[illegible] Ass[illegible]L-0041.C1) and [illegible] Activi[illegible]41.01) [illegible] one [illegible]l Asset [illegible] (RL-0041.C1)	[illegible]
✓ Com[illegible]anu[illegible]00-F Area [illegible]fer to Long Term St[illegible]dship	AMRP
✓ Comple[illegible] [illegible]ent 5 ([illegible]g the 618-10 & 618-11[illegible]al Groun[illegible]nsfer to Long Term Stewardship	AMRP
● Complete [illegible]noval [illegible]40 V[illegible]	AMRP
✓ Comple[illegible]GA Trai[illegible], Research, Isotopes, General Atomics (TRIGA) Reactor	AMRP
✓ Complete demolition of the 382 facility and tanks	AMRP
✓ Begin demolition of the 326, 3730 and 3760 facilities	AMRP
✓ Complete demolition of the 329 Chemical Sciences Laboratory	AMRP
● Remove the Plutonium Recycling Test Reactor and complete above grade demolition of the 309 Facility	AMRP
● Complete cleanup of the 618-10 Burial Ground Trenches	AMRP
✓ Downgrade the Cold Vacuum Drying Facility (CVDF) from a Category 2 Nuclear Facility to a Radiological Facility	AMRP
✓ Finalize the design of the Sludge Retrieval and Transfer System	AMRP
✓ Complete all 100-K Area Phase I Interim Clean-Up Actions	AMRP
● Complete cleanup of chromium contamination at 100-C-7:1 and 100-D-100 waste sites	AMRP
✓ Begin Tier 3 cleanup of the 100-D-30 and 100-D-104 waste sites	AMRP

Central Plateau

✓ Dispose of 1.1 million tons of waste at ERDF	AMRP
✓ Remove 15 Plutonium Finishing Plant (PFP) gloveboxes	AMRP
✓ Dispose of 20 PFP Pencil Tank Units	AMRP
✓ Treat 7 million gallons of liquid waste at the Effluent Treatment Facility	AMRP
✓ Complete 80 percent of the Fiscal Year 2013 Work Plan Performance Metrics by the approved due dates	AMRP

Groundwater Protection

✓ Increase 200 West Pump and Treatment flow rate to 1500 gallons per minute	AMRP
✓ Remediate 1.4 billion gallons of contaminated groundwater	AMRP
✓ Treat groundwater to remove 35,000 kilograms of nitrate	AMRP
✓ Treat groundwater to remove 220 kilo[illegible]um	AMRP
✓ Treat gr[illegible]dwat[illegible] 1,60[illegible] [illegible]etrat[illegible]	AMRP
✓ [illegible]cu[illegible] [illegible]by Ju[illegible]	AMRP
✓ [illegible]mit D[illegible] CERCL[illegible] by [illegible]er 2012	AMRP
✓ [illegible]mit F A[illegible]CLA R[illegible] Dec[illegible]	AMRP
✓ [illegible]it Rive[illegible]or Ord[illegible]nds [illegible] Rivers Work Plan	AMRP
✓ [illegible] CERC[illegible]ord of Decision for [illegible] West (UP-1) groundwater	AMRP
✓ Submit 300 Area CERCLA RI/FS/PP, Rev[illegible]	AMRP

Right Size Infrastructure

✓ Complete draft NEPA document for the potential land conveyance	AMMS
✓ Complete draft Environmental Impact Statement (EIS) for the Natural Gas Pipeline	AMMS
✓ Complete draft Environmental Assessment (EA) for Sand and Gravel Borrow Material	AMMS
✓ Initiate NEPA review for Hanford locations identified to supply borrow material to support construction of evaporative transpiration barriers	AMMS
✓ Complete the 200 Area raw water system upgrades	AMMS
✓ Initiate implementation of the Fire Station Consolidation Plan	AMMS
✓ Transfer the 712 Building out of DOE custody	AMMS
✓ Develop and initiate a plan to eliminate 400 Area sewage discharges to Energy Northwest	AMMS
✓ Develop and implement improvement actions, per approved schedules, from Safeguards and Security reviews/Y-12 lessons learned	AMMS
✓ Perform a study to optimize site access barricades	AMMS
✓ Develop, communicate with Hanford Stakeholders, and initiate implementation of the Hanford post-Cleanup Vision	MGR
✓ Develop the Post-2015 Cleanup Priorities list in concert with RL employees, regulators and stakeholders	OCE

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✓ Done On Schedule At Risk ● In Danger

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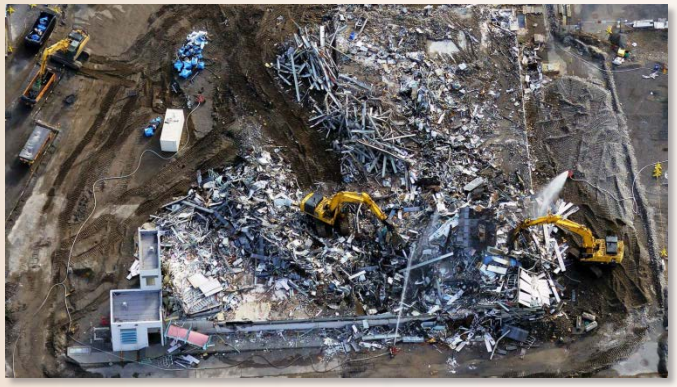
River Corridor Cleanup Progress



Above ground demolition of the 326 building, which was completed in October 2013

North of the 300 Area remediated/revegetated

The 1,100-ton 340 Vault is scheduled to be lifted and transported to the Environmental Restoration Disposal Facility in January or February

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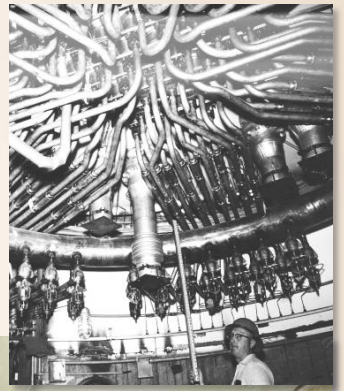
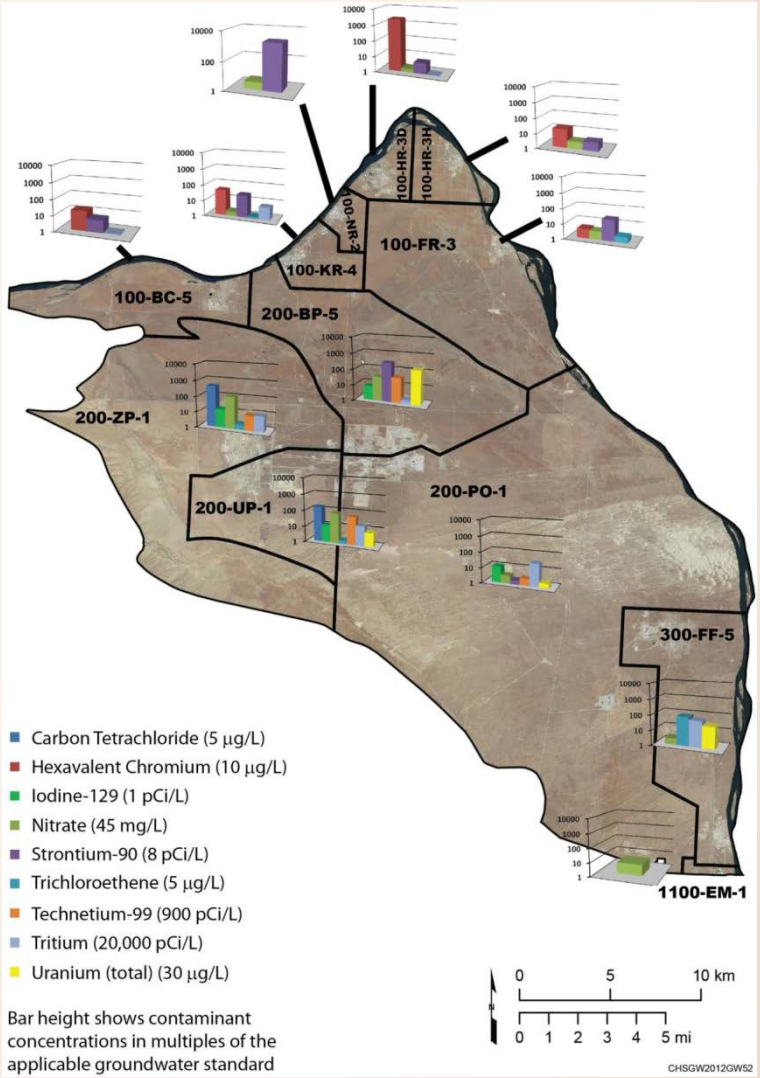
River Corridor Progress – 309 Test Reactor

Workers are disconnecting and removing piping system 32-feet below the Plutonium Recycle Test Reactor. The 1,100 ton reactor compartment is being secured and prepared for lifting out of the ground in the 300 Area



Groundwater Progress

Soil samples are collected at the shoreline of the Columbia River



To date, 8.6 billion gallons of groundwater has been successfully treated, resulting in the removal of 72 tons of contaminants

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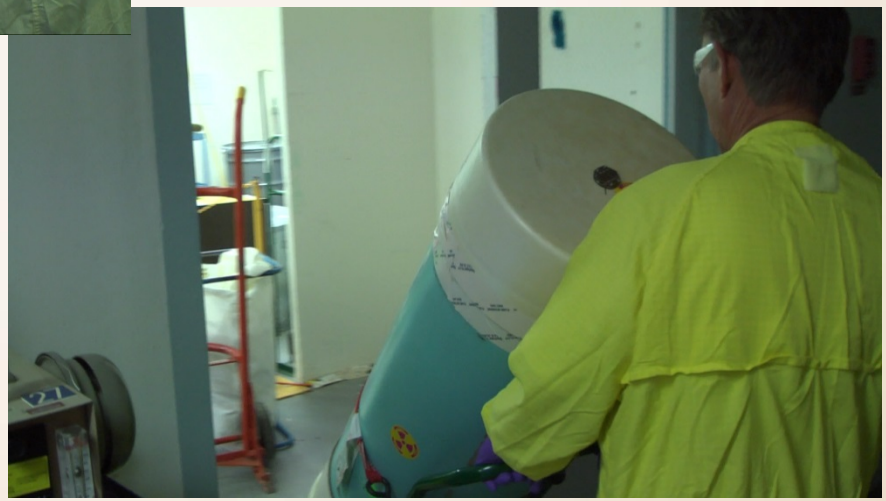
Plutonium Finishing Plant Progress

A Workers remove a "Pencil Tank" from the Plutonium Reclamation Facility

To date 110 pencil tanks and 202 gloveboxes have been removed



Making the 2015 Vision a Reality

Fiscal Year 2014 Key Performance Goals

HANFORD SITE

Complete all Tri-Party Agreement milestones on or ahead of schedule	AMRP
Perform oversight and take contract actions to proactively minimize the potential of a major occurrence that may negatively impact the public or environment	AMSE
Perform oversight and take contract actions to proactively minimize the potential of a significant accident, injury, or exposure	AMSE
Ensure the annual average Occupational Safety and Health Administration (OSHA) Total Recordable Case Rate is less than 1.1 and the annual average Days Away, Restricted, or Transferred (DART) rate is less than 0.6	AMSE
Implement 90 percent of the improvement actions in the RL Safety Culture Improvement Plan	AMSE
Evaluate the effectiveness of the Employee Concerns site wide process implementation and institutionalize improvements to the Differing Professional Opinion Process	DEP/ AMSE
Initiate implementation of beryllium corrective action plan products into the site's Chronic Beryllium Disease Prevention Program	AMSE
Finalize contract changes within 180 days of action initiation and ensure the approved performance measurement baseline continues to be aligned with the contract price	AMB
Support DOE achieving an unqualified opinion on the Financial Statement Audit	AMB
Complete 80 percent of the Fiscal Year 2014 Work Plan Performance Metrics by the approved due dates	AMRP/ AMMS
Achieve a DOE Hiring Reform fill rate of 80 days or less	AMB
Complete a 90 percent review of the Richland Integrated Management System (RIMS) descriptions, processes, procedures, program descriptions and the service directory and complete necessary updates	ALL
Conduct an annual "Min Safe" review	AMMS
Develop a plan to communicate the 2015 Vision and River Corridor cleanup accomplishments with employees, stakeholders, tribes and the public	OCE
Develop and initiate implementation of a phased plan for controlled, increased tribal use and public access to the River Corridor	DEP
Draft the Hanford Site Utilization and Management Plan for approval by EM and initiate discussions on the next-generation Hanford contracts	AMB

RIVER CORRIDOR

Complete remediation of 80 waste sites	AMRP
Complete cleanup of chromium contamination at the 100-D-30 and 100-D-104 waste sites	AMRP
Complete decontamination and demolition of the 11 remaining surplus facilities (except 324 and 100K)	AMRP
Complete demolition of the 326, 3730, 3760, 3790 and 183B facilities	AMRP
Oversee and approve the contract award for remediation of the 300-296 waste site under the 324 Facility	AMRP/ AMB
Complete removal/disposal of the 340 Vault	AMRP
Complete the removal/disposal of the Plutonium Recycling Test Reactor and complete above-grade demolition of the 309 Facility	AMRP
Complete cleanup of the 618-10 Burial Ground trenches	AMRP
Complete transition of reactors in interim safe storage (C, H, DR, D, N) to the RL Long Term Stewardship Program	AMMS
Complete a pilot study for the characterization of 5,000 acres of orchard lands	AMRP

CENTRAL PLATEAU

Complete removal of the remaining glove boxes associated with the PFP capital asset project	AMRP
Implement options to safely disposition PFP glove boxes, including foaming	AMSE/ AMRP
Disposition 25 PFP Pencil Tank Units	AMRP
Complete Effluent Treatment Facility (ETF) transition to campaign mode and develop a plan to transfer ETF to ORP by FY 2015	AMRP
Dispose of 1 million tons of waste at the Environmental Restoration Disposal Facility	AMRP
Complete the engineering design for the Waste Encapsulation Storage Facility K3 ventilation system	AMRP

GROUNDWATER PROTECTION

Remediate 1.8 billion gallons of contaminated groundwater	AMRP
Treat groundwater to remove 45,000 kilograms of nitrate	AMRP
Treat groundwater to remove 250 kilograms of chromium	AMRP
Treat groundwater to remove 2,400 kilograms of carbon tetrachloride	AMRP
Treat groundwater to remove 1.1×10^{12} picocuries of technetium-99	AMRP
Install monitoring wells and aquifer tubes at 100-BC-5	AMRP
Obtain CERCLA Record of Decision for the 300 Area	AMRP
Submit Rev. 0 of the Remedial Investigation/Feasibility Study and the Proposed Plan for 100-F/IU 2 & 6	AMRP

RIGHTSIZE INFRASTRUCTURE

Analyze two areas for potential minimum safe efficiencies and possible small business prime subcontracting	AMB/ AMMS
Issue Request for Proposals for the 222-S Analytical Services Contract	AMMS /AMB
Develop a path forward regarding the Energy Northwest fire station and range use	AMMS
Complete the Hanford Fire Department baseline needs assessment and implement approved FY 2014 actions	AMMS
Identify FY 2014 Homeland Security Presidential Directive 12 (logical and physical access) RL/ORP actions and implement per approved schedule	AMMS
Complete improvement actions from DOE HSS security and emergency preparedness reviews per the approved schedule	AMMS
Replace 750 desktop computers site wide with Thin Client	AMMS
Issue the draft natural gas pipeline Environmental Impact Statement for public comment	AMMS
Issue the draft potential land conveyance Environmental Assessment for public comment and submit the draft 10 CFR 770 package to HQ	AMMS
Perform NEPA Supplement Analysis of the Hanford Comprehensive Land Use Plan Environmental Impact Statement	AMMS

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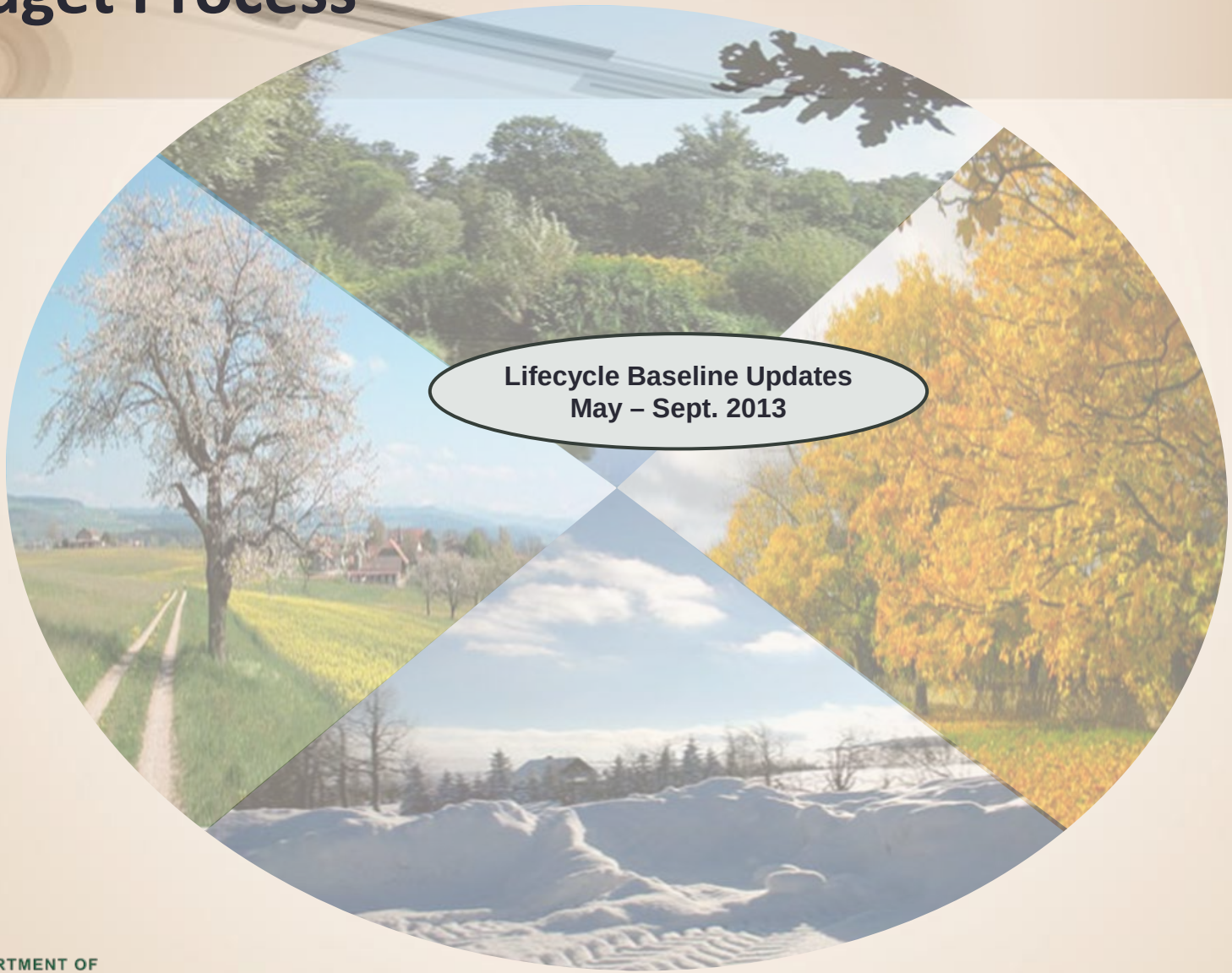
Budget Process



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Budget Process

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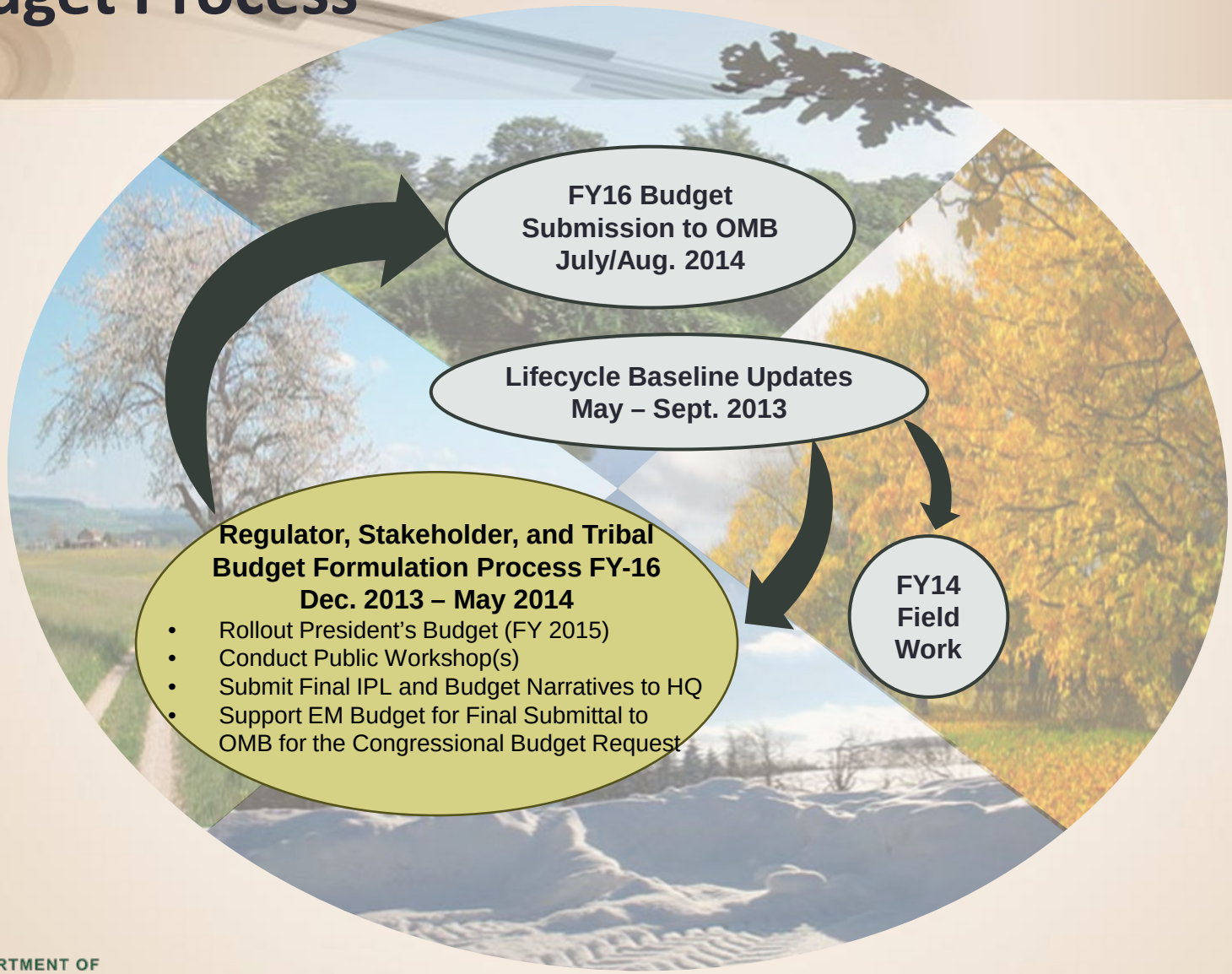

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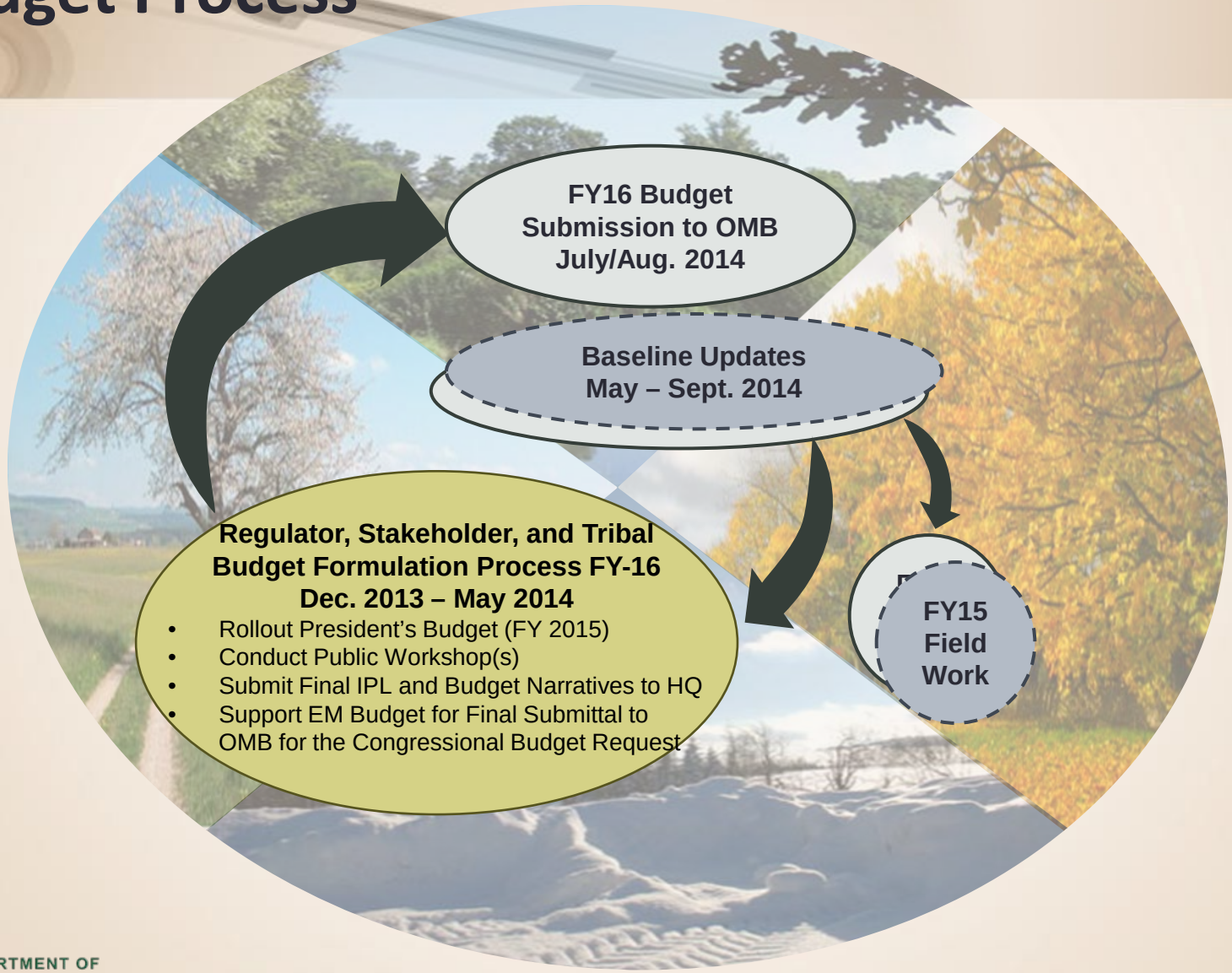
Budget Process



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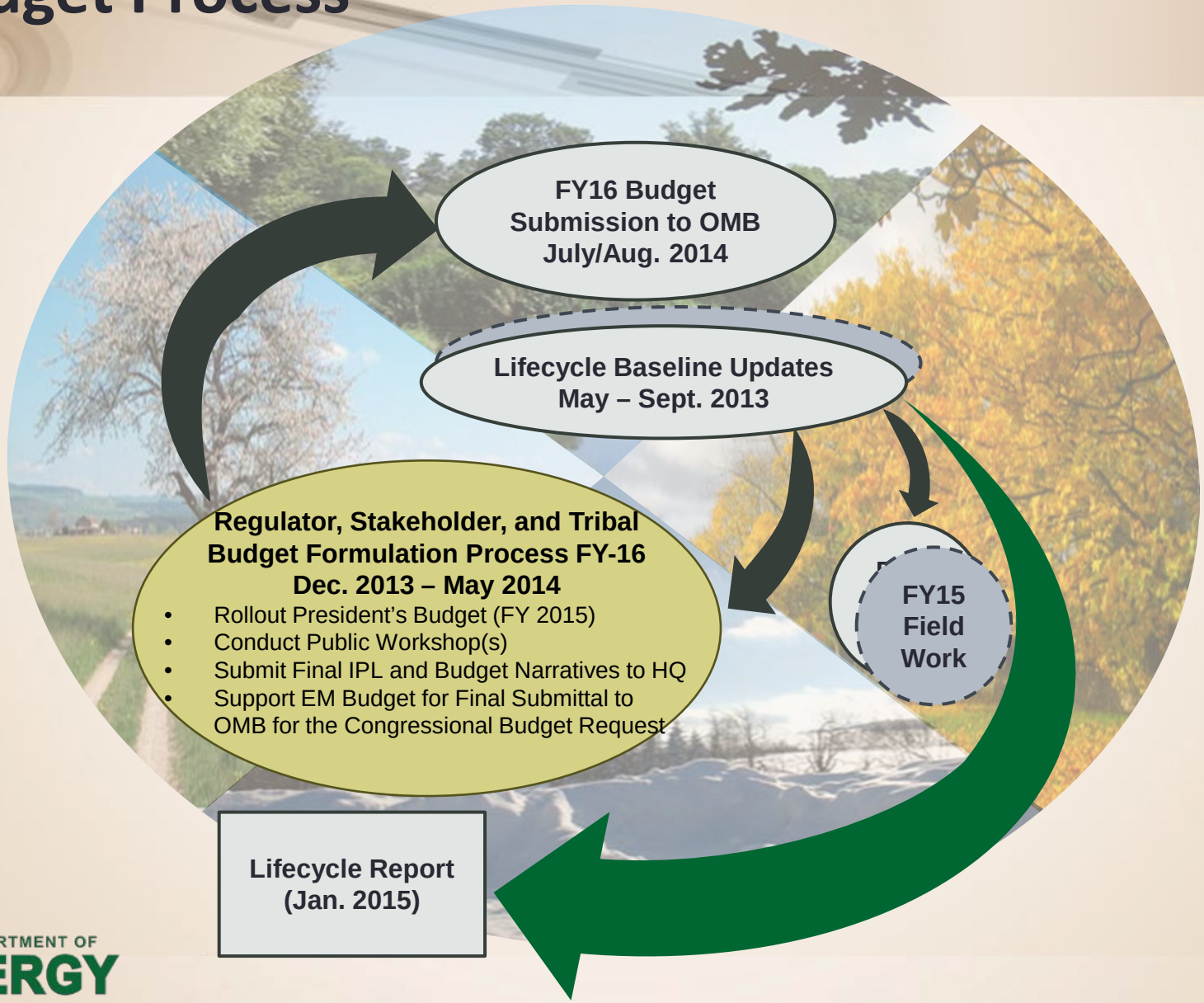
Budget Process



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RL Funding Profile
($ in Thousands)

PBS	PBS Title	FY 2013 Enacted (post-reprogramming)	FY 2014 President's Budget
RL-0011	NM Stabilization and Disposition - PFP	$160,056	$142,890
RL-0012	SNF Stabilization and Disposition	$89,506	$98,518
RL-0013	Solid Waste Stabilization and Disposition - 200 Area	$118,480	$130,322
RL-0030	Soil and Water Remediation - Groundwater/Vadose Zone	$134,879	$141,720
Subtotal	**Central Plateau Remediation**	**$502,921**	**$513,450**
RL-0041	Nuclear Facility D&D - River Corridor Closure Project	$294,264	$327,642
RL-0040	Nuclear Facility D&D - Remainder of Hanford	$61,943	$65,992
Subtotal	**River Corridor and Other Cleanup Operations**	**$356,207**	**$393,634**
RL-0100	Richland Community and Regulatory Support	$17,969	$14,701
RL-0020	Safeguards and Security	$63,668	$69,078
RL-0042	Nuclear Facility D&D - Fast Flux Test Facility Project	$2,562	$2,545
Total - RL	**Richland Field Office Funding Summary**	**$943,327**	**$993,408**

Note: For FY 2014, RL is currently operating under a Continuing Resolution with funding equivalent to the FY 2013 enacted level, post-sequester

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Post 2015 Cleanup Priorities

Richland Operations Office

DRAFT

Complete any Remaining 2015 Vision Projects

1. Complete demolition of PFP to "Slab on Grade"
2. Complete transfer of the K West Basin sludge to the Central Plateau

Complete any Remaining River Corridor Cleanup

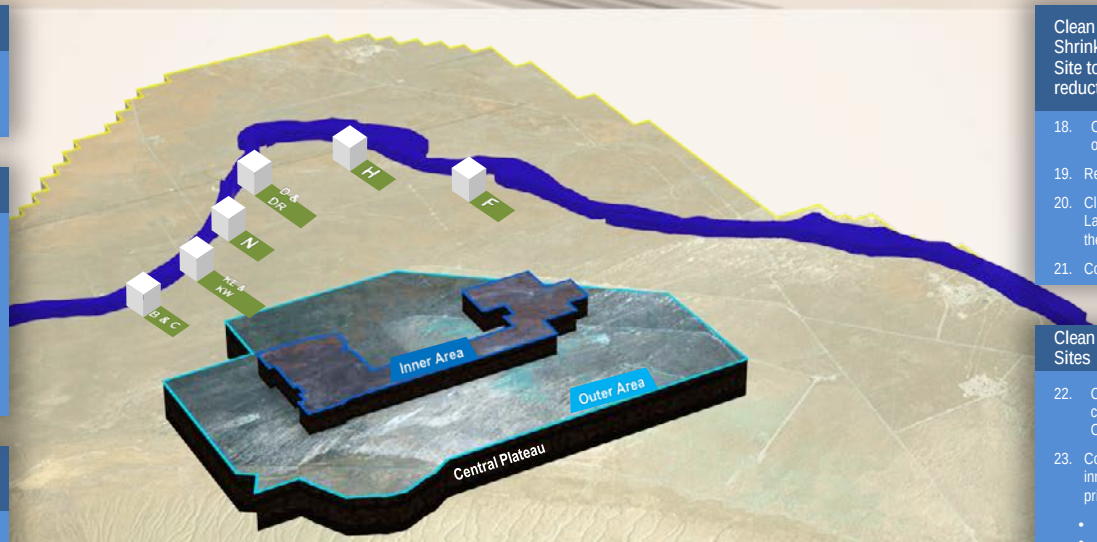
3. Complete the 324 Building and 618-11 Burial Ground
4. Conduct any additional soil remediation required by the CERCLA Records of Decision
5. Demolish the K West Basin and demolish/remediate remaining K-Area facilities and waste sites
6. Place the last two plutonium production reactors (K East and K West) into interim safe storage

Continue Groundwater Cleanup and Reduce Key Long-term Groundwater Threats

7. Contain key contaminants and treat over 1 billion gallons of contaminated groundwater each year
8. Implement additional groundwater remedies required by the River Corridor CERCLA Records of Decision (expand Cr+6, 100 N apatite barrier and 300 Area Phase I in situ treatment)
9. Implement 200 East groundwater remedies (BP-5/PO-1)
10. Complete data acquisition and treatability testing to determine feasibility of remediating the Deep Vadose Zone, contaminated by past discharge of more than 450 billion gallons of contaminated liquids directly to the soil

Provide Essential Infrastructure for Cleanup

11. Establish necessary infrastructure to support Waste Treatment Plant operations and Central Plateau cleanup



Serve as a Primary Source of Contact-Handled and Remote-Handled Waste for the Waste Isolation Pilot Plant (WIPP)

Ship Contact-Handled Legacy and Newly Generated Transuranic Waste to WIPP

12. Ship legacy waste
13. Ship newly generated waste

Ship Remote-Handled Legacy and Newly Generated Transuranic Waste to WIPP

14. Treat and ship K-Basins sludge
15. Retrieve, pretreat and ship transuranic waste stored in Alpha Caissons

Eliminate EM's Largest Beyond-Design-Basis Threat (Fukushima-like event) to the Public

16. Determine disposition path for 1,936 cesium/strontium capsules (104 million curies)

Reduce Security Costs by More than $20 Million Per Year

17. Ship category I irradiated fuel offsite (approximately 20 shipments)

Clean up the Central Plateau Outer Area and Shrink the Cleanup Footprint of the Hanford Site to Less than 10 Square Miles (98 percent reduction)

18. Complete RI/FS and obtain Record of Decision for outer area operable units
19. Remediate over 120 waste sites
20. Close the Non-Radioactive Dangerous Waste Landfill/Solid Waste Landfill by placing a barrier over the top
21. Complete small TSD closures

Clean Up Central Plateau Inner Area Waste Sites

22. Clean up 21 waste sites (PW 1, 3, 6 and CW5) contaminated with plutonium and cesium in the Central Plateau Inner Area
23. Complete RI/FS and obtain Records of Decision for inner area waste site operable units in the following priority
    - 200 West Inner Area and BC cribs and trenches
    - 200 East Inner Area and pipelines
    - 200 Area Deep Vadose Zone
    - 200 Area Burial Grounds

Complete First Remediation of a Large Processing Canyon in the EM Complex

24. Begin demolition of U Plant, clean up waste sites, and design protective barrier

Base Operations Needed to Support Cleanup

Operate key waste management facilities and maintain minimum safe operations and essential site services

Footprint Reduction

- River Corridor ~220 square miles
- Central Plateau Outer Area ~65 square miles
- Central Plateau Inner Area ~10 square miles

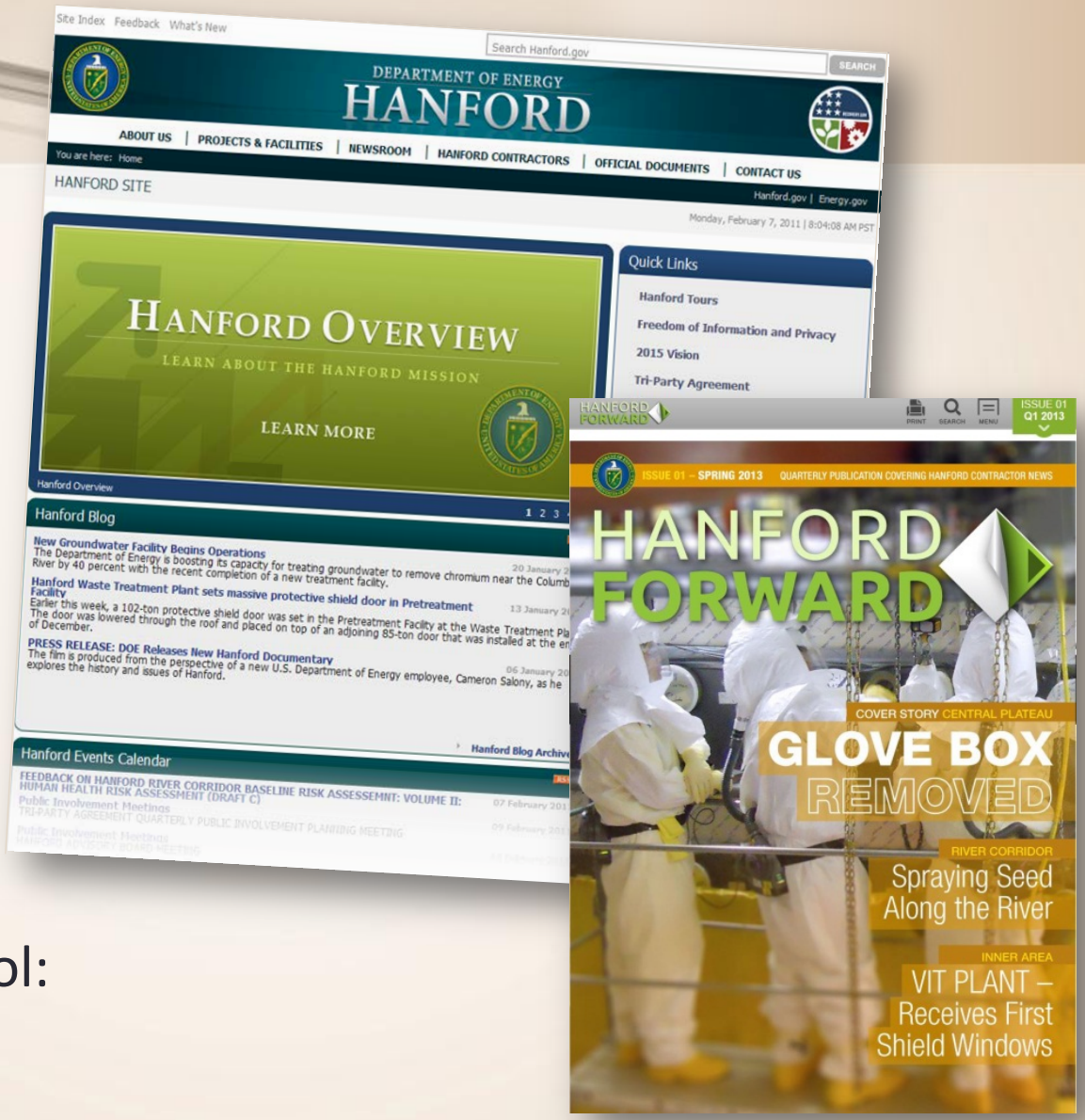
Find Out More

Go to

www.hanford.gov

to learn about

- The latest news on Hanford cleanup
- Hanford newsletters
- Hanford social media sites
- Public events
- New informational tool: "GovDelivery"



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