



U.S. DEPARTMENT OF  
**ENERGY**

# Office of River Protection Hanford Site HAB Agency Update September 3, 2009

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Manager



**EM** *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

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# 2009 ORP Specific Board Priorities

Board 2009 Priority	Results	Influenced DOE Decision/Processes
Tank Cleanup and Closure	<p><b>Advice #209</b> Update Tank Waste System Plan</p> <p><b>Advice #214</b> System Criteria to Guide Selection of Optimum Paths for Treating Hanford Waste</p> <p><b>Advice #215</b> Surface Storage Capacity for HLW</p>	<ul style="list-style-type: none"> <li>•Identified HAB values and priorities for System Plan</li> <li>•Identified need for ongoing dialogue on individual technical topics in context of the total RPP program</li> <li>•Continue ongoing discussion with HAB after release of System Plan, Rev. 4</li> <li>•Working Response</li> <li>•Recognized an interim storage facility is critical to the operation of the WTP and completion of the ORP mission to safely store the immobilized HLW canisters</li> </ul>
TC&WM EIS Public Involvement Outreach	<b>Advice #212</b> Public Comment Period for TC&WM EIS	<ul style="list-style-type: none"> <li>•Identified HAB values and priorities for public involvement for draft TC &amp; WM EIS</li> <li>•Public Comment Period extended from 45 days to 140 days</li> <li>•DOE will host a one-day workshop prior to conducting formal public hearings</li> </ul>
Baselines	<b>Advice #211</b> Baseline Workshop Appreciation	<ul style="list-style-type: none"> <li>•Identified need for ongoing dialogue on planning activities</li> <li>•Continue to engage regulators and stakeholders in review of project baseline assumptions and activity priorities</li> </ul>



# 2009 Additional Areas of Focus

Board 2009 Work	Results	Influenced DOE Decision/Processes
Budget	<p>Advice #213 Priorities for FY 2010, Out-Year and Economic Stimulus Budgets</p> <p>Advice #220 FY 2010 Budget Request and Stimulus Funding</p>	<ul style="list-style-type: none"> <li>•Helped to craft high quality transmittal for FY 2011 budget submission</li> <li>•Recognized the HAB values and priorities for more tank retrievals and cleanup of contamination from tank leaks; and, continue full funding for the Waste Treatment and Immobilization Plant</li> <li>•Continue to share information with the Budgets and Contracts Committee and Tank Waste Committee</li> </ul>
Health and Safety	<p>Advice #217 Beryllium Disease Prevention at Hanford</p> <p>Advice #218 Workers Compensation Regarding Beryllium Disease</p>	<ul style="list-style-type: none"> <li>•Pending – working with RL</li> </ul>



# 2009: In Review

- Tri-Party Agreement
- TC & WM EIS
- Tank Operation Contract Transition
- Tank Farms
  - Retrievals & Retrieval Technologies
  - Evaporator Campaigns
  - SST Integrity
  - Interim Barrier/Vadose Zone
  - Re-Baseline
  - ISMS
  - Recovery Act
- WTP
  - Technical Issues
  - Pretreatment Engineering Platform test
  - Complete design & advance construction
- Re-Organization



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# Tank Retrievals & Technologies

- Retrievals
  - 7 tanks retrieved to date
  - 4 tanks retrieved to the limits (hard heel) of technology
  - Tank C-104 retrievals begin September 2009
  - Tank C-111 in line
- Mobile Arm Retrieval System (MARS)

*Retrieval preparations*



*Mobile Arm Retrieval System (MARS)*



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# 242-A Evaporator Campaign

- Upgrades/Preparation
- Three campaigns
- Result: 900,000 gallons of tank space



*Evaporator valve upgrades*



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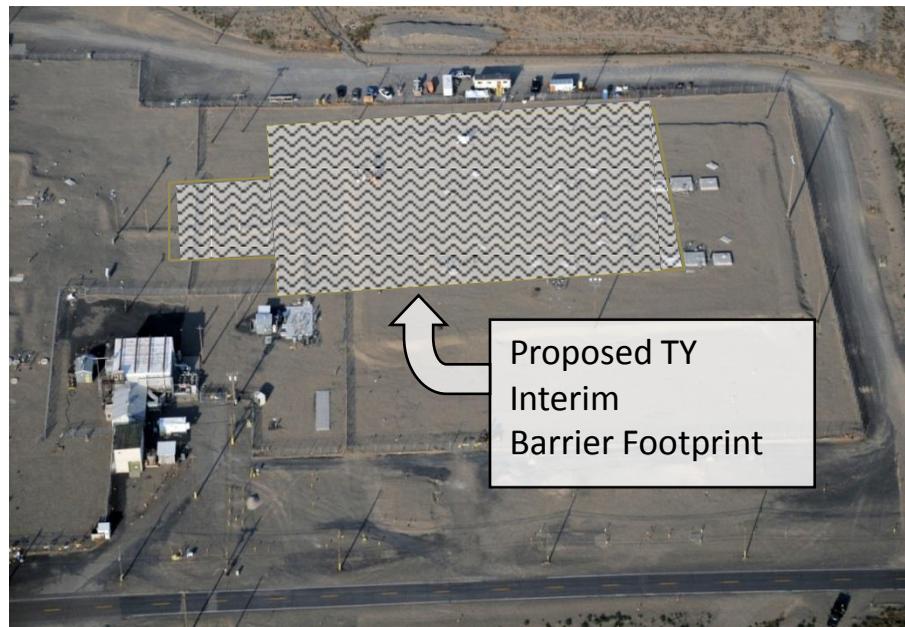
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# Other Tank Farm Advances

- Interim Barrier Project
- Vadose Zone activities
- SST Integrity Workshop
- Sodium Mitigation Plan & Strategy
- Hose-in-Hose Transfer Lines
- Re-Baseline
- ISMS



*Hose-in-Hose Transfer Lines*



# American Recovery and Reinvestment Act

<b>PROJECT</b>	<b>WORKSCOPE</b>	<b>\$</b>
<b>ORP-0014.R1</b>	Tank Farm Infrastructure Upgrades to Support Waste Feed to the WTP	\$326M



- Tank Farm Infrastructure
  - Ventilation at AP/SY Farms
  - Waste Transfer Infrastructure
  - Level Rise Modifications
  - Control Systems
  - AP Farm Valve Pits

**Supports TPA and Consent Decree**

- Other Infrastructure
  - Wiped Film Evaporator
  - Core Sampling Truck

**Supports TPA**



- Facility Upgrades
  - 242-A Evaporator Upgrades
  - 222-S Laboratory Upgrades
  - ETF Upgrades

**Supports TPA and Consent Decree**

- Waste Feed Infrastructure
  - DST Control Systems (AN, AP, AW, AY/AZ, SY Farms)
  - AW/AN Exhauster D&D
  - Tank Waste Mixing Demonstration
  - Transfer and Condensate line upgrades

**Supports TPA**

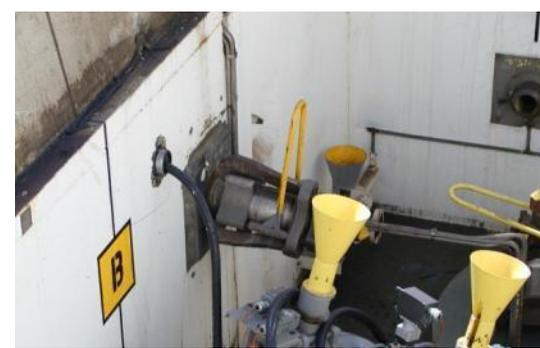
# Major ARRA Project Accomplishments – September 2009



**Waste feed infrastructure**



**structure**



**Waste feed infrastructure**



**Evaporator valve upgrades**



**Exhauster D&D**



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# *Waste Treatment Plant: Accomplishments*

*Nearing 50% completion*

Aerial view of WTP August 2009

Overall design = 76% complete

Overall construction = 45% complete

2,100 Professional Staff

825 Craft Workers

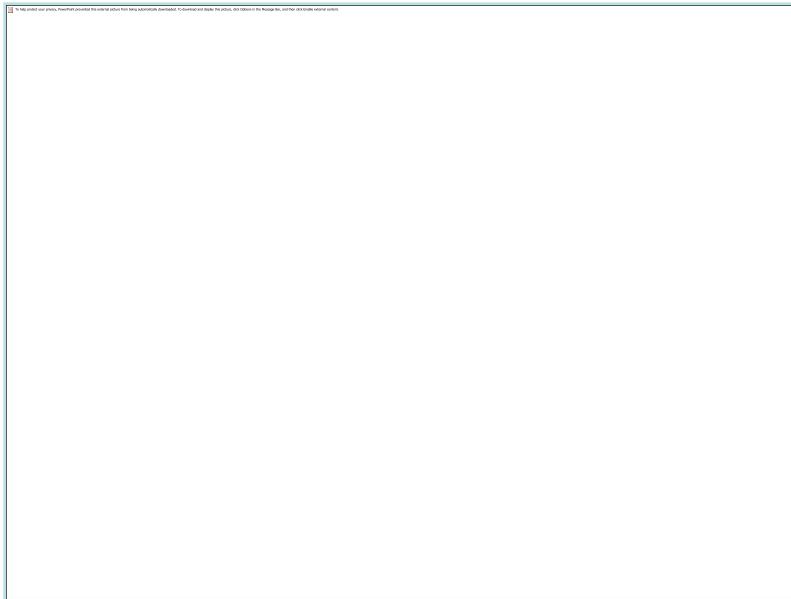
250 Subcontractors

3,175 Total Staff



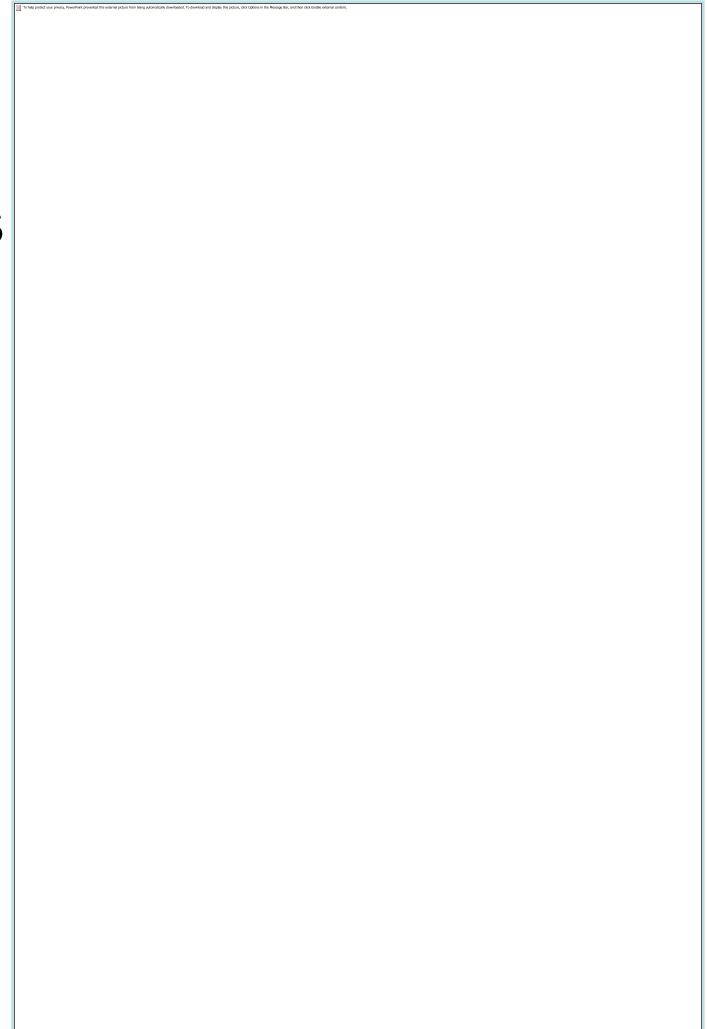
# Waste Treatment Plant: Accomplishments

- Completed testing at Pretreatment Engineering Platform
- Achieved VPP Merit status
- Installed large equipment in facilities
- Resolving final 2 of 38 technical issues



***Left: Large mixing vessel installed on the north end of LAW Facility.***

***Right: Door liner installed at the HLW Facility.***



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# Pretreatment Facility

World's largest radioactive chemical separations facility: 45% complete

## Current Progress

Design Complete: 66%

Construction Complete: 27.5%

## 2009 Achievements

- Complete design of all PT structural steel
- Complete walls to elevation +56 ft
- Erect 1,500 tons steel
- Place 4,300 CY concrete



# High Level Waste Vitrification Facility

## Turns high-level waste into glass: 46% complete

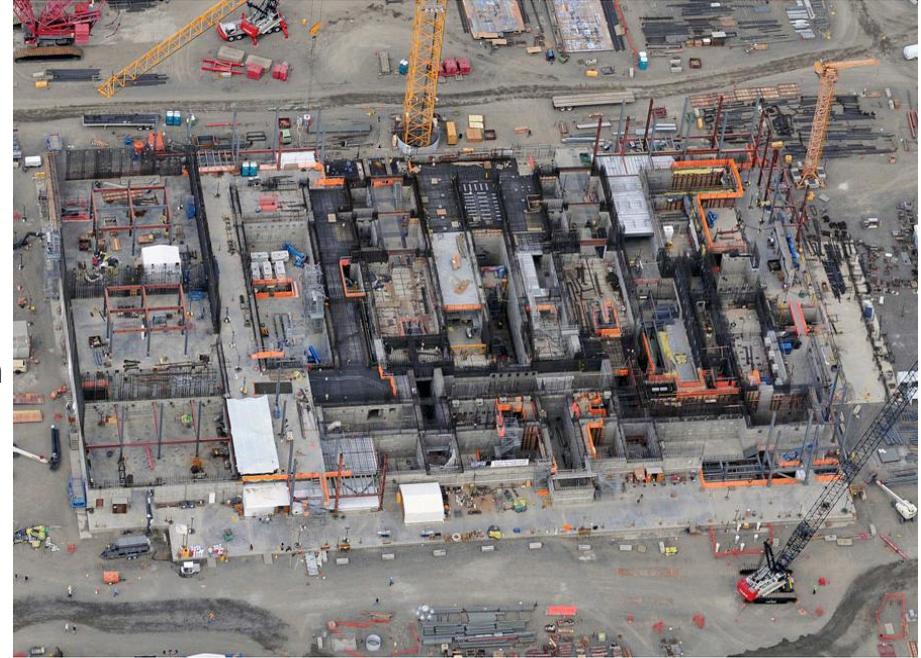
### Current progress

Engineering Complete: 75%

Construction Complete: 24%

### 2009 Achievements

- Complete design of all HLW structural steel
- Complete all concrete floors from -21 ft to ground elevation
- Place 6,000 CY concrete



# Low Activity Waste Vitrification Facility

## Turns low-activity waste into glass: 65% complete

### Current progress

Engineering Complete: 87%

Construction Complete: 42%

### 2009 Achievements

- Erect switchgear building
- Install cooling water pumps, and melter pour cave insulated liner plate



# Analytical Laboratory

Ensures glass meets regulatory requirements: 45% complete

## Current progress

Engineering Complete: 81%

Construction Complete: 35%

## 2009 Achievements

- Deliver hot cell and waste transfer system equipment, high integrity fans
- Complete majority of liner plate installation and facility fire protection



# Balance of Facilities

Vast infrastructure to support operations: 50% complete

## Current progress

Engineering Complete: 80%

Construction Complete: 47%

## 2009 Achievements

- Complete turnover of third support system for start-up activities
- Install all 13 glass former silos



# Office of River Protection Management Team

**Increased** Fed oversight staff 148  
**Created** new Engineering & Nuclear Safety organization  
**Created** AM and Deputy AM positions for ENS and WTP  
**Major** hiring focus on project management and engineering staff; Federal Project Directors



# RPP: Building on Success

- Proposed Settlement Agreement
- TC&WM Draft EIS
- Tank waste management, treatment, vitrification and closure
- Test MARS
- Protect workers from radiological & chemical hazards
- Additional DST retrieval space
- Design & construction
- WTP startup & turnover strategy
- Achieve WTP VPP Star Status
- Commissioning of LBL



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# Looking Forward

- Proposed Settlement Agreement public review & comment
- Tank Closure and Waste Management Environmental Impact Statement
- WTP
  - Finalize design and focus on construction
  - Identify and implement improved startup and turnover strategy
  - Continue to improve safety with worker involvement to achieve VPP Star Status
- Tank Farms
  - Continue SST retrieval activities
  - Continue Phase II testing for MARS
  - SST video and structural analysis
  - Continue effective implementation of the Recovery Act
  - Continue characterization for Tank Farm soils
  - Interim Barrier Project

