

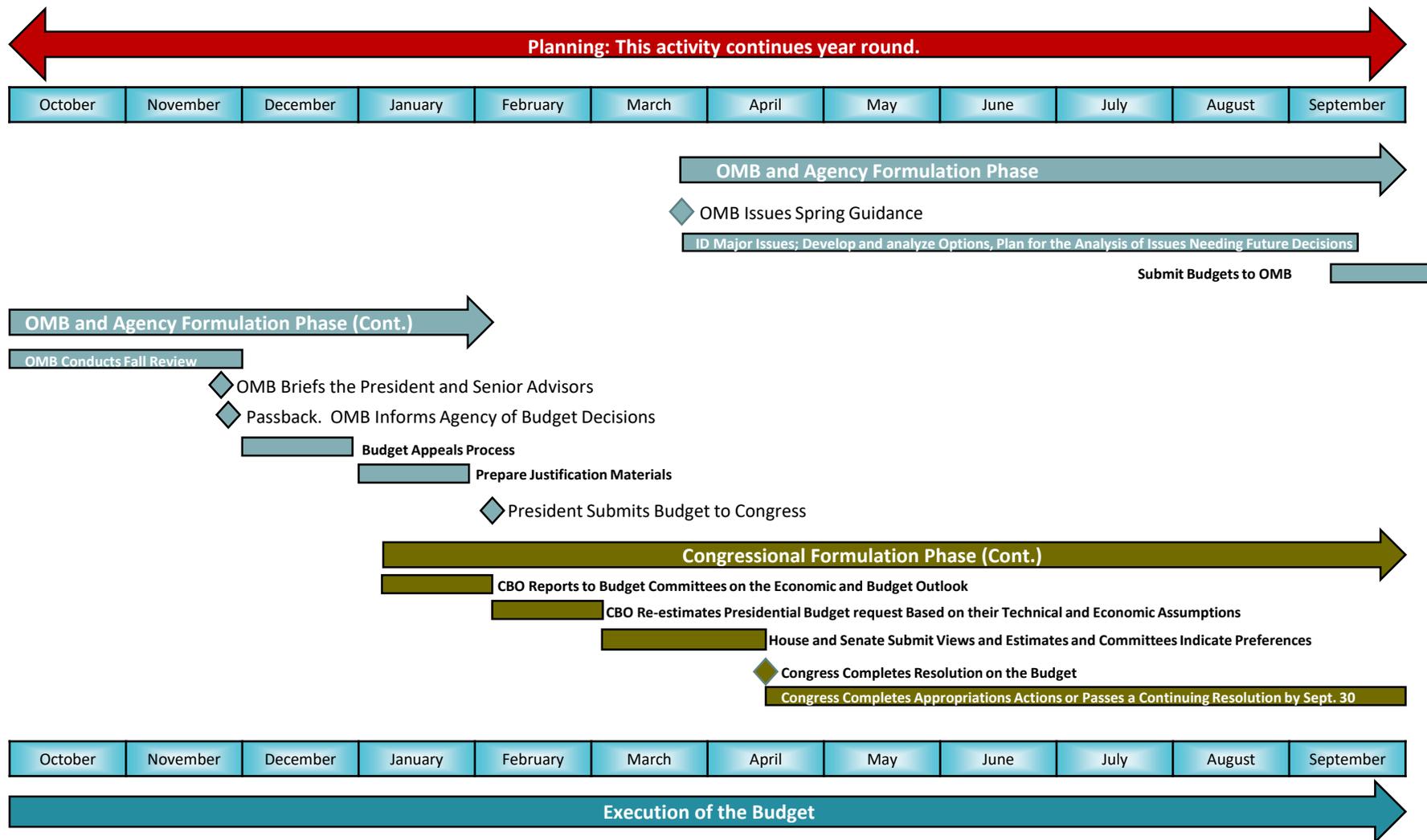


THE HANFORD SITE

Budget Overview for Fiscal Year 2021 Fiscal Year 2022 Budget Public Priorities

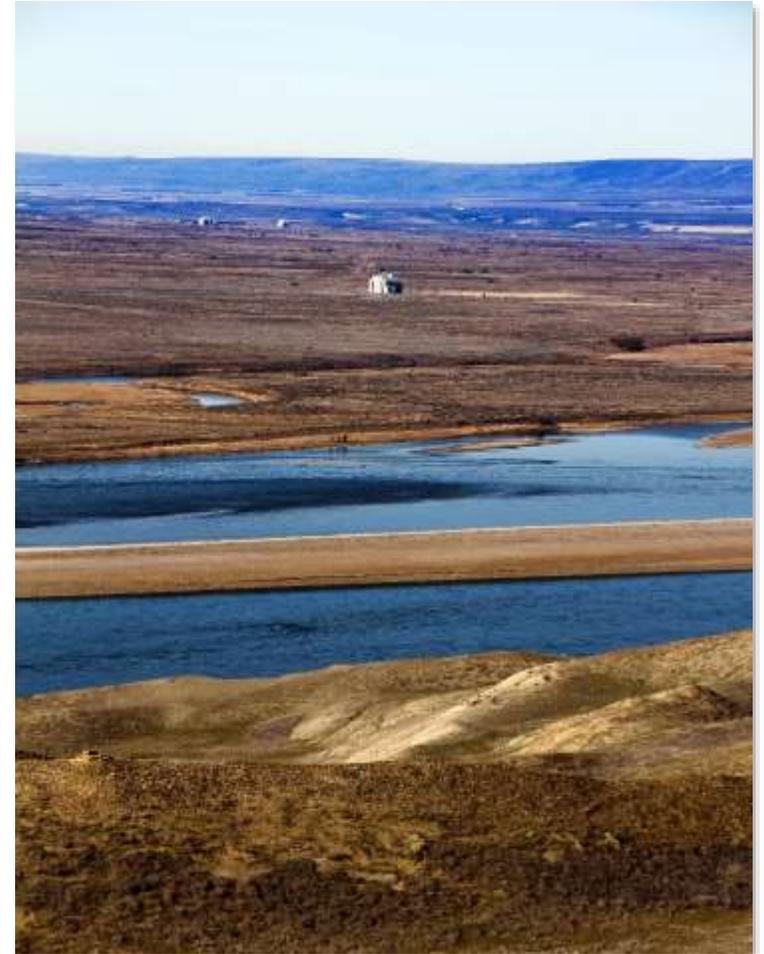
June 17, 2020

- DOE fiscal year 2021 President's Budget Request and planned work
 - Richland Operations Office (RL)
 - Office of River Protection (ORP)
 - Questions and answers
- Public questions on FY 2022 priorities



*During OMB's Agency Formulation Phase, Budget Allocations are Embargoed and **NOT** Releasable Outside of the Administration

- Minimum-safe operations
- Direct-Feed Low-Activity Waste (DFLAW)
- Aging facility risk mitigation
- Critical infrastructure
- Double-shell tank space management
- Single-shell tank retrievals
- River Corridor clean-up
- Waste disposition, Cesium/Strontium dry storage
- Groundwater pump-and-treat actions
- Central Plateau clean-up
- Tank farm closure



A cocooned reactor near the Columbia River

Richland (\$655M)

- Provide minimum safe and essential services
- Provide critical infrastructure for Direct-Feed Low-Activity Waste: Integrated Disposal Facility
- Conduct aging facility maintenance/risk mitigation
- Perform groundwater pump and treat operations focused along the Columbia River
- Provide site-wide services
- Secure assets through Cybersecurity to facilitate the mission

RL Budget Profile

(\$ in Thousands)

PBS	PBS Title	FY2020 Request	FY 2020 Enacted	FY 2021 Request
RL-0011	Nuclear Material Stabilization and Disposition – PFP	0	0	0
RL-0012	Spent Nuclear Fuel Stabilization and Disposition	0	0	0
RL-0013C	Solid Waste Stabilization and Disposition	110,798	176,855	138,900
RL-0030	Soil and Water Remediation – Groundwater / Vadose Zone	106,600	138,995	56,100
RL-0201	Hanford Sitewide Services	255,551	338,950	303,335
Central Plateau Remediation		472,949	654,800	498,335
RL-0040	Nuclear Facility D&D – Reminder of Hanford	34,750	102,427	24,949
RL-0041	Nuclear Facility D&D – River Corridor Closure Project	105,000	133,675	30,000
River Corridor and Other Cleanup Operations		139,750	236,102	54,949
RL-0013C	18-D-404 WESF Modifications and Capsule Storage	11,000	11,000	0
RL-0020	Safeguards and Security	86,778	86,778	96,300
RL-0042	Nuclear Facility D&D – Fast Flux Test Facility	2,500	2,500	2,500
RL-0100	Richland Community and Regulatory Support	5,121	10,121	2,500
Total	Richland Operations Office Funding Summary	718,098	1,001,301	654,584

D&D = deactivation and decommissioning
 FY = fiscal year
 PBS = project baseline summary

PFP = Plutonium Finishing Plant
 WESF = Waste Encapsulation and Storage Facility

RL TPA Milestones 2021 Status

PBS	Milestone Number	Title	Due Date	Status
RL-0030	M-015-112	Submit Draft B 200-IS-1 RFI/CMS/RI/FS Work Plan to Ecology with Schedule Dates	11/30/2020	At Risk
RL-0030	M-024-71	Complete the Construction of All Wells Listed for CY20 and Before	12/31/2020	On Schedule
RL-0040	M-016-250F	Submit to ECY a 3-Year Rolling Prioritized Schedule to Implement Waste Site Removal Actions	3/31/2021	On Schedule
RL-0013	M-026-01AE	Submit Hanford Land Disposal Restrictions Summary Report (for 2020)	4/30/2021	On Schedule
RL-0030	M-024-58N	Initiate Discussions of Well Commitments	6/1/2021	On Schedule
RL-0013	M-091-03O	Submit Revision of TRUM Waste and MLLW PMP to Ecology	6/30/2021	On Schedule
RL-0030	M-024-72-T01	Conclude Discussions of Well Commitments Initiated Under M-024-58	8/1/2021	On Schedule
RL-0041	M-016-85A	Complete Remote Excavation of 300-296 Waste Site	9/30/2021	At Risk
RL-0041	M-016-86	Complete Remedial Actions for 618-11 Burial Ground in accordance with DOE/RL-2014-13-ADD1	9/30/2021	At Risk
RL-0030	M-085-90	Submit Remedial Investigation/Feasibility Study Work Plan for 200-CR-1 to EPA	9/30/2021	At Risk

* On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. While the majority of the Hanford Site workforce continues to telework, there are a limited number of workers reporting to the site to perform activities necessary to maintain the Site in a safe condition, continuing to protect the community, region, and the environment. DOE and its contractors are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information and COVID-19 potential impacts on the Tri Party Agreement (TPA) and, if other actions may be necessary.

Minimum Safe Operations

- Protection of Special Nuclear Materials
- Long-Term Stewardship
- Environmental Monitoring
- Safeguards & Security
- Public Safety
- Industrial & Cyber Security



Long-Term Stewardship / Environmental Monitoring



Public Safety



Public Safety



Safeguards and Security



Industrial & Cyber Security

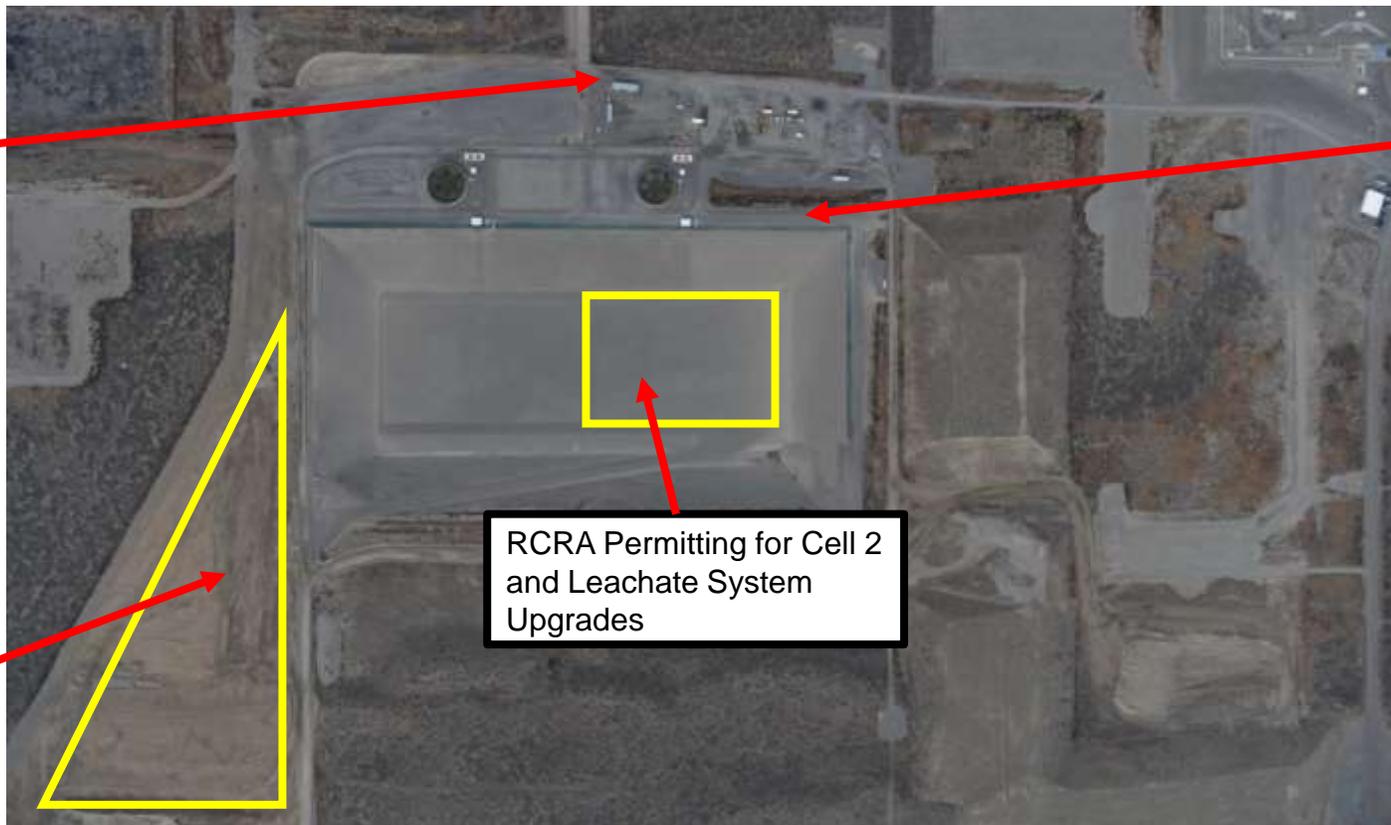




IDF Administrative Support Offices



Completion of IDF Operations Footprint Graveling/Leveling



IDF Operational Footprint (March 2022)



IDF Upgraded Leachate Collection System Piping and Covers (Photo of ERDF Covers with IDF receiving a similar upgrade)



231Z Plutonium Metallurgy Laboratory



224T, Transuranic Storage and Assay Facility



276C Solvent Handling Building

- Telecommunications
- Power
- Water
- Sewer
- Roads



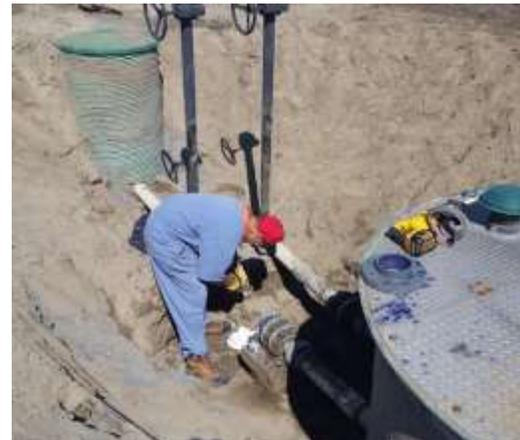
Roads



Telecommunications



Fleet Services



Sewer System



Power



300-296 Waste Site Remediation 324 Building



324 Building



Moving the 1st B-Cell REA into the 324 Bldg. airlock



REA in B-Cell North



Removing grout from cell floor in the mock-up



Drilling foundation supports outside of building



Before and Current pictures of debris in the B-Hot Cell

Groundwater Operations, Well Decommissioning and Implementation of RODs

- Treat 2.6 billion gallons
- Obtain final Record of Decision (RODs)



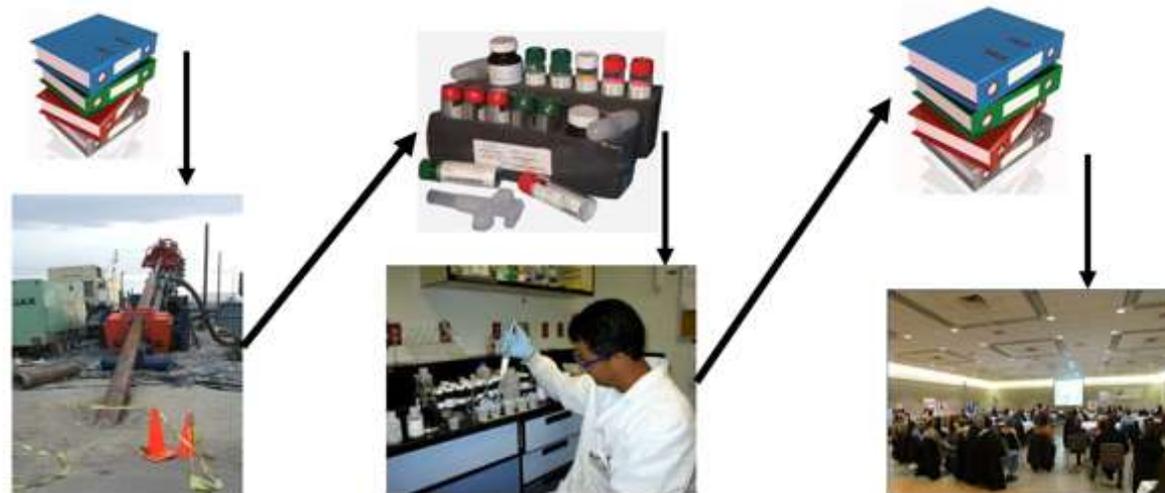
Soil Sampling



Chlorine Disinfection System



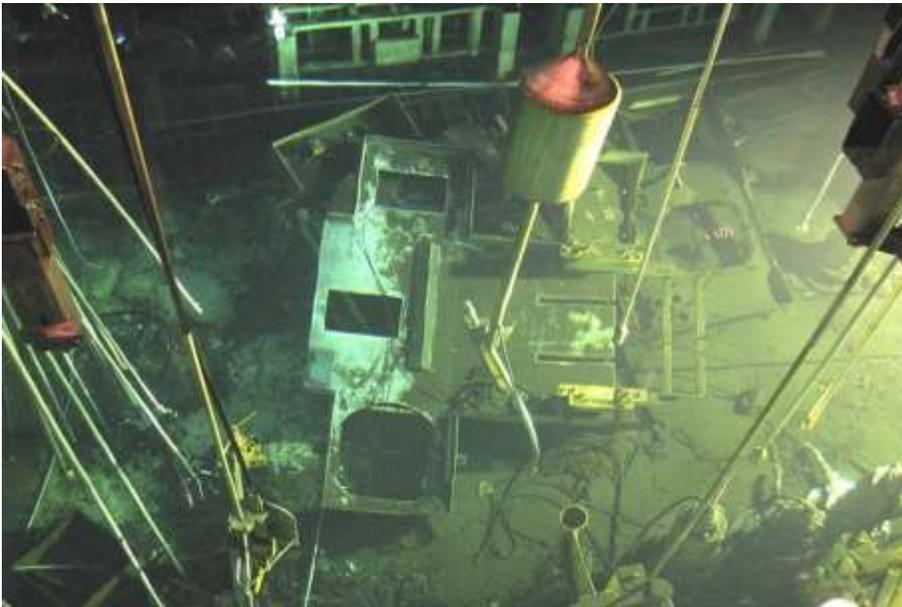
200 West Pump-and-Treat Facility



105KW Fuel Storage Basin Cleanup



Excess equipment in Basin staged for removal during Basin deactivation



Gamma camera being used to characterize debris in the basin



Mockup of garnet filter media removal system at MASF

100 K Remediation and Reactor Interim Safe Storage



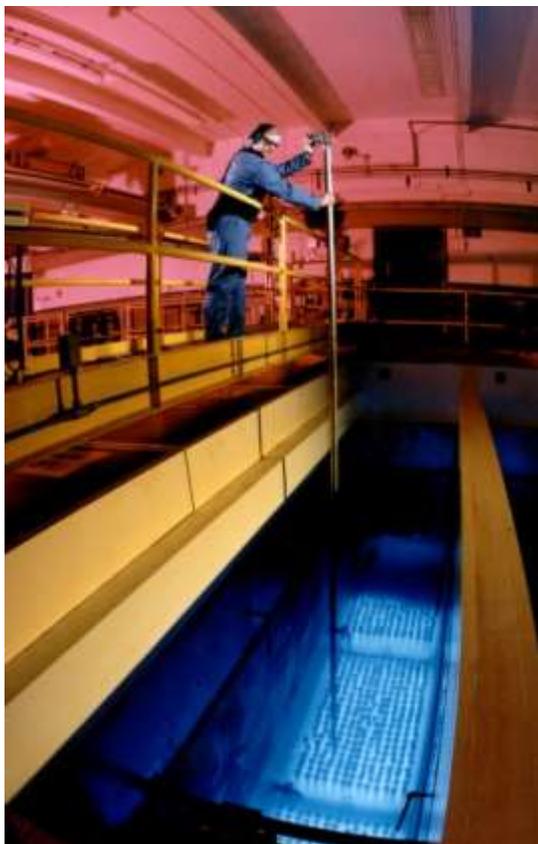
100K Waste Site Remediation



Aerial view showing proximity of 100K Area to the Columbia River



Artist rendition of the reactor Safe Secure Enclosure



Cesium/Strontium Capsules stored at WESF



Preparing WESF for Capsule Transfer Operations

Cask Storage System Terminology



Office of River Protection (\$1,258M)

- Provide minimum safe and essential services
- Continue construction, startup and commissioning activities related to DFLAW and its facilities
- Supports Effluent Treatment Facility operations and upgrades to support DFLAW
- Supports 222-S Laboratory operations and upgrades to support tank farms and DFLAW waste samples
- Complete construction and initiate tank-side cesium removal operations using prior year funds
- Complete modifications to AP Double-Shell Tank Farm to provide feed to the tank-side cesium removal system using prior year funds
- Continue progress toward important cleanup activities required by the Amended Consent Decree and Tri-Party Agreement
- Perform facility preservation activities for High-Level Waste/Pretreatment facility using prior year funds

ORP Budget Profile

(\$ in Thousands)

PBS	PBS Title	FY 2020 Request	FY 2020 Enacted	FY 2021 Request
ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition	677,460	775,000	597,757
ORP-0014	15-D-409, Low-Activity Waste Pretreatment System	0	0	0
ORP-0014A	LLW Offsite Disposal	10,000	10,000	0
Tank Farms		687,460	785,000	597,757
ORP-0060	LBL/Direct-Feed LAW	640,000	776,000	609,924
ORP-0060	High-Level Waste Facility	30,000	25,000	0
ORP-0060	Pretreatment Facility	20,000	15,000	0
Waste Treatment and Immobilization Plant (WTP)		690,000	816,000	609,924
ORP-0070	WTP Commissioning	15,000	15,000	50,000
Total	Office of River Protection Funding Summary	1,392,460	1,616,000	1,257,681

FY = fiscal year
 PBS = project baseline summary
 LAW = low-activity waste

LBL = Low-Activity Waste (LAW) Facility, Balance of Facilities (BOF), and Analytical Laboratory (LAB)
 LLW = low-level waste

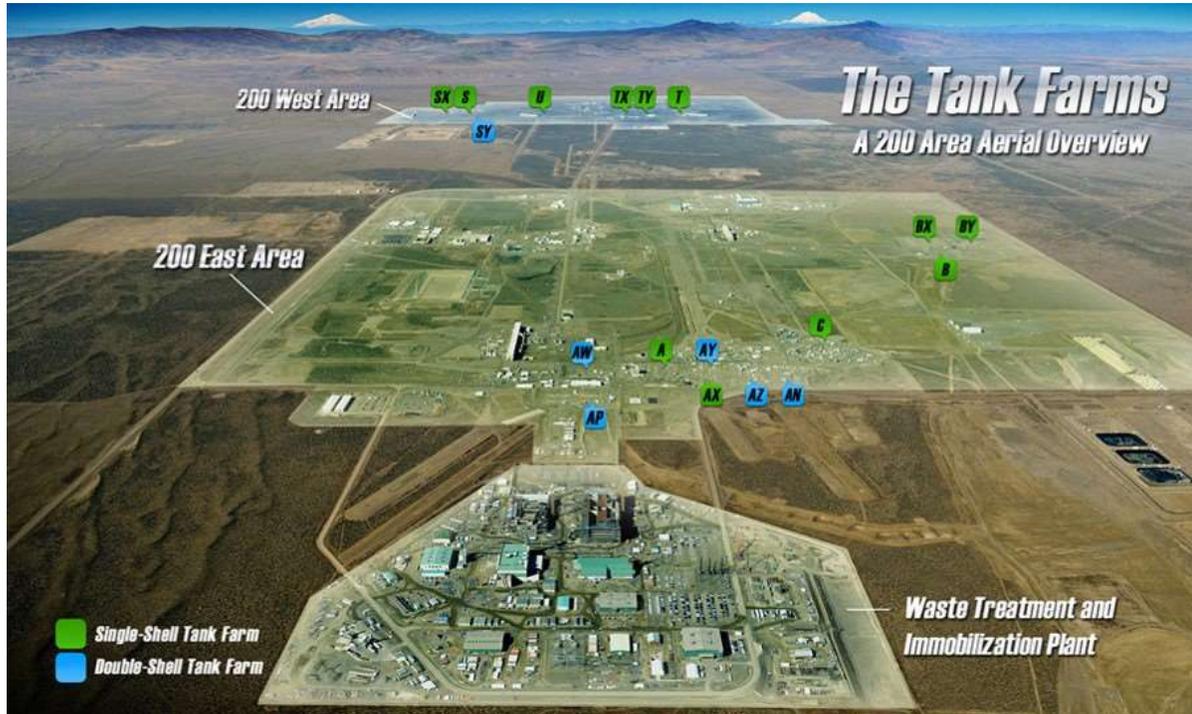
ORP TPA & Consent Decree Milestones 2021 Status

PBS	Milestone Number	Title	Due Date	Status
ORP-0014	M-062-40H	Submit System Plan to Ecology	10/31/2020	On Schedule
ORP-0060	D-00A-07	LAW Facility Construction Substantially Complete	12/31/2020	On Schedule
ORP-0014	M-062-50	Submit to Ecology as a Secondary Document, a Mass Balance Flow	1/30/2021	On Schedule
ORP-0014	M-090-14	Submit CD-1 for Facility to Store Spent Ion Exchange Columns Prior to DFLAW	3/31/2021	On Schedule
ORP-0014	M-062-45-A	Complete Negotiations 6-Months After Last Issuance of System Plan	4/30/2021	On Schedule
ORP-0014	M-062-33-T01	Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements	4/20/2021	In Dispute
ORP-0014	D-16B-03	Of the 12 SSTs Referred to in B-1 and B-2, Complete Retrieval of Tank Wastes in at Least 5	6/30/2021	On Schedule
ORP-0014	M-045-91E4	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology	9/30/2021	On Schedule
ORP-0014	M-045-97	Submit to Ecology a WMA Integration Study for WMA A/AX as a Primary Document	9/30/2021	On Schedule

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Tank Farm Safe Operations

- Maintain Tank Farms in a safe manner
- Protect the workers, public and the environment
- Continue tank monitoring and tank integrity activities



- 242-A Evaporator facility repairs
- 222-S Laboratory upgrades
- Replacement of basin covers at the Liquid Effluent Retention Facility (LERF)







Single-Shell Tank Retrievals/Closure



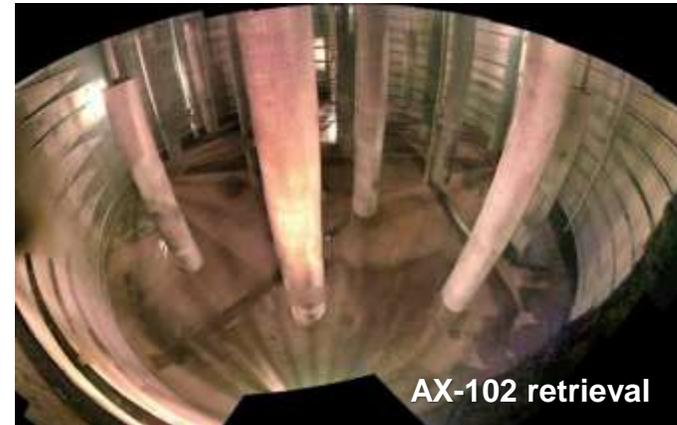
SX barrier



AX Farm retrieval prep



AX Farm control trailer



AX-102 retrieval

Integrated Disposal Facility
Accepts containers of vitrified LAW for disposal

Tank-Side Cesium Removal (TSCR)
Removes solids and cesium from liquid tank waste to feed the LAW Facility

AP Tank Farm
Feeds tank waste to cesium removal system and transfers feed to the LAW Facility

Liquid Effluent Retention Facility and Effluent Treatment Facility
System providing storage and treatment for a variety of mixed secondary liquid waste

Effluent Management Facility
Evaporates liquid effluent from the LAW Facility

Low-Activity Waste (LAW) Facility
Mixes LAW feed with glass-forming materials; produces vitrified waste form in stainless steel containers for long-term storage

CEMUM TRANSPORT FROM TSCR

ION EXCHANGE COLUMN STORAGE PAD

LIQUID EFFLUENT FROM LAW FACILITY

Legend

- Untreated tank waste
- Pretreated LAW
- Liquid secondary effluent (from LAW Facility)
- Cooled transport (from TSCR to ion exchange column)

Picture taken February 2020

DFLAW
DIRECT-FEED LOW-ACTIVITY WASTE

Hanford's DFLAW Program integrates a group of individual projects, facilities, and infrastructure upgrades, with involvement from all of Hanford's contractors.

Through DFLAW, the U.S. Department of Energy will retrieve, treat, and immobilize low-activity waste.

INFRASTRUCTURE

- ELECTRICAL
- WATER/SEWER
- ROADS
- SECURITY
- INFORMATION TECHNOLOGY
- EMERGENCY PREPAREDNESS

WTP Pretreatment/High-Level Waste Facilities



- Minimum-safe operations
- Direct-Feed Low-Activity Waste
- Aging facility risk mitigation
- Critical infrastructure
- Double-shell tank space management
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- Waste disposition, Cs/Sr dry storage
- Groundwater pump-and-treat actions
- Central Plateau clean-up
- Tank farm closure



A cocooned reactor near the Columbia River

- 30-day public comment period: June 15 – July 15
- Comments written, mailed, or emailed:
 - BudgetPriorities@rl.gov
 - U.S. Department of Energy
ATTN: Yvonne Levardi
P.O. Box 450 H6-60
Richland, WA 99352
- Comments sent to DOE-EM w/Hanford's FY 2022 Compliance Request
- Submittal reviewed by:
 - DOE-EM
 - DOE Chief Financial Officer
- DOE submits FY 2022 budget request to Office of Management & Budgets