

WRPS Contract Briefing

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**Hanford Advisory Board
Budget and Contracts
Committee**

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Tank Operations Contract Project Goals



- Do work safely
- Manage legacy waste and necessary infrastructure
- Reduce risks to the Columbia River and the public through retrievals
- Ensure reliable and predictable waste feed delivery system for Waste Treatment Plant operations



- \$7.1 billion, 10-years
 - (5-year base period with options to extend up to another five years*)

* Includes Hanford and legacy benefits/pension costs

Periods	Fiscal Years	\$B
Base Period	FY09-FY13	\$ 2.5
Option Period 1	FY14-FY16	\$ 2.5
Option Period 2	FY17-FY18	\$ 2.1
Total TOC Contract		\$ 7.1





Funding Forecast



Description	FY2009	FY2010	FY 2011	FY2012	FY2013
TOC Funding Profile	\$345,223	\$410,694	\$418,000	\$510,000	\$610,000

\$ in millions

** Does not include Recovery Act Funding*



FY10/FY11 Tank Operations Contract Base Scope



FY10

Base Operations	\$223M
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(includes surveillance, maintenance, space management, 222-S Lab, and business services)

Tank Farm Projects	\$29M*
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(includes waste Services, chemistry & integrity, life extension upgrades)

Site and Shared Services	\$40M
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Retrieval and Closure	\$82M
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(includes C-104 retrieval operations, design and procurement of additional 3 single-shell tank retrieval systems, vadose zone monitoring and installation of an interim barrier)

Waste Feed Delivery/Treatment Planning	\$36M
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(includes pretreatment, secondary waste treatment, next generation melters, receive and store IHLW/LAW, and overall Waste Treatment Plant integration)

Total	\$410M
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FY11

Base Operations	\$228M
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(includes surveillance, maintenance, space management, 222-S Lab, and business services)

Tank Farm Projects	\$31M*
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(includes waste services, chemistry & integrity, life extension upgrades)

Site and Shared Services	\$31M
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Retrieval and Closure	\$74M
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(includes initiation of retrieval operations on 3 single-shell tank retrievals and procurement and installation of additional 3 single-shell tank retrieval systems, vadose zone monitoring and initiation of design for the next interim barrier)

Waste Feed Delivery/Treatment Planning	\$54M
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(includes pretreatment, secondary waste treatment, next generation melters, receive and store IHLW/LAW, and overall Waste Treatment Plant integration)

Total	\$418M
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* Does not include Recovery Act Funding

M-B-1, M-45-83: Complete C-Farm Retrieval 30-Sep-14

Complete Waste Retrieval System Construction for C-110	20-Jan-09	Complete
C-110 Bulk Retrieval Complete	8-May-09	Complete
Complete Sampling per TSAP of C-108 Hard Heel	27-Jul-09	Complete
Telerobotic Arm Final Design	22-Sep-09	Complete
Complete Waste Retrieval System Construction for C-104	23-Sep-09	Complete
C-111 Complete Bulk Retrieval	31-Aug-10	
C-104 Complete Bulk Retrieval	30-Sep-10	
C-108 Complete Heel Retrieval	30-Nov-10	
C-110 Complete Heel Retrieval	31-Aug-11	
C-107 Complete Bulk Retrieval	30-Sep-11	
C-112 Complete Bulk Retrieval	30-Nov-11	
C-109 Complete Heel Retrieval	31-Dec-11	
C-105 Complete Bulk Retrieval	31-Dec-12	
C-101 Complete Bulk Retrieval	28-Feb-13	
C-102 Complete Bulk Retrieval	30-Apr-13	

M-45-90/91/92: Interim Actions 30-Sep-16

Complete the Near-Surface Vadose Zone Characterization to New Barrier Site in TY Farm4-	May-09`	Complete
Complete Design of TY Farm Interim Surface Barrier	6-Aug-09	Complete
Complete Construction of TY Farm Interim Surface Barrier	30-Sep-10	
Complete Interim Barrier Demonstration Report for the T-106 Interim Barrier	30-Sep-10	
Complete Construction of TY Farm Interim Surface Barrier	30-Sep-10	
Complete Construction of SX Farm Interim Surface Barrier	30-Jun-12	
Complete Construction of S Farm Southeast Interim Surface Barrier	30-Jun-13	

Environmental and DST Space Management 30-Sep-13

Complete Removal HIHTL from U-D to SY	25-Mar-09	Complete
Complete Removal HIHTL from U09A to U-09B	15-Apr-09	Complete
Complete Removal HIHTL from 244-AR to AR-151	30-Apr-09	Complete
242A Evaporator Campaign that creates a 240Kg Waste Volume Reduction	2-Jul-09	Complete
Complete Removal and Shipment to Final Disposition of HIHTL (6 Lines)	30-Sep-11	
Complete Removal and Shipment to Final Disposition of HIHTL (6 Lines)	30-Sep-12	
Complete Removal and Shipment to Final Disposition of HIHTL (4 Lines)	30-Sep-13	

Facility and System Upgrades (inc. Recovery Act) 30-Sep-13

AY-102 Corrosion Probe Project	19-May-09	Complete
AY-101 Corrosion Probe Project	14-Jul-09	Complete
222-S Fire Detection System Upgrade	16-Sep-09	Complete
Perform AW-B Pit Valve Upgrades	23-Sep-09	Complete
Complete PC-5000 Condensate Leak Detection Upgrades	13-Apr-10	Complete
Complete Removal of SX Vent Ducting	30-Sep-11	
Construct SY Farm ICE Building	30-Sep-11	
242A Control Valve Upgrades	30-Nov-11	
242A Reboiler Condensate System Replacement	31-Dec-11	
242A Process Condensate Sampling Station	31-Jan-12	
AY-102 Feed Delivery System Design	30-Sep-12	
242A Steam Line Replacement	30-Sep-12	
AW-103 Feed Delivery System Design	31-Mar-13	
242A Slurry Sampling Station Upgrades	30-Jun-13	
222S Room Renovations	31-Jul-13	
AZ-101 Feed Delivery System Design	30-Sep-13	
AY-102 Feed Delivery System Construction Completion	30-Sep-13	

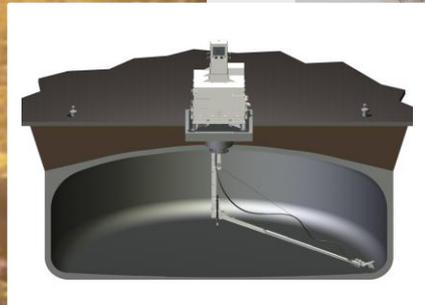


Completed C-110 retrieval to limits of technology in FY-09

Completed 75% retrieval of C-104

Systems installation on C-111 under way; retrieval planned to begin summer 2010

Preparing for C-107; first to use new retrieval system (MARS); larger risers being fabricated; cutting process being tested





- Double-shell tank (DST) space management
- ~900,000 gallons of liquid removed in FY-09
 - At least 240,000 gallons planned for FY-10

Facility upgrades (RA)

- 222-S Laboratory: analytical instrumentation, computer network, roof
- 242-A Evaporator: raw water line, compressor



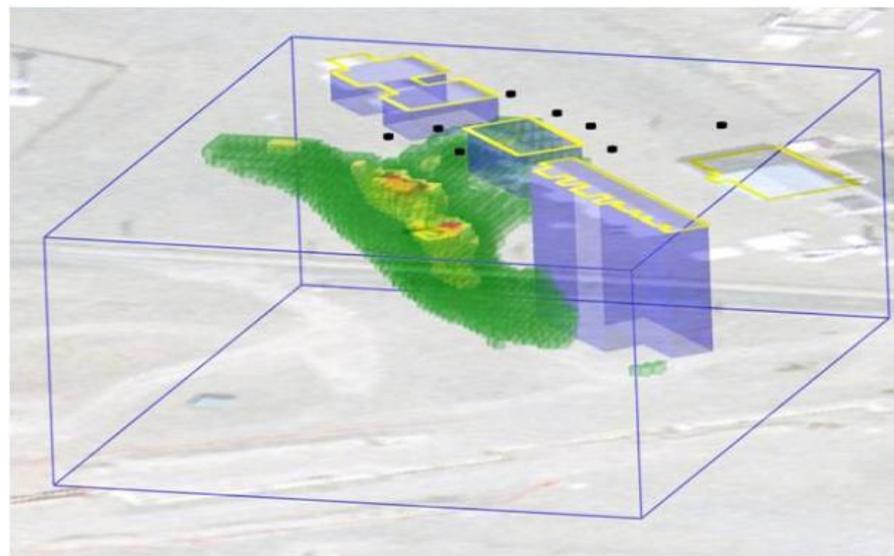


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TOC Progress Summary Waste Management: Environmental Protection



Continued surface and vadose zone
characterization
Began TY tank farm barrier development
Completed removal of legacy hose-in-hose
transfer lines; Ecology commitment
Continued tank integrity studies





- Performing waste feed delivery mixing and sampling demonstrations
- Increasing WTP collaboration
- Developing the next generation of workers: community college nuclear technology program



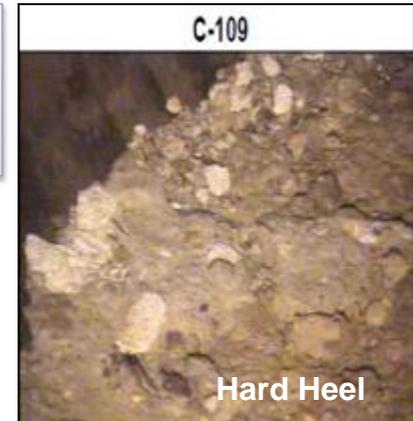


Tank Retrieval and Operations

- FY10: C-104 operations, C-111 construction, C-107 design
- FY11: C-111 operations, C-107 construction and operations

Hard Heel Removal

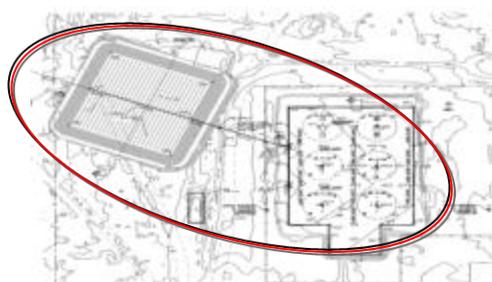
- MARS (RA funded) is being designed for SST bulk and hard heel retrieval
- Scheduled for installation and operations in C-107 FY11



135-Ton Crane

Will be utilized to:

- Support installation of high weight (over 20 ton) long length equipment into SSTs and DSTs
- Relocate the MARS for a retrieval complete SST into another SST for subsequent retrieval
- Arrival end of April 2010, training to commence in early May



TY Farm Interim Surface Barrier

- Physical barrier limiting waste spread through subsurface area
- Barrier Area ~ 80,500 square feet (1.8 acres)
- Evapotranspiration Basin ~ 71,300 square feet (1.6 acres)
- Installation of the barrier to be completed by September 30, 2010

Evaporator Campaigns

➤ Campaign FY10:

- Forecast start in mid August.
- Create at least 240,000 gallons of double shell tank space for continued retrievals from single shell tanks.
- Perform 9 Waste Transfers in FY10

➤ Campaign FY11:

- Forecast start in March and continuously operate until late April.
- Create at least 240,000 gallons of double shell tank space for continued retrievals from single shell tanks.
- Perform 7 Waste Transfers in FY11



Guzzler

- Regulated Guzzler intermittent use from April – May. Plant forces use such as digging transfer lines and inspecting existing lines.
- Full time use June – August. Construction or projects such as excavation in SY Farm, and for large riser for C-107
- Critical resource for execution of identified projects



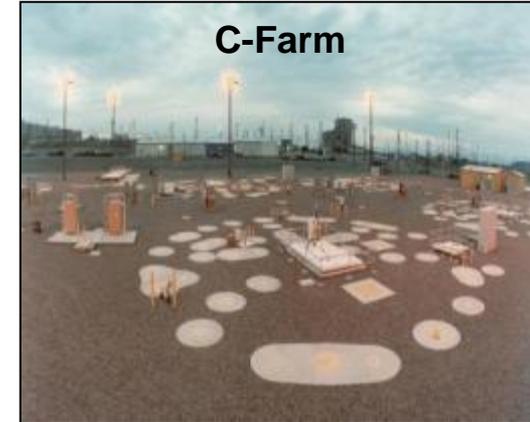
Guzzler

Valve Pit Upgrades

- 95 valves in 9 different pits (RA Funded)

C-Farm Projects/Enhancement

- **Stack upgrades**— adding a 23' extension to two ventilation systems in C-Farm to reduce vapor nuisance to workers. June 1-July 29, 2010
- **21 Major System Upgrades**- including facilities for shield booths, mobile decon. facility, power stations, over all infrastructure
- **Increased habitability, access and lighting**
- **Extending operational life and ensuring readiness** for WTP Feed Mission
- Scheduled completion date June 2010



Stack Upgrades



272-AW Refurbishment

- RA paying for installation of temporary trailers for housing the workers until the building is refurbished and brought to code.
- Replace lights, carpet, paint entire building, reorganize/remodel lockers rooms , all new appliances
- Completion date: September 2010

AW Trailer Complex

- New infrastructure upgrades
- Begins May 2010

A/AX Infrastructure Upgrades

- Begins FY 2011

Habitability

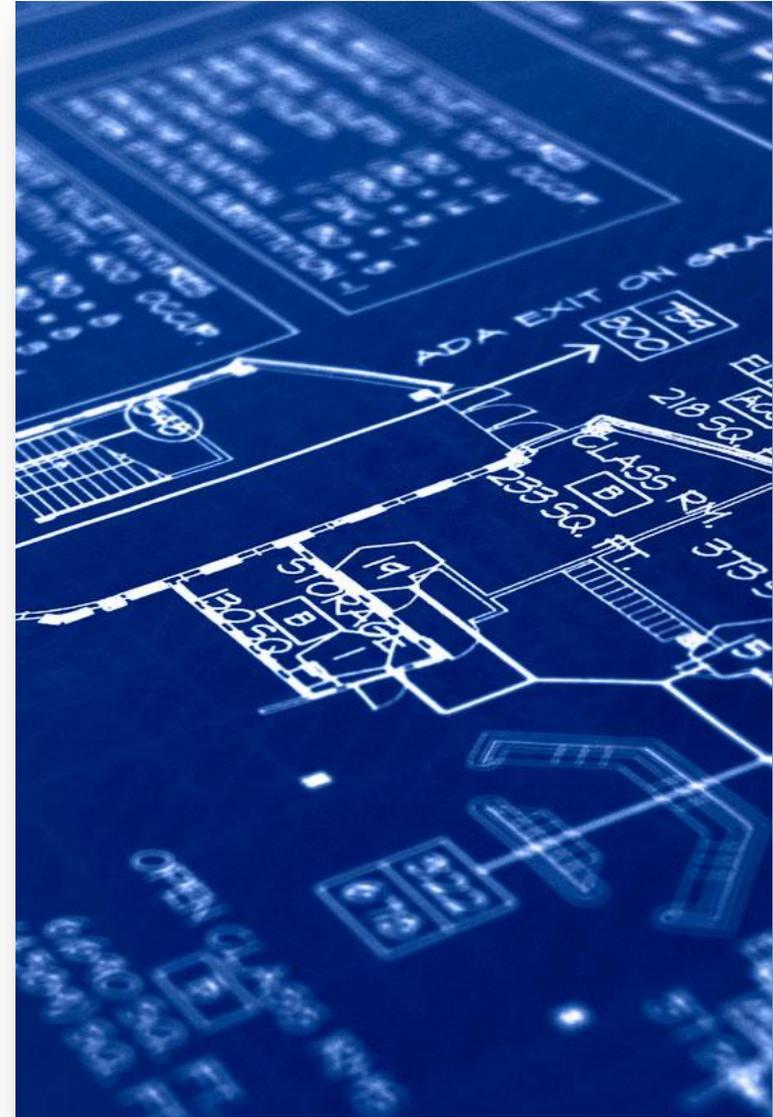


Material Storage Facility

- New 10,000sf conditioned storage unit will be installed in 200 East area to support ongoing operations
- 6,000sf storage facility design media will be upgraded to support the construction of the new 10,000sf storage facility
- To be completed by end of 2010

Construction Shop

- Planned to support construction shop fabrication activities for the existing tank farm upgrades and WTP operations. Scheduled completion date 2012



Contract to Date Performance

(as of Mar10)

<i>Tank Operations Contract</i>	(1,000s)							
	<i>BCWS</i>	<i>BCWP</i>	<i>ACWP</i>	<i>SV</i>	<i>CV</i>	<i>SPI</i>	<i>CPI</i>	<i>BAC</i>
Contract to Date (as of Mar10)	462,986	463,118	435,373	132	27,745	1.00	1.06	2,058,654
Total	462,986	463,118	435,373	132	27,745	1.00	1.06	2,058,654

• Project Performance Metrics

- SPI: 1.00 (reflects schedule recovery effectiveness)
 - Communicate early and often to stay on track
- CPI: 1.06

• Funds Management

- Identified efficiencies and utilized associated funds to accelerate scope in alignment with ORP initiatives.

* Fiscal Year progress represents true Integrated Project Team effort!

ARRA spending

- Total funds received: \$322.3 M
- FY09: \$28.1 M
- Est. FY10 spending: \$132.2 M
- Est. FY11 spending: \$162 M

ARRA jobs

- Over 233 direct employees

Safety (4/30/2010)

- 395 days (470,676 hours)
- Zero Lost Time, Recordable or DART cases on RA work

Contract Milestones (4/30/2010)

- 20 contract milestones met on or ahead of schedule



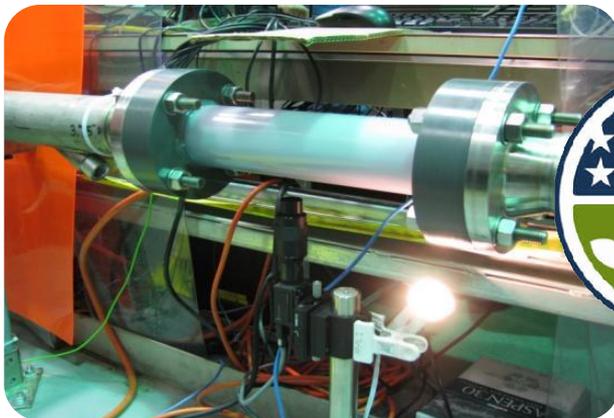


Moving Beyond Safe Storage RA Projects Benefit TOC Mission



RA Project Category	Funding Level	Near/Long-term Benefits
Equipment/System/Piping Upgrades	\$180 M	<i>Achieves life extension and improved reliability in the tank farms and upgrades systems essential to WTP transfer.</i>
Technology Applications	\$ 53 M	<i>Enables waste retrieval capabilities and prepares for waste feed delivery to the WTP.</i>
Facility Upgrades	\$ 81 M	<i>Improves reliability of aging facilities critical to consistent WTP waste feed delivery.</i>
Deactivation & Decommissioning	\$ 8 M	<i>Creates safe work environment by eliminating congestion, workplace hazards, sources of contamination, and regulated materials. Allows for replacement systems to be put in place. Improves conduct of operations.</i>

Project	Benefit
Double-shell tank ventilation system	<i>Essential for contamination control and tank vapor mitigation.</i>
Single-shell tank infrastructure	<i>New filters increases reliability, eliminates annual testing and lowers costs. Provides essential electrical upgrades.</i>
Waste transfer lines	<i>Brings waste transfer lines into regulatory compliance.</i>
Tank waste sampling system	<i>Replaces 30-year-old unreliable and inefficient sample system with modern technology.</i>
Double-shell tank level rise modifications	<i>Provides additional storage capacity in double-shell tanks.</i>



New tank waste sampling system



Excavating old cleanout boxes

RA Key Accomplishments – Tank Farm Upgrades



**Exhauster
Removal
(lead, asbestos,
and radioactive
material
removal)**



**Waste Transfer System
Upgrades**



SY Electrical Upgrades



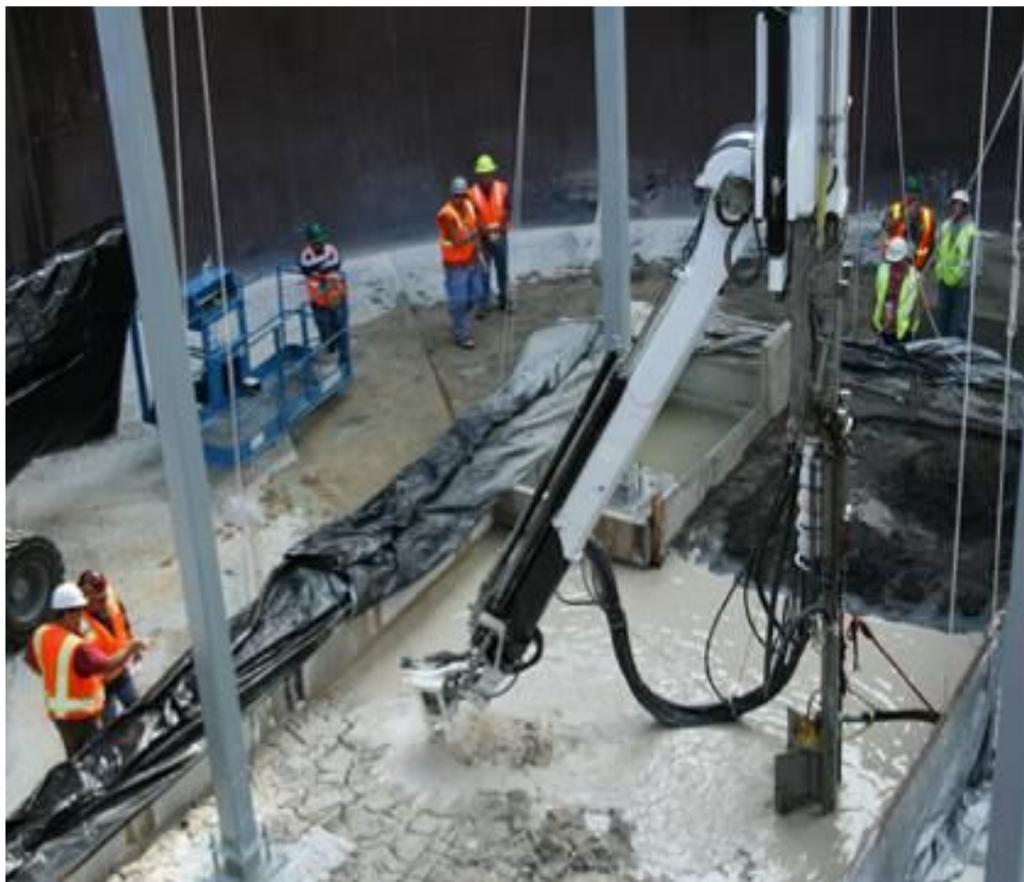
Project	Benefit
Wiped Film Evaporator	<i>Maximizes tank storage and serves as a supplement to the aging 242-A Evaporator in case the facility needs repairs.</i>
Mobile Arm Retrieval System (MARS)	<i>A remotely operated arm inserted into the tank that improves waste retrieval capability and efficiency and increases worker safety.</i>
Tank waste mixing & sampling	<i>Development of these systems is critical to preparing for delivery of a consistent and sustainable waste stream to the WTP.</i>



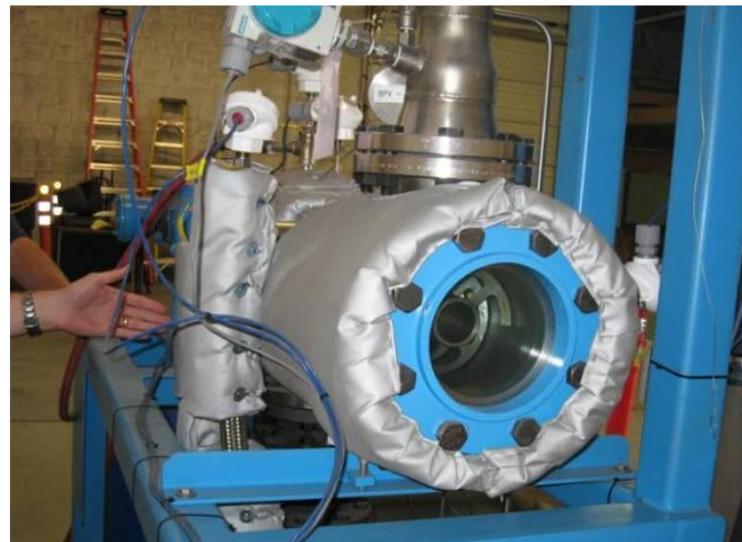
Wiped-Film Evaporator



Tank waste mixing demonstration



Completed design, procurement and initial testing of Mobile Arm Retrieval System (MARS)
Developing wiped film evaporator



Project	Benefit
242-A Evaporator upgrades	<i>Improves reliability and enables life extension of a facility critical to successful waste feed delivery.</i>
222-S Laboratory upgrades	<i>Enables life extension of a facility needed to support safe storage of waste and future operation of the WTP.</i>
New instruments installed at the 222-S Laboratory	<i>Increases analytical capability at a facility essential to worker safety, safe storage of waste, tank waste retrieval and future operation of the WTP.</i>
Effluent Treatment Facility upgrades	<i>Provides necessary upgrades to ensure ETF can support future WTP operation.</i>



Removing ductwork at the 222-S Laboratory



Decontaminating the 242-A Evaporator



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RA Key Accomplishments – Facility Upgrades



Evaporator Upgrades



Contract to Date Performance

(as of Mar10)

<i>TOC Recovery Act</i>	(1,000s)							
	<i>BCWS</i>	<i>BCWP</i>	<i>ACWP</i>	<i>SV</i>	<i>CV</i>	<i>SPI</i>	<i>CPI</i>	<i>BAC</i>
Contract to Date (as of Mar10)	83,555	88,187	69,813	4,833	18,374	1.06	1.26	304,495
Total	83,555	88,187	69,813	4,833	18,374	1.06	1.26	304,495

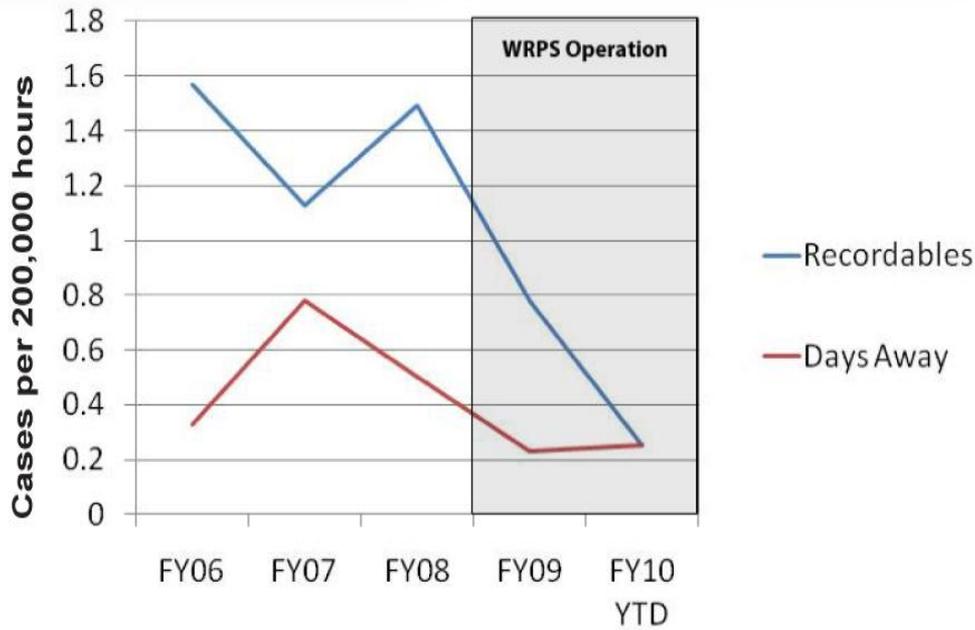
- **Project Performance Metrics**

- SPI: 1.06 (reflects schedule recovery and accelerated work).
- CPI: 1.26 (reflects staffing and cost efficiencies in support and project activities).

- **Funds Management**

- Identified efficiencies and utilized associated funds to accelerate and add buy-back scope.

* Fiscal Year progress represents true Integrated Project Team effort!



~50% or greater reduction in important injury rates in FY-09; continuing to drop in FY-10

Integrated Safety Management System Phase 1&2 verifications completed

Implementing chemical ALARA program for worker protection from tank vapors

Working toward VPP Star status for the entire organization in FY 2010; DOE assessment this summer

