

**Environmental Management
Richland Operations Office
FY 2013 President's Budget
FY 2014 Budget Request**



**J.D. Dowell
DOE-RL Assistant Manager
Central Plateau and River Corridor
March 15, 2012**

Environmental Management (EM) Mission

March 2012

“Complete the safe cleanup of the environmental legacy brought about from five decades of nuclear weapons development, production, and Government-sponsored nuclear energy research”



- From a legacy of weapons production to the world's largest environmental cleanup program
- Operating in the world's most complex regulatory environment
- EM clean-up enables DOE to maintain ongoing operations and other critical missions while achieving compliance with governing environmental laws

The EM Vision

March 2012

30 Years of Progress



Challenges Ahead

- The program's toughest challenges are still ahead, including processing liquid tank waste and deactivating and decommissioning a large number of facilities.
- These challenges require innovative technical solutions and scientific approaches

1989: Start of EM Cleanup

- 107 sites
- 3,125 Square Miles
- 35 states



Remaining Cleanup: End of FY 2011 Status

- 17 sites
- 318 Sq. Miles
- 11 states

EM Program Priorities

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- Maintain a safe, secure, and compliant posture throughout the EM complex
- Radioactive tank waste stabilization, treatment, and disposal
- Spent (used) nuclear fuel storage, receipt, and disposition
- Special nuclear material consolidation, processing, and disposition
- Transuranic and mixed/low-level waste disposition
- Soil and groundwater remediation
- Excess facilities deactivation and decommissioning (D&D)



*Hanford's 300 area before and after cleanup
(as of 02/2012)*

EM's Approach to Meeting our National Responsibility

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- Conduct quality work in a safe and secure manner while protecting workers, communities and the environment
- Perform strategic reviews of site cleanup approaches to ensure effective cleanup with maximum return on taxpayer investment
- Focus technology development and deployment investments on near-term solutions to address our most challenging problems
- Prioritize work based on risk and compliance
- Improve contract and project management

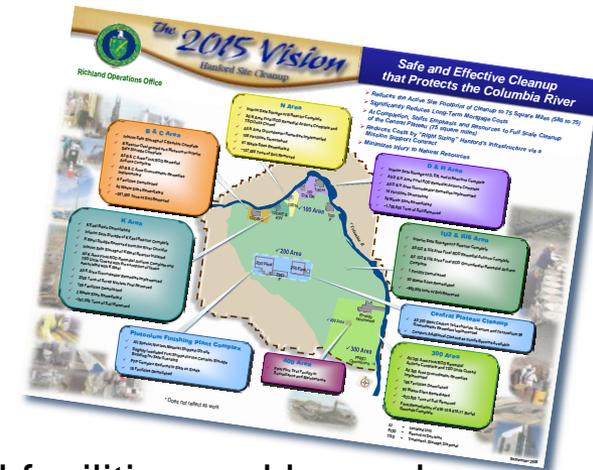


DOE-Richland's 2015 Vision

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- Safe and Effective Cleanup that Protects the Columbia River
 - Larger in size and complexity than Rocky Flats, Fernald and Mound combined
 - Complete on schedule and under cost
 - Reduces Hanford cleanup footprint from 586 to than 75 square miles
 - Completes cleanup of reactor areas, contaminated facilities and hazardous waste sites in the 220 square mile area adjacent to the Columbia River
 - Removes highly-radioactive sludge away from the river (highest source term near river)
- Eliminates Hanford's highest hazard nuclear facility by demolishing the Plutonium Finishing Plant
- Implements groundwater treatment systems in the River Corridor and Central Plateau necessary to protect the Columbia River
- Maintain RL and ORP site security and infrastructure

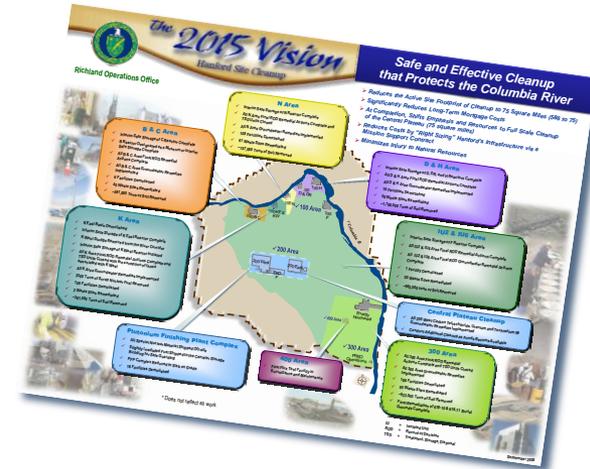


Challenges Ahead

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- Achieving the 2015 Vision comes with challenges
 - Dynamic cleanup comes with uncertainties
 - Enable success by evaluating risks and mitigation efforts
 - Funding challenged environment
 - It is important to continue to identify further efficiencies so we can stay on track in FY 2013 and beyond
- We are committed to working together to resolve issues that may arise



RL Profile

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PBS	PBS Title	FY 2012 Appropriation	FY 2013 President's Budget (realigned)	FY 2014 Requirements
RL-0011	NM Stabilization and Disposition - PFP	\$99,195	\$147,035	\$168,243
RL-0012	SNF Stabilization and Disposition	\$111,952	\$108,658	\$121,187
RL-0013	Solid Waste Stabilization and Disposition - 200 Area	\$143,482	\$128,135	\$146,444
RL-0030	Soil and Water Remediation - Groundwater/Vadose Zone	\$190,705	\$174,992	\$306,233
Subtotal	Central Plateau Remediation	\$545,334	\$558,820	\$742,107
RL-0041	Nuclear Facility D&D - River Corridor Closure Project	\$329,048	\$342,583	\$333,940
RL-0040	Nuclear Facility D&D - Remainder of Hanford	\$56,121	\$46,764	\$94,270
Subtotal	River Corridor and Other Cleanup Operations	\$385,169	\$389,347	\$428,210
RL-0100	Richland Community and Regulatory Support	\$19,540	\$15,156	\$32,410
RL-0020	Safeguards and Security	\$69,078	\$71,746	\$79,490
RL-0042	Nuclear Facility D&D - Fast Flux Test Facility Project	\$2,703	\$2,704	\$2,780
Total - RL	Richland Field Office Funding Summary	\$1,021,824	\$1,037,773	\$1,284,997

*** \$ in 000's throughout presentation ***

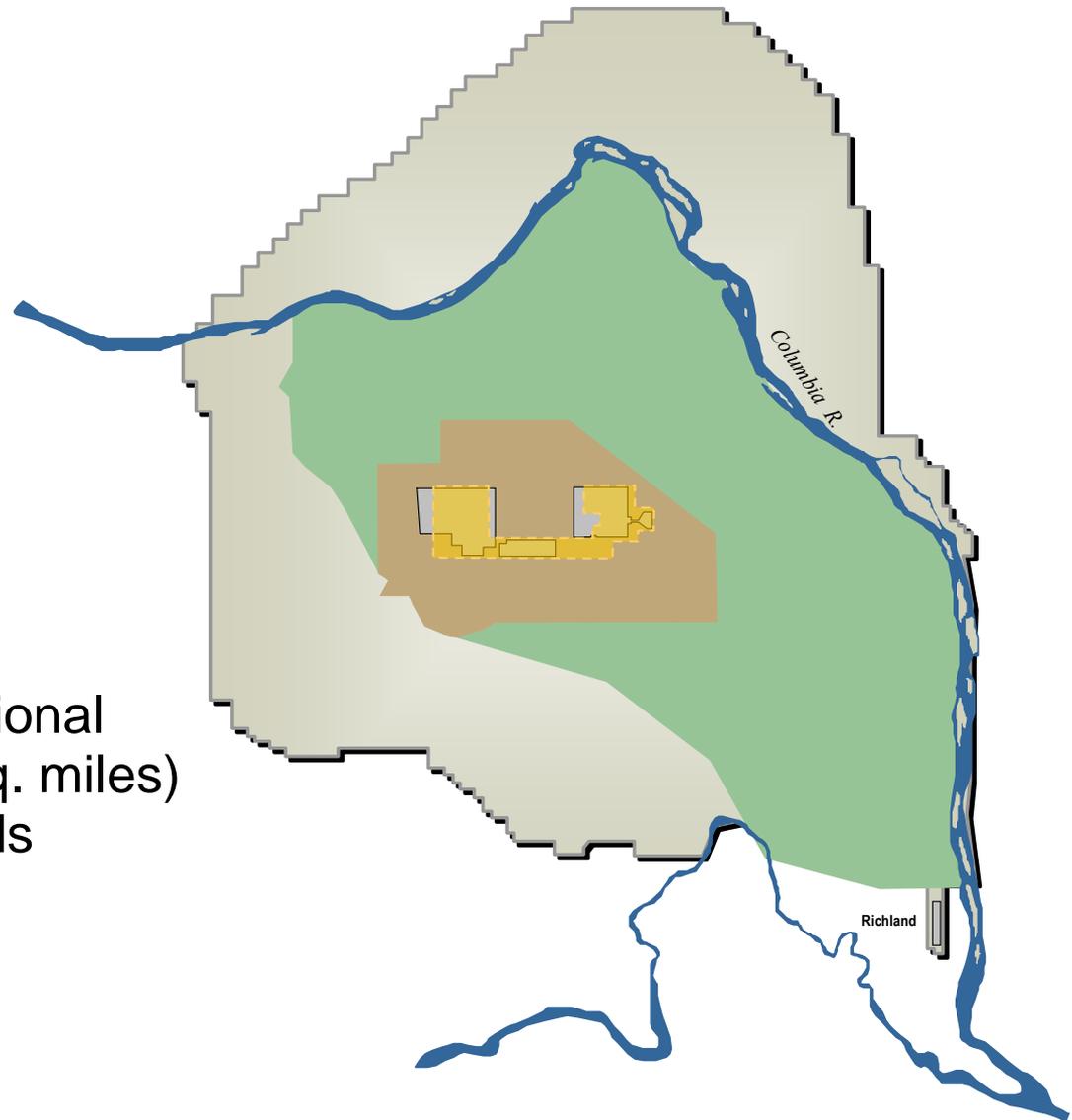
Shrinking the Footprint of Active Site Cleanup

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- 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 (~300 sq. miles)
(including Arid Lands
Ecology Reserve)



River Corridor

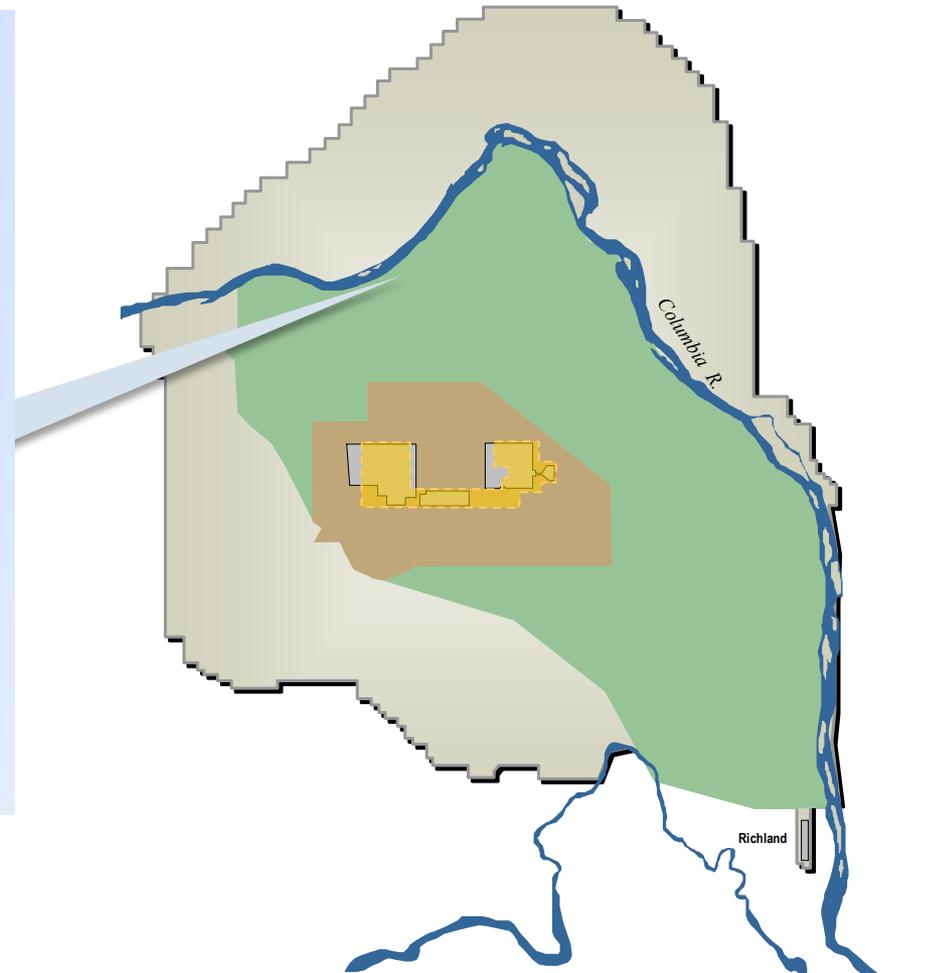
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FY 2013 - SNF Stabilization/Disposition (RL-0012)

K-Basin Closure (\$108.7M)

- Provides operation and maintenance support to maintain the K West Basin in a safe and compliant manner. Funding also supports minimum required surveillance and maintenance activities (\$26.2M)
- Continue progress towards removal of sludge off of river by 2015. Complete final design for sludge retrieval and transfer system (M-016-174). Continue KW Annex and T-Plant modifications for sludge transport and storage container (STSC), (\$48.9)
- Provides site-wide services (\$33.6)



River Corridor

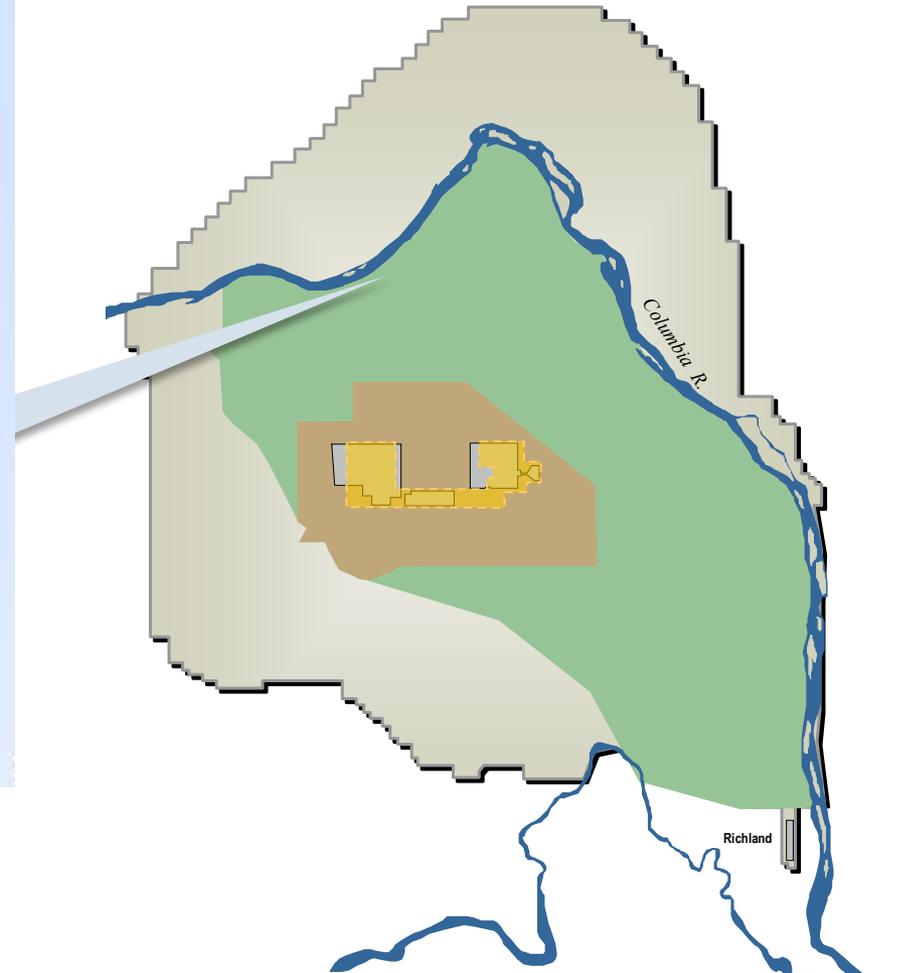
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FY 2014 - SNF Stabilization/Disposition (RL-0012)

K-Basin Closure (\$121.2M)

- Provides operation and maintenance support to maintain the KW Basin in a safe and compliant manner. Funding also supports minimum required surveillance and maintenance activities (\$27.1).
- Complete Operational Readiness for 100K West Basin; begin sludge removal from 105KW Fuel Storage Basin (M-016-175). Complete STSC Annex modifications; and T Plant readiness to receive sludge for lag storage (\$64.1M).
- Provides site-wide services (\$30.0).



River Corridor

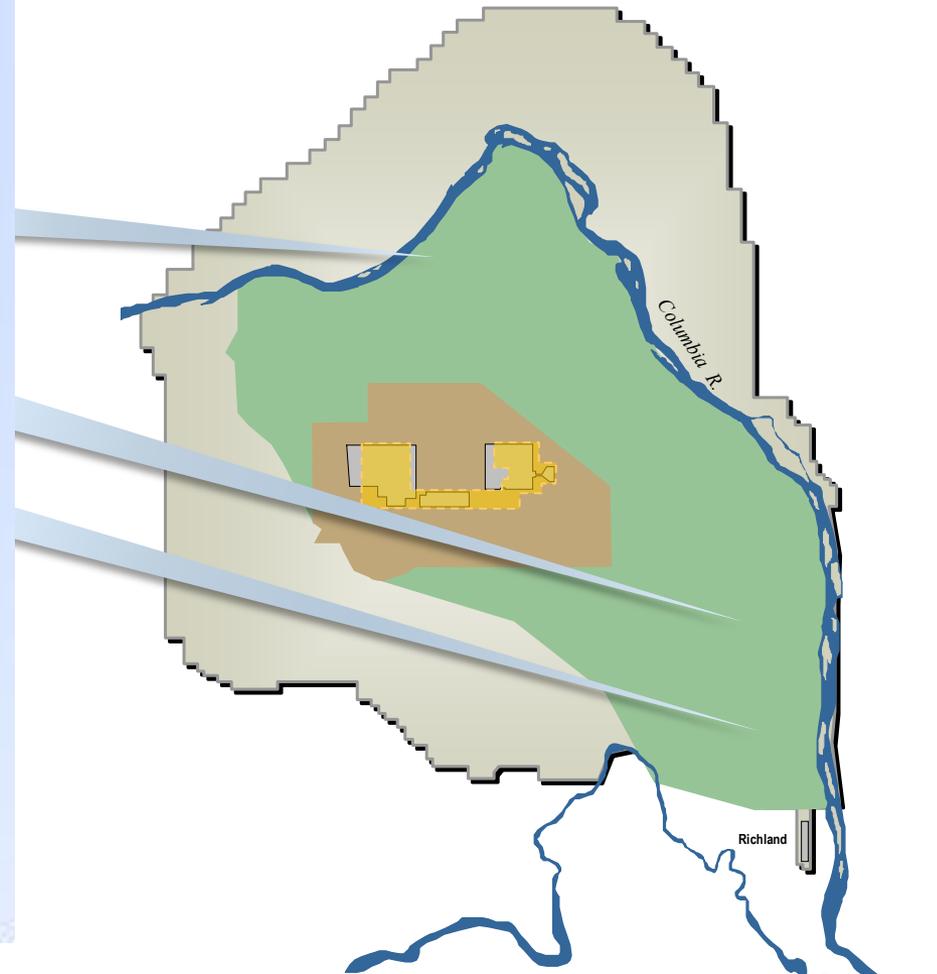
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FY 2013 - Nuclear Facility D&D – River Corridor Closure Project (RL-0041)

River Corridor D&D Cleanup (\$342.6M)

- Completion All Interim Response Actions For The 100 Areas , except 100K (M-016-00A).
- Complete the Interim Response Actions for 100K Area Phase 1 (M-016-53).
- Complete the Interim Response Actions for 100-K Areas outside the perimeter boundary (M-016-145).
- Complete The Interim Response Actions For The 100 N Area (M-016-55).
- Initiation of remediation of 300 Area liquid waste and process sewer systems (M-016-75).
- Completion of the selected removal and/or remedial actions for 13 high priority facilities (M-094-09).
- Field remediation (FR),deactivation/decontamination/ decommissioning/demolition (D4), and surveillance and maintenance continue along the Columbia River Corridor
- Operation of the Environmental Restoration Disposal Facility (ERDF)
- B Reactor surveillance and maintenance



River Corridor

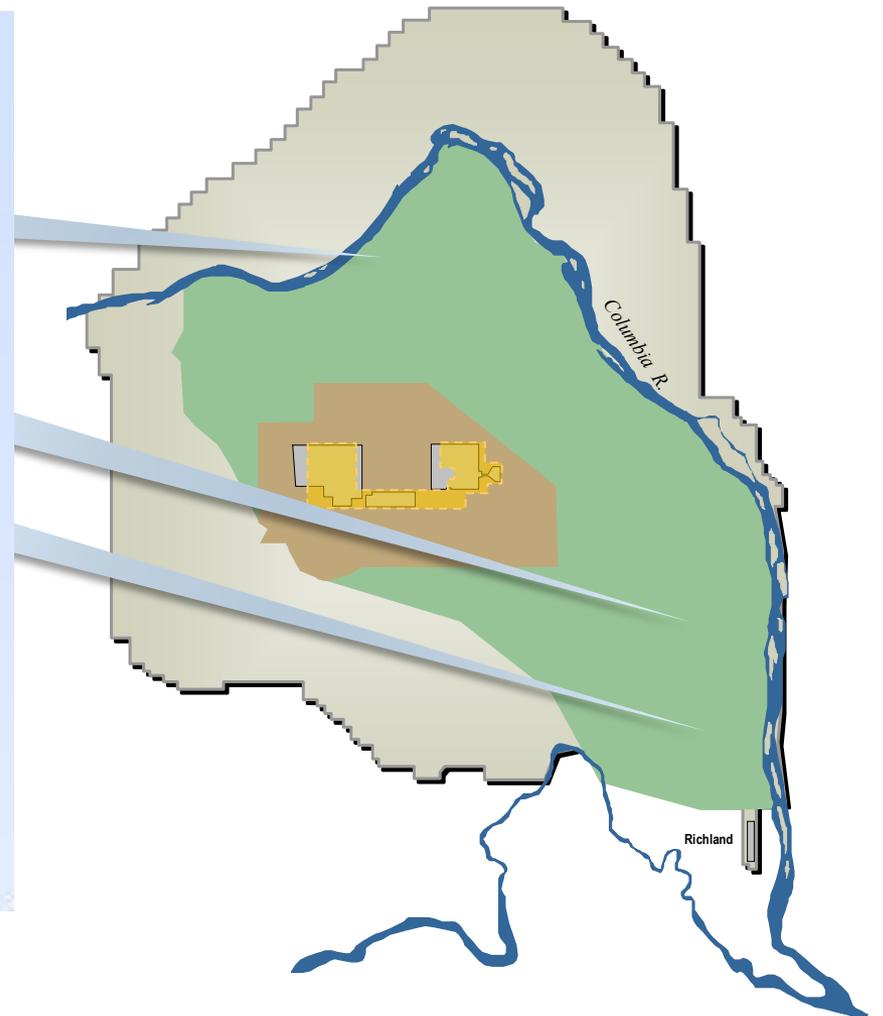
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FY 2014 - Nuclear Facility D&D – River Corridor Closure Project (RL-0041)

River Corridor D&D Cleanup (\$333.9M)

- Completion of remediation of highly contaminated soils below the 324 facility.
- Characterization, design, and remediation of 618-10/11 burial grounds continue.
- Completion of 105KE Reactor Interim Safe Storage (M-093-22).
- Continuation of progress to Initiate Deactivation for the 105KW Fuel Storage Basin in 2015
- Field remediation (FR) and deactivation/decontamination/decommissioning/demolition (D4), and surveillance & maintenance continue along the Columbia River Corridor
- Operation of the Environmental Restoration Disposal Facility (ERDF)
- B Reactor surveillance and maintenance.



River Corridor

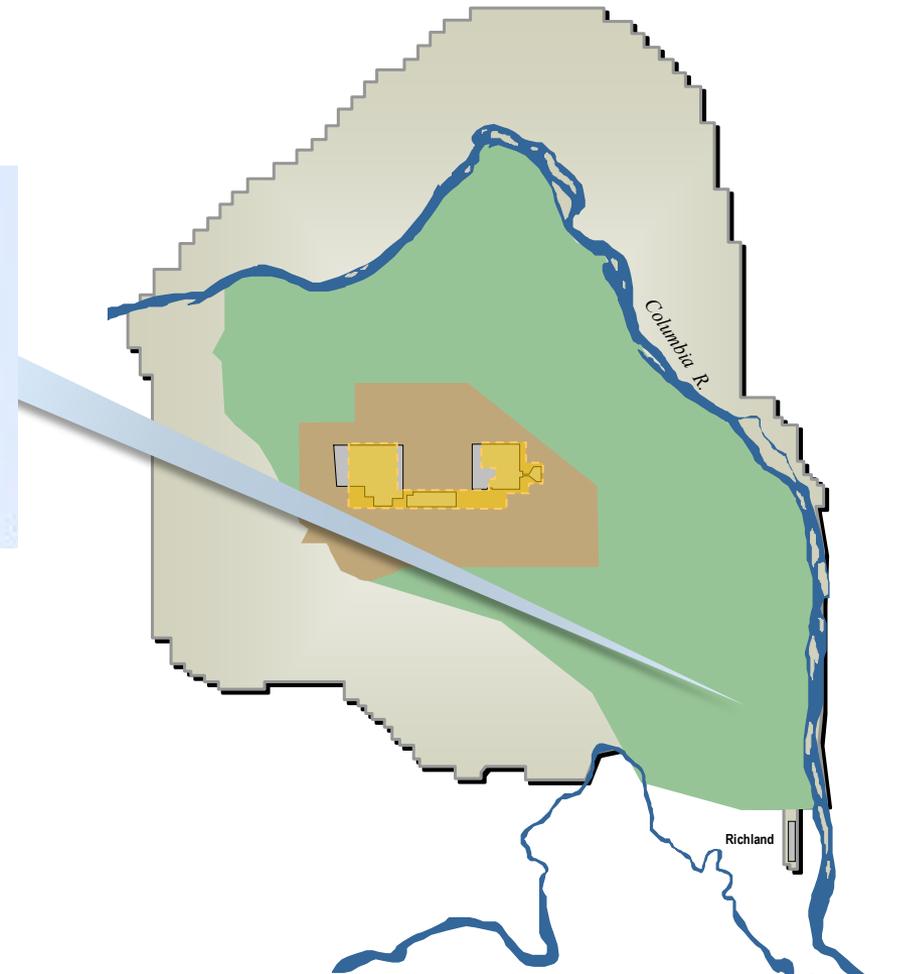
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FY 2013 - Nuclear Facility D&D FFTF (RL-0042)

Nuclear Facility D&D FFTF (\$2.7M)

- Provide surveillance and maintenance activities necessary to ensure minimum safety for FFTF and support facilities which includes residual and stored bulk sodium at FFTF (\$2.7M)



River Corridor

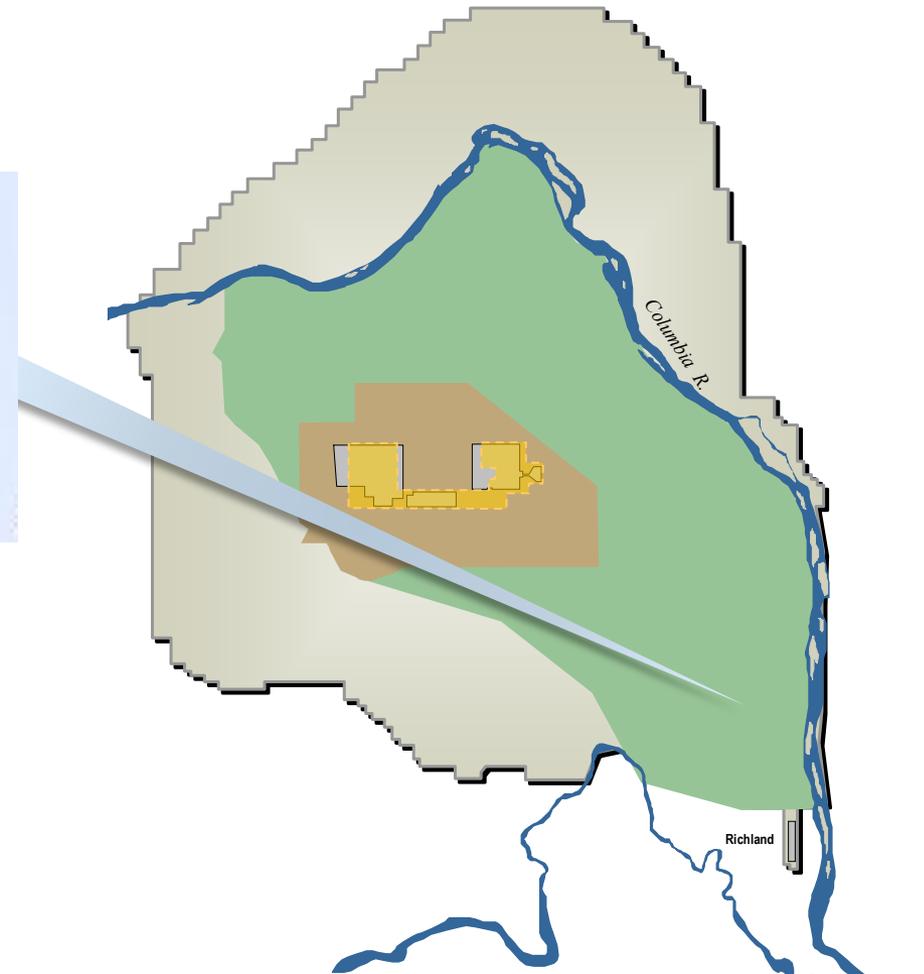
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FY 2014 - Nuclear Facility D&D FFTF (RL-0042)

Nuclear Facility D&D FFTF (\$2.8M)

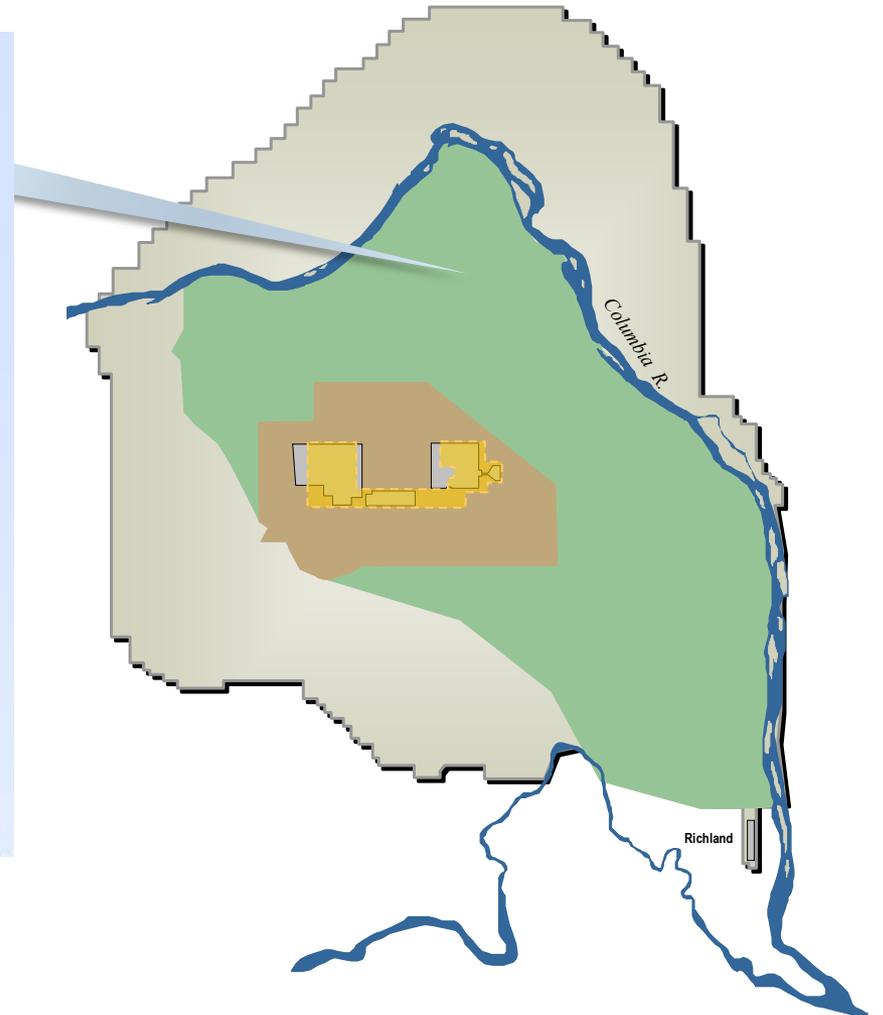
- Provide surveillance and maintenance activities necessary to ensure minimum safety for FFTF and support facilities which includes residual and stored bulk sodium at FFTF (\$2.8M)



FY 2013 – Soil & Water Remediation - Groundwater/ Vadose Zone (RL-0030)

Soil & Water Remediation (\$175.0M)

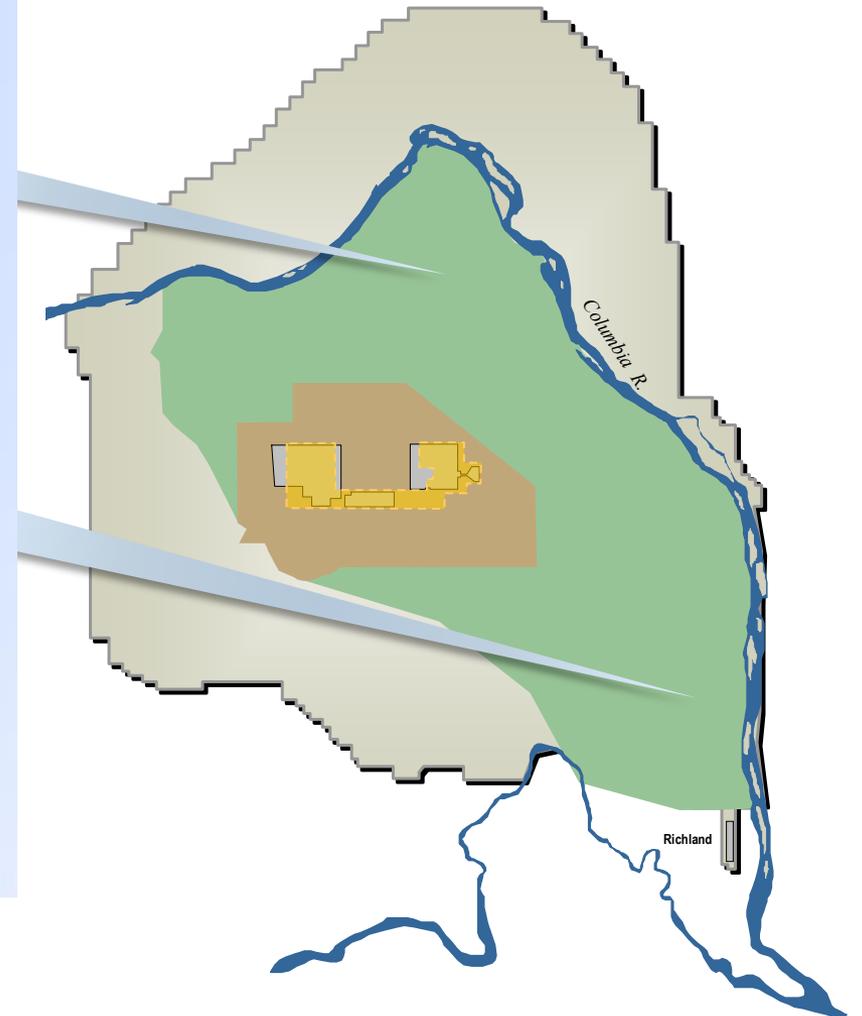
- Continued integration of Site-Wide groundwater and vadose zone cleanup activities, groundwater contamination monitoring, maintenance, and modification of existing remediation systems in the Central Plateau and River Corridor. Deploy chemical and biological treatment to select areas in support of final remedies (\$82.4M).
- Support progress towards the development and issuance of Record of Decisions and Remedial Design/Remedial Action Work Plans needed to implement the final remedies for the 100 and 300 Area groundwater River Corridor operable units (\$2.6M).
- Support progress towards the continued performance of burial ground monitoring in the Central Plateau Inner Area (\$1.1M)
- Accomplishes well installation to support operation of the 200 West and the 100 Area Pump & Treat Facilities (\$8.6M).
- Provides site-wide services and user-based project services (\$80.3M)



FY 2014 – Soil & Water Remediation - Groundwater/Vadose Zone (RL-0030)

Soil & Water Remediation (\$306.2M)

- Continued integration of Site-Wide groundwater and vadose zone cleanup activities, deployment of chemical and biological treatment, groundwater monitoring, maintenance, and modification of existing remediation systems in the Central Plateau and River Corridor in support of ROD compliance and the 2015 Vision (\$166.1M).
- Supports progress towards the development of ROD and Remedial Design/Remedial Action Work Plans to implement the final remedies for the 100 and 300 Area groundwater operable units (\$1.3M).
- Achieves significant progress towards the completion of the necessary characterization and supporting decision documentation to complete the CERCLA RI/FS process and obtain the final ROD for the Central Plateau groundwater operable units, Outer Area waste sites, and deep vadose zone sites (\$28.5M).
- Supports progress towards the continued performance of burial ground monitoring in the Central Plateau Inner Area. Complete the CERCLA RI/FS process and obtain the final ROD for the Central Plateau remediation actions and implementation of PW-1/3/6 Record of Decision. (\$11.6M).
- Accomplishes well installation to support operation of the 100-KR-4. Provides for expansion of Central Plateau and River Corridor groundwater cleanup actions (e.g. pump & treat system) deployed in the River Corridor of the Hanford Site. Includes the decommissioning of Non-Tank Farm wells. (\$22.8M).
- Provides site-wide services and user based project services (\$75.9M)



Central Plateau

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FY 2013 - NM Stabilization and Disposition – PFP (RL-0011)

Plutonium Finishing Plant (\$147.0M)

- Minimum safe and essential services for over forty radiological and nuclear Plutonium Finishing Plant facilities (\$28.7M).
- Program management and support activities necessary for minimum safe operations and essential services (\$38.4M).
- Perform deactivation and decommissioning activities to support 'ready-for-demolition' of 234-5Z, 236-Z (PRF), 242-Z, and ancillary facilities. Activities include deactivation and decommissioning and removal of contaminated ducts, filter boxes, process vacuum system piping, process equipment and process support systems (i.e., criticality, HVAC, Fire Protection), (\$64.4M)
 - Continue progress towards PFP cleanout and demolish to slab-on-grade by 9/16 (M-083-00A)
- Provides site-wide services and user-based project services (\$15.5M).



Central Plateau

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FY 2014 - NM Stabilization and Disposition – PFP (RL-0011)

Plutonium Finishing Plant (\$168.2M)

- Minimum safe and essential services for over forty radiological and nuclear Plutonium Finishing Plant facilities (\$32.4M)
- Program management and support activities necessary for minimum safe operations and essential services (\$44.4M)
- Perform deactivation and decommissioning activities to support 'ready-for-demolition' of decontamination 234-5Z, 291-Z, 291-Z Stack, 236-Z (PRF), 242-Z, and ancillary facilities. Activities include deactivation and decommissioning completion and removal of contaminated ducts, filter boxes, process vacuum system piping, process equipment and process support systems (i.e., criticality, HVAC, Fire Protection), (\$69.3M)
- Continue progress towards PFP cleanout and demolish to slab-on-grade by 9/16 (M-083-00A)
- Provides site-wide services and user-based project services (\$22.1M)



Central Plateau

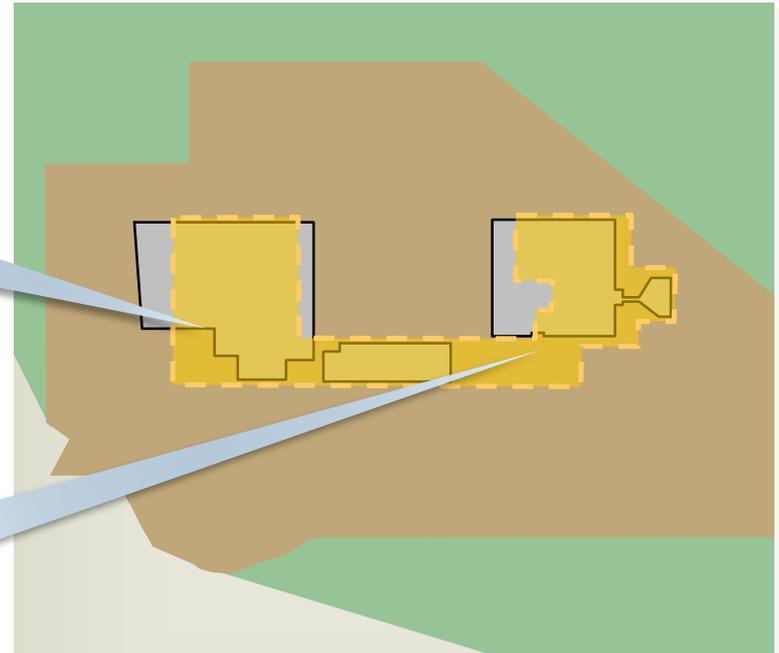
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FY 2013 - Nuclear Facility D&D – Remainder of Hanford (RL-0040)

Nuclear Facility D&D – Remainder of Hanford (\$46.8M)

- Provide surveillance and maintenance activities to ensure safety for inactive waste sites and facilities on Hanford's Central Plateau (\$10.1M).
- RL Directed services for site integration (\$27.3M).
- Provide HAMMER facilities and programs for safety and health training (\$6.8M).
- Provide site infrastructure upgrades, replacements and repairs (\$2.6M)



Central Plateau

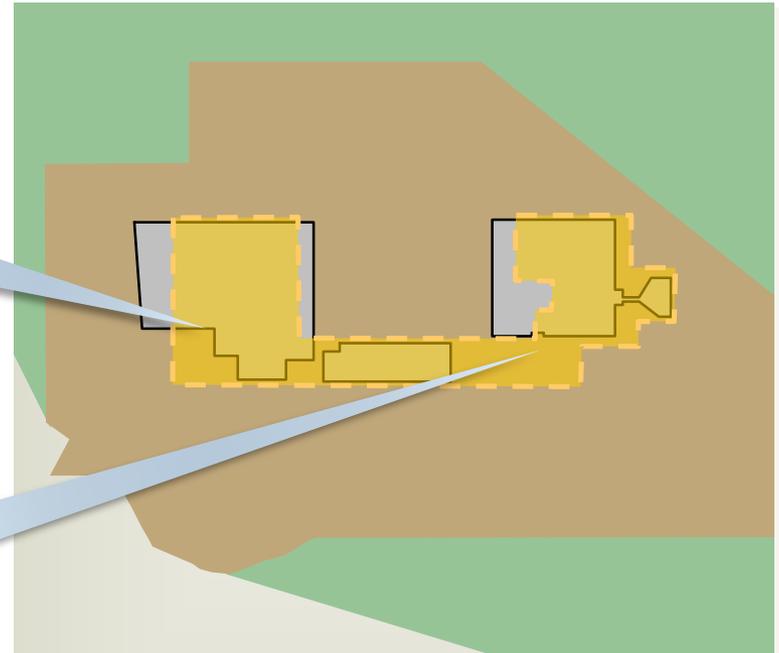
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FY 2014 - Nuclear Facility D&D – Remainder of Hanford (RL-0040)

Nuclear Facility D&D – Remainder of Hanford (\$94.3M)

- Provide surveillance and maintenance activities to ensure safety for inactive waste sites and facilities on Hanford's Central Plateau (\$12.5M)
- RL Directed services for site integration (\$32.8M)
- Provide HAMMER facilities and programs for safety and health training (\$6.9M)
- Provide site infrastructure upgrades, replacements and repairs (\$20.0M)
- Direct funding of rent and RL managed contracts (previously spread amongst the PBSs - \$22.1M)



Central Plateau

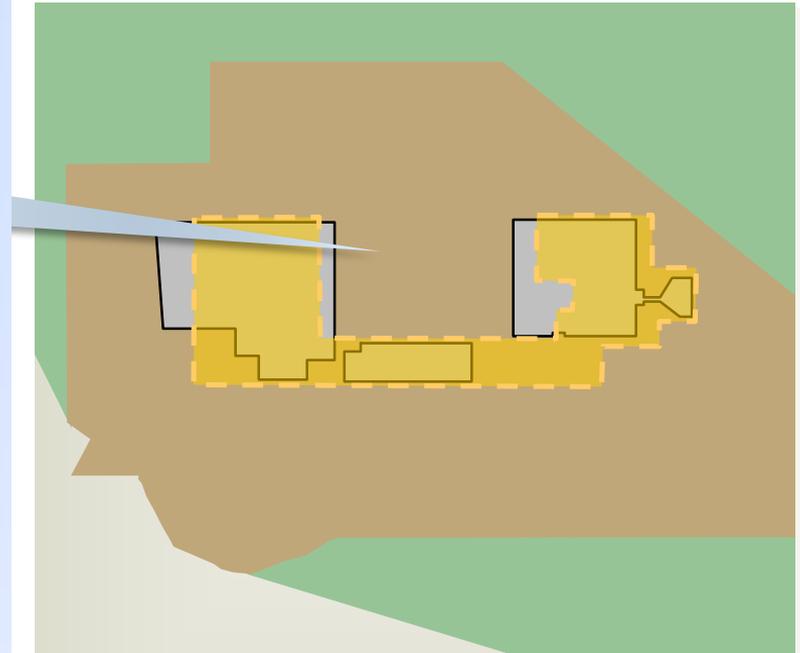
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FY 2013 - Solid Waste Stabilization & Disposition (RL-0013)

Solid Waste Stabilization & Disposition (\$128.1M)

- Provide base operations necessary to support safe and compliant storage of spent nuclear fuel (SNF). Included are activities to operate and maintain the CSB and 200 Area Interim Storage Area (ISA) facilities (\$4.8M).
- Provide minimum project management and support necessary to ensure overall waste management project compliance to applicable requirements (\$13.2M).
- Operation of waste treatment facilities: Provide minimum safe operations for the Central Waste Complex; including Solid Waste base operations, Mixed Waste Disposal Trenches, Integrated Disposal Facility, T Plant and ERDF interface (\$47.0M).
 - Designate RH TRUM and Large Container CH TRUM (M-091-44P).
 - Prepare to receive K-Basin sludge.
- Operate and maintain the Waste Encapsulation Storage Facility (WESF) for compliant storage of the cesium and strontium capsules (\$6.6M).
- Provides site-wide services and user-based project services(\$56.5).



Central Plateau

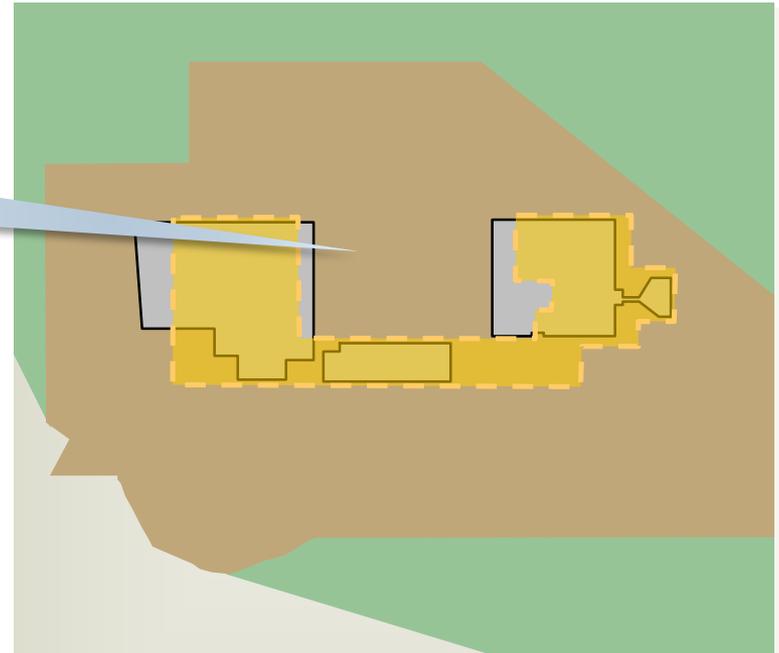
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FY 2014 - Solid Waste Stabilization & Disposition (RL-0013)

Solid Waste Stabilization & Disposition (\$146.4M)

- Provide base operations necessary to support safe and compliant storage of spent nuclear fuel (SNF). Included are activities to operate and maintain the CSB and 200 Area Interim Storage Area (ISA) facilities (\$8.3M).
- Provide minimum project management and support necessary to ensure overall waste management project compliance to applicable requirements (\$13.7M).
- Operation of waste treatment facilities: Provide minimum safe operations for the Central Waste Complex; including Solid Waste base operations, Mixed Waste Disposal Trenches, Integrated Disposal Facility, Waste Retrieval, T Plant and prepare for ERDF operations in 2015 (\$59.4M).
 - Prepare to receive K-Basin sludge.
 - TRU repackaging (M-091).
- Operate and maintain the Waste Encapsulation Storage Facility (WESF) for compliant storage of the cesium and strontium capsules (\$7.1M).
- Provides site-wide services and user-based project services (\$57.9)



Hanford Site Support

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FY 2013 - Safeguards and Security (RL-0020)

- Maintain appropriate Hanford site access controls, emergency response, and physical security at the Hanford Site. Maintain Material Control and Accountability, Information Security, Personnel Security, and Protective Force (\$71.7M).

FY 2014 - Safeguards and Security (RL-0020)

- Maintain appropriate Hanford site access controls, emergency response, and physical security at the Hanford Site. Maintain Material Control and Accountability, Information Security, Personnel Security, and Protective Force (\$79.5M).
 - Increase in FY14 is primarily due to emerging program requirements.

Hanford Site Support

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FY 2013/2014 - Community & Regulatory Support (RL-100) **(FY 2013 - \$15.2M; FY 2014 - \$32.4M)**

- The following activities are supported by this PBS in each fiscal year
 - Support Washington and Oregon States emergency preparedness, environmental oversight and other activities related to Hanford cleanup
 - Support the WA State Dept. of Ecology RCRA Mixed Waste Fee; WA State Department of Health's air emissions monitoring invoice; Payment in Lieu of Taxes for Grant, Benton, and Franklin Counties; and Hanford Advisory Board
 - Natural Resource Trustee Council and Natural Resource Injury Assessment
- FY 2013 President's Budget of \$15.2M is a 22% decrease from the FY 2012 funding of \$19.5M
 - We will discuss with all affected parties prior to implementation of any reductions

Maintaining the Hanford Site Vision

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- RL and ORP are committed to continued progress at the Hanford Site in dealing with the largest environmental liability in the EM cleanup program
- Protecting the Columbia River is vital, urgent and our obligation to the people of the Pacific Northwest
- Achieving the 2015 Vision
 - We are working hard to maintain our Vision through focused priorities and efficiency challenges built into the budget planning to minimize additional scope cuts
 - We are committed to maintaining worker and public safety
- We appreciate your continued input to cleanup priorities

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Back-Up Slides

RL Profile - Backup

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*** \$ in 000's throughout presentation ***

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