



THE HANFORD SITE

Hanford Advisory Board

Brian Vance

Manager, Office of River Protection

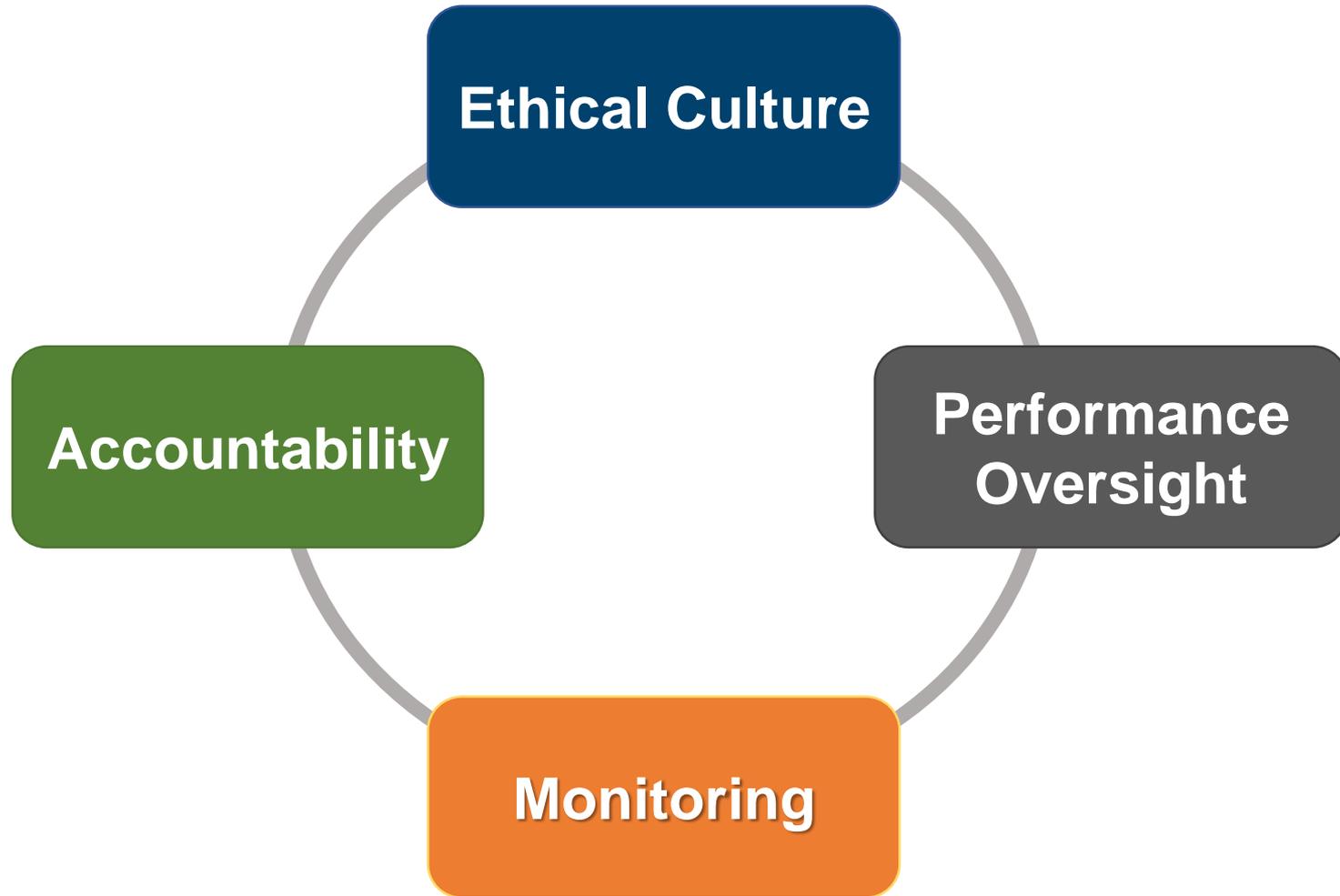
Acting Manager, Richland Operations Office

U.S. Department of Energy

April 17, 2019

THE HANFORD SITE

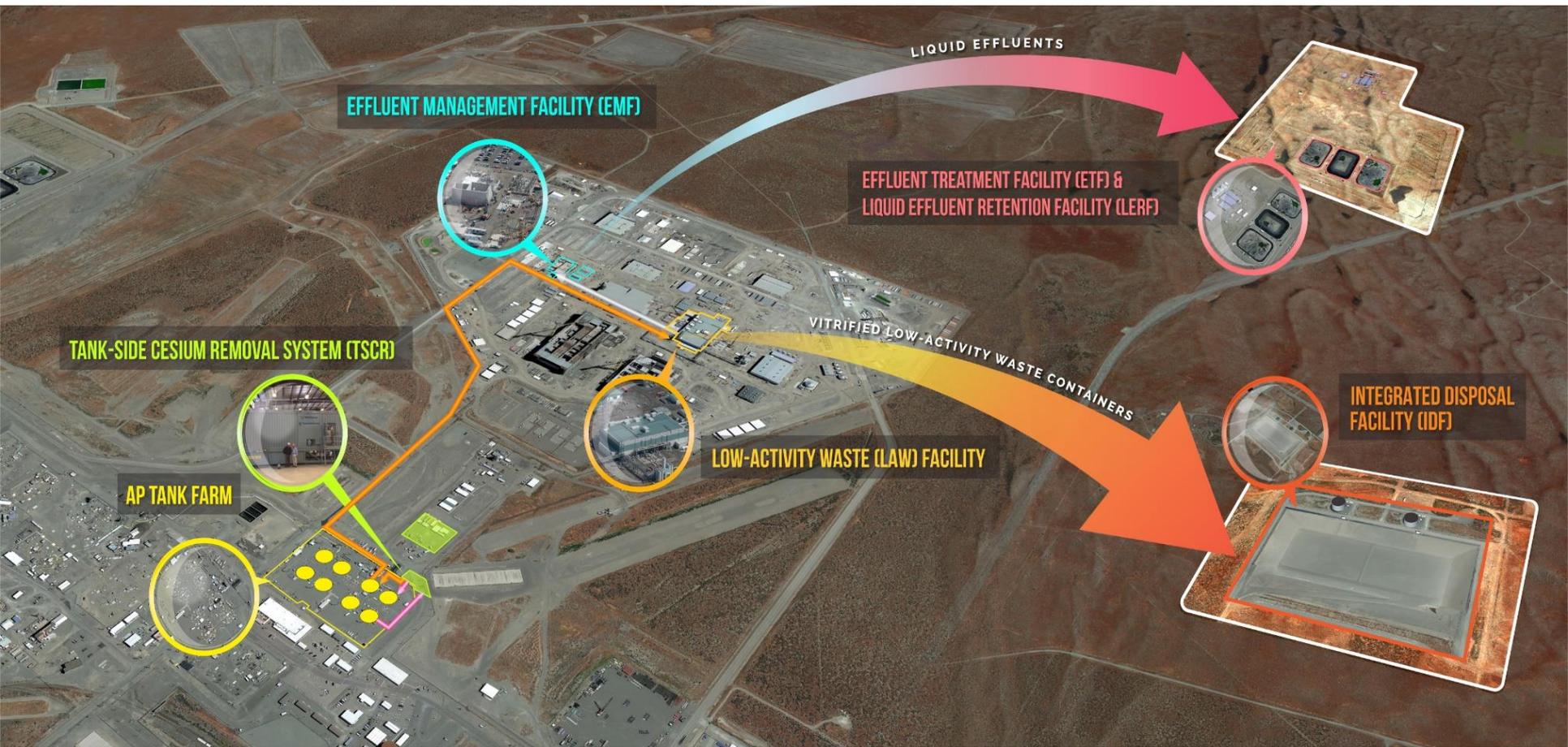




Tom Fletcher

Assistant Manager Waste Treatment and
Immobilization Plant/Direct-Feed Low-Activity
Waste Program Manager

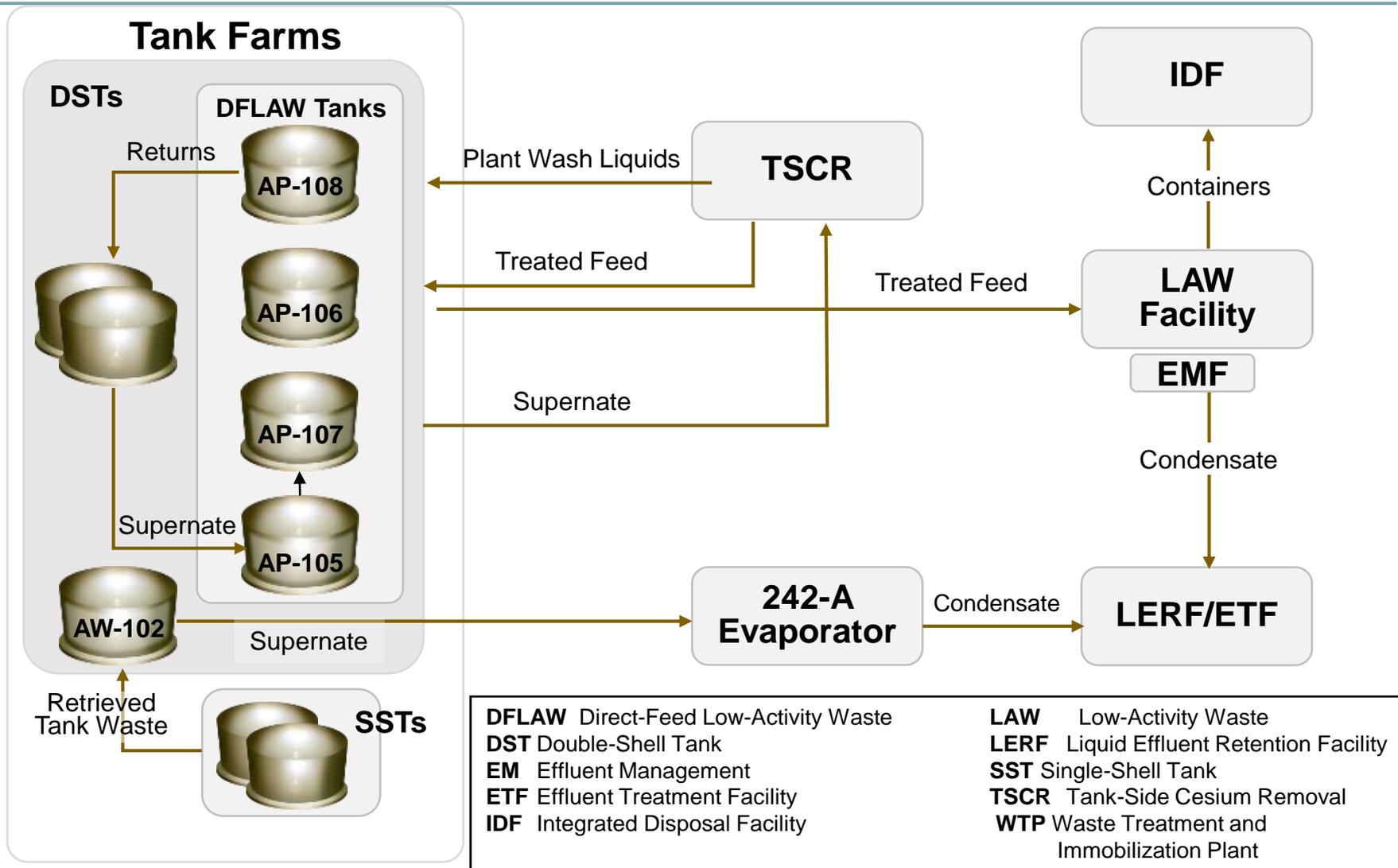
Direct-Feed Low-Activity Waste Overview



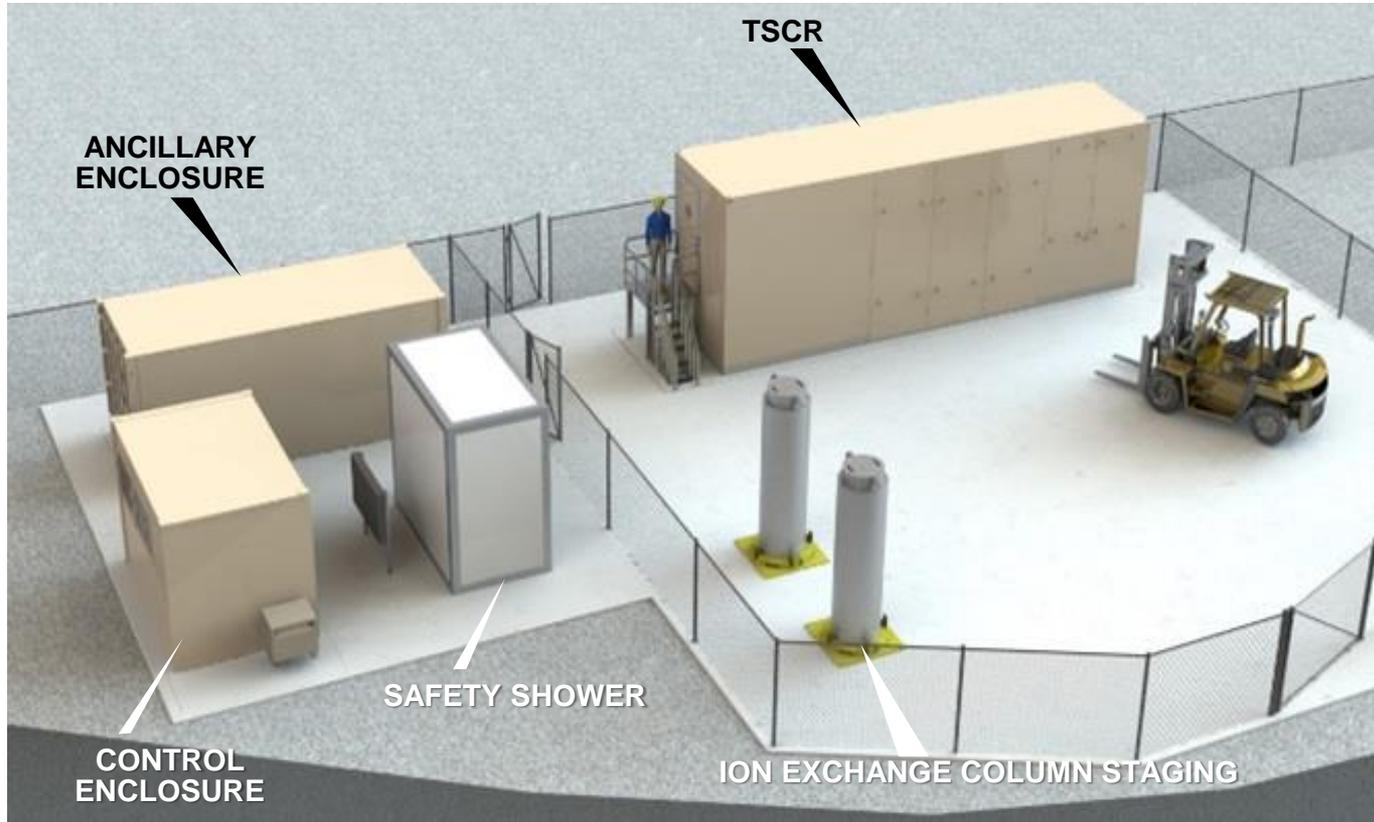
Direct-Feed Low-Activity Waste Video



Direct-Feed Low-Activity Waste Flow Diagram



Tank Farm – Direct-Feed Low-Activity Waste Conceptual Tank-Side Cesium Removal Layout



- TSCR System 90% design review initiated
- Developed integrated site-wide DFLAW schedule
- Savannah River Site, Tank Closure Cesium Removal System operations providing information to aid TSCR startup

On track to stage feed for DFLAW operations by the end of 2023

Waste Treatment and Immobilization Plant - Direct-Feed Low-Activity Waste Facilities



LAW Facility



EMF



Startup and Commissioning



LAW Control Room



Balance of Facilities

**Completed turnover of 142/257 DFLAW systems (now including EMF)
from construction to startup (SU) & handover of 51 systems from
SU to plant management (As of March 31, 2019)**



A-AX Retrieval



SX Farm Barriers



Effluent Treatment Facility Basin Covers

Double-Shell Tank Integrity Technology



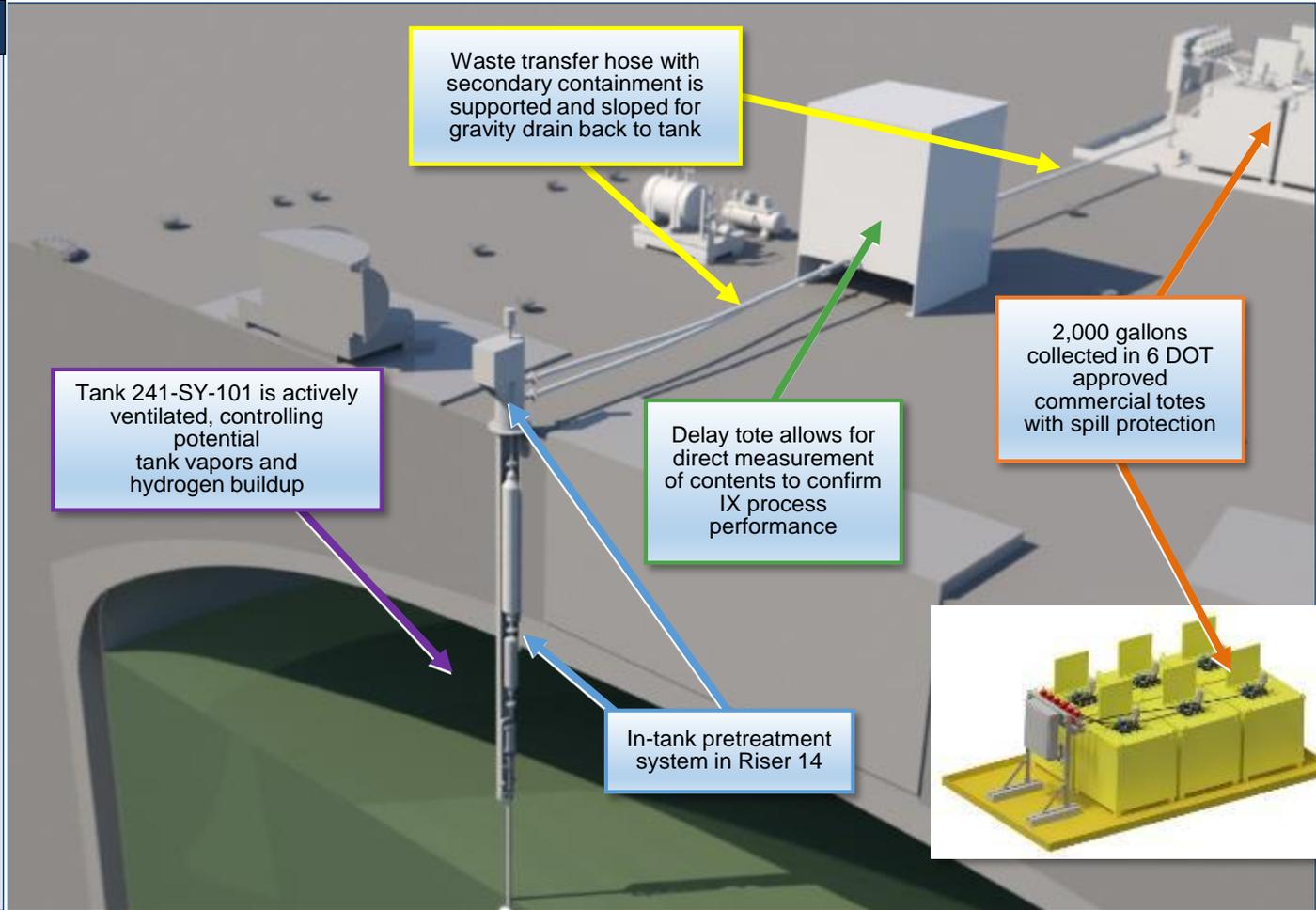
AP-107 Air Slot Visual Inspection

Test Bed Initiative Phase II In-Tank Pretreatment System

Tank 241-SY-101 Field Deployment Concept

Key Milestones

- Test Bed Initiative (TBI) Final Design
- Receipt of Ion Exchange (IX) System and Equipment
- Installation of the TBI system
- Issue Declaration of Readiness
- Treatment of 2,000 gallons
- Waste incidental to reprocessing (WIR) Determination
- Ship Waste for off-site stabilization
- Dispose of solid Mixed Low-Level Waste at Waste Control Specialists



WTP High-Level Waste

- Ongoing DOE/Ecology Collaboration and workshops
- Initiating Analysis of Alternatives
- Army Corps of Engineers

Waste Management Area C

- DOE and Nuclear Regulatory Commission public meeting ~ May 2019
- DOE's response to NRC's request for additional information ~ July 2019
- Public meeting on DOE response ~ August 2019

System Plan

- Tri-Party Agreement requirement
- Agencies developing scenarios
- Scenarios due October 31, 2019



Office of River Protection Budget Profile

(\$ in Thousands)

PBS	PBS Title	FY 2018 Omnibus	FY 2019 Minibus	FY 2020 President's Request
ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition	719,000	771,947	677,460
ORP-0014	15-D-409, Low Activity Waste Pretreatment System	93,000	56,053	0
ORP-0014A	Low Level Waste Off-site Disposal			10,000
Tank Farms		812,000	828,000	687,460
ORP-0060	Waste Treatment and Immobilization Plant (WTP) Low-Activity Waste, Balance of Facilities, Analytical Laboratory (LBL)	630,000	655,000	640,000
ORP-0060	WTP High-Level Waste	75,000	60,000	30,000
ORP-0060	WTP Pretreatment	35,000	15,000	20,000
WTP		740,000	730,000	690,000
ORP-0070	WTP Commissioning	8,000	15,000	15,000
Total	ORP Funding Summary	1,560,000	1,573,000	1,392,460

Joe Franco
Deputy Manager

Richland Operations Office Budget Profile

(\$ in Thousands)

PBS	PBS Title	FY 2018 Omnibus	FY 2019 Minibus	FY 2020 President's Request
RL-0011	Nuclear Material Stabilization and Disposition - PFP	26,067	46,200	0
RL-0012	Spent Nuclear Fuel Stabilization and Disposition	42,610	13,900	0
RL-0013C	Solid Waste Stabilization and Disposition - 200 Area	145,006	159,900	110,798
RL-0030	Soil and Water Remediation - Groundwater/Vadose Zone	132,363	132,158	106,600
RL-0201	Hanford Site Wide Services*	316,833	308,200	255,551
Central Plateau Remediation		662,879	660,358	472,949
RL-0040	Nuclear Facility D&D - Remainder of Hanford**	68,042	74,192	34,750
RL-0041	Nuclear Facility D&D - River Corridor Closure Project***	115,650	119,500	105,000
River Corridor and Other Cleanup Operations		183,692	193,692	139,750
RL-0013C	18-D-404 WESF Modifications and Capsule Storage	6,500	1,000	11,000
RL-0020	Safeguards and Security	81,990	86,686	86,778
RL-0042	Nuclear Facility D&D - Fast Flux Test Facility Project	2,240	2,240	2,500
RL-0100	Richland Community and Regulatory Support	10,121	10,121	5,121
Total	Richland Field Office Funding Summary	947,422	954,097	718,098

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

* These costs were distributed among several PBSs before FY 2017

** HAMMER (RL-0040) costs transferred to RL-0201 in FY 2019

*** B Reactor (RL-0041) costs transferred to RL-0201 in FY 2018

Mission Essential Hanford Infrastructure

Reconfiguring, right-sizing, and rejuvenating site infrastructure; making upgrades needed for DFLAW operations

- Water/Sewer
- Roads
- Electrical
- Information Technology Systems



**Grouting of 1,688-foot-long tunnel is 99 percent complete;
weekly updates posted on www.hanford.gov**



Sludge Removal Project

Eleven containers transported to T Plant from K West Reactor Basin

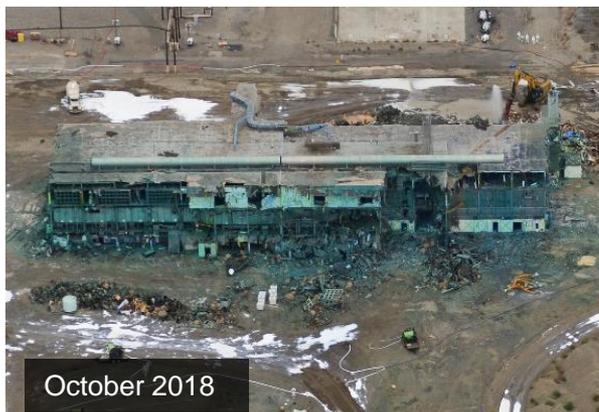




Disposing of debris at Environmental Restoration Disposal Facility



Mentoring new workers



October 2018



December 2018



Completed debris removal, demolition has resumed



Following testing and training in a mock-up, crews install first remote excavator



Grout and debris added at mock-up to simulate B-Cell flooring

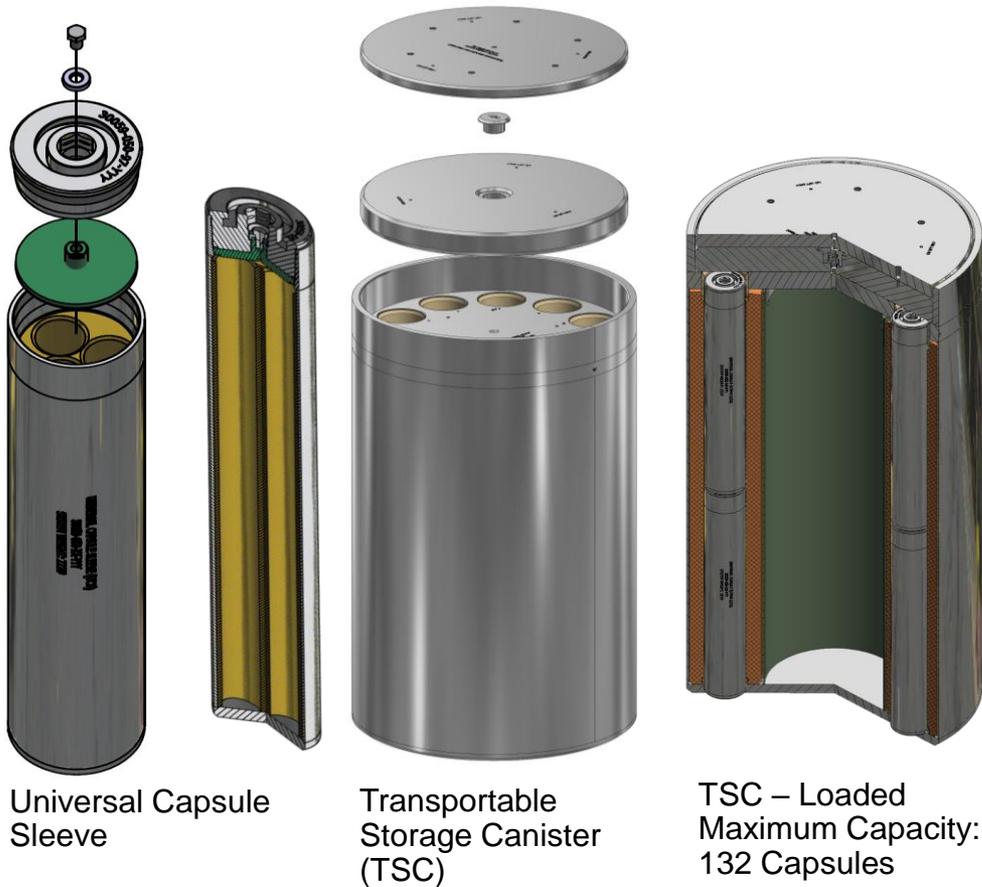


Started installing the “micropiles” to shore up the foundation around the area they will be excavating (through the floor)



Radiological cleanout of airlock trench

Waste Encapsulation and Storage Facility Capsule Project



Universal Capsule Sleeve

Transportable Storage Canister (TSC)

TSC – Loaded
Maximum Capacity:
132 Capsules

Project includes:

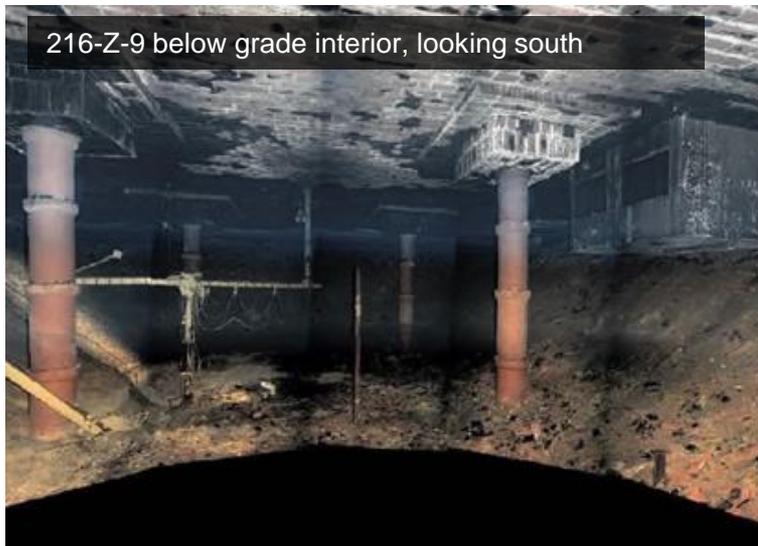
- Cask Storage System
- Capsule Storage Area
- Upgrades to Waste Encapsulation and Storage Facility



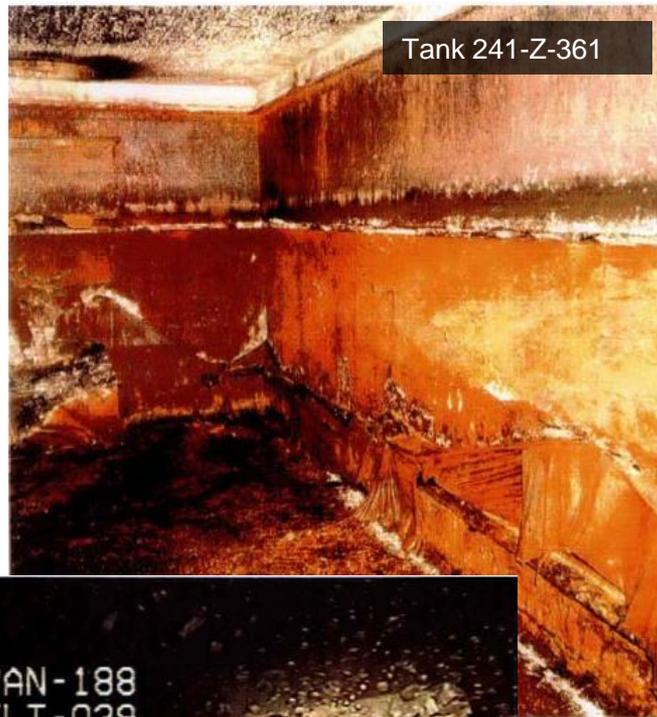
Artist's rendition of Capsule Storage Area

High Risk Aging Structures

216-Z-9 below grade interior, looking south



Tank 241-Z-361

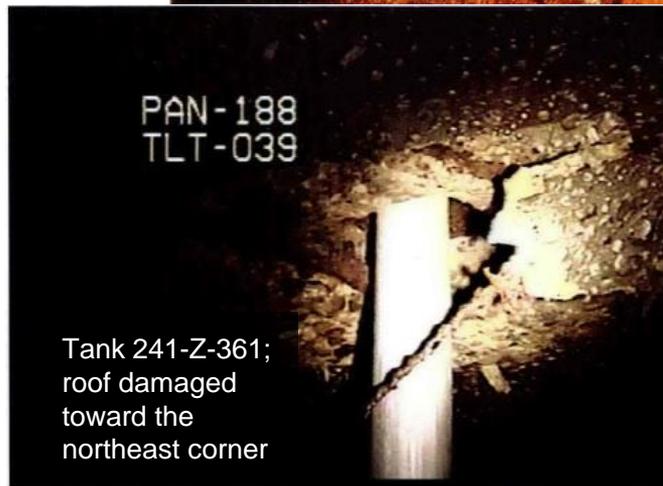


216-Z-9 above-grade structures



PAN-188
TLT-039

Tank 241-Z-361;
roof damaged
toward the
northeast corner



Safe. Ethical Culture. Integration. Taxpayer Value. Progress.

