

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***

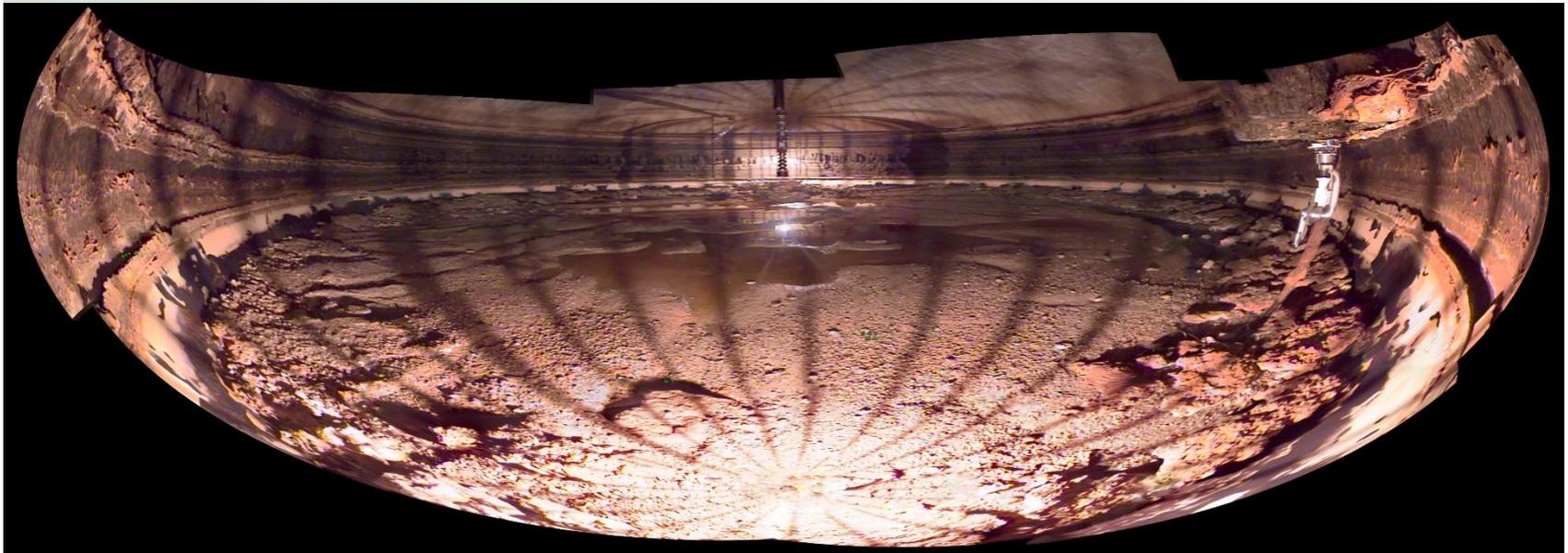
March 15, 2016

Hanford Cleanup Work – Office of River Protection (ORP)

March 2016

Office of River Protection

- 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



Single Shell Tank C-102 after retrieval

2017 Key Cleanup Priorities – Safety First!

March 2016

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- 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

March 2016

Office of River Protection

- Tri-Party Agreement (Hanford Federal Facility Agreement and Consent Order, signed in 1989) - agreement between U.S. Department of Energy (DOE), State of Washington and U.S. Environmental Protection Agency (EPA)
- Consent Decree (State of Washington v. DOE, No. 08-5085-RMP (E.D. Washington.), Oct. 25, 2010)

Office of River Protection Profile

March 2016

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(\$ in Thousands)

PBS	Project Baseline Summary (PBS) Title	FY 2016 Appropriation	FY 2017 President Budget
ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition	\$ 649,000	\$ 721,456
ORP-0014	15-D-409, Low Activity Waste Pre-Treatment System	\$ 75,000	\$ 73,000
Subtotal	Radioactive Liquid Tank Waste Stabilization and Disposition	\$ 724,000	\$ 794,456
ORP-0202	General Plant Project (GPP)	\$ 0	\$12,509
ORP-0060	WTP – Subprojects A-D	\$ 595,000	\$ 593,000
ORP-0060	WTP – Subproject E	\$ 95,000	\$ 97,000
Subtotal	Major construction – Waste Treatment Plant (WTP)	\$ 690,000	\$ 690,000
ORP-0070	WTP Commissioning	\$ 0	\$3,000
Total – ORP	Office of River Protection Funding Summary	\$1,414,000	\$1,499,965

Project Work

OFFICE OF RIVER PROTECTION OVERVIEW

Tank Farms – ORP-0014

March 2016

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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)



AY-102 Waste Retrieval System General Layout



222-S Laboratory

ORP-0014 – LAWPS (15-D-409)

March 2016

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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

March 2016

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Planned Activities FY 2017 (\$12M)

- Complete design and initiate construction of the Non-Radiation Standards Laboratory

Waste Treatment and Immobilization Plant – ORP-0060

March 2016

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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)



Low Activity Waste Facility



Analytical Laboratory



Balance of Facilities

Waste Treatment and Immobilization Plant – ORP-0060

March 2016

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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)



WTP Commissioning– ORP-0070

March 2016

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Planned Activities FY 2017 (\$3M)

- Initiate commissioning activities that are not currently included in ORP-0060's scope of work

Tank Farms – ORP-0014

March 2016

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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



Effluent Treatment Facility Berm Coatings

ORP-0014 – LAWPS (15-D-409)

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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

March 2016

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Planned Activities FY 2018

- Continue construction of the Non-Radiation Standards Laboratory

Waste Treatment and Immobilization Plant – ORP-0060

March 2016

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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



High-Level Waste Facility



Low-Activity Waste Facility



Balance of Facilities

Waste Treatment and Immobilization Plant – ORP-0060

March 2016

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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



Pretreatment Facility



Full-Scale Vessel Test Facility

WTP Commissioning– ORP-0070

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Planned Activities FY 2018

- Continue commissioning activities

TPA and Consent Decree Milestones (FY 2017)*

March 2016

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Number	Milestone	Due Date
**M-045-92P	Barrier 3 construction complete	In Dispute
M-062-40E	Select a minimum of three scenarios	10/31/2016
M-045-61A	Submit to Ecology a primary document Phase 2 CMS and Rev. 0 update to the RFI report for WMA-C	12/31/2016
M-045-62	Phase 2 corrective measures implementation work plan for WMA-C	
M-045-84	Complete negotiations of HFFACO interim milestone for closure of 2 nd single-shell tank WMA	1/31/2017
M-062-01AH	Submit semi-annual project compliance report	1/31/2017
M-062-01AI	Submit semi-annual project compliance report	07/31/2017
M-045-91E2	Provide single-shell tank farms dome deflection surveys every two years	09/30/2017
D-00A-02	HLW Facility construction substantially complete	12/31/2016

* 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

March 2016

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- 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

