



# U.S. DEPARTMENT OF **ENERGY**

**Environmental Management  
Office of River Protection**

## **FY 2013 Budget Briefing Public Workshop**

**March 16, 2011**



**EM** *Environmental Management*

safety ♦ performance ♦ cleanup ♦ closure

[www.em.doe.gov](http://www.em.doe.gov)

# *Environmental Management: A National Responsibility*

- We reduce risks and protect our workers, our communities and the environment through cleanup.
- Our work is urgent and essential to the health and safety of our communities and the nation.
- Our mission is not discretionary – it is a Federal obligation to address the Cold War environmental legacy cleanup and honor our regulatory commitments.
- We have demonstrated value for the American taxpayer by delivering significant progress in the past several years in reducing risks and the overall liability – but our work is not done.
- The Environmental Management portfolio is one of our nation's largest liabilities – we have a responsibility to relieve future generations of this environmental and financial liability.
- Costs and risks increase over time.



**EM** *Environmental Management*

safety ♦ performance ♦ cleanup ♦ closure

[www.em.doe.gov](http://www.em.doe.gov)

# Office of River Protection Overview

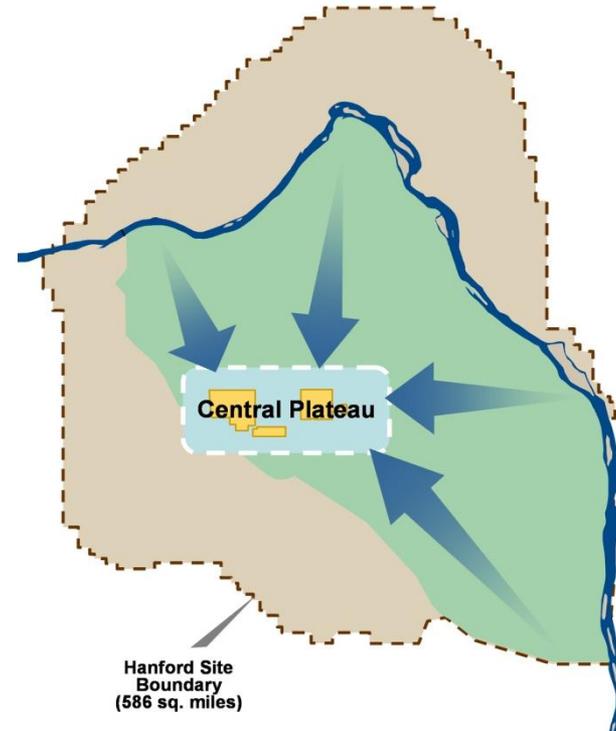
## **Retrieve, immobilize and dispose of radioactive and chemical tank waste and close Hanford's Tank Farms**

Tri-Party Agreement (TPA)/Consent Decree  
Tank Farms

- 177 underground storage tanks
  - 149 Single Shell Tanks (SST)
  - 28 Double Shell Tanks (DST)
- 53 million gallons radioactive and chemical waste
- 176 million curies radioactivity
- 151,000 tons complex chemicals
- Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS)

Waste Treatment Plant (WTP)

- Design/build
- Operational 2019
- Treat and immobilize in glass radioactive and chemical tank waste



### Key River Protection Project TPA/ Consent Decree Milestones:

■ Retrieve C Farm SST Waste	2014
■ WTP Hot Operations	2019
■ Retrieve All SST Waste	2040
■ Treat All Tank Waste	2047
■ Complete Mission	2052



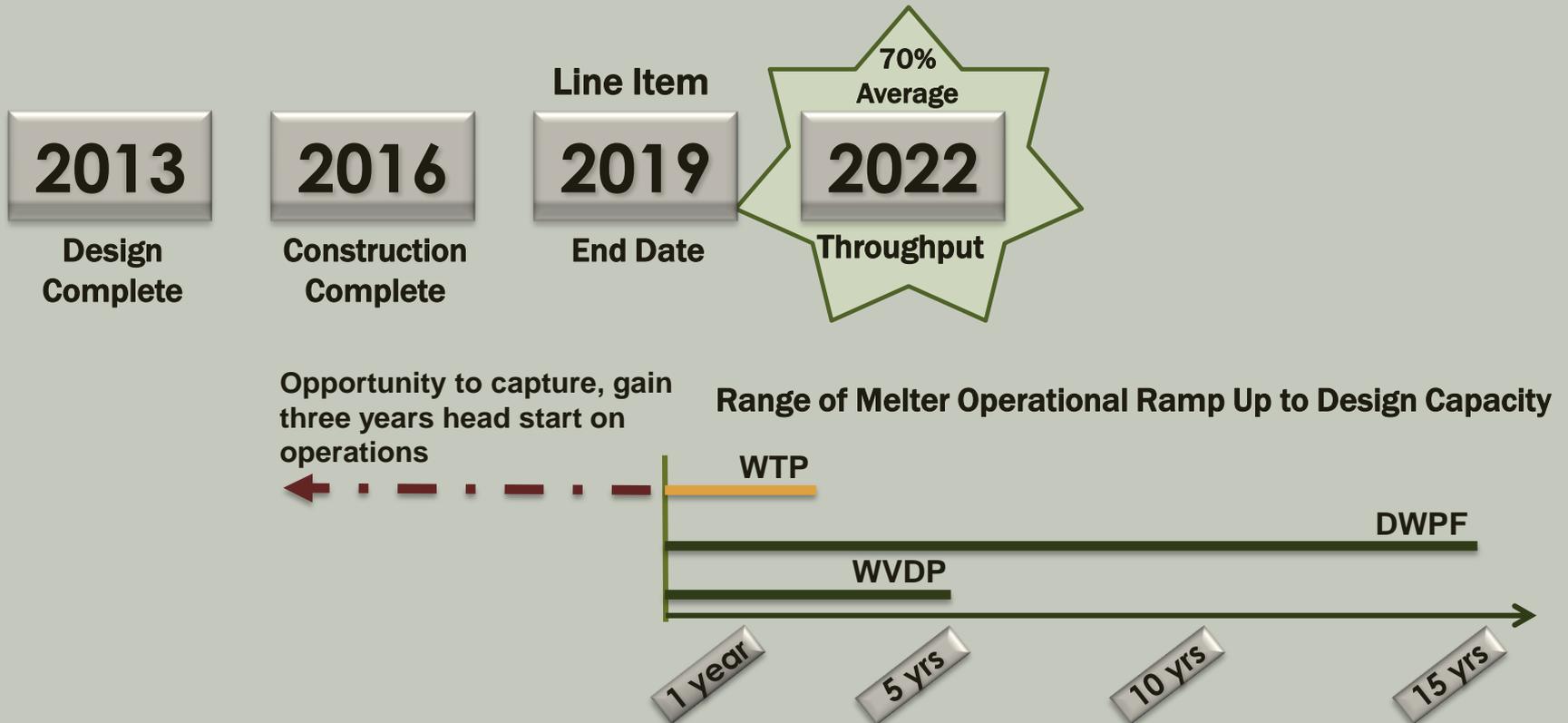
**EM Environmental Management**

safety ♦ performance ♦ cleanup ♦ closure

[www.em.doe.gov](http://www.em.doe.gov)

# WTP Operational Start-Up Basis

## WTP Operational Start-Up Basis

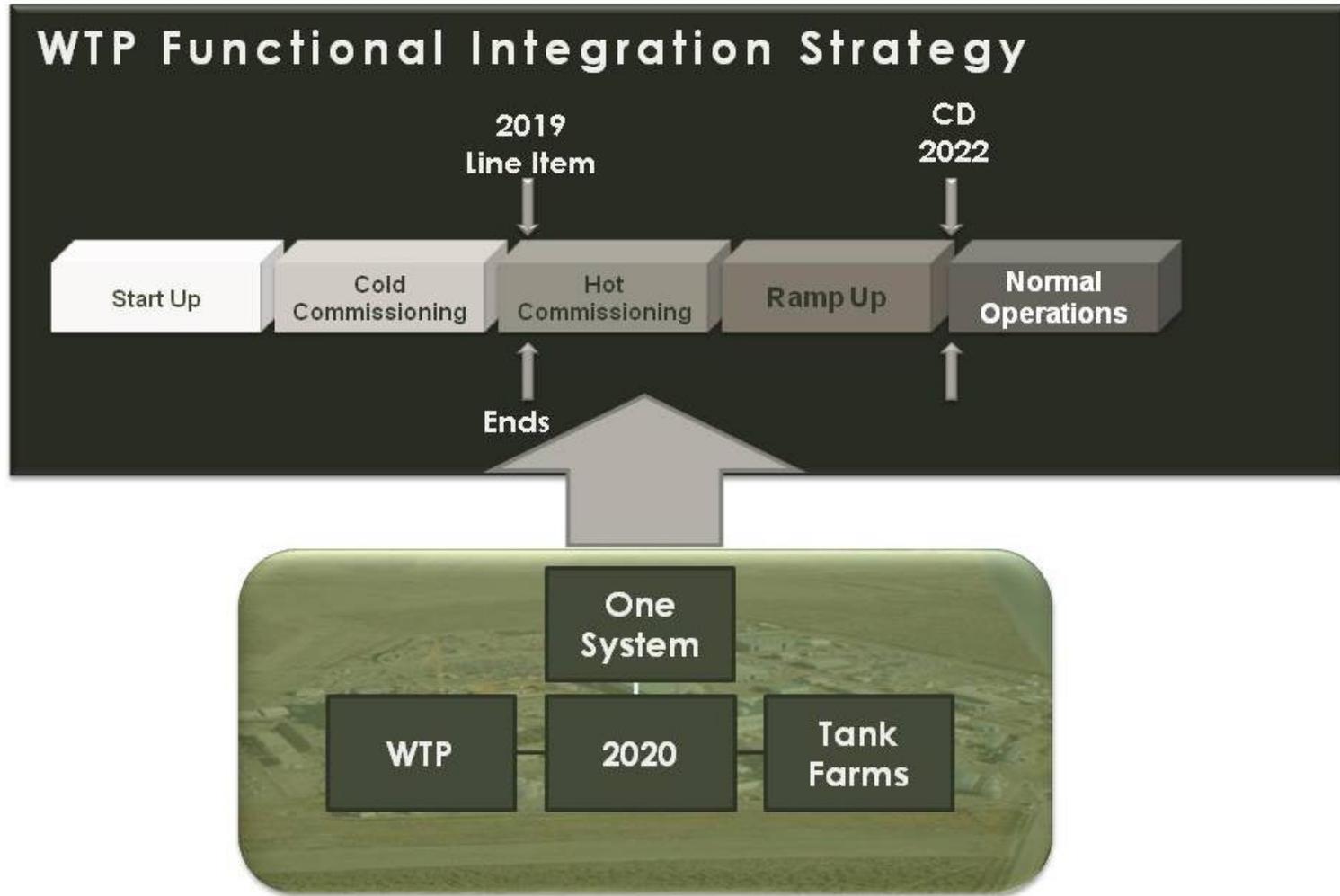


**EM** Environmental Management

safety ♦ performance ♦ cleanup ♦ closure

[www.em.doe.gov](http://www.em.doe.gov)

# Integration Into One System



# Office of River Protection 2016 Cleanup Vision

## ***Transition from a waste storage to a waste treatment and immobilization mission of Hanford's 53 million gallons of tank waste by 2016***

- ✓ Deliver on regulatory commitments to the State of Washington and protect the Columbia River:
  - ✓ Complete construction of the Waste Treatment Plant: Complete the construction of the Waste Treatment Plant project and pivot the project from design/construction to commissioning/operations
  - ✓ Empty all 16 Single-Shell Tanks in C-Farm
  - ✓ Prepare Hanford's tank farm feed/delivery systems: Transfer waste feed to the Waste Treatment Plant when it becomes operational
- ✓ Turnover and commission 16 of 18 Waste Treatment Plant facilities: Commission the Laboratory, Low Activity Waste Facility, and Balance of Facilities to accelerate the treatment and immobilization of Hanford tank waste by 3 years
- ✓ Develop and deploy transformational technologies for supplemental treatment, secondary waste, retrievals and waste delivery



# Office of River Protection Cleanup Vision by 2020

- ✓ 100% of Waste Treatment Plant facilities commissioned, turned-over and operational:
  - ✓ Producing both high-level and low-activity waste glass
  - ✓ Focused on meeting 2022 Consent Decree for initial plant operations
  - ✓ Focused on completing 30-year waste treatment mission
- ✓ Facilities or modifications to existing facilities for storing glass waste completed
- ✓ Retrieval of 27 single-shell tanks complete providing 4.14 million gallons of feed staged to go to the Waste Treatment Plant



# ORP Profile

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

PBS	PBS Title	FY2011 President's Budget	FY2012 President's Budget	FY2013 Request Allocation
ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition	\$418,000	\$521,391	\$519,100
ORP-0060	Major Construction Waste Treatment Plant	\$740,178	\$840,000	\$970,000
<b>Total-ORP</b>	<b>Office Base Funding Total</b>	<b>\$1,158,178</b>	<b>\$1,361,391</b>	<b>\$1,489,100</b>



**EM** *Environmental Management*

safety ♦ performance ♦ cleanup ♦ closure

[www.em.doe.gov](http://www.em.doe.gov)

# River Protection Five Year Request Profile

\$\$ in Thousands

Office	Office Title	FY 2013 Requirement	FY 2014 Requirement	FY 2015 Requirement	FY 2016 Requirement	2017 Requirement
	River Protection – Total Requirements	\$1,489,100	\$1,608,900	\$1,656,300	\$1,700,000	\$1,680,000



**EM** *Environmental Management*

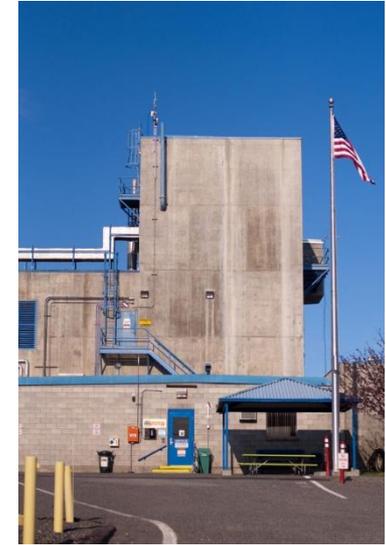
safety ♦ performance ♦ cleanup ♦ closure

[www.em.doe.gov](http://www.em.doe.gov)

# FY 2013 Planned Tank Farm Accomplishments

## Base Operations - \$287M

- DST/SST operations, surveillance, monitoring and maintenance
- 222-S Laboratory operations and upgrades
- Conduct 242-A Evaporator campaign and upgrades
- Conduct 5 DST to DST transfers
- Continue to perform SST Integrity evaluations and implement expert panel recommendations (i.e., SST structural analysis)
- Complete construction of S Farm Interim Barrier
- Continue removal of 7 Hose-in Hose Transfer Line
- Wiped Film Evaporator
- Vadose Zone
- Facility Management, Business and Site Services
- WTP Electricity
- Pension



**EM** *Environmental Management*

safety ♦ performance ♦ cleanup ♦ closure

[www.em.doe.gov](http://www.em.doe.gov)

10

# FY 2013 Planned Tank Farm Accomplishments

## Retrievals - \$90M

- Procure/construct/complete Bulk Retrieval of C-102
- Begin Hard Heel design/construct in C-101
- Design/procure/construct phase 2, begin MARS retrieval ops in C-105
- Complete Hard Heel design/construct/retrieval from C-111
- Complete Hard Heel design/construct/retrieval from C-112
- Complete Installation of 244-CR Vault Retrieval System

## Projects - \$67M

- Complete Preliminary Design for Secondary Waste Treatment
- Submit CD-2/3A for Secondary Waste Treatment
- Complete Preliminary Design for Interim Hanford Storage
- Submit CD-2/3A Interim Hanford Storage
- CD-2 for Supplemental Treatment



**EM** *Environmental Management*

safety ♦ performance ♦ cleanup ♦ closure

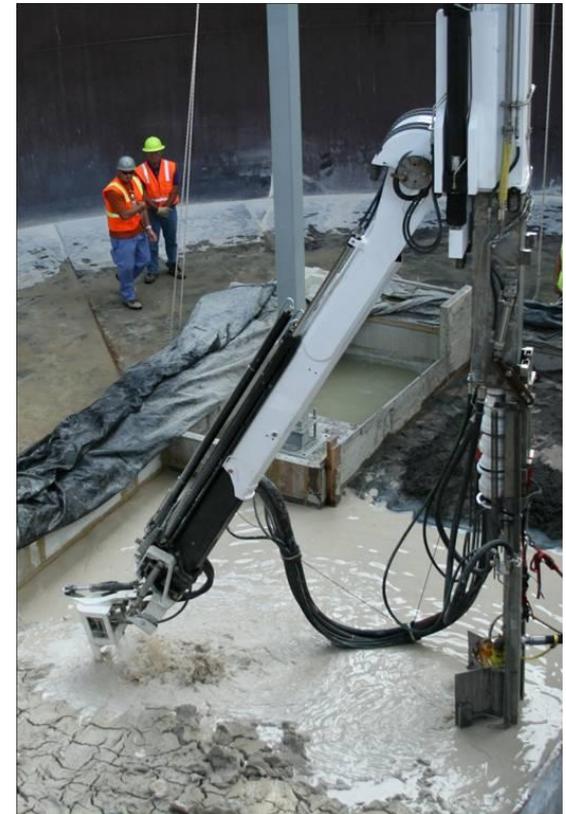
[www.em.doe.gov](http://www.em.doe.gov)

11

# FY 2013 Planned Tank Farm Accomplishments

## WTP – Waste Feed Preparation and Operations Support- \$75M

- Continue AW and AZ Farm Feed Delivery System design and procurement
- Continue AY/AZ Ventilation Upgrade Design, Procurement, Construction, Startup & Readiness
- Complete SY 102 Feed Delivery System Design
- Continue Immobilized Low-Activity Waste Form Testing
- WTP Support



**EM** *Environmental Management*

safety ♦ performance ♦ cleanup ♦ closure

[www.em.doe.gov](http://www.em.doe.gov)

12

# FY 2013 Planned WTP Accomplishments

## WTP Construction - \$970M

- Engineering and Design Complete
- Turn over of several facilities
  - Non-Dangerous, Non-Radioactive Effluent Facility
  - Fire Water Pump House
  - Glass Former Storage Facility
  - Fuel Oil Facility
  - Chiller-Compressor Plant
  - Water Treatment Building
  - Balance of Facilities Switchgear Building
  - Cooling Tower Facility
  - Anhydrous Ammonia Facility
  - Standby Diesel Generator Facility



Turnover to Plant ops in: 2012 2013 2014 2015 2016 2017

- Consent Decree Milestones Due
  - Analytical Laboratory Construction Substantially Complete (A-5)
  - Steam Plant Facility Construction Complete (A-12)
  - Complete Construction of Structural Steel to Elevation 37' in HLW Facility (A-21)



**EM Environmental Management**

safety ♦ performance ♦ cleanup ♦ closure

[www.em.doe.gov](http://www.em.doe.gov)

# *ORP is Critical to the Hanford Mission*

- Hanford is the largest environmental liability in the EM clean-up program.
- The risk is in the tank waste – ORP’s mission is to eliminate this risk.
- Committed to absolute worker and public safety.
- Protecting the Columbia River is vital, urgent and our obligation to the people of the Pacific Northwest.
- Collaborating with Regulators on Hanford Cleanup vision and strategy, general support from Tribal Nations, and stakeholders.

