



# Washington Closure Hanford: Contract Perspective

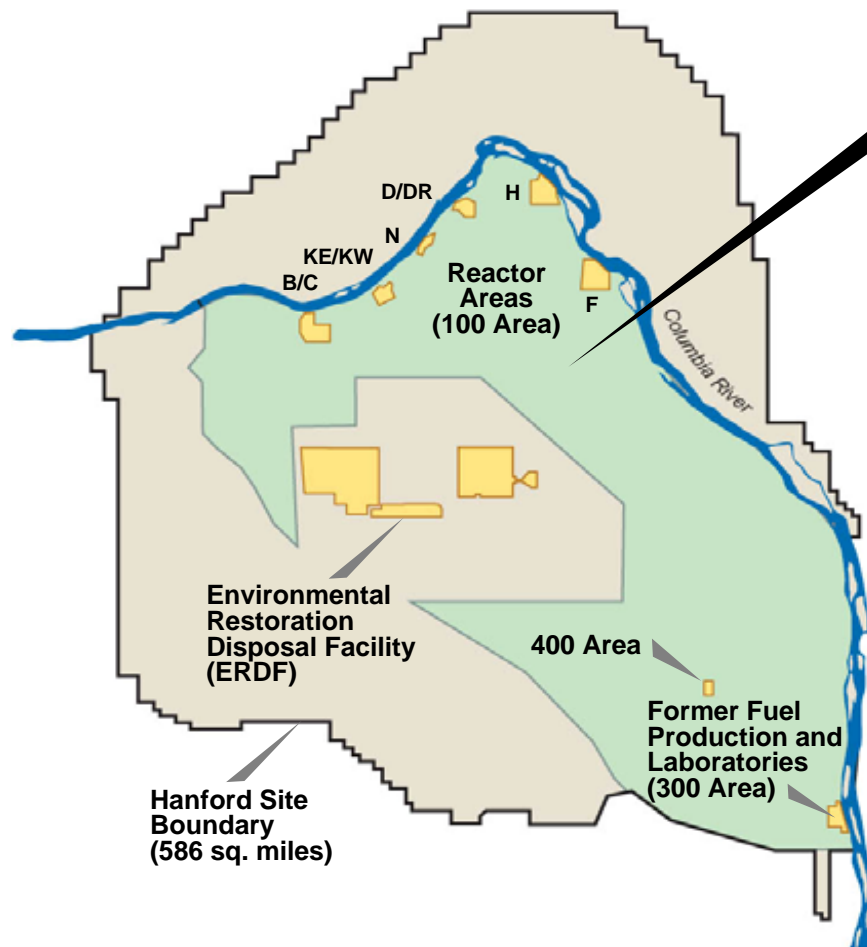
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Waste Management '09  
March 2009



U.S. Department of Energy  
Richland Operations Office

# The RCC scope extends along the Hanford portion of the Columbia River

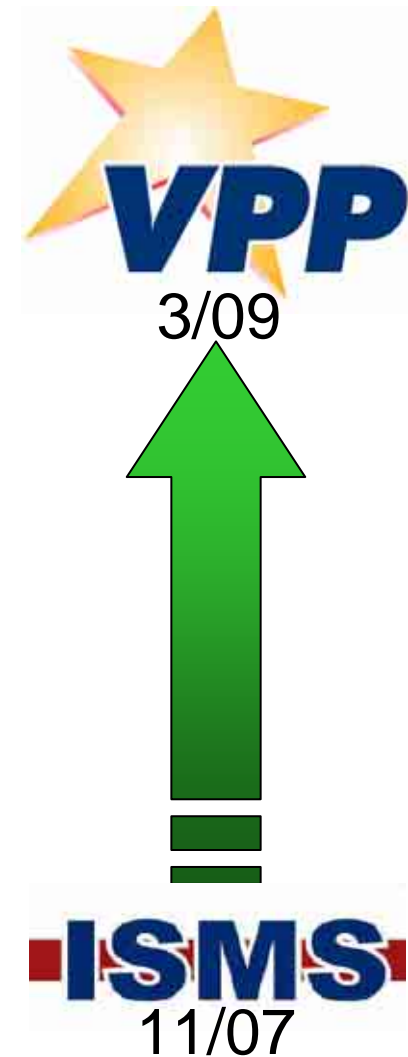
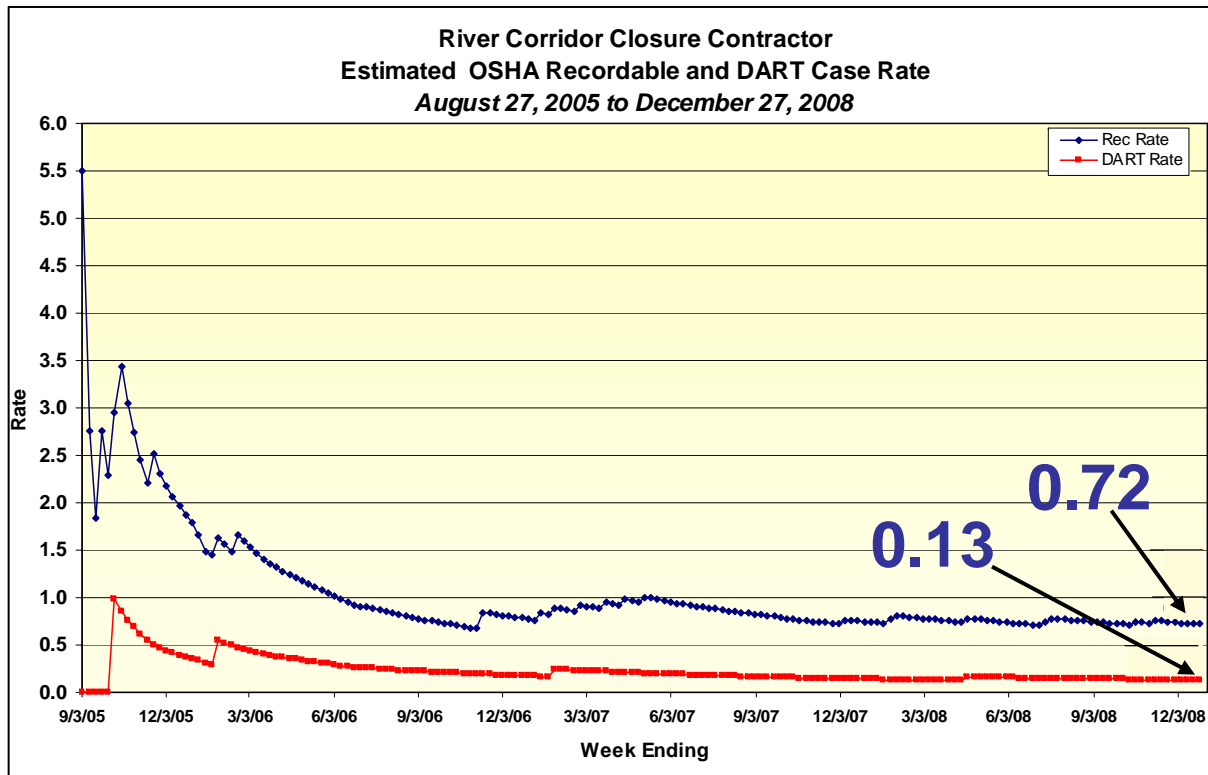


River Corridor  
(218 square miles and  
46 linear miles of Columbia  
River shoreline)

## River Corridor Contract (RCC)

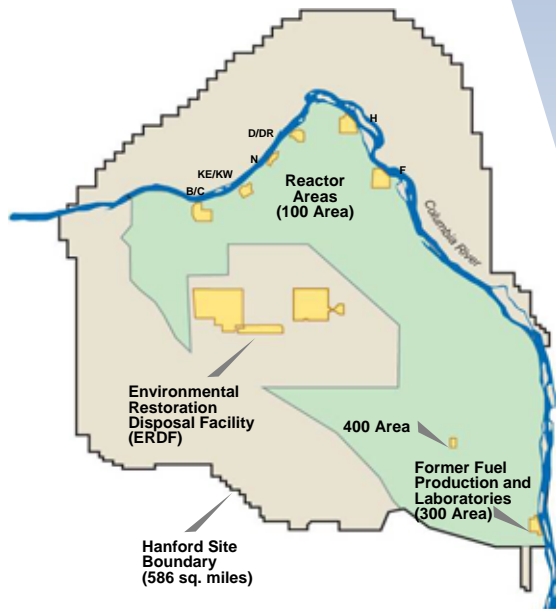
- Federal Acquisition Regulation based
- Cost-Plus Incentive Fee (Target Cost) Contract
- Incentivizes
  - safe and regulatory sound cleanup
  - cost and schedule savings

We have an excellent safety record and a strong safety culture



# Program overview

## Project Scope



D4:  
Demolition of 486 facilities



Place four reactors into safe storage condition



Field Remediation:  
Remediation and closure of 370 waste sites



Waste Operations:  
Waste treatment, transportation and disposal (4 million tons of waste)



Mission Completion:  
Risk assessment and long-term stewardship

# The general work flow

## Demolish Facilities

**116 of 486 buildings complete**

Cocoon Reactors



Remove Surplus Facilities

850,000 ft<sup>2</sup>  
facility space  
demolished

## Transport contaminated soil and debris to disposal facility



Treat waste if required, then dispose

## Remediate Waste Sites

**91 of 370 waste sites remediated**



Burial Ground Excavation



**Over 2 million tons of waste transported to ERDF**



**Environmental Restoration Disposal Facility**



## Mission Completion Project

### Long-Term Stewardship

- Geographical area waste site evaluations
- River corridor end of contract transition plan to Long-Term Stewardship



### Sample Design/Cleanup Verification

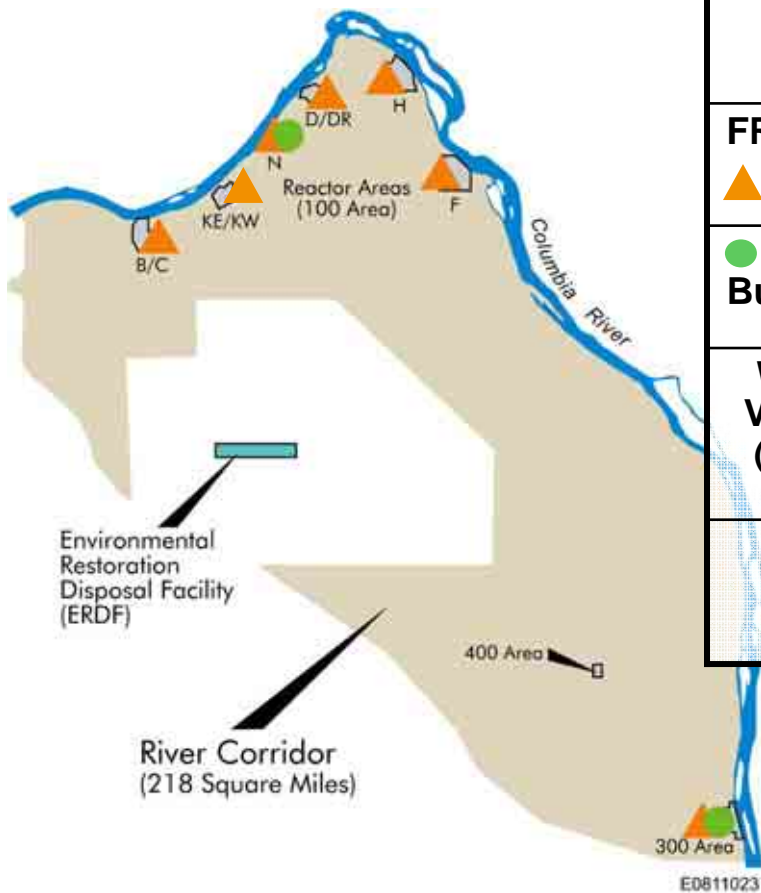
- Sample plans for cleanup verification
- Waste site close out documentation
- Support Field Remediation in confirmatory sampling efforts

### Assessment and Integration

- River Corridor baseline risk assessment
- Remedial investigation of the Hanford releases to Columbia River
- Integration with Plateau Remediation Contractor on investigations to support final records of decision

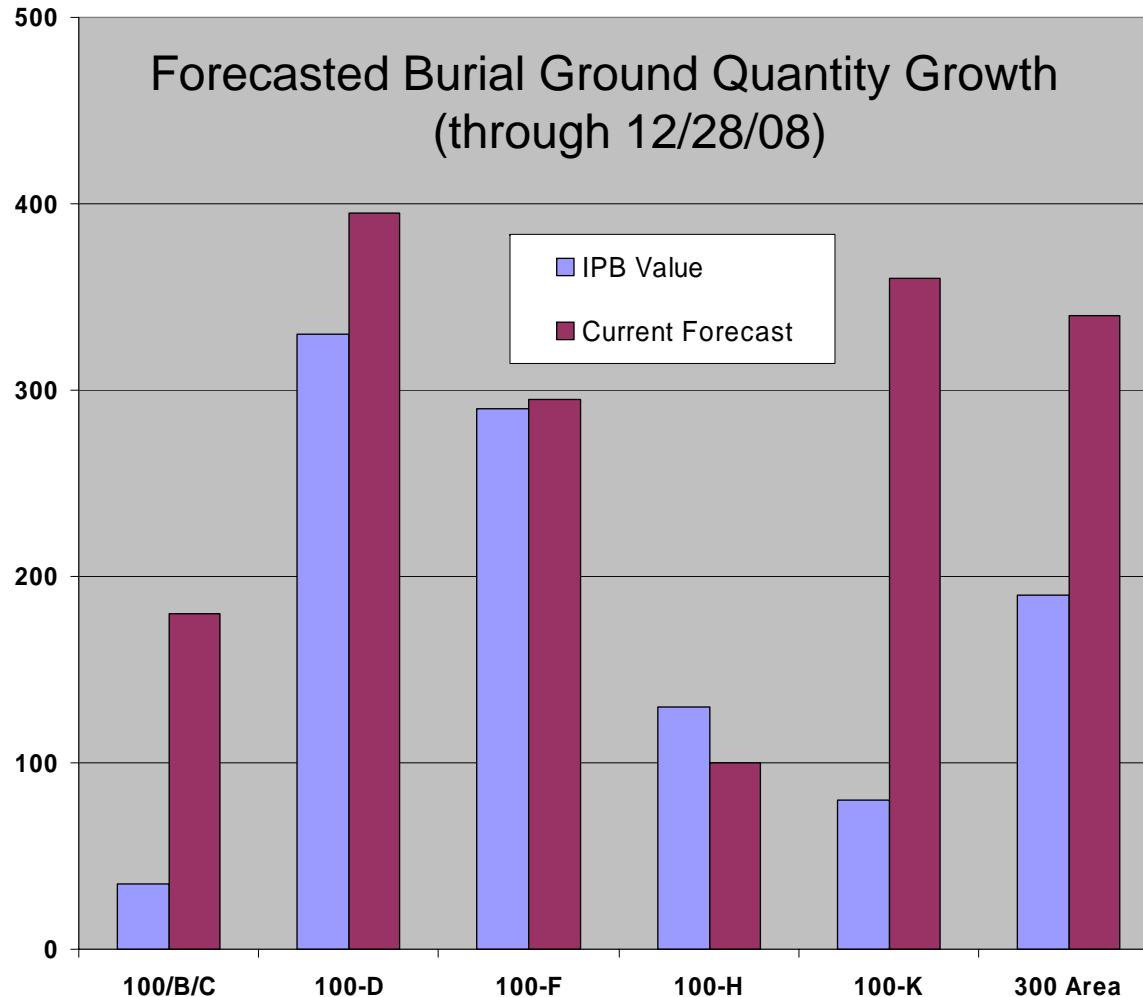


# Contract issues: adapting to change



	Original Base-line	Complete	Added*	Deleted	Remaining
<b>FR Waste Sites</b> ▲	370	91	28	53	254
<b>D4 Buildings</b> ●	486	116	0	145	225
<b>Waste Volume (million tons)</b>	4.5	2.0	2.52	0.77	4.25
<p><b>*Note: Orphan sites investigation is underway.</b>                      -- 126 sites pending confirmatory sampling                      -- N Area and 300 Area orphan site investigation underway</p>					

# Significant increases in waste volumes also affect timely completion of work





# Another set of challenges involves establishing a definitive end state

**Orphan Sites**

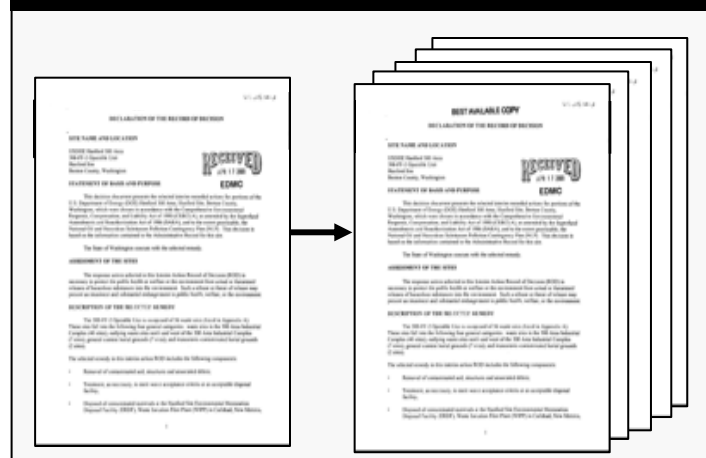


**Sampling in the Columbia River**



Area	Historical Review	Field Investigation	Documentation
100-D	--	--	99%
100-H	100%	100%	99%
100-IU-2	100%	100%	99%
100-IU-6	100%	100%	99%
100-K	100%	100%	98%
100-N	100%	100%	77%
300-FF-2	44%	0%	0%
IA Segment 1	97%	46%	0%
400 Area	0%	0%	0%

**Closure Based on Final RODs vs. an Interim ROD**



Anomalies represent a key challenge in field remediation



**Thoria Tank**



**Compressed Gas Container**



**Safe Containing pure Pu in Solution**



**UXO**



**Pyrophoric material**



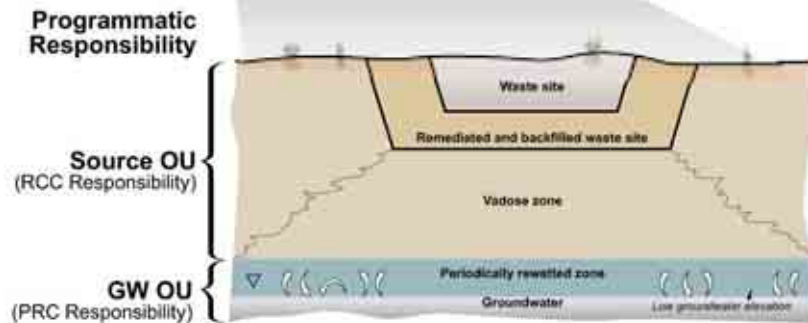
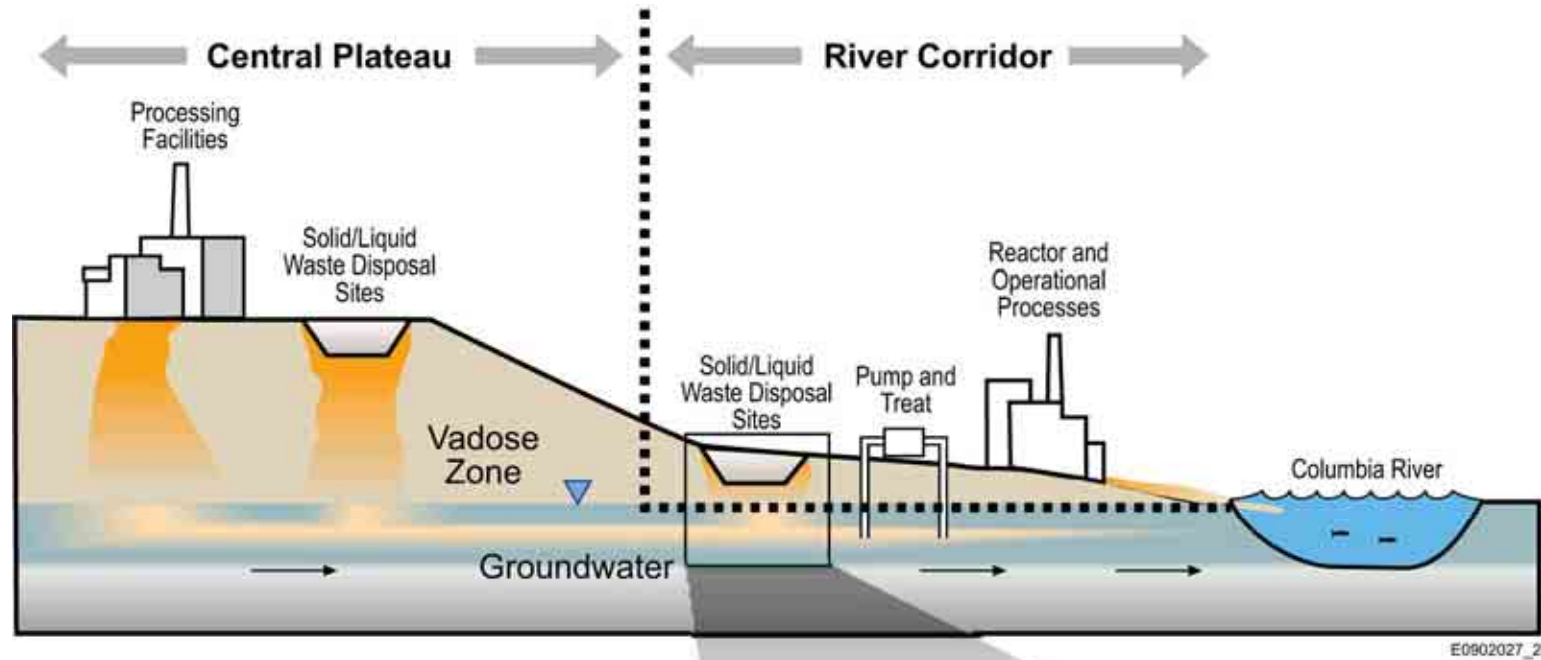
**Unanticipated process tanks**



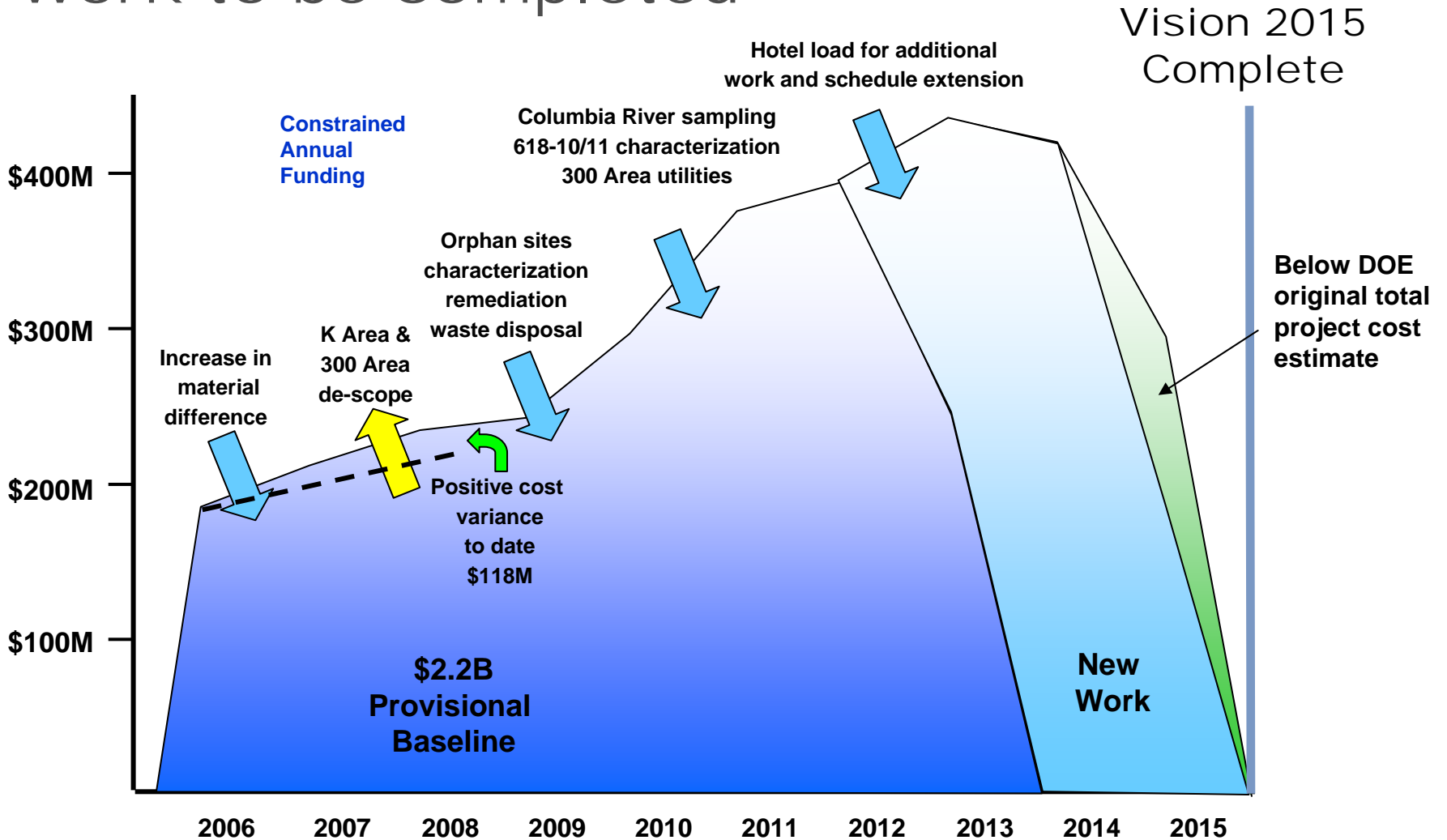
**Spent fuel**



# Integrating contractor responsibilities for operable units in the river corridor



# Changes have appreciably altered the work to be completed





# RIVER CORRIDOR CLOSURE PROJECT



## 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 → 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
- ✓ 8 Facilities Demolished
- ✓ 40 Waste Sites Remediated
- ✓ ~321,000 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

IUG & IUG Area

- ✓ Interim Safe Storage of F Reactor Complete
- ✓ All IUG & IUG Area Final ROD Remedial Actions Complete
- ✓ All IUG & IUG Area Final ROD Groundwater Remedial Actions Complete
- ✓ 1 Facility Demolished
- ✓ 90 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
- ✓ 3300 Tons of Scrap Nuclear Fuel Removed
- ✓ 109 Facilities Demolished
- ✓ 2 Waste Sites Remediated
- ✓ ~381,000 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

300 Area

- ✓ All 300 Area Final ROD Remedial Actions Complete and TSD Units Closed
- ✓ All 300 Area Groundwater Remedies Implemented
- ✓ 188 Facilities Demolished
- ✓ 95 Waste Sites Remediated
- ✓ ~823,000 Tons of Soil Removed
- ✓ Final Remediation of 618-10 & 618-11 Burial Grounds Complete

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

\* Does not reflect all work

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

Protecting the Columbia River

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## Work remains ahead of schedule and under budget

Three critical factors:

- 1) Safe, motivated and professional workforce
- 2) Solid working relationship with DOE at all management levels
  - Willingness to cooperatively address the technical and contractual problems
  - Shared vision of what constitutes success
- 3) Trust established with regulators (EPA, Ecology)