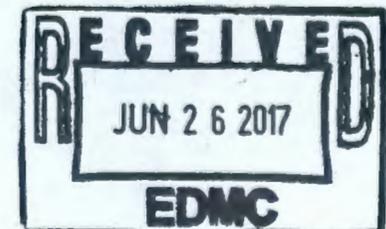




OFFICE OF  
**RIVER PROTECTION**  
United States Department of Energy

# Regulator Budget Briefing

**FY 2017 Omnibus  
FY 2018 President's Budget**



**Jon Peschong, One System Director**

Presented by: U.S. Department of Energy – Office of River Protection

**May 31, 2017**



1245107  
(0069387H)



## Office of River Protection (ORP)

ORP is responsible for planning, integrating, and managing the River Protection Program executed by contractors performing work under ORP management. ORP has ~225 employees, both federal and contractor.

## Washington River Protection Solutions (WRPS)

WRPS is the prime contractor responsible for safely managing and operating the Tank Farms. WRPS has 2,094 employees\*.

## Bechtel National, Inc. (BNI)

BNI is responsible for the engineering, construction, startup and commissioning of the Waste Treatment and Immobilization Plant. BNI has 3,044 employees\*.

## Wastren Advantage, Inc. (WAI)

WAI is the prime contractor responsible for managing the 222-S Laboratory. WAI has 56 employees.\*



\*As of September 30, 2016







- Safe Nuclear Operations and Base Operations
- Low Activity Waste Facility, Balance of Facilities, Analytical Laboratory
- Tank Farms upgrades to support Direct-Feed Low Activity Waste
- Complete requirements of settlement agreement for double-shell tank AY-102
- Tank waste retrievals
- Low Activity Waste Pretreatment System Facility (LAWPS)
- Waste Treatment and Immobilization Plant technical issues resolution





(\$ in Thousands)

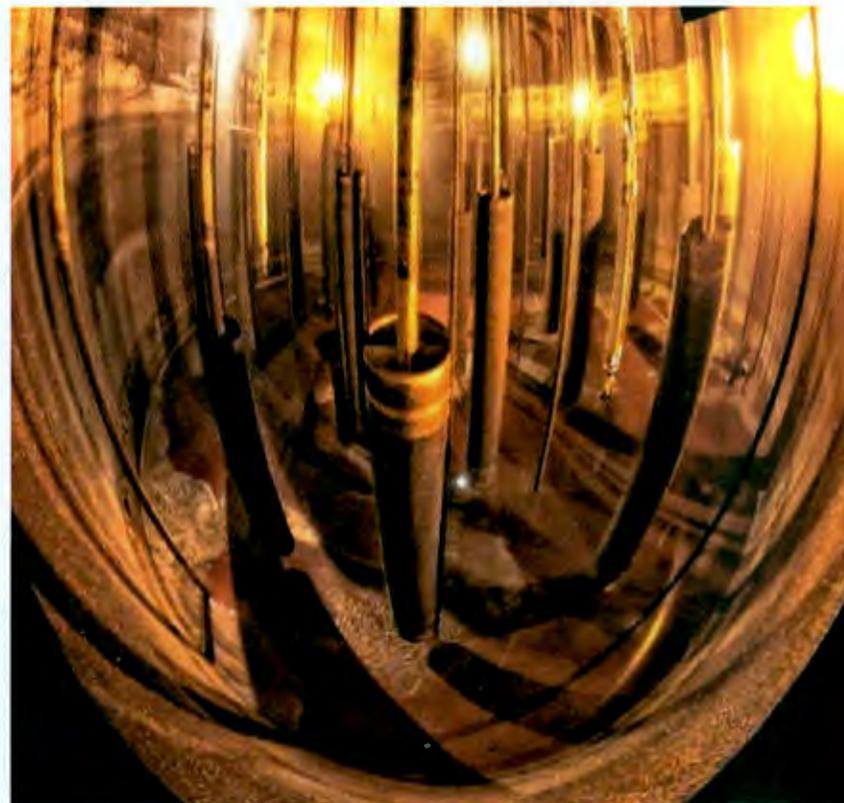
PBS	Project Baseline Summary (PBS) Title	FY 2016 Appropriation	FY 2017 Omnibus	FY 2018 President's Budget
ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition	\$649,000	\$733,965	\$713,311
ORP-0014	15-D-409, Low Activity Waste Pre-Treatment System	\$75,000	\$73,000	\$93,000
<b>Subtotal</b>	<b>Radioactive Liquid Tank Waste Stabilization and Disposition</b>	<b>\$724,000</b>	<b>\$806,965</b>	<b>\$806,311</b>
ORP-0060	WTP – Subprojects A-D	\$595,000	\$593,000	\$655,000
ORP-0060	WTP – Subproject E	\$95,000	\$97,000	\$35,000
<b>Subtotal</b>	<b>Major construction – Waste Treatment and Immobilization Plant (WTP)</b>	<b>\$690,000</b>	<b>\$690,000</b>	<b>\$690,000</b>
ORP-0070	WTP Commissioning	\$0	\$3,000	\$8,000
<b>Total – ORP</b>	<b>Office of River Protection Funding Summary</b>	<b>\$1,414,000</b>	<b>\$1,499,965</b>	<b>\$1,504,311</b>





## *Fiscal Year 2017 Planned Activities (\$733M)*

- Maintain Tank Farms in a safe manner
- Continue 222-S Laboratory operations and sustainment upgrades
- Conduct 242-A Evaporator campaigns
- Complete sludge retrieval of DST AY-102 to support tank inspection
- Continue retrieval of remaining tank in C-Farm (C-105)
- Continue Effluent Treatment Facility operations and initiate cover replacement (Basin 43)
- Continue single-shell and double-shell tank integrity activities
- Continue tank farms preventive and corrective maintenance activities
- Continue upgrades to double-shell tank AP-107 to support waste feed to LAWPS
- Continue construction activities in AX single-shell tank farm
- Continue Vapor Mitigation Strategies



AY-102 – view inside tank following retrieval – currently 98% complete





## *Fiscal Year 2017 Planned Activities (\$73M)*

- Complete 60% Design Review
- Complete the Preliminary Safety Design Report
- Award the long lead procurement (design only) of the Ion Exchange Column and the Cross Flow Filters
- Complete Critical Decision 3A deliverables and submit to DOE-HQ for approval (will authorize long lead equipment fabrication and site preparation)
- Complete the LAWPS Engineering-scale Integrated Test and Full Scale Ion Exchange Test
- Submit the first of three LAWPS RCRA permit modification request packages to Ecology





## ***Fiscal Year 2017 Planned Activities (\$593M)***

### **Low-Activity Waste (LAW) Facility, Analytical Laboratory, High-Level Waste (HLW) Facility, and Balance of Facilities (BOF)**

- Energized WTP from the permanent power supply
- Completed turnover, startup, and operation of the WTP electrical distribution system
- Initiated construction of the Effluent Management Facility (EMF)
- Award fabrication contract for EMF evaporator
- Award contract for all major EMF vessels
- Complete Low-Activity Waste (LAW) Facility Melters 1 and 2 final assembly and installation
- Complete an update to the LAW Preliminary Document Safety Analysis (PDSA)
- Begin system start-up for BOF Facilities
- Initiate construction of the Effluent Management System
- Begin electrical distribution from the BOF Switchgear Facility in support of energized system startup testing
- Complete LAB temporary control room



Work is underway to complete final assembly for two LAW Facility melters.



BOF switchgear building, also known as Building 91, was energized in March.





## ***Fiscal Year 2017 Planned Activities (\$593M) Cont.***

### **Low-Activity Waste (LAW) Facility, Analytical Laboratory, High-Level Waste (HLW) Facility, and Balance of Facilities (BOF)**

- Continue with High-Level Waste (HLW) Facility Radioactive Liquid Waste Disposal System (RLD) system design and re-evaluation, incorporating results from the Independent Expert Review Team (IERT) assessment of RLD vessels 7 & 8
- Continue preservation maintenance of the HLW Facility
- Continue fabrication of HLW Facility RLD Vessels 7 & 8
- Deliver three Autosampler Units (ASX 28, 29, 42) and several support cranes
- Approve updated HLW PDSA
- Continue resumption of procurement and construction for HLW Facility (Authorization to Resume EPC, Decision 2A)



Three HLW Facility Autosampler units were received this spring.



This 25-ton crane will be installed in HLW melter cave two.





## ***Fiscal Year 2017 Planned Activities (\$97M)***

### **Pretreatment Facility**

- Continue PT Technical Issues Resolution T4 (Vessel mixing)
  - Complete Standard High Solids Vessel Design (SHSVD) testing (Phase 3 Pulse Jet Mixers (PJM) controls and mixing)
- Continue PT Technical Issues Resolution T5 (Erosion/Corrosion)
  - Erosion
    - Pipe Loop testing (deferred to FY 2019 due to funding reprioritization)
    - ¼ Scale Jet Impingement Testing (also deferred to FY 2019)
    - Erosion Design Basis – Complete Engineering Erosion Assessment
  - Corrosion
    - Complete: Electrochemical, Immersion, & Critical Pitting testing
- Continue PT Technical Issues Resolution T6 (Optimization of PT Facility design)
  - Complete Pretreat Vessel Vent Process/Process Vessel Vent Exhaust (PVP/PVV), Pulse Jet Ventilation Systems Study
- Continue PT Technical Issues Resolution T7 (Structural integrity of vessels)
  - SHSVD Plant Structural Integrity Analysis
  - Basis of Design Change Notice (seismic and other changes to on-site vessels)





### *Fiscal Year 2017 Planned Activities (\$3M)*

- Initiate studies to determine spare parts required following Hot Commissioning in 2021
- Initiate risk assessment to identify risk associated with WTP facility transition to operations





## *Fiscal Year 2018 Planned Activities (\$713M)*

- Maintain Tank Farms in a safe manner
- Continue 222-S Laboratory operations and sustainment upgrades
- Conduct 242-A Evaporator campaigns
- Continue DST AY-102 Settlement Agreement activities
- Complete retrieval of remaining tank in C-Farm (C-105)
- Continue Effluent Treatment Facility operations and complete cover replacement (Basin 42)
- Continue single-shell and double-shell tank integrity activities
- Continue tank farms preventive and corrective maintenance activities
- Continue upgrades in AP farm to support waste feed to LAWPS
- Continue construction activities in AX single-shell tank farm
- Continue Vapor Mitigation Strategies



C-105 – Installation of the slurry pump





## *Fiscal Year 2018 Planned Activities (\$93M)*

- Conduct Technology Readiness Assessment to validate maturity of selected Critical Technology Elements
- Commence site preparation and fabrication of long lead procurement equipment
- Complete 90% design review
- Complete the Preliminary Documented Safety Analysis
- Submit the remaining two of three LAWPS RCRA permit modification request packages to Ecology
- Complete Critical Decision 2 (Approve Performance Baseline) and Critical Decision 3 (Approve Start of Construction) deliverables and submit to DOE-HQ for approval
- Award construction subcontract and mobilize to site for full construction





## ***Fiscal Year 2018 Planned Activities (\$655M)***

### **Low-Activity Waste (LAW) Facility, Analytical Laboratory, High-Level Waste (HLW) Facility, and Balance of Facilities (BOF)**

- LAW Construction Complete
- Issue LAW Documented Safety Analysis (DSA)
- Complete placement of EMF concrete and structural steel
- Receive and install EMF evaporator
- Receive and install major EMF vessels
- Continue preservation maintenance of the HLW Facility
- Complete fabrication of HLW Facility RLD Vessels 7 & 8
- Complete delivery or suspension of current HLW procurements, and begin rebaseline of the HLW Facility



LAW Caustic Scrubber installation

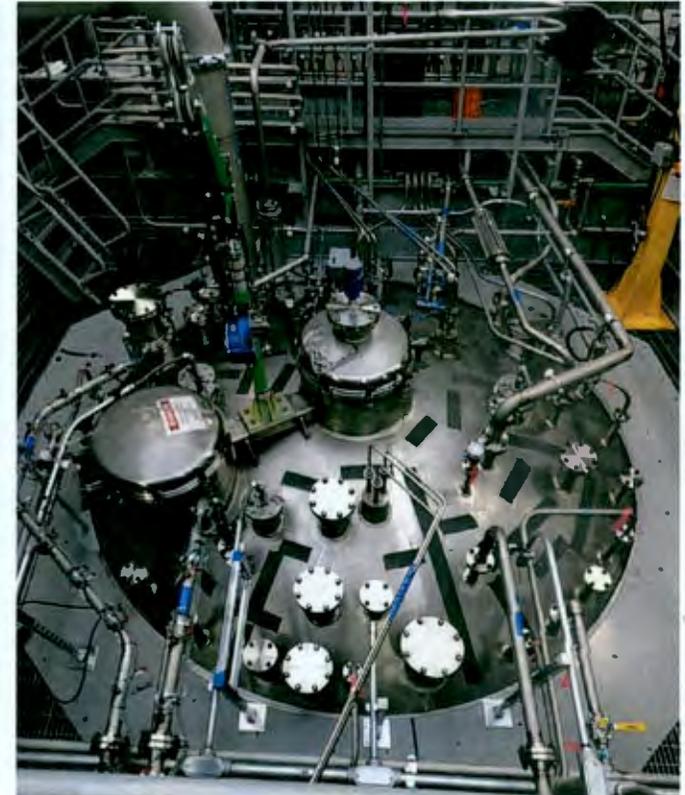




## ***Fiscal Year 2018 Planned Activities (\$35M)***

### **Pretreatment (PT) Facility**

- Complete resolution of PT Technical Issue T4 (Vessel mixing)
  - Issue PJM Vessel Mixing and PJM Controls closure report and letter
- Continue PT Technical Issues Resolution T5 (Erosion/Corrosion)
  - Erosion
    - Complete engineering studies to determine requirements for testing
  - Corrosion
    - Complete stress corrosion cracking testing; issue Confirmed Localized Corrosion Material Design Limits Report
- Complete resolution of PT Technical Issue T6 (Optimization of PT Facility design)
- Complete resolution of PT Technical Issue T7 (Structural integrity of vessels)
  - Complete structural assessment of installed feed receipt vessels
  - Prepare plan for evaluation of structural design of remaining installed vessels
- Continue preservation maintenance of the PT Facility



Pulse jet mixer control testing is expected to be completed in early FY2018





## *Fiscal Year 2018 Planned Activities (\$8M)*

- Complete studies to determine spare parts required following Hot Commissioning in 2021
- Initiate activities to procure long lead items if required based on studies
- Continue risk assessment to identify risk associated with WTP facility transition to operations
- Implement WTP facility transition risk mitigating strategies





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## Working Together for a Shared Vision

- We are committed to maintaining worker and public safety and protecting the environment
- The Office of River Protection is committed to continued progress
- We appreciate and desire your continued input





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***"Protecting our workers,  
the public, and the environment"***



The Hanford Reach  
White Bluffs Overlooking the Columbia River





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