DOE-ORP Update

Oregon Hanford Cleanup Board

Jon Peschong, Director,
WTP Project Controls Division

Nov. 5, 2018
ORP Mission: To safely manage the waste in Hanford’s underground tanks while delivering the waste treatment capability needed for waste immobilization and final disposition.
DFLAW Execution Overview

**DFLAW**

**DIRECT FEED LOW-ACTIVITY WASTE**

**AP FARM TANKS:**
- AP-105 | AP-106 | AP-107 | AP-108
  - Feeds untreated tank waste to cesium removal systems and prepares waste for feed to the Low-Activity Waste Facility

**TANK-SIDE CESIUM REMOVAL SYSTEM (TSCR):**
- An at-tank “first feed” pre-treatment technique to remove cesium and prepare LAW waste for immobilization

**LOW-ACTIVITY WASTE (LAW) FACILITY:**
- Mixes LAW feed with glass-forming materials; produces vitrified waste form in stainless steel containers for long-term storage

**INTEGRATED DISPOSAL FACILITY (IDF)*:**
- Accepts containers of vitrified low-activity waste for long-term disposal

**EFFLUENT TREATMENT FACILITY (ETF):**
- Liquid Effluent Retention Facility (LERF)*
  - System providing storage and treatment for a variety of aqueous mixed waste

*NOTE: IDF, ETF and LERF NOT PICTURED ON MAP
Conceptual TSCR Layout

AP Tank Farm

TSCR

ION EXCHANGE COLUMN STAGING
DFLAW Immobilization Facilities

LAW Facility

EMF

Startup and Commissioning

Balance of Facilities
State approves permit to complete construction
Culture shift for the Hanford Site
Public meetings held October 16 & 18 in Portland & Seattle
Comment period ends November 7
Tank Farms Update

C Farm before & after completion of waste retrieval

January 2016

September 2018
Tank Farms Update

Waste retrieval in AX Farm set to begin in summer 2019
The pump from Tank AW-103 is safely removed and packaged for shipment to Hanford’s Environmental Restoration Disposal Facility (ERDF).

Prefabricated panels of polyethylene rubber were bonded together inside one of three massive LERF basins. The new cover is resistant to chemicals, temperature extremes and ultraviolet light.
Visual inspection systems navigate refractory of double-shell tank

Deployment of two crawlers in the refractory of AP-107 was the culmination of years of research and collaboration with experts in robotics and nondestructive examination.
222-S Laboratory room and HVAC system renovated

The remodel of one of the 222-S Laboratory rooms included installation of new walls and floors, vent hoods, gas piping and other equipment. The lab is a 70,000-square-foot full-service analytical facility that handles highly radioactive samples in support of Hanford cleanup.
Rinse operations involve the continuous addition of low-pressure water through the Extended-Reach Sluicing System and the transfer of rinse water to a double-shell tank.

Workers install a section of barrier in SX Farm.
A worker wearing a full-face air-purifying respirator makes his rounds in SY Farm.

Settlement Agreement on vapors litigation reached Sept. 19, 2018
Army Corps of Engineers Analysis
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<tr>
<th>PBS</th>
<th>Project Baseline Summary (PBS) Title</th>
<th>FY 2018 Omnibus</th>
<th>FY 2019 Omnibus</th>
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<tr>
<td>ORP-0014</td>
<td>Radioactive Liquid Tank Waste Stabilization and Disposition</td>
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<td>WTP-LBL</td>
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<td>High Level Waste Facility</td>
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<td>WTP – Subproject E</td>
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<td>Major construction – Waste Treatment and Immobilization Plant (WTP)</td>
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<td>ORP-0070</td>
<td>WTP Commissioning</td>
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<td>Total – ORP</td>
<td>Office of River Protection Funding</td>
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- Safe operations

- Direct Feed Low-Activity Waste (DFLAW)
  - Low Activity Waste (LAW) Facility, Effluent Management Facility (EMF), Balance of Facilities (BOF), Analytical Laboratory (Lab) – referred to collectively as LBL
  - Tank Farms upgrades to support DFLAW
  - LAW pretreatment
    • Tank Side Cesium Removal (TSCR) design & equipment

- Continued progress on tank waste retrieval and closure
## Current Contracts

**Occupational Medical Services (OccMed)**
- Provides Medical Monitoring
- Qualification Exams
- Occupational Health related Diagnosis and First Aid
  
  Expires: 12/31/2018

**Mission Support Contract (MSC)**
- Cost-effective Infrastructure and Site Services to support the Cleanup Mission
  
  Expires: 5/25/2019

**Plateau Remediation Contract (PRC)**
- Facility and Waste Site Cleanup
- Groundwater Remediation
- Waste Management
  
  Expires: 9/30/2019

**222-S Analytical Laboratory Services (222-S)**
- Provides Analytical Services Production functions of Receiving, Handling,
- Analysis, and Storing of Samples
- Reporting the results of Analysis to Contractors of DOE
  
  Expires: 9/20/2020

## Future (FY 2019-2029)

**Occupational Medical Services (OccMed)**
- Firm Fixed Price, Cost Reimbursement, Indefinite Delivery/Indefinite Quantity (IDIQ)
- 7 year contract (3+2+2)

**Hanford Mission Essential Services Contract (HMESC)**
- Cost Plus Award Fee, Cost Reimbursement, IDIQ
- 10 year contract (5+3+2)

**Central Plateau Cleanup Contract (CPCC)**
- Cost Plus Incentive Fee, Cost Reimbursement, IDIQ
- 10 year contract (5+5)

**222-S Laboratory (222-S Lab)**
- Cost Plus Award Fee, Cost Reimbursement
- 7 year contract (3+2+2)

**Tank Waste Cleanup Contract (TWCC)**
- TBD
- 10 year contract

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**Note:** Bechtel National, Inc. provides engineering, procurement, construction, and commissioning of the Waste Treatment and Immobilization Plant and is not part of these acquisitions.
Summary

- Focusing on safe and efficient mission execution
- Preparing for DFLAW operations
- Collaborating with Washington Department of Ecology and all key stakeholders for successful project delivery
“Protecting our workers, the public, and the environment”