Fiscal Year 2011
Budget Briefing

Office of River Protection

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Key Points

• ORP is achieving significant accomplishments in the Tank Farm and Waste Treatment Plant (WTP) and is committed to meeting our compliance commitments

• This briefing reflects the schedules/priorities as discussed with Ecology

• This briefing presents planned work scope accomplishments to be performed in Fiscal Year (FY) 2011
## Funding Profile

<table>
<thead>
<tr>
<th>PBS</th>
<th>PBS Title</th>
<th>FY 2009 Omnibus</th>
<th>FY 2010 President's Budget</th>
<th>FY 2011 Planning Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORP-0014</td>
<td>Radioactive Liquid Tank Waste Stabilization and Disposition</td>
<td>319,943</td>
<td>408,000</td>
<td>408,000</td>
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<tr>
<td>ORP-0060</td>
<td>Major Construction - Waste Treatment Plant</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td></td>
<td>Low Activity Waste Facility</td>
<td>160,000</td>
<td>100,000</td>
<td>57,500</td>
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<td></td>
<td>Analytical Laboratory</td>
<td>65,000</td>
<td>55,000</td>
<td>2,500</td>
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<td></td>
<td>Balance of Facilities</td>
<td>75,000</td>
<td>50,000</td>
<td>5,000</td>
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<td></td>
<td>High Level Waste Facility</td>
<td>125,000</td>
<td>160,000</td>
<td>255,000</td>
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<tr>
<td></td>
<td>Pretreatment Facility</td>
<td>265,000</td>
<td>325,000</td>
<td>370,000</td>
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<td></td>
<td><strong>Total ORP-0060</strong></td>
<td><strong>690,000</strong></td>
<td><strong>690,000</strong></td>
<td><strong>690,000</strong></td>
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<td></td>
<td><strong>Total - ORP</strong></td>
<td><strong>1,009,943</strong></td>
<td><strong>1,098,000</strong></td>
<td><strong>1,098,000</strong></td>
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</tbody>
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**Environmental Management**
ORP Funding and Planned Budget
(Dollars in Millions)

Note: These numbers exclude Program Direction funding.

EM Environmental Management
American Reinvestment and Recovery Act Funding Focus Areas

Tank Farm infrastructure to support Waste Feed Delivery to WTP - $326M

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

• Other Infrastructure
  – Wiped Film Evaporator
  – Core Sampling Truck

• 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

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

To date, 207 jobs have been created
Office of River Protection Near-Term Focus

- Constant safety vigilance and focus
- Reduce overall lifecycle cost/project risks
- Prepare predictable/consistent waste feed delivery system
- Retrieve tank waste to prepare feed to WTP and identify technical needs
- Expand retrieval technology toolbox
- Execute Recovery Act Tank Farm infrastructure upgrades
- Increase WTP focus on project performance and increase accountability
- Resolve the few remaining WTP design technical issues
- Continue WTP construction progress
- Work closely with Regulators, tribes, stakeholders and public on existing work to further progress
Tank Farms Project
ORP-0014

New sluicer being lowered into 04A-Pit in SST-C104
Tank Farm Project Near-term Objectives/Priorities

- Maintain open and effective communication with regulators and stakeholders
- Strive for operational excellence through technology, process improvement and innovation
- Focus on risk-based cleanup
- Partner with industry

Readiness for Waste Feed Delivery

Tank Closure activities
- Continued progress on SST retrieval
- Maintain the safety envelope

Safety, Risk Prioritization and Reduction

EM Environmental Management
FY 2011 Planned Accomplishments
Tank Farms Base Operations

Base Operations
- DST/SST Operations, Surveillance, Monitoring and Maintenance
- 222-S Laboratory Operations
- 242-A Evaporator Campaigns
- Tank Sampling and Analysis (Core, Grab and Vapor)
- Conduct Ultrasonic Testing and DST System Pit Integrity
- Conduct DST to DST Transfers
- NDE Equipment Replacement
- Construction and Commissioning
- Continue implementation SST Integrity Expert Panel recommendations (i.e., SST Structural Analysis and Visual Inspections)

Base Operations
- Facility Management
- ESH&Q
- Waste Management
- WTP Electricity
- Business Services
- ORP/TOC Management and Administration
- Hanford Pension
- Site Services
- Project Integration
- Fee/Management Reserve

242-A Evaporator
FY 2011 Planned Accomplishments
Tank Farms Retrieval/Closure

**Bulk Retrieval Activities**
- Complete C-107 Bulk Retrieval
- Complete C-112 design and construction
- Complete C-101 design and initiate construction
- Initiate design on C-102 and C-105

**Hard Heel Activities**
- Complete C-108 and C-110 Hard Heel Removal
- Complete C-109 Hard Heel design and construction
- Initiate C-104 Hard Heel design

**Other Retrieval Activities**
- Complete procurement of 2nd Mobile Arm Retrieval Tool
- Remove ~ 6 Hose-in-Hose Transfer Lines
- Design SX Farm Interim Surface Barrier
- Continue Closure Demonstration activities (i.e., Initiate C-301 Catch Tank and 244-CR DQO/SAP & Characterization)

EM Environmental Management
FY 2011 Planned Accomplishments
Tank Farms – Waste Treatment and Immobilization Support

Waste Treatment and Immobilization Support
• Initiate design of SY-102 Feed Delivery System
• AY/AZ Vent Upgrade Design
• Waste Feed Delivery Flow Sheet
• Continue Secondary Waste Treatment/Effluent Treatment Facility Design
• Waste Staging/Consolidation
• Blending Strategy Sampling
• Pretreatment Engineering Platform Phase II testing for filtration testing and Ultra-Filter Optimization

Technology Development and Deployment (EM-21)
• Continue Aluminum leaching studies
• Continue Next Generation Melter
• Development of improved glass formulations to reduce the ILAW capacity requirements and number of IHLW canisters produced
• Pursue Sodium Mitigation technologies recommended in sodium mitigation strategy
Low Activity Waste Facility

Environmental Management
Analytical Laboratory

EM  Environmental Management
High Level Waste Facility

EM Environmental Management
FY 2011 Planned Accomplishments
Waste Treatment Plant

Low Activity Waste Facility – 77% complete
• Receive and install the Thermal Catalytic Oxidizer - a major off-gas component
• 80% of bulk process piping and 65% of bulk conduit installed
• Complete Civil, Structural and Architectural design efforts
• Start assembling both melters
• Install interior walls at the 3’ level
• Paint interior walls at the 3’ and 28’ levels
• Install the C2 fans and various electrical equipment

Analytical Laboratory – 56% complete
• 90% of bulk piping installed
• 70% of bulk conduit installed
• Start Construction Walk Downs for turnover to Start-Up

Balance of Facilities – 59% complete
• Delivery of the Anhydrous Ammonia System
• Award purchase order for 4.16KV emergency diesel generator

Environmental Management
High Level Waste Facility – 65% complete

- Complete civil engineering design (Title II) and Architectural design
- Deliver Melter Off-Gas Blowers and the Acidic Waste Vessel
- Install the HEPA filter housing in Filter Cave
- Complete stainless steel liner installation in Pour Tunnels #1 and #2
- Install 39 Walls and 13 slabs
- Install piping, cable tray and HVAC ducting at the -21’ level, and cable tray at the 0’ level
- Install:
  - Melter cave, middle, and exterior shield door, and crane maintenance shield door
  - Melter cave cranes
  - Off-gas fans
  - Canister decon and waste neutralization vessels
- Commodity installation:
  - Concrete – 9,000 CY
  - Steel – 831 tons
  - Piping – 9,000 linear feet
  - HVAC – 74,000 pounds
**FY 2011 Planned Accomplishments**

**Waste Treatment Plant**

**Pretreatment Facility – 63% complete**

- Deliver Receive Cesium Ion Exchange heat exchangers and
- Deliver Cesium Nitric Acid Recovery reboiler and heat exchanger
- Install support frames in PT hot cell PA 21 for process jumpers and equipment
- Lift into position the lower pipe module for the LAW feed receipt cell – contains about 13,000 LF of stainless steel pipe, weighs 70 Tons, and is 37 ft x 54 ft
- **Commodity Installation**
  - Concrete – 3500 CY
  - Steel – 555 tons
  - Pipe – 63,500 linear feet
  - HVAC – 11,400 pounds
  - Conduit – 14,000 feet
- Install 12 slabs and 14 walls
- Install structural steel between 56’ and 77’ levels
- Complete the seismic upgrades for several Pretreatment vessels
- Receive piping and hangers