



THE HANFORD SITE

Hanford Site Briefing for EPA and Ecology Fiscal Year 2019 Year End Accomplishments Tri-Party Agreement Commitment 149L



THE HANFORD SITE

Richland Operations Office Fiscal Year 2019 Year End

Bill Hamel

DOE Richland Operations Office
Assistant Manager for River and Plateau

(\$ Thousands)

PBS	PBS Title	FY 2018 Carryover	FY 2019 Obligations	Total Available Funds	FY 2019 Actual Costs	FY 2019 Carryover
RL-0011	Nuclear Material Stabilization and Disposition - PFP	\$ 23,899	\$ 69,341	\$ 93,240	\$ 63,611	\$ 29,629
RL-0012	Spent Nuclear Fuel Stabilization and Disposition	\$ 7,183	\$ 10,871	\$ 18,054	\$ 17,401	\$ 653
RL-0013C	Solid Waste Stabilization and Disposition -200 Area	\$ 19,464	\$ 151,864	\$ 171,328	\$ 148,810	\$ 22,518
RL-0030	Soil and Waste Remediation - Groundwater/Vadose Zone	\$ 11,769	\$ 119,788	\$ 131,557	\$ 122,887	\$ 8,670
RL-0201	Hanford Site Wide Services	\$ 74,152	\$ 308,380	\$ 382,532	\$ 309,753	\$ 72,779
Central Plateau Remediation		\$ 136,467	\$ 660,244	\$ 796,711	\$ 662,462	\$ 134,249
RL-0040	Nuclear Facility D&D - Remainer of Hanford	\$ 32,992	\$ 73,912	\$ 106,904	\$ 87,031	\$ 19,873
RL-0041	Nuclear Facility D&D - River Corridor Closure Project	\$ 33,019	\$ 124,497	\$ 157,516	\$ 136,072	\$ 21,444
River Corridor and Other Cleanup Operations		\$ 66,011	\$ 198,409	\$ 264,420	\$ 223,103	\$ 41,317
RL-0012	15-D-401 Containerized Sludge Removal Annex	\$ 11,343	\$ (11,343)	\$ -	\$ -	\$ -
RL-0013C	18-D-404 WESF Modifications and Capsule Storage	\$ 5,624	\$ (1,800)	\$ 3,824	\$ 3,330	\$ 494
RL-0020	Safeguards and Security	\$ 6,830	\$ 89,904	\$ 96,734	\$ 85,739	\$ 10,995
RL-0042	Nuclear Facility D&D - Fast Flux Test Facility Project	\$ 2,099	\$ 1,240	\$ 3,339	\$ 2,052	\$ 1,287
RL-0100	Richland Community and Regulatory Support	\$ 308	\$ 10,121	\$ 10,429	\$ 9,238	\$ 1,191
Total	Richland Field Office	\$ 228,682	\$ 946,775	\$ 1,175,457	\$ 985,924	\$ 189,533

D&D = Deactivation and Decommissioning, WESF = Waste Encapsulation Storage Facility

Fiscal Year 2019 Planned Activities

- Complete demolition of main processing facility (234-5Z)
- Complete demolition of Plutonium Reclamation Facility (236-Z) wall stubs and debris loadout
- Sample/characterize 236-Z and 242-Z (Americium Recovery Facility / McCluskey Room) building slabs in preparation for removal
- Transition Plutonium Finishing Plant site to Surveillance and Maintenance mode

Fiscal Year 2019 Accomplishments

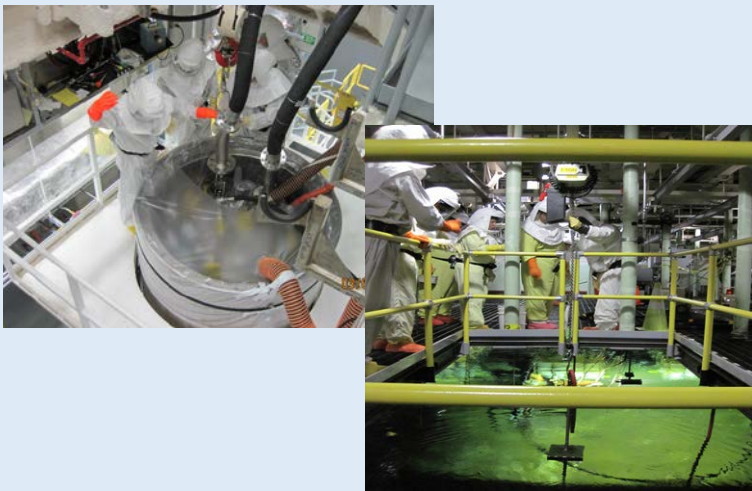
- Continued safe and steady demolition of the 234-5Z lower-risk work *



* Have since completed lower-risk work and have moved to the final phase of demolition

Fiscal Year 2019 Planned Activities

Complete removal of sludge from 105 K West fuel basin



Fiscal Year 2019 Accomplishments

Completed removal of sludge from 105 K West fuel basin



Fiscal Year 2019 Planned Activities

- Provide operations to support safe and compliant storage of special nuclear material and cesium/strontium (Cs/Sr) capsules
- Operate waste treatment and storage facilities (Central Waste Complex, solid waste operations, mixed-waste disposal trenches, T Plant, Environmental Restoration Disposal Facility [ERDF], and Waste Encapsulation and Storage Facility [WESF])
- Receive remaining sludge containers from K West Basin at T Plant
- Continue to repackage drums of radioactive/hazardous waste and large boxes at Perma-Fix Northwest and remove outside waste boxes
- Continue design work for transferring Cs/Sr capsules to dry storage
- Continue upgrade work for the Integrated Disposal Facility

Fiscal Year 2019 Accomplishments

- Provided operations to support safe and compliant storage of special nuclear material and cesium/strontium (Cs/Sr) capsules
- Operated waste treatment and storage facilities (Central Waste Complex, solid waste operations, mixed-waste disposal trenches, T Plant, Environmental Restoration Disposal Facility [ERDF], and Waste Encapsulation and Storage Facility [WESF])
- Received remaining sludge containers from K West Basin at T Plant
- Completed repackaging drums of radioactive/hazardous waste and large boxes at Perma-Fix Northwest and removed outside waste boxes
- Completed final design work of Cs/Sr capsules to dry storage
- Continued upgrade work for the Integrated Disposal Facility

Fiscal Year 2019 Planned Activities

- Continue integration of site-wide groundwater and vadose zone cleanup activities; groundwater contamination monitoring; and operations, maintenance and modifications of existing remediation systems
- Continue operation of River Corridor and Central Plateau pump-and-treat facilities **for treatment of at least 1.8 billion gallons** of contaminated groundwater (removing uranium, carbon tetrachloride, nitrates, hexavalent chromium and technetium-99)
- Continue progress towards obtaining records of decision (ROD) for the River Corridor and Central Plateau
- Continue development of the models to support the Cumulative Impact Evaluation

Fiscal Year 2019 Accomplishments

- Continued integration of site-wide groundwater and vadose zone cleanup activities; groundwater contamination monitoring; and operations, maintenance and modifications of existing remediation systems
- Operated the River Corridor and Central Plateau pump-and-treat facilities, **treated 2.4 billion gallons** of contaminated groundwater (removing uranium, carbon tetrachloride, nitrates, hexavalent chromium and technetium-99)
- Continued progress towards obtaining RODs for the River Corridor and Central Plateau
- Initiated modeling to support the Cumulative Impact Evaluation

Fiscal Year 2019 Planned Activities

- Submit Remedial Investigation / Feasibility Study Report, Draft B for groundwater in the 100-NR-2 Area
- Submit the 100 D and H Reactor Areas Remedial Design / Remedial Action Work Plan, Rev. 0
- Reduce groundwater chromium plumes in the 100-HR-3 Area by 10%
- Install a pipeline from the Modular Storage Units to the 200 West Pump and Treat facility to support more efficient operations
- Obtain the ROD for the B and C Reactor Areas (100-BC-5)

Fiscal Year 2019 Accomplishments

- Completed document preparation of the Remedial Investigation / Feasibility Study Report, Draft B for groundwater in the 100-NR-2 Area
- Submitted the 100 D and H Reactor Areas Remedial Design / Remedial Action Work Plan, Draft A and initiated comment resolution
- Reduced groundwater chromium plumes in the 100-HR-3 Area by 11.6%
- Completed installation of a pipeline from the Modular Storage Units to the 200 West Pump and Treat facility to support more efficient operations
- Initiated public comment on the B and C Reactor Areas (100-BC-5) Proposed Plan in support of obtaining the ROD

Fiscal Year 2019 Planned Activities

- Continue Surveillance and Maintenance activities to ensure safety for inactive waste sites and surplus facilities on Central Plateau
- Complete stabilization of PUREX Tunnel 2
- Continue canyon facility risk-mitigation activities
 - Continue progress on reduction and oxidation (REDOX) cleanup, including cold and dark planning and ventilation modifications
 - Asbestos steam line removal in 200 West Area
 - Risk reduction activities
 - Deactivate 242 B/BL, a high-risk structure near B Tank Farm

Fiscal Year 2019 Accomplishments

- Continue Surveillance and Maintenance activities to ensure safety for inactive waste sites and surplus facilities on Central Plateau
- Completed stabilization of PUREX Tunnel 2
- Continued canyon facility risk-mitigation activities
 - REDOX cleanout:
 - Continued legacy waste removal
 - Continued cold and dark planning
 - Initiated ventilation modification design (including equipment procurement)
 - Dispositioned asbestos steam line. Completed:
 - Approximately 15,000 linear feet
 - 19 crossovers
 - Continued risk reduction activities
 - Completed D4 of 242 B/BL, a high-risk structure near B Tank Farm

D4 = Deactivation, Decommission, Decontamination, and Demolition

Fiscal Year 2019 Planned Activities

- Continue testing of soil removal equipment at 324 Building mock-up
- Complete debris removal and cleanout from 324 Building cells A and B
- Complete 324 Building micropile placement
- Complete 324 Building floor saw installation and initiate B-Cell floor scoring
- Continue 100 K Area waste site remediation
- Continue characterization of the debris in K West Basin in preparation for basin deactivation after sludge removal

Fiscal Year 2019 Accomplishments

- Completed testing of soil removal equipment at 324 Building mock-up
- Initiated debris removal and cleanout from 324 Building cell B (25%)
- Initiated 324 Building micropile placement
- Completed mockup of the 324 Building floor saw installation and testing at MASF
- Continued 100 K Area waste site remediation
- Continued characterization of the debris in K West Basin in preparation for basin deactivation after sludge removal

Fiscal Year 2019 Planned Activities

- Provide site-wide services for day-to-day operations and cleanup support
- Fund RL-direct services, including site integration, tribal commitments and emergency preparedness
- Support upgrades and site maintenance

Fiscal Year 2019 Accomplishments

- Provided site-wide services (crane and rigging, water, electrical, facilities and fleet services) consistently above performance levels to support operations and cleanup support
- Continued to conduct RL-direct services
- Supported upgrades and site maintenance by reconfiguring, right-sizing, and rejuvenating the Hanford Site infrastructure with priority to Direct-Feed Low-Activity Waste (DFLAW) activities

Milestone	Title	Due Date	Completion Date
M-024-69	Complete construction of all wells listed for calendar year 2018 and before, as listed in M-24-15-01	Dec. 31, 2018	May 31, 2017
M-091-52-T01A	Remove Five (5) Mixed Waste Containers from Outside Storage Area A and/or Outside Storage Area B	Nov. 30, 2018	July 19, 2018
M-015-21A	Submit 200-BP-5 and 200-PO-1 OU Feasibility Study Report and Proposed Plan(s) for an Interim Action to Ecology	March 31, 2019	July 19, 2018
M-091-52-T01B	Remove 10 Additional Mixed Waste Containers from Outside Storage Area A and/or Area B	Nov. 30, 2019	Jan. 17, 2019
M-036-01I	Submit to EPA and Ecology Lifecycle Scope, Schedule and Cost Report	Jan. 31, 2019	Jan. 31, 2019
M-015-96	Submit 100-OL-1 RI Report and a CR to Establish a Date for the FS Report to Ecology	Feb. 28, 2019	Feb. 25, 2019
M-016-250D	Submit to ECY a 3-Year Rolling Prioritized Schedule to Implement Waste Site Removal Actions	March 31, 2019	March 27, 2019
M-024-58L	Initiate Discussions of Well Commitments	June 1, 2019	May 20, 2019
M-024-70-T01	Conclude Discussions of Well Commitments Initiated Under M-024-58	Aug. 11, 2019	June 19, 2019
M-024-70	Complete the construction of all wells listed for calendar year 2019	Dec. 31, 2019	May 2, 2019

Milestone	Title	Due Date	Status
M-035-09K	Conduct Biennial Assessments of Information and Data Access Needs	March 31, 2019	Dispute Resolution
M-015-98	Complete Remedial Investigation of U Plant Related Waste Sites Located in 200-WA-1	June 30, 2019	Dispute Resolution
M-016-256	Complete Removal of All Waste Sites for FY19 as Updated/Modified in M-16-17-01	Sept. 30, 2019	Dispute Resolution
M-085-70	Submit to Ecology a Remedial Investigation/Feasibility Study Work Plan for 200-CB-1	Sept. 30, 2019	Dispute Resolution



THE HANFORD SITE

Office of River Protection Fiscal Year 2019 Year End

Joni Grindstaff

DOE Office of River Protection
Mission Integration Office Director

(\$ Thousands)

PBS	PBS Title	FY 2018 Carryover	FY 2019 Obligations	Total Available Funds	FY 2019 Actual Costs	FY 2019 Carryover
ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition	\$ 97,162	\$ 763,732	\$ 860,894	\$ 756,493	\$ 104,401
ORP-0014	15-D-409, Low-Activity Waste Pretreatment System	\$ 79,416	\$ 13,824	\$ 93,240	\$ 40,648	\$ 52,592
Tank Farm		\$ 176,578	\$ 777,556	\$ 954,134	\$ 797,141	\$ 156,993
ORP-0060	Low -Activity Waste, Balance of Facilities, and Analytical Laboratory(LBL)	\$ 176,304	\$ 654,909	\$ 831,213	\$ 685,971	\$ 145,242
ORP-0060	High-Level Waste	\$ 48,723	\$ 60,000	\$ 108,723	\$ 45,146	\$ 63,577
ORP-0060	Pretreatment	\$ 58,854	\$ 15,300	\$ 74,154	\$ 20,643	\$ 53,511
WTP		\$ 283,881	\$ 730,209	\$ 1,014,090	\$ 751,760	\$ 262,330
ORP-0070	WTP Commissioning	\$ 6,938	\$ 15,000	\$ 21,938	\$ 10,310	\$ 11,628
Total	Office of River Protection	\$ 467,397	\$ 1,522,765	\$ 1,990,162	\$ 1,559,211	\$ 430,951

Fiscal Year 2019 Planned Activities

- Continue 242-A and Effluent Treatment Facility (ETF) Upgrades
- Continue 222-S Laboratory
- Conduct three ETF/Liquid Effluent Treatment Facility (LETF), LETF waste volume reduction campaigns
- Continue single-shell tanks (SST) and double-shell tanks (DST) integrity activities
- Continue construction in AX Farm to support SST retrievals
- Initiate Tank AX-102 retrieval operations
- Continue Comprehensive Vapor Action Plan implementation
- Complete 222-S Laboratory Cold Standards design
- Installation of SX Farm expansion barrier and design of TX barrier

Fiscal Year 2019 Accomplishments

- Completed 242-A Evaporator and ETF upgrades
 - 60% design for the 242-A slurry line
 - Transferred 206,000 gallons from Basin 42 to ETF for processing
- Completed all planned 222-S Laboratory upgrades
 - Fire alarm upgraded and seven analytical instruments installed
- Completed three ETF/LETF campaigns for a reduction of 3.4 million gallons
- Performed SST and DST integrity activities
 - completed integrity assessment leak test on three tanks and 15 SST and nine DST visual inspections
- Continued AX Farm construction activities to support retrievals
- Retrieved 67% of waste volume in Tank AX-102
- Completed all but one of the remaining Comprehensive Vapor Action Plan actions and recommendations
 - Effectiveness assessment still remaining
- 222-S Laboratory Cold Standards on hold
- Installed barrier at SX Farm and completed design of TX barrier

Fiscal Year 2019 Planned Activities

- Initiate fabrication of TSCR system to support DFLAW
 - 60% design review
 - 90% design review
 - Factory acceptance testing
- Continue DST upgrades in AP Farm to support DFLAW activities
 - 30% design review
 - 60% design review
 - Critical Design (CD)-3B

Fiscal Year 2019 Accomplishments

- Complete TSCR design and initiated fabrication
- Continue DST upgrades in AP Farm
 - Completed 30%, 60%, and 90% design review
 - Received CD-3B approval

Fiscal Year 2019 Planned Activities

- Complete Bechtel National, Inc. (BNI) implementation of Integrated Safety Management System (ISMS) Phase 1
- LAW
 - Complete delivery of remaining critical LAW equipment
 - Submit the certified LAW RCRA Operations Permit
- BOF/LAB
 - Complete turnover of all systems to startup
 - Complete LAB ventilation startup testing
 - DOE approval of LAB Hazardous Analysis Report
- EMF
 - Complete enclosure of EMF building
 - Complete installation and turnover of EMF powerhouse
- High-level waste (HLW)
 - Ramp-up of design engineering
- Pretreatment (PT)
 - Complete resolution and documentation for the remaining technical issues:
 - T-4: Pulse jet mixer vessel mixing and control
 - T-5: Erosion and corrosion

Fiscal Year 2019 Accomplishments

- BNI completed Phase 1 ISMS Verification Review
- Legacy Quality Assurance issues resolved for DFLAW
- Receipt of all critical procurements – Oct. 2019
- LAW
 - Final LAW Equipment Delivered – Nov. 2019
 - Proposed LAW RCRA Operations Permit has been submitted to Ecology
- BOF/LAB
 - All process/utility systems turned over to startup
 - LAB ventilation complete – Oct. 2019
 - DOE approved the LAB Hazard Analysis Report
- EMF
 - Building enclosed – Nov. 2019
 - Powerhouse turnover complete
- HLW
 - Ramp-up progressing – Two 60% design reviews – Dec. 2019
- PT
 - Completed resolution of all technical issues

Fiscal Year 2019 Planned Activities

- Continue commissioning activities
- Continue procurement of long-lead consumables and spare parts
 - Initiate procurement of bubbler
 - Initiate procurement of melter No. 4 refractory
 - Perform cost reduction analysis and design optimization study to reduce consumable costs

Fiscal Year 2019 Accomplishments

- Continued commissioning activity support
- Initiated procurement of LAW melter bubblers
 - First set to be completed end of fiscal year 2020
- Initiated procurement for fabrication of Melter No. 4
- Initiated procurement of Melters No. 3 and No. 4 assembly storage and transport services
- Completed costs-reduction analysis for LAW container material type, LAW and LAB high-efficiency particulate air filter specification, and LAW melter bubbler design

Milestone	Title	Due Date	Completion Date
D-16E-02	Have Available a Spare A-E-1 Reboiler for 242 A Evaporator	Dec. 31, 2018	May 8, 2018
M-062-01AL	Submit Semi-Annual Project Compliance Report to Ecology	Jan. 31, 2019	Jan. 30, 2019
M-062-01AM	Submit Semi-Annual Project Compliance Report to Ecology	July 31, 2019	July 29, 2019
M-045-91E3	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology	Sept. 30, 2019	Sept. 5, 2019
M-045-91J	Submit Work Plan for the Activities Necessary to Obtain Future SST Structural Integrity Assessments	Sept. 30, 2019	July 11, 2019



*Hanford Site Briefing for EPA and Ecology FY19 Year End
Accomplishments (Tri-Party Agreement Commitment 149.L)
December 12, 2019*

<u>Name</u>	<u>Organization</u>
<u>Anna Knapp</u>	<u>Ecology</u>
<u>Dib Goswami</u>	<u>Ecology</u>
<u>John Price</u>	<u>Ecology</u>
<u>Lynne Hood</u>	<u>EPA</u>
<u>Stephanie Brasher</u>	<u>MSA</u>
<u>Laura Buelow</u>	<u>EPA</u>
<u>Stephanie Schlett</u>	<u>Ecology</u>
<u>Jim A. Urban</u>	<u>DOE-RL/BUD</u>
<u>JACOB RIDDLE</u>	<u>DOE - RL/BUD</u>
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