

***Office of River Protection and
Richland Operations Office***
American Recovery and
Reinvestment Act
Potential Work Scope



U.S. Department of Energy

March 2009

Economic Recovery Funding

March 2009

Potential Work Scope

- EM developed proposals for stimulus funding to be spent between 2009 and 2011 with three priorities in mind
 - Creating/saving jobs
 - Shrinking the footprint of active site cleanup
 - Saving on lifecycle costs
- Potential work scope intended to be consistent with priorities of regulatory agencies, tribes, and stakeholders
- Proposed work scope covered by existing prime contracts, and most work could commence immediately
- Budget allocation to be announced in the near future



EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

ORP Recovery Funding Priorities

March 2009

Potential Work Scope

Additional Funding

- Scope of work is within contract scope

Proposed scope for additional funding

- Evaporator capacity increase to support Double Shell Tank Feed Readiness
- Completing Tank Farm Upgrades supporting Double Shell Tank Feed Readiness and Life Extension
- 222-S Laboratory Upgrades and Life Extension that support feed characterization and feed delivery to the Waste Treatment Plant
- 242-A Evaporator Upgrades and Life Extension to support waste feed delivery
- Single Shell Tank (SST) Integrity and Life Extension, and SST Consolidation
- Cross Site Transfer Line Upgrade for Slurry Feed that supports feed delivery to the Waste Treatment Plant
- Secondary Waste Treatment and Effluent Treatment Facility Upgrades to support WTP start-up
- Waste Feed Engineering Procurement Construction and Commissioning
- Canister Storage Building modifications to support WTP start-up in 2019



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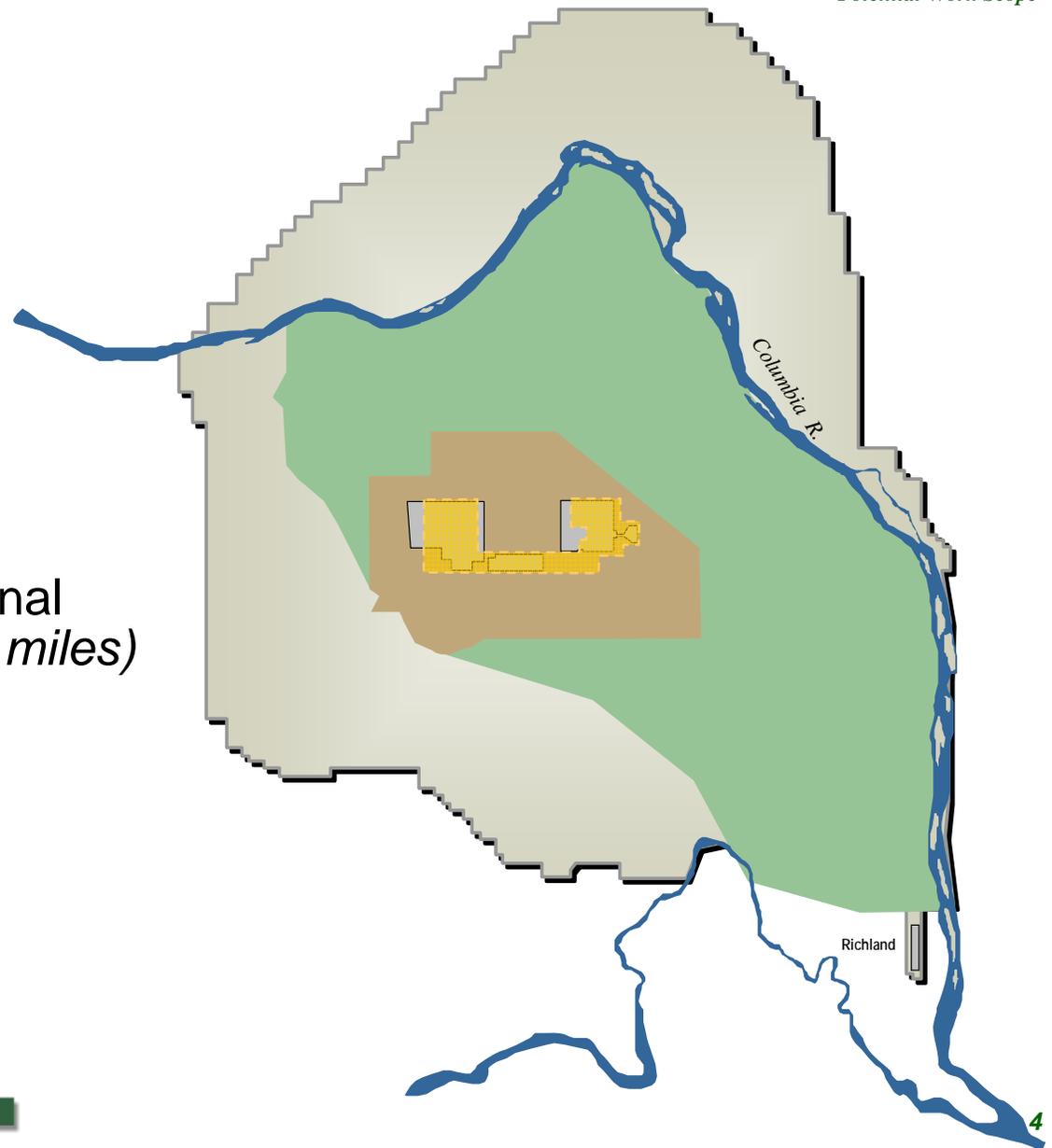
Shrinking the Footprint of Active Site Cleanup

March 2009

Potential Work Scope

Work in four areas

-  River Corridor
(~210 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)



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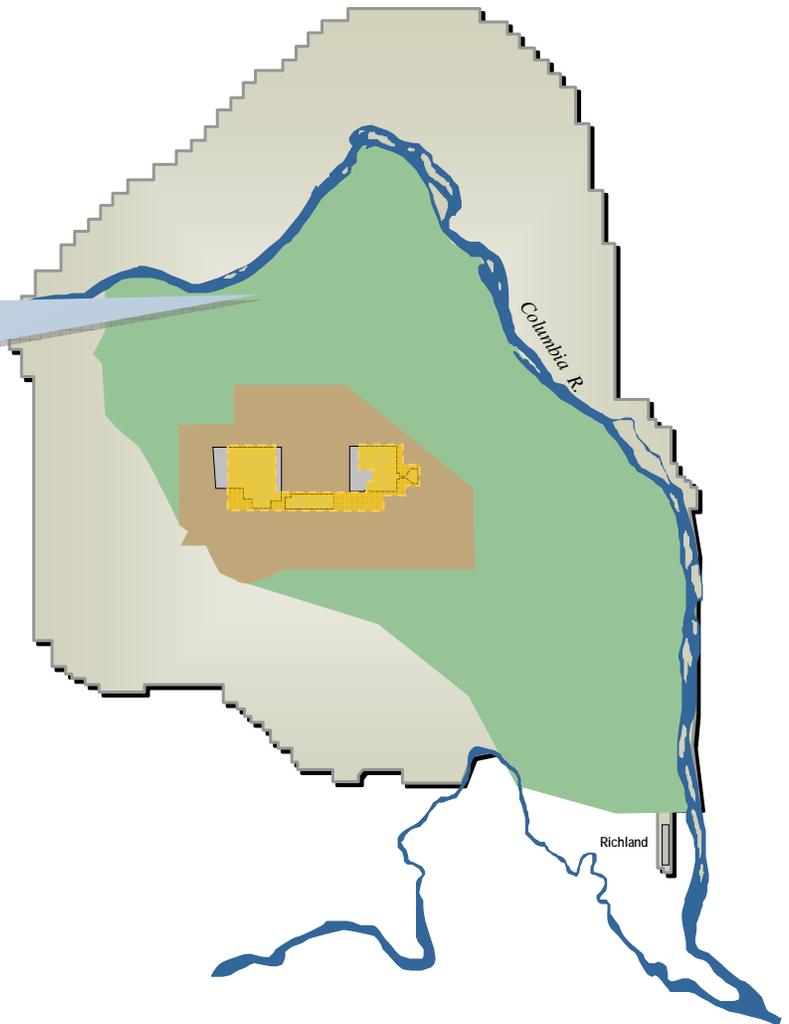
safety ❖ performance ❖ cleanup ❖ closure

■ River Corridor (~210 sq. mi.)

March 2009

Potential Work Scope

- 100 K Area
 - Demolish excess facilities
 - Remediate waste sites
 - Disposition K East Reactor



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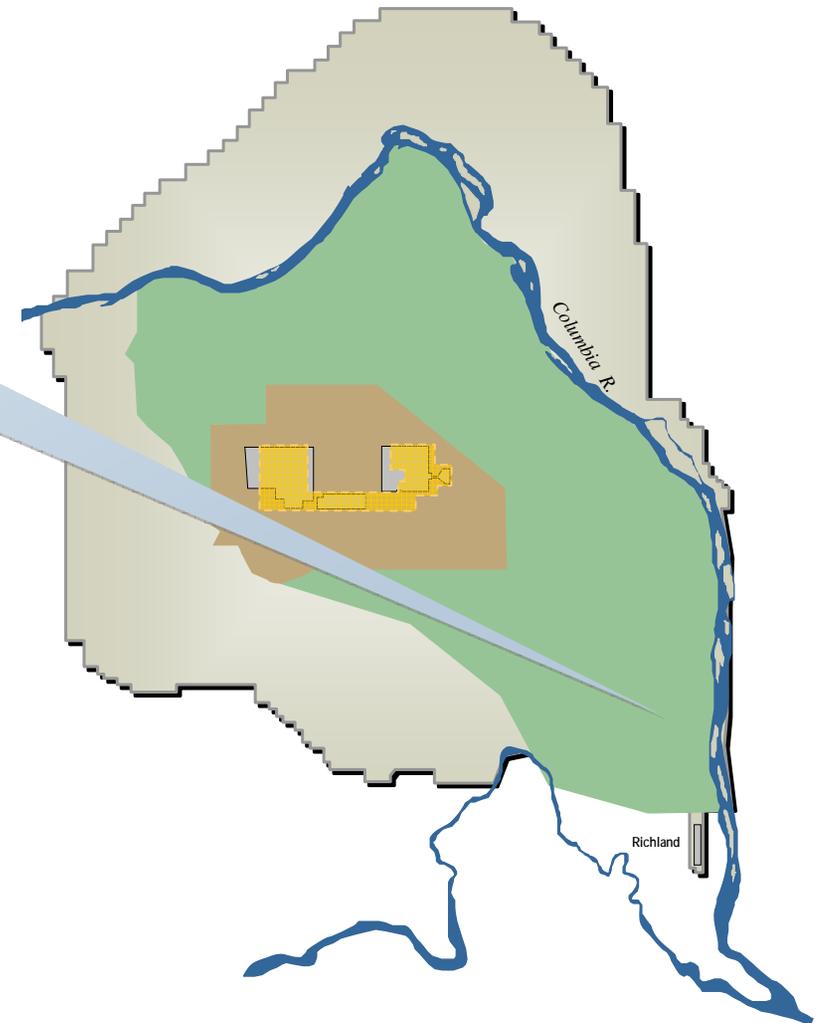
safety ❖ performance ❖ cleanup ❖ closure

■ River Corridor (~210 sq. mi.)

March 2009

Potential Work Scope

- Waste Site Remediation
 - Remediate 618-10 Burial Ground trenches
 - Remediate newly identified waste sites in 100 Areas



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■ River Corridor (~210 sq. mi.)

March 2009

Potential Work Scope

- Groundwater Remediation
 - 100 K Area (contain/treat chromium)
 - Install additional wells for the new pump & treat system (KR-4)



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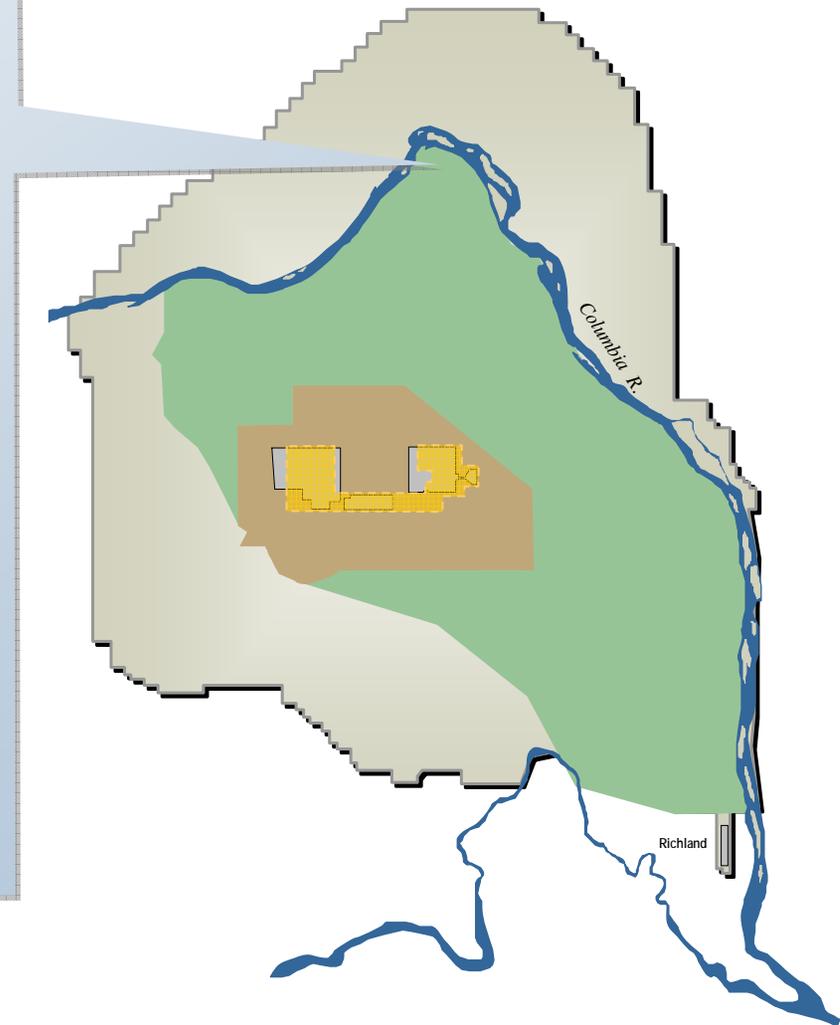
safety ❖ performance ❖ cleanup ❖ closure

■ River Corridor (~210 sq. mi.)

March 2009

Potential Work Scope

- Groundwater Remediation
 - 100 D/H Areas (contain/treat chromium)
 - Accelerate construction of pump & treat facility, expand current pump & treat operations, install additional wells
 - Accelerate bioremediation test
 - Complete improvements to chemical reactive barrier (In-Situ Redox Manipulation) in 100 D Area



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River Corridor (~210 sq. mi.)

March 2009

Potential Work Scope

- Groundwater Remediation
 - 100 D/H Areas, cont'd
 - Retrofit existing facility to regenerate resin from pump & treat facilities (currently sending off-site for regeneration)
 - Evaluate effectiveness of hydraulic control (maintain high-river stage groundwater gradient throughout the year)



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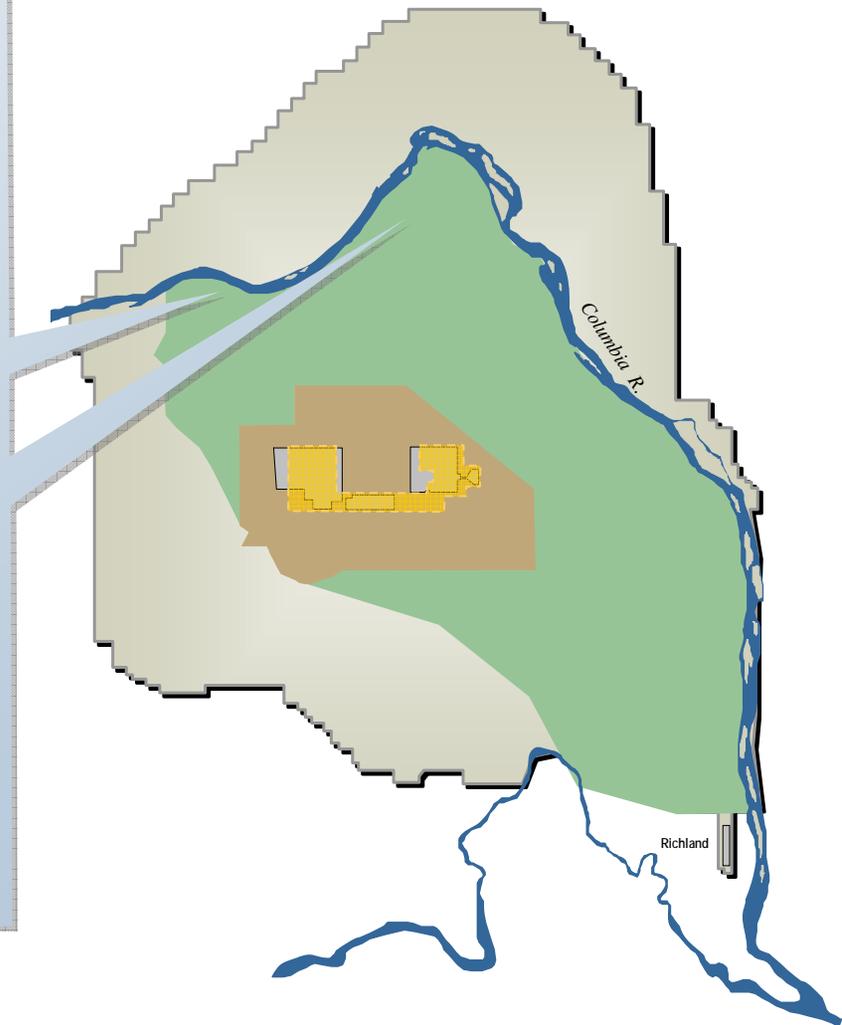
safety ❖ performance ❖ cleanup ❖ closure

■ River Corridor (~210 sq. mi.)

March 2009

Potential Work Scope

- Groundwater Remediation
 - 100 B/C Area
 - Remediate chromium contamination in soil
 - 100 N Area (contain strontium-90)
 - Drill ~170 injection and monitoring wells to support apatite barrier expansion across the width of the Sr-90 plume (2,400 ft.)
 - Conduct field test of treatment methods for strontium-90 above the water table



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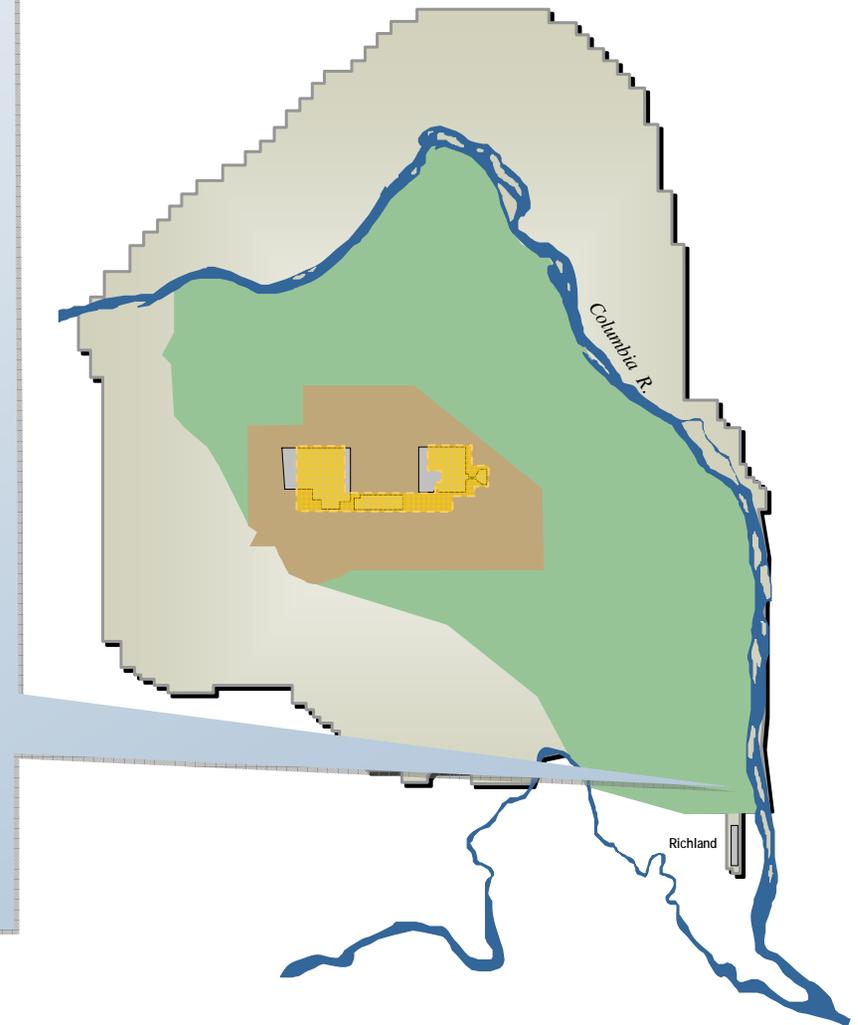
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■ River Corridor (~210 sq. mi.)

March 2009

Potential Work Scope

- Groundwater Remediation
 - 300 Area (contain uranium)
 - Accelerate polyphosphate treatability test to fix uranium contamination in place
 - Accelerate drilling of 15 wells to be used for sampling/treatment



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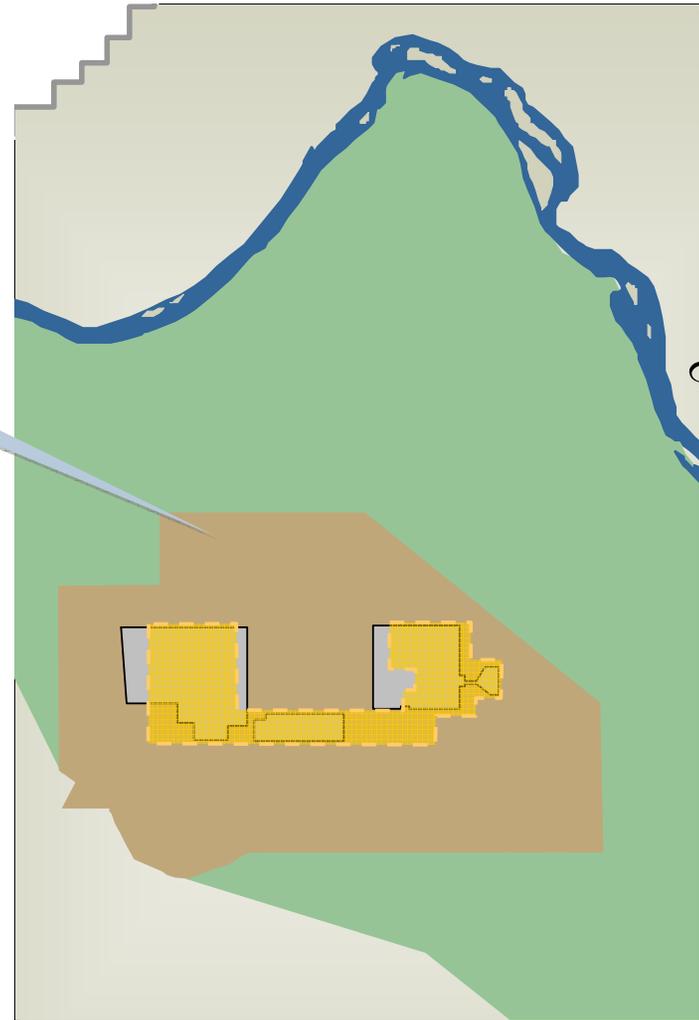
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Central Plateau, Outer Zone (~65 sq. mi.)

March 2009

Potential Work Scope

- CERCLA Record of Decision for Outer Zone (a “7th” ROD)



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■ Central Plateau, Outer Zone (~65 sq. mi.)

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Potential Work Scope

- 200 North Area
 - Demolish spent fuel transfer storage facilities (212 N/P/R)
 - Remediate waste sites
 - Dispose of locomotive and rail cars



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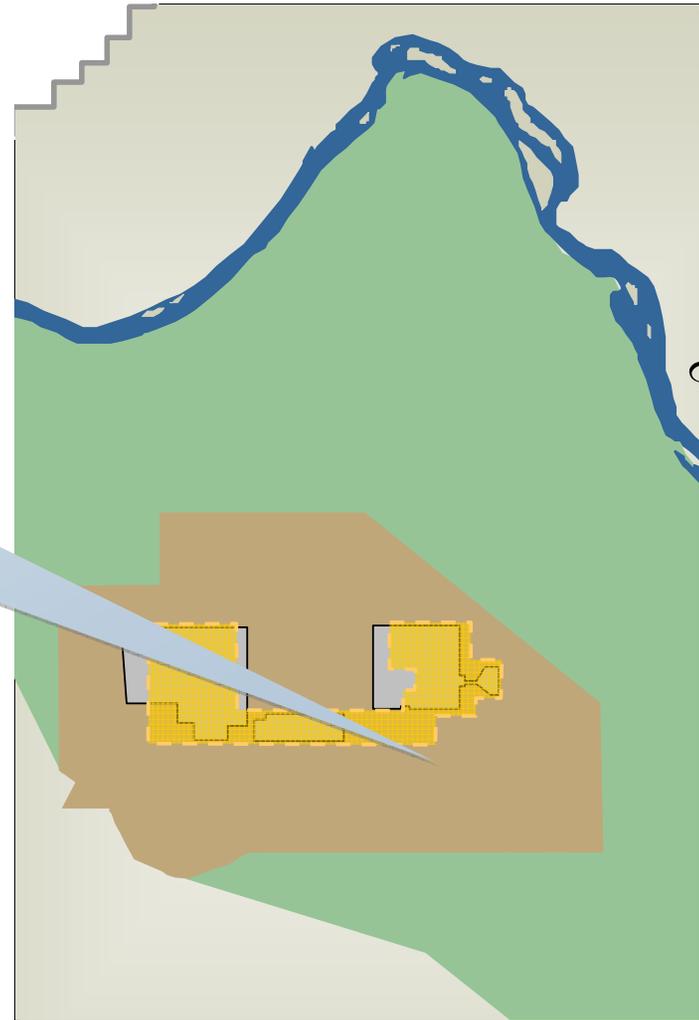
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■ Central Plateau, Outer Zone (~65 sq. mi.)

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Potential Work Scope

- Complete cleanup of B/C Control Area (contaminated area surrounding the B/C Cribs)
- Remediate up to 20 waste sites
- Decommission 350 wells



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■ Central Plateau, Outer Zone (~65 sq. mi.)

March 2009

Potential Work Scope

- Complete closure plans/design for remediation of Non-Radioactive Dangerous Waste Landfill (NRDWL) and Solid Waste Landfill (SWL)
- NRDWL was used for non-radioactive, hazardous waste (e.g. batteries, old fluorescent lights)
- SWL was used for non-hazardous solid waste (e.g., office refuse)



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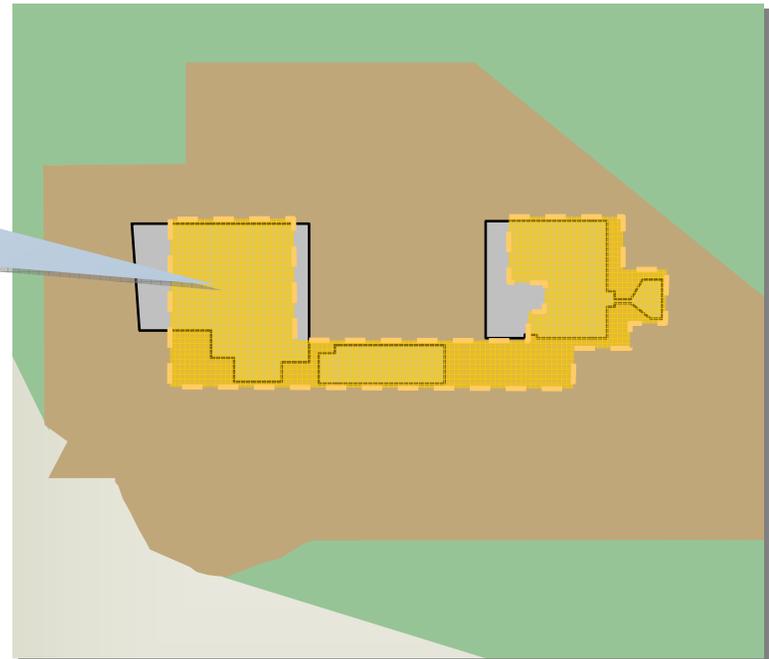
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Central Plateau Inner Zone (~10 sq. mi.)

March 2009

Potential Work Scope

- Plutonium Finishing Plant
 - Demolish 13 facilities
 - Remove glove boxes, laboratory hoods, and pencil tanks (Plutonium Reclamation Facility)



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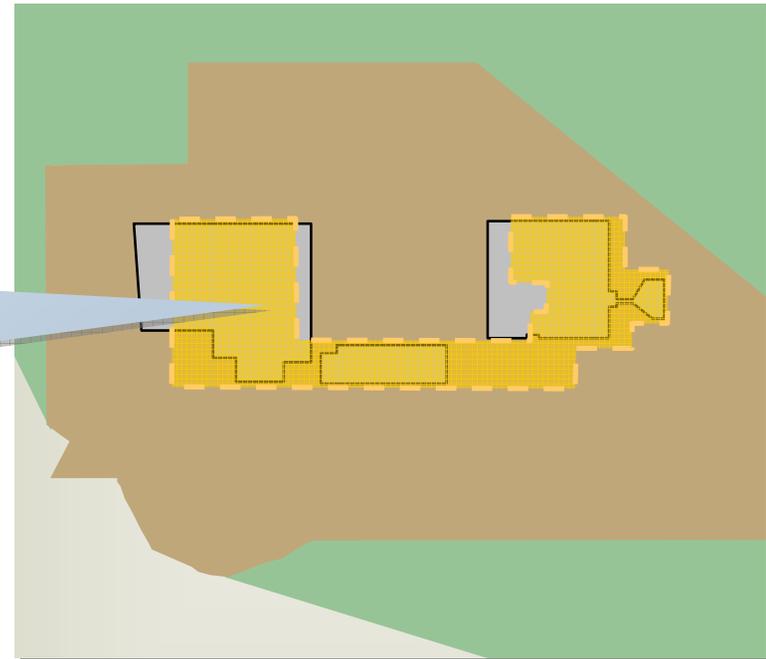
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Central Plateau Inner Zone (~10 sq. mi.)

March 2009

Potential Work Scope

- U Plant Canyon
 - Demolish 5 remaining ancillary facilities
 - Disposition Cell 30 tank contents
 - Clear off canyon deck and grout-fill cells



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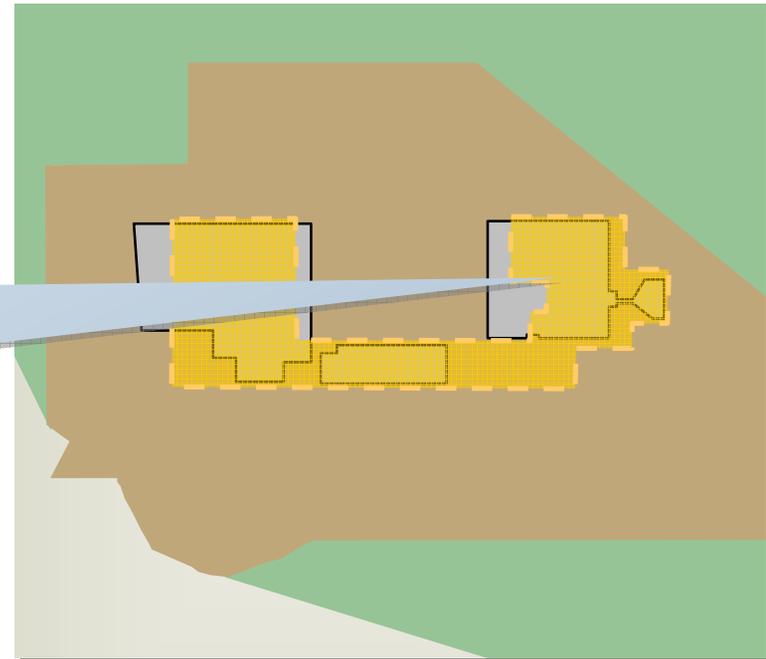
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Central Plateau Inner Zone (~10 sq. mi.)

March 2009

Potential Work Scope

- Facility Demolition
 - Demolish 14 industrial facilities in 200 East and West Areas
 - Demolish 209-E Facility (plutonium criticality laboratory) in 200 East Area



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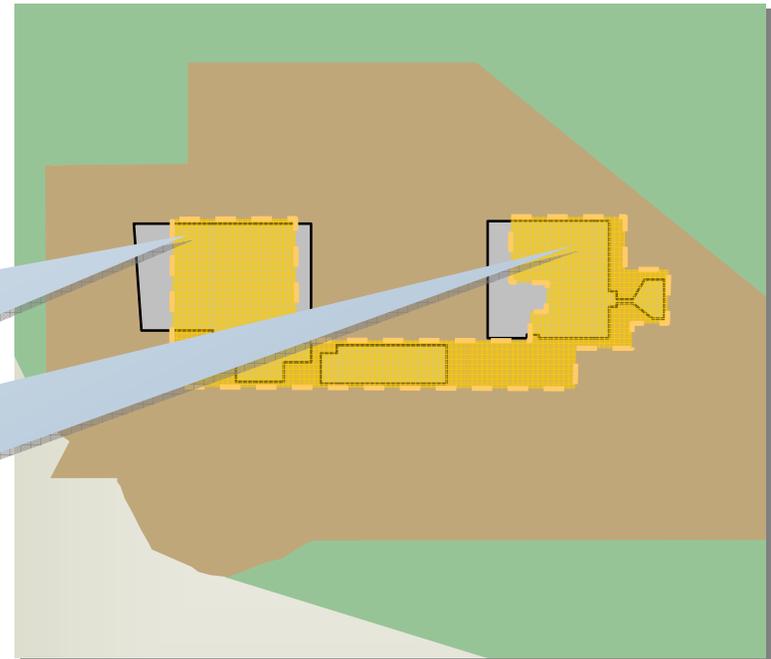
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Central Plateau Inner Zone (~10 sq. mi.)

March 2009

Potential Work Scope

- Waste Site Remediation
 - Non-intrusive remedial investigation (e.g., ground penetrating radar) of radioactive waste burial grounds in the 200 East/West Areas (SW-1, SW-2 Operable Units)



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Central Plateau Inner Zone (~10 sq. mi.)

March 2009

Potential Work Scope

- Groundwater Remediation
 - Accelerate construction of pump & treat system for groundwater contaminants in both 200 West Area operable units: 200-ZP-1 (northern portion of 200 West) and 200-UP-1 (southern portion)
 - Objective is to contain / treat carbon tetrachloride, technetium-99 and uranium
 - Contain contaminants to the Central Plateau
 - Restore groundwater to highest beneficial use (drinking water standards)



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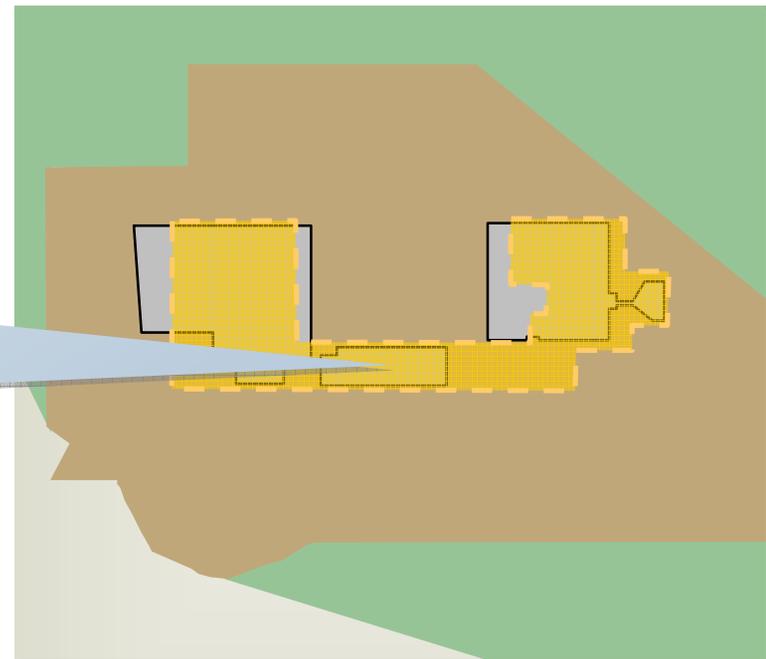
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Central Plateau Inner Zone (~10 sq. mi.)

March 2009

Potential Work Scope

- Environmental Restoration Disposal Facility (ERDF)
 - Construct two new disposal cells (9 and 10)
 - Expand operations to accommodate additional disposal activities



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Central Plateau Inner Zone (~10 sq. mi.)

March 2009

Potential Work Scope

- Transuranic (TRU) and Solid Waste
 - Continue retrieving and repackaging contact-handled TRU waste
 - Initiate retrieval of remote-handled TRU waste
 - Continue building backlog of waste for shipments to the Waste Isolation Pilot Plant
 - Upgrade T Plant (e.g., canyon crane, epoxy floor)
 - Complete treatment of current backlog of legacy mixed, low-level waste
 - Transport plutonium 238 drums off-site



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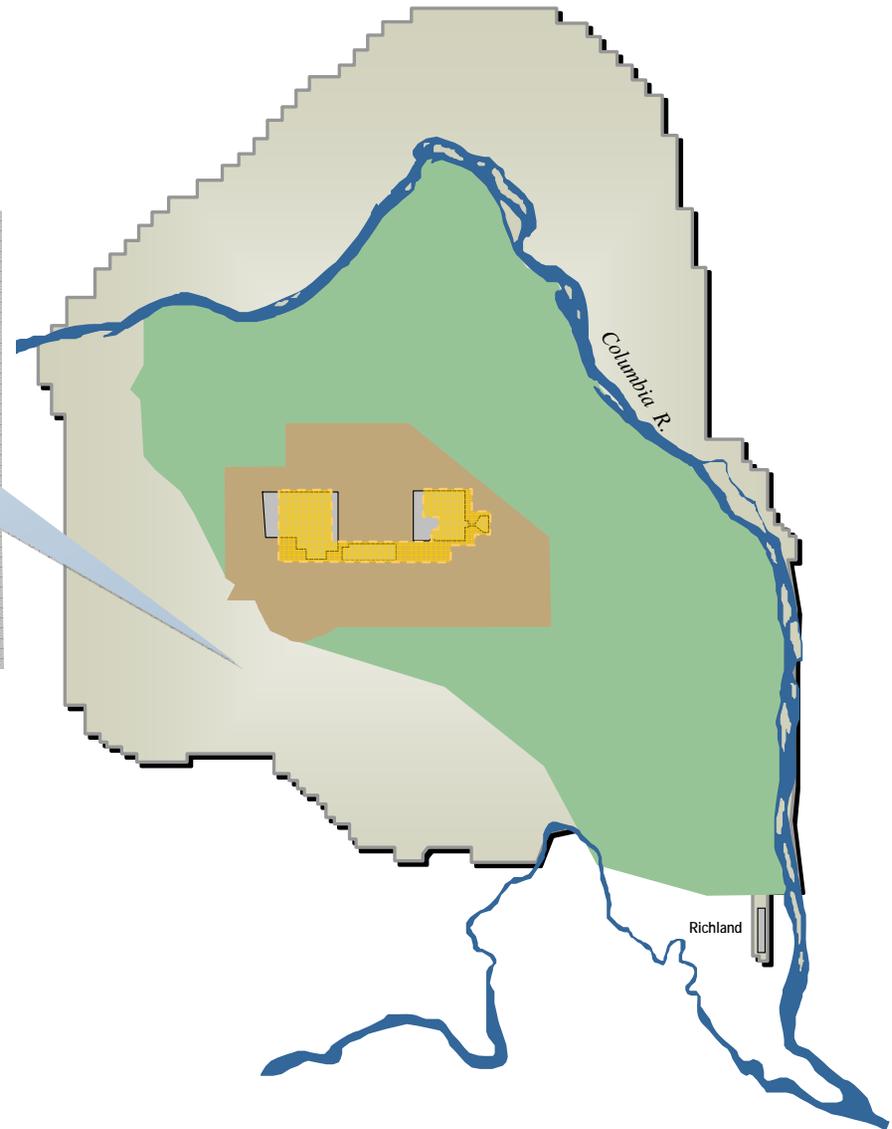
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Hanford Reach Nat'l Monument (~300 sq. mi.)

March 2009

Potential Work Scope

- Arid Lands Ecology Reserve
 - Demolish 11 excess facilities
 - Clean up nearly 300 debris areas (not contaminated)



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