Environmental Management
Office of River Protection

Regulator Briefing
FY 2017 President’s Budget
FY 2018 Estimated Requirements

Delmar Noyes, Waste Treatment Plant Start-Up and Commissioning Integration
March 15, 2016
Hanford Cleanup Work – Office of River Protection (ORP)

- Manage 56 million gallons of waste in single-shell and double-shell tanks
- Construct Waste Treatment and Immobilization Plant (WTP)
- Treat tank waste for disposition
2017 Key Cleanup Priorities – Safety First!

- Safe Nuclear Operations and Base Operations
- Low-Activity Waste Facility, Balance of Facilities, Analytical Laboratory construction
- Direct-Feed Low-Activity Waste
- Tank Waste Retrievals
- WTP High-Level Waste Technical Issues Resolution
- WTP Pretreatment Technical Issues Resolution
Key Regulatory Cleanup Drivers


- Consent Decree (State of Washington v. DOE, No. 08-5085-RMP (E.D. Washington.), Oct. 25, 2010)
# Office of River Protection Profile

($ in Thousands)

<table>
<thead>
<tr>
<th>PBS</th>
<th>Project Baseline Summary (PBS) Title</th>
<th>FY 2016 Appropriation</th>
<th>FY 2017 President Budget</th>
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<tbody>
<tr>
<td>ORP-0014</td>
<td>Radioactive Liquid Tank Waste Stabilization and Disposition</td>
<td>$649,000</td>
<td>$721,456</td>
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<td>ORP-0014</td>
<td>15-D-409, Low Activity Waste Pre-Treatment System</td>
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<td>ORP-0202</td>
<td>General Plant Project (GPP)</td>
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<td>ORP-0060</td>
<td>WTP – Subprojects A-D</td>
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<td>ORP-0060</td>
<td>WTP – Subproject E</td>
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<td>Subtotal</td>
<td>Major construction – Waste Treatment 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 Summary</td>
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Project Work

OFFICE OF RIVER PROTECTION OVERVIEW
Tank Farms – ORP-0014

**Planned Activities FY 2017 ($721M)**

- Maintain Tank Farms in a safe and compliant manner
- Continue 222-S Laboratory and 242-A Evaporator operations
- Conduct three 242-A Evaporator campaigns
- Continue Effluent Treatment Facility operations and upgrades
- Continue preventive/corrective maintenance activities
- Continue single-shell/double-shell tank integrity assessments
- Complete retrieval of Double-Shell Tank AY-102
- Complete construction of retrieval equipment of two tanks in AX Farm
- Initiate Phase 2 activities for the Hanford Tank Vapor Assessment Report
- Continue upgrades to Double-Shell Tank AP-107 to support feed to Low-Activity Waste Pretreatment System (LAWPS)
ORP-0014 – LAWPS (15-D-409)

Planned Activities FY 2017 ($73M)

- Complete LAWPS engineering scale integrated testing
- Complete LAWPS Preliminary Design to a design maturity of 90%
- Complete LAWPS Preliminary Design Safety Analysis
- Submit LAWPS permit modification requests to Washington Department of Ecology and Department of Health
- Initiate LAWPS long-lead procurements
General Plant Project – ORP-0202

Planned Activities FY 2017 ($12M)

- Complete design and initiate construction of the Non-Radiation Standards Laboratory
Planned Activities FY 2017 ($593M)

Low-Activity Waste Facility, Analytical Laboratory, High Level Waste Facility, and Balance of Facilities

- Complete Low-Activity Waste (LAW) Facility melters 1 and 2 installation
- Begin system start-up for LAW Facility and Analytical Laboratory (LAB)
- Complete LAB temporary control room
- Continue with High Level Waste (HLW) Facility Radioactive Liquid Waste Disposal System (RLD) system design
- Continue civil build-out and preservation maintenance of the HLW facility
- Complete HLW Facility Radioactive Liquid Waste Disposal System (RLD) re-evaluation incorporating Independent Expert Review Team (IERT) assessment
- Obtain HLW Preliminary Document Safety Analysis (PDSA) update approval from ORP
- Obtain Authorization to resume procurement and construction for HLW Facility (Critical Decision 2A)
**Planned Activities FY 2017 ($97M)**

**Pretreatment Facility Technical Issues Resolution**

- **T5** - ¼ Scale Jet Impingement Testing
- **T4** - Standard High Solids Vessel Design (SHSVD) testing (Phase 3 PJM Controls)
- **T6** - Pretreat Vessel Vent Process/Process Vessel Vent Exhaust (PVP/PVV), Pulse Jet Ventilation Systems Study
- **T4** - SHSVD testing (Phase 3 Pulse Jet Mixers (PJM) controls)
- **T5** - Pipe Loop testing
- **T4** - SHSVD testing (mixing)
- **T7** - SHSVD Plant Structural Integrity Analysis
- **T5** - Erosion Design Basis
- **T7** - Basis of Design Change Notice (seismic and other changes to on-site vessels)
Planned Activities FY 2017 ($3M)

- Initiate commissioning activities that are not currently included in ORP-0060’s scope of work
Tank Farms – ORP-0014

Planned Activities FY 2018

- Maintain Tank Farms in a safe and compliant manner
- Continue 222-S Laboratory and 242-A Evaporator operations and upgrades
- Conduct five 242-A Evaporator campaigns
- Conduct Effluent Treatment Facility operations and upgrades
- Continue preventive/corrective maintenance activities
- Continue single-shell and double-shell tank integrity activities
- Continue hose-in-hose transfer line removal in C Farm
- Initiate retrieval of two single-shell tanks in AX Farm
Planned Activities FY 2018

- Obtain DOE-HQ approval for Critical Decision 2/3
- Complete long-lead procurements
- Obtain permits for LAWPS from regulators
- Initiate and complete LAWPS site preparation
- Initiate LAWPS construction
General Plant Project – ORP-0202

Planned Activities FY 2018

- Continue construction of the Non-Radiation Standards Laboratory
FY 2018 Planned Activities

Low-Activity Waste Facility, Analytical Laboratory, High Level Waste Facility, and Balance of Facilities

- Complete LAW engineering
- Complete LAW construction
- Turnover LAW from construction to startup of systems
- Begin startup testing of LAB systems to support DFLAW
- Begin operational testing of Chiller Compressor Facility
- Continue civil build-out and preservation maintenance of the HLW Facility
- Implement design changes for system studies for the HLW Facility
**FY 2018 Planned Activities**

**Pretreatment Facility Technical Issue Resolution**

- T4 - Standard High Solids Vessel Design testing (mixing)
- T5 - Localized Corrosion Design Basis
- T4 - Final PJM Control Recommendation Study
- T6 - Conceptual Design Study Rev. 0
WTP Commissioning – ORP-0070

Planned Activities FY 2018

- Continue commissioning activities
# TPA and Consent Decree Milestones (FY 2017)*

<table>
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<tr>
<th>Number</th>
<th>Milestone</th>
<th>Due Date</th>
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<tbody>
<tr>
<td><strong>M-045-92P</strong></td>
<td>Barrier 3 construction complete</td>
<td>In Dispute</td>
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<tr>
<td>M-062-40E</td>
<td>Select a minimum of three scenarios</td>
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<tr>
<td>M-045-61A</td>
<td>Submit to Ecology a primary document Phase 2 CMS and Rev. 0 update to the RFI report for WMA-C</td>
<td>12/31/2016</td>
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<td>M-045-62</td>
<td>Phase 2 corrective measures implementation work plan for WMA-C</td>
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<td>M-045-84</td>
<td>Complete negotiations of HFFACO interim milestone for closure of 2\textsuperscript{nd} single-shell tank WMA</td>
<td>1/31/2017</td>
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<tr>
<td>M-062-01AH</td>
<td>Submit semi-annual project compliance report</td>
<td>1/31/2017</td>
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<tr>
<td>M-062-01Al</td>
<td>Submit semi-annual project compliance report</td>
<td>07/31/2017</td>
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<tr>
<td>M-045-91E2</td>
<td>Provide single-shell tank farms dome deflection surveys every two years</td>
<td>09/30/2017</td>
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<tr>
<td>D-00A-02</td>
<td>HLW Facility construction substantially complete</td>
<td>12/31/2016</td>
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* These milestones are part of the TPA and are not part of Consent Decree or ongoing Consent Decree litigation
** Milestone is in dispute and currently before the TPA Interagency Management Integration Team
Working Together for a Shared Vision

- We are committed to maintaining worker and public safety and protecting the environment.
- ORP is committed to continued progress at the Hanford Site.
- ORP has a strategy, vision and plan, and will continue to work together with EPA, Ecology and our stakeholders to ensure continued success.
- We appreciate and desire your continued input.