

Hanford 5-Year Plan Critical Activities

TANK WASTE FISCAL YEAR 2021

No Fiscal Year 2021 Carryover Critical Activities

CENTRAL PLATEAU FISCAL YEAR 2021

Fiscal Year 2021 Critical Activity: Complete Fire Protection Infrastructure for Central Plateau Raw Water

Estimated completion date of July 2022

RIVER CORRIDOR FISCAL YEAR 2021

Fiscal Year 2021 Critical Activity: Submit 100-BC Area Remedial Design Report / Remedial Action Work Plan for Regulatory Review

Estimated completion date of February 2022

TANK WASTE FISCAL YEAR 2022

Fiscal Year 2022 Critical Activity: Complete Tanks AX-102 and AX-104 Single Shell Tank Retrievals (Consent Decree Milestone B-3)

Description: As per a legally enforceable consent decree, the Department of Energy (DOE) has a milestone to complete retrieving tank waste from five of the 12 single-shell tanks identified. With three C-Farm tanks (C-102, C-105 and C-111) having already been retrieved, Tanks AX-102 and AX-104 were selected as the remaining two to complete the milestone by Oct. 1, 2022. COVID-19-affected relief continues to be provided as long as the Hanford Site is in Phase 2 of the DOE's COVID-19 Remobilization Plan. These tanks were both previously interim stabilized in the 1980's — meaning the pumpable liquids were transferred to a double-shell tank. This milestone also supports the achievement of a subsequent milestone to complete retrievals for all A/AX Farm tanks by Sept. 30, 2026 (plus the additional time due to force majeure related to the COVID-19 pandemic to be calculated when the DOE commences Phase 3 of remobilization at Hanford).

Current Status: Contractor Washington River Protection Solutions (WRPS) completed deployment of two retrieval technologies for Tanks AX-102 and AX-104: sluicing with an extended-reach sluicing system and high-pressure water. The Department submitted the Retrieval Completion Certification for Tank AX-102 in September 2021 to the Washington State Department of Ecology. WRPS completed waste retrieval activities using two technologies in Tank AX-104 in February 2021. Residual waste volume in AX-104 is approximately 688 cubic feet (5,145 gallons). WRPS is preparing an evaluation to determine if deployment of a third technology is practicable under the terms of the consent decree.

External Review Schedule: Tank retrievals are driven by a U.S. District Court order. Should the DOE not achieve a legally enforceable milestone and be unable to reach agreement with the state of Washington, the state could levy significant fines, which would be paid with cleanup dollars.

Why this is considered priority: Retrieving waste from older single-shell tanks and transferring the waste to double-shell tanks is an important part of the DOE's risk-reduction mission Hanford. The work also supports the mission to treat tank waste by moving the waste into tanks that will be able to feed waste to the Waste Treatment and Immobilization Plant (WTP) for vitrification, or immobilization in glass. Tank retrievals are driven by a U.S. District Court order. Should the DOE not achieve a legally enforceable milestone and be unable to reach agreement with the state of Washington, the state could levy significant fines, which would be paid with cleanup dollars.

Fiscal Year 2022 Critical Activity: Initiate Tank-Side Cesium Removal Operations

Description: The Tank-Side Cesium Removal (TSCR) system will treat liquid tank waste by removing radioactive cesium and solids so the waste can be fed directly from a double-shell tank to the Low-Activity Waste (LAW) Facility in the WTP for vitrification. The TSCR is located adjacent to the AP Tank Farm, the closest farm to the WTP.

Current Status: The contractor and DOE have completed assessments to confirm the TSCR is ready for operations.

External Schedule: A U.S. District Court order mandates low-level tank waste treatment operations commencement by Dec. 31, 2023.

Why this is considered priority: The TSCR advances the tank waste treatment mission by creating a suitable feed for the LAW Facility for vitrification, and TSCR is a critical step in the Direct-Feed Low-Activity Waste (DFLAW) Program. DFLAW involves a set of interdependent projects and infrastructure improvements operating together to successfully vitrify millions of gallons of low-activity tank waste. Currently, Hanford's tank waste is a mixture of chemical and radiological constituents, which is managed as high-level waste. Removing key constituents, such as cesium, reduces the level of radioactivity and supports classification of some waste as low-level waste, which can be pumped to the WTP LAW Facility for vitrification and permanent onsite disposal at the Integrated Disposal Facility (IDF). Currently, the TSCR system is the only capability available at Hanford to treat tank waste to produce a low-level waste stream for treatment.

Fiscal Year 2022 Critical Activity: Complete Waste Treatment and Immobilization Plant Loss-of-Power Testing

Description: The loss-of-offsite-power test, a precursor to the first LAW Facility melter heatup, focuses on demonstrating WTP systems perform as required in response to a loss of offsite power. During the test, site electrical power will be temporarily cut and crews will respond as per training and procedures as they would during normal plant operations. Crews will activate backup power to keep critical plant safety systems operational. Once the plant is in a safe configuration, crews will restore power to the plant.

Current Status: The test is scheduled to be complete in Q1 of fiscal year 2022.

Fiscal Year 2022 Critical Activity: Complete Waste Treatment and Immobilization Plant Water Runs

Description: The water runs, a precursor to the first LAW Facility melter heatup, integrate the Direct-Feed Low-Activity Waste effluent management process across the LAW Facility, Analytical Laboratory, and Effluent Management Facility (EMF); and most importantly demonstrate liquids from the melter offgas can be safely sent to the EMF before the first LAW melter heatup begins. Water will be run through collection vessels and pipelines that connect the LAW Facility to the EMF, and likewise the laboratory to the EMF.

Current Status: On pace to be complete in fiscal year 2022.

Fiscal Year 2022 Critical Activity: Complete First Low-Activity Waste Facility Melter Heatup

Description: The first LAW Facility melter heatup consists of a series of activities to prepare for and establish a molten pool of glass inside the electrically heated melter. The approximately two-month process spans initial heatup, followed by testing and monitoring. Once the glass pool and temperature reach normal operating levels, the melter is ready for cold commissioning (using nonradioactive simulants) to produce glass, and eventual hot commissioning (using radioactive tank-waste feed).

Current Status: On pace to complete in fiscal year 2022.

Fiscal Year 2022 Critical Activity: Initiate Low-Activity Waste Facility Cold Commissioning with Simulated Tank Waste

Description: During the cold commissioning phase, a nonradioactive waste-like simulant will be introduced into the LAW Facility to test and confirm that the facility performs as planned before WTP begins processing radioactive low-activity tank waste. During cold commissioning, the waste-like simulant will be combined with glass-forming materials, fed into the LAW Facility vitrification melters, and the mixture poured into stainless-steel containers where it can cool and harden before the containers are safely disposed of — just as would be done during actual radioactive tank-waste processing.

Current Status: On pace to be complete in fiscal year 2022.

Fiscal Year 2022 Critical Activity: Initiate Second Low-Activity Waste Facility Melter Heatup

Description: After the first LAW Facility melter is heated up, commissioned and verified operational, the second LAW Facility melter heatup will commence. This two-phase process reduces risk and enables lessons learned from the first melter heatup to be incorporated into plans for the second LAW Facility melter heatup.

Current Status: On pace to be complete in fiscal year 2022.

Fiscal Year 2022 Critical Activity: Complete 12-inch Potable Water Line Loop to Waste Treatment and Immobilization Plant

Description: Provide redundant 12-inch sanitary water feed to WTP.

Current Status: Construction approximately 75% complete.

Why this is considered priority: Reduces risk to DFLAW operations by providing a redundant 12-inch sanitary water feed to WTP.

CENTRAL PLATEAU FISCAL YEAR 2022

Fiscal Year 2022 Critical Activity: Complete Plutonium Uranium Extraction Plant North Facility Complex Demolition

Description: The Plutonium Uranium Extraction Plant (PUREX) was the fifth and final chemical processing facility built at Hanford. The facility is located near the center of the Hanford Site in an area known as the Central Plateau. Workers at PUREX are currently focused on risk-reduction activities to prepare the contaminated facility for demolition.

Current status: The PUREX North Complex includes several ancillary structures that supported the facility during operations. Recent demolition activities include the removal of a former guard shack and storage shed. These demolition activities are ongoing.

Why this is considered priority: Completion of these activities will allow workers to safely plan for and conduct infrastructure upgrades needed to support future risk-reduction activities within the PUREX facility. This work will include the removal of chemical and production lines and associated glove boxes prior to demolition of the main facility.

Fiscal Year 2022 Critical Activity: Implement 200-BP-5 / 200-PO-1 Interim Record of Decision

Description: 200-BP-5 and 200-PO-1 are groundwater operable units in Hanford's 200 East Area. The operable units were recently the subject of a public comment period on a proposed plan for ongoing groundwater remediation on the Central Plateau.

Current status: The Tri-Party Agreement agencies recently approved the interim record of decision (ROD) (prepared under CERCLA) following the public comment opportunity. The selected remedy provides for pump-and-treat methods to capture and remove radioactive contaminants technetium-99 and uranium from groundwater and to limit the migration of areas of groundwater contamination.

Why this is considered priority: Initiating the interim ROD on the Central Plateau will enhance ongoing groundwater protection near Hanford's B, BX and BY Tank Farms, and initiate design for expansion to include groundwater protection near Hanford's C and A-AX Tank Farms.

RIVER CORRIDOR FISCAL YEAR 2022

Fiscal Year 2022 Critical Activity: Complete Garnet Filter / Sand Filter Media Transfer to T Plant

Description: The K East and K West Reactors are the last two remaining reactors to be placed in interim safe storage. The spent fuel basins in both reactors were repurposed in the 1970s and 1980s to store spent nuclear fuel from N Reactor. Garnet sand filters were used to filter basin water to maintain water chemistry. The K East Basin has been removed. Workers are preparing the K West Basin to be filled with grout and removed.

Current status: Work is currently underway to remove and package the filter media for storage in T Plant.

Why this is considered priority: Support facilities and structures must be remediated before the reactors can be placed into Interim Safe Storage.

Fiscal Year 2022 Critical Activity: Complete Installation of Seven Micropiles at 324 Building to Support Waste Site 300-296 Remote Excavation

Description: The 324 Building supported research on highly radioactive materials in Hanford's 300 Area. Demolition operations were postponed in 2010 after workers discovered significant contamination under a portion of the building, likely from a previous spill of highly radioactive waste within the building. Remediation of the contaminated soil will be conducted remotely, using the facility itself to shield the environment from the radioactive materials to be removed. To do this, workers must reinforce the building's foundation by installing micropiles to ensure the facility remains stable during the excavation of contaminated soil.

Current status: Remotely operated equipment has been installed, and crews are making preparations to resume B-Cell cleanout activities to prepare for cutting the floor of the hot cell. Micropiles are being

installed to reinforce structural stability of the building's foundation to support the remote removal of contaminated soil under the floor.

Why this is considered priority: Before the soil beneath the building can be safely excavated, the foundation must be stabilized.

TANK WASTE FISCAL YEAR 2023

Fiscal Year 2023 Critical Activity: Complete Low-Activity Waste Facility Operational Readiness Review to Authorize Hot Commissioning

Description: A Low-Activity Waste (LAW) Facility operational readiness review (ORR) is a DOE requirement before Direct-Feed Low-Activity Waste hot commissioning can begin. The ORR process consists of a WTP Contractor ORR (CORR) followed by a DOE ORR (DORR) which each consist of a performance-based examination of facilities, equipment, personnel, procedures and management control systems to ensure the LAW Facility will operate safely within its approved safety envelope.

Current Status: The LAW Facility CORR and DORR are targeted for Q3 FY2023.

Fiscal Year 2023 Critical Activity: Initiate Integrated Disposal Facility Operations

Description: The IDF is the final disposal site for vitrified LAW. With operations of the WTP LAW Facility set to begin by Dec. 31, 2023, this facility is critical to providing storage space.

Why this is considered priority: The IDF is the only disposal site for vitrified LAW and the stabilized byproducts of LAW vitrification. LAW vitrification is scheduled to begin no later than Dec. 31, 2023 (depending on potential COVID-19 effects).

Fiscal Year 2023 Critical Activity: Commence Hot Commissioning of Waste Treatment and Immobilization Plant Low-Activity Waste Facility and Effluent Management Facility

Description: During the hot commissioning phase low-activity radioactive tank waste will be introduced into the Low-Activity Waste (LAW) Facility to begin processing Hanford's tank waste. During hot commissioning, the waste will be combined with glass forming materials, fed into the LAW Facility vitrification melters, and the molten glass poured into stainless steel containers where it can cool and harden. Containers are verified to meet all regulatory requirements and are then transported and disposed at Hanford's nearby Integrated Disposal Facility.

Current Status: Commencing hot commissioning is targeted for Q4 FY 2023.

Fiscal Year 2023 Critical Activity: Resume 242-A Evaporator Operations

Description: The 242-A Evaporator supports tank space management by evaporating water added to tank operational activities, such as retrieval of waste.

Why this is considered a priority: Evaporation capability is key to managing Hanford's tank space. The facility is a potential single point of failure for this function and has been in operation for decades. Maintenance has been performed regularly but upgrading systems to ensure operational success is critical, as those operational needs increase in support of increased tank operations during treatment.

Fiscal Year 2023 Critical Activity: Complete Liquid Effluent Retention Facility Basin 41 Construction

Description: The Liquid Effluent Retention Facility is a series of retention basins designed to store liquid waste generated by tank waste processing operations. The facility is one component of the overall Liquid Waste Processing Facility and is being expanded to include processing waste from the WTP EMF.

Why is it considered a priority: DFLAW operations are scheduled to begin no later than Dec. 31, 2023.

CENTRAL PLATEAU FISCAL YEAR 2023

Fiscal Year 2023 Critical Activity: Complete Integrated Disposal Facility Upgrades and Readiness Reviews Required for Operations

Description: The IDF is the final disposal site for vitrified LAW. With operations of the WTP LAW Facility set to begin by Dec. 31, 2023, this facility is critical to providing storage space.

Why this is considered priority: The IDF is the only disposal site for vitrified LAW and the stabilized byproducts of LAW vitrification. LAW vitrification is scheduled to begin no later than Dec. 31, 2023 (depending on potential COVID-19 effects).

Fiscal Year 2023 Critical Activity: Complete 224-B Facility Demolition Preparation

Description: The 224-B Plutonium Concentration Facility is part of the B Plant complex, located south of B Plant. The facility was used to purify and concentrate plutonium solution that was produced by B Plant. Operations ceased in 1952 when the existing process was abandoned for a more efficient one.

Why this is considered priority: Non-time-critical removal action, through agreement with regulator.

Fiscal Year 2023 Critical Activity: Complete Plutonium Uranium Extraction Plant North Facility RCRA Tank Closures

Description: Closure of the TK-P4 and TK-40 tanks will allow work to proceed toward demolition of the tanks, part of ongoing risk reduction near the former PUREX processing facility. Both tanks stored process chemicals during PUREX facility operations and have been drained, flushed and deactivated to meet RCRA clean closure requirements.

Fiscal Year 2023 Critical Activity: Complete 400 Area Fire Station

Description: A major component of timely emergency response is fire station infrastructure and location. This new fire station is strategically positioned to respond in a timely manner to the Central Plateau East Area (200 East) and to facilities in and adjacent to the 400 area.

Why this is considered priority: There is no existing fire station in this location that could provide timely response.

Fiscal Year 2023 Critical Activity: Complete Raw Water Cross Connection Isolations

Description: The Raw Water Cross Connection Isolations scope scheduled for completion in fiscal year 2023 will finish the establishment of a global air gap to isolate the raw water system from other water systems, eliminating potential risk of cross-contamination as defined in the Washington Administrative Code. The final scope is to eliminate the backflow preventer assemblies and provide valving at the pump houses in the 200 East and 200 West Areas, as the cross-connection lines have already been installed to ensure reliable raw water for fire protection across the Central Plateau.

Why this is considered priority: There is a continuous need for reliable raw-water delivery to the Central Plateau for fire protection and process cooling water to the River Protection Project facilities, while also

right-sizing the export water system and taking advantage of variable-speed pumping technology for energy savings.

Current status: The raw water tie-in between the 200 East and 200 West Areas is complete for fire protection.

RIVER CORRIDOR FISCAL YEAR 2023

Fiscal Year 2023 Critical Activity: Complete 105 K East Reactor Interim Safe Storage

Description: Following completion of interim remedial objectives (removal of hazardous materials from the reactor building, demolition of adjacent facilities and sealing all openings to the reactor building), install a safe secure enclosure over the K East Reactor to achieve Interim Safe Storage, at which point the reactor will be turned over to long-term stewardship. The reactor is inspected every 10 years to ensure facility conditions have not degraded.

Why this is considered priority: Managed under the CERCLA process, Interim Safe Storage provides a safe, secure capability to protect human health and the environment while the reactor radioactivity decays to the level that the reactor can be dispositioned.

Fiscal Year 2023 Critical Activity: Complete Installation of Seven Micropiles at 324 Building to Support Waste Site 300-296 Remote Excavation

Description: The 324 Building supported research on highly radioactive materials in Hanford's 300 Area. Demolition operations were postponed in 2010 after workers discovered significant contamination under a portion of the building, likely from a previous spill of highly radioactive waste within the building. Remediation of the contaminated soil will be conducted remotely, using the facility itself to shield the environment from the radioactive materials to be removed. To do this, workers must reinforce the building's foundation by installing micropiles to ensure the facility remains stable during the excavation of contaminated soil.

Current status: Remotely operated equipment has been installed, and crews are making preparations to resume B-Cell cleanout activities to prepare for cutting the floor of the hot cell. Micropiles are being installed to reinforce structural stability of the building's foundation to support the remote removal of contaminated soil under the floor.

Why this is considered priority: Before the soil beneath the building can be safely excavated, the foundation must be stabilized.

Fiscal Year 2023 Critical Activity: Complete 100 Area Mission-Critical Distribution Feeders

Description: Upgrade electrical distribution lines in the 100 Area to meet current and future demand. Completion of this project also allows for completion of the 230-kV Transmission Line Project that is being conducted jointly by DOE and the Bonneville Power Administration. The project is currently at the 60% design stage.

Fiscal Year 2023 Critical Activity: Complete 300 Area Lighting Along Route 4S

The lighting upgrade on Route 4S in the 300 Area addressed safety concern regarding visibility along the primary transportation route to access the Hanford Site at the intersection with ongoing Pacific Northwest National Laboratory residency in the 300 Area.

TANK WASTE FISCAL YEAR 2024

Fiscal Year 2024 Critical Activity: Initiate Low-Activity Waste Treatment Operations

Description: Mixes low-activity waste feed with glass-forming material and heats them in two high-temperature melters. Vitrified glass (immobilized in glass) is stored in steel containers for disposal.

Fiscal Year 2024 Critical Activity: Central Plateau Water Treatment Facility Operational

Once operational, the 10,000-square-foot Water Treatment Facility will play a critical role as the site shifts to 24/7 Operations to support the Direct-Feed Low-Activity Waste (DFLAW) program. The facility will automate water services by providing all potable water to the Central Plateau. This area of the site contains Hanford's former processing facilities, current site operations, and the Waste Treatment Plant. One major change with the facility is that it will not require chlorine gas, marking a significant shift in personnel safety when the presence of the hazardous gas no longer exists on the Hanford Site.

Fiscal Year 2024 Critical Activity: Implement West Area Risk Management

Description: The 200 West Area Tank Farms Risk Management Project will evaluate safe, compliant, and cost-effective options to ensure sufficient waste storage space in the double-shell tanks in the SY Tank Farm to support operation of Hanford's 222-S Laboratory. The amount of waste generated by the laboratory each year (approx. 3,000 gallons) is expected to increase when operations begin to treat tank waste under the Direct-Feed Low-Activity Waste Program.

Fiscal Year 2024 Critical Activity: Complete AX Farm Retrievals

Description: Retrieval of the four single-shell, one-million-gallon-capacity tanks in AX Farm is required as part of a consent order. Retrieval operations are scheduled to be complete in FY2024 of the last of the four single shell tanks, AX-101. Retrieval operations for AX Farm began in late 2020. Waste from the AX Farm tanks was transferred to AZ-102.

Fiscal Year 2024 Critical Activity: Initiate A Farm Retrieval

Description: The tank operations contractor will begin waste retrieval operations in A Farm, home to six one-million-gallon-capacity single-shell tanks. Retrieval will begin with Tank A-101 using sluicing and high-pressure water as the retrieval technologies. The receipt tank will be double-shell Tank AP-101.

Fiscal Year 2024 Critical Activity: Complete Construction on U Farm Surface Barrier

Description: U Farm consists of 16 single-shell tanks — four with a capacity of 55,000 gallons and 12 with a capacity of 530,00 gallons. Four of the tanks are classified as assumed to have leaked in the past. Surface barriers prevent rain and snowmelt from permeating into the soil and driving existing contaminants closer to groundwater. They also improve soil stability, limit surveillance and maintenance costs, and create a clean and stable platform for future work inside the farm. The barriers are constructed under terms of the Tri-Party Agreement and will remain in place until a final farm closure plan is determined. DOE is committed to the installation of the barrier as part of the Tri-Party Agreement. In fiscal year 2022, WRPS will begin the U-Farm Interim Surface Barrier Project by constructing a lined evapotranspiration basin that collects and evaporates the water drained from the asphalt barrier. Construction of the asphalt barrier will take place in fiscal year 2023.

CENTRAL PLATEAU FISCAL YEAR 2024

Fiscal Year 2024 Critical Activity: Complete Waste Encapsulation and Storage Facility Modifications Construction

Description: This activity is critical to enabling the transfer of 1,936 radioactive capsules from a water-filled basin in Hanford’s Waste Encapsulation and Storage Facility to safer dry storage at the nearby Capsule Storage Area. Capsule transfer will allow for the deactivation of facility, saving more than \$6 million annually in operating costs.

Fiscal Year 2024 Critical Activity: Replace 200 West Area 1.1-Million-Gallon Potable Water Tank

Description: The new tank will replace the existing aging 1.1-million-gallon tank in 200 West Area with a new 1.5-million-gallon tank. The new tank will provide both sanitary water and fire water storage and will be fed directly from the new Central Plateau Water Treatment Facility. New instrumentation and controls will provide local and remote monitoring and operating control capability of the tank and the sanitary water distribution pumps. Increased efficiencies with new equipment will reduce energy costs, decrease corrective maintenance costs and increase reliability.

Current Status: The project is currently under construction.

Why this is considered priority: In addition to replacing an aging tank, the new tank increases capacity and will support DFLAW and cleanup operations on the Central Plateau. The new tank will resolve several critical needs for the sanitary water system and its customers. It enhances reliability and operational flexibility with its increased volume over the existing sanitary water reservoir in the 200 West Area.

Fiscal Year 2024 Critical Activity: Complete 231-Z Facility Demolition Preparation

Description: Preparation of the former Plutonium Metallurgy Laboratory must be completed to enable safe demolition of this facility located just north of the former Plutonium Finishing Plant. The activity supports ongoing risk reduction in the 200 West Area of the Central Plateau.

Fiscal Year 2024 Critical Activity: Complete Reduction-Oxidation Plant Annex Demolition

Description: The Reduction-Oxidation Plant (REDOX) was the fourth of five processing “canyons” constructed in the central part of the Hanford Site. Demolition of the REDOX Annex supports continued progress toward demolition of the main facility, which will reduce site risk and shrink overall life-cycle costs and schedule.

Fiscal Year 2024 Critical Activity: Eliminate All Information Technology Services from Gable Mountain – West

Description: With no plans to restore utility power to the area and due to the sensitive nature of the site, contractor Hanford Mission Integration Solutions is implementing a phased approach to fully vacate Gable Mountain.

Current Status: Currently working to eliminate all information technology services from Gable Mountain East before focusing on Gable Mountain West.

Why this is considered priority: Gable Mountain is a culturally sensitive area and the Department must comply with DOE/RL-2008-17, *Gable Mountain and Gable Butte Resource Management Plan*.

Fiscal Year 2024 Critical Activity: Complete Update of the Site Business Management System

Description: Further, the completion of the Business Management System upgrades projects will significantly reduce the virtual IT footprint by consolidating and streamlining software applications for all Hanford contractors.

RIVER CORRIDOR FISCAL YEAR 2024

Fiscal Year 2024 Critical Activity: Complete K West Basin Characterization and Dewatering

Description: Following characterization of debris in the basin, the basin will be drained and grouted to allow for safe demolition, reducing risk to the nearby Columbia River and enabling preparations to place the K West Reactor in interim safe storage to progress.

Fiscal Year 2024 Critical Activity: Initiate K West Basin Demolition

Description: Demolition and removal of the K West Basin is needed before work begins to place the former K West Reactor building in Interim Safe Storage. The work is part of critical risk-reduction activities near the Columbia River.

Fiscal Year 2024 Critical Activity: Obtain 100 K Area Record of Decision

Description: Approval of the ROD will allow groundwater cleanup actions to be performed near the former K East and K West Reactors, part of ongoing efforts to complete cleanup along the Columbia River corridor.

TANK WASTE FISCAL YEAR 2025

Fiscal Year 2025 Critical Activity: Direct-Feed Low-Activity Waste Operations Ramp Up Treatment Throughout

Description: Increase operational/throughput rates for treatment of tank waste through the tank side cesium removal system, transfer to the Waste Treatment Plant Low-Activity Waste Facility for vitrification, and permanent onsite disposal at the Integrated Disposal Facility.

Fiscal Year 2025 Critical Activity: Initiate Activation of Cross-Site Transfer System

Description: The tank farms contain underground piping so the waste can be pumped between tanks, between tank farms (there are 18 different tank farms of buried tanks—many with capacity up to 1 million gallons), to and from different facilities, and between the 200 East and 200 West Areas. The farms also contain other equipment such as valve pits that are used to route the waste. For safety and environmental protection, the pipelines have an encased pipe-in-pipe design with sensors to monitor for leaks. Upgrades to the current waste transfer system will be required before tanks can be retrieved and waste can be delivered to the waste processing plant (WTP). These upgrades include installation or replacement of transfer pumps, installation of mixer pumps, replacement of some valves in the pits, and activation of the cross-site transfer system for moving waste approximately 6 miles to the WTP. In the future, this cross-site transfer function will play an essential role in transferring tank waste from the 200 West Area to the WTP.

Fiscal Year 2025 Critical Activity: Complete 230-kV Transmission System Reconditioning

Description: Replace current 230-kV North Loop section, which currently runs from the Midway substation, along the Columbia River and south around Gable Mountain to the A-6 substation. The new route will run from the Midway substation, south of 100 K Area, then parallel to the South Loop to the A-6 substation.

Current Status: The Bonneville Power Administration has taken over the design and construction of this project. A construction agreement is signed and complete. The project is expected to be completed by the end of 2025.

Why this is considered priority: Due to rapid aging and deterioration of the North Loop section, which supports the Waste Treatment and Immobilization Plant, this project will increase reliability and decrease the likelihood of unplanned outages.

Fiscal Year 2025 Critical Activity: Resume Waste Treatment and Immobilization Plant High-Level Waste Facility Construction

Description: Treatment strategy has not yet been defined.

CENTRAL PLATEAU FISCAL YEAR 2025

Fiscal Year 2025 Critical Activity: Initiate Transfer of Cesium/Strontium Capsules to Capsule Storage Area

Description: Moving the 1,936 radioactive capsules from a water-filled basin in Hanford's Waste Encapsulation and Storage Facility to safer dry storage at the nearby Capsule Storage Area will allow for the deactivation of the facility, saving more than \$6 million annually in operating costs.

Fiscal Year 2025 Critical Activity: Initiate 224B and 231Z Facility Demolition

Description: Demolition of the former 224B Plutonium Concentration Facility (part of the B Plant complex) and the former 231Z Plutonium Metallurgy Laboratory (located north of the former Plutonium Finishing Plant) supports ongoing risk reduction in the 200 West Area of the Central Plateau.

Fiscal Year 2025 Critical Activity: Initiate Plutonium Uranium Extraction Plant Removal Actions

Description: Workers at PUREX are focused on risk-reduction activities to prepare the heavily contaminated facility for demolition. Chemical and production lines and glove boxes must be removed prior to demolition of the main facility.

Fiscal Year Y2025 Critical Activity: Complete Closure of 276S Hexone Tanks

Description: The two former hexone storage tanks are located near the REDOX facility. Waste was removed from the tanks in 1990, and the tanks were stabilized with grout in 2002. Work is underway on a RCRA closure plan for the tanks and ancillary equipment, which will be included in Rev. 9 of the Hanford Dangerous Waste Permit.

Fiscal Year 2025 Critical Activity: Expand Route 4S and Rebuild Routes 2S and 11A

Description: The expansion of Route 4S to a four-lane road beginning at the Wye Barricade leading to the hill coming into 200 East Area of the Central Plateau is to address traffic safety issues as the primary commuter access and egress from Hanford to the City of Richland. The project will also add a new lane at the barricade to facilitate forecasted increased utilization for DFLAW operations. A separate project will rebuild a secondary access route, Route 2S and 11A, from the Wye Barricade to northern end of 200 East Area to support anticipated increased deliveries during WTP operations.

Fiscal Year 2025 Critical Activity: Complete Construction of Fleet Maintenance Complex

Description: The completion of construction for the Fleet Maintenance Complex will modernize and consolidate facilities used to service and maintain the Hanford vehicle fleet to meet the mission needs. These changes will eliminate overcrowding in work bays, reduce maintenance costs and provide adequate parts and material storage.

RIVER CORRIDOR FISCAL YEAR 2025

Fiscal Year 2025 Critical Activity: Complete Waste Site 300-296 Remote Excavation

Description: Remote removal of contaminated soil beneath the 324 Building's B Cell supports future demolition of the 324 Building.

Fiscal Year 2025 Critical Activity: Obtain 100-N Area Record of Decision

Description: Approval of the ROD will allow final groundwater cleanup actions to be performed near the former N Reactor, part of ongoing efforts to complete cleanup along the Columbia River corridor.

TANK WASTE FISCAL YEAR 2026

Fiscal Year 2026 Critical Activity: Continue Direct-Feed Low-Activity Waste Operations

Description: Continued treatment of tank waste to remove cesium, transfer to the WTP LAW Facility for vitrification and permanent disposal in the IDF.

Fiscal Year 2026 Critical Activity: Initiate Infrastructure Updates for Next Tank Farm Retrievals

Description: As the retrieval of waste from single-shell tanks in the A/AX Tank Farms wind down, the planning and preparation for the next retrievals must begin. In anticipation, the design for infrastructure upgrades, including raw water, electrical utilities, ventilation, retrieval equipment and ancillary waste transfer system infrastructure, will begin for the next single-shell tank farm where waste will be retrieved.

Fiscal Year 2026 Critical Activity: Initiate Tank Farm Upgrades for High-Level Waste Processing

Description: To prepare high-level tank waste for processing, a number of facilities and other infrastructure will need to be designed and built, aligned to support the high-level waste facility at the Waste Treatment and Immobilization Plant.

CENTRAL PLATEAU FISCAL YEAR 2026

Fiscal Year 2026 Critical Activity: Complete Cesium/Strontium Capsule Transfers to Dry Storage

Description: Moving the 1,936 radioactive capsules from a water-filled basin in Hanford's Waste Encapsulation and Storage Facility to safer dry storage at the nearby Capsule Storage Area will allow for the deactivation of the facility, saving more than \$6 million annually in operating costs.

Fiscal Year 2026 Critical Activity: Complete Removal of All Mixed-Waste Containers from Outside Storage Areas A and B

Description: Removal of mixed-waste containers from these areas near the Central Waste Complex is required as per Tri-Party Agreement Milestone M-091-59.

Fiscal Year 2026 Critical Activity: Initiate Waste Encapsulation Storage Facility Deactivation

Description: Deactivation of the Waste Encapsulation and Storage Facility – following the transfer of 1,936 radioactive capsules from a water-filled basin to safer dry storage – will save more than \$6 million annually in operating costs.

Fiscal Year 2026 Critical Activity: Initiate 224-T Facility Deactivation

Description: Formerly a plutonium concentration facility, 224-T (located near T Plant) is one of several structures being prepared for demolition in Hanford's 200 West Area. Deactivation must be completed prior to facility demolition. This activity supports ongoing risk reduction on the Central Plateau.

Fiscal Year 2026 Critical Activity: Complete Construction of Environmental Restoration Disposal Facility Supercell 11

Description: The Environmental Restoration Disposal Facility is designed to be expanded as needed. Construction of Supercell 11 will allow waste disposal operations to continue to support sitewide cleanup efforts.

Fiscal Year 2026 Critical Activity: Complete Sanitary Water Cross-Tie Between 200 East and 200 West Areas

Description: The project will provide a redundant sanitary water cross-tie line between the 200 East and 200 West Areas, reducing risk associated with a potential failure of the existing line and ensuring compliance with state regulations.

Fiscal Year 2026 Critical Activity: Replace 200 East Area 1.1-Million-Gallon Potable Water Tank

Description: The project will replace the existing 200 East Area potable water tank, which has exceeded its 20-year design life. The tank is important because it provides water for fire suppression and sanitary water needs for the Central Plateau.

Fiscal Year 2026 Critical Activity: Replace 2101M Warehouse

Description: A new warehouse is needed because the existing 201-M warehouse was built in 1953 and is failing; electrical, HVAC, water, and sewer systems are at or beyond their useful lives. The project will provide for warehouse capabilities to support the One Hanford mission.

RIVER CORRIDOR FISCAL YEAR 2026

Fiscal Year 2026 Critical Activity: Complete K West Basin Demolition

Description: Demolition and removal of the K West Basin is needed before work begins to place the former K West Reactor building in Interim Safe Storage. Work is part of critical risk-reduction activities near the Columbia River.

Fiscal Year 2026 Critical Activity: Replace 181-D Vertical Turbine Pumps

Description: Upgrade the 181-D River Pumphouse with new pumps, piping and switchgear. In addition, construct a new Water Treatment Facility Feed Pump Building. The project is currently preparing the 90% design package.

Fiscal Year 2026 Critical Activity: Initiate Waste Site Remediation As Per Final Records of Decision

Description: Cleanup remedies will be initiated at select waste sites in the 100 K and 100 N Areas as per the RODs to support ongoing groundwater remediation near the Columbia River.