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SRNS Spring 2024 Update

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President and CEO, Savannah River Nuclear Solutions

Governor's Nuclear Advisory Council Meeting, April 2024

SRPPF Pit Production Update



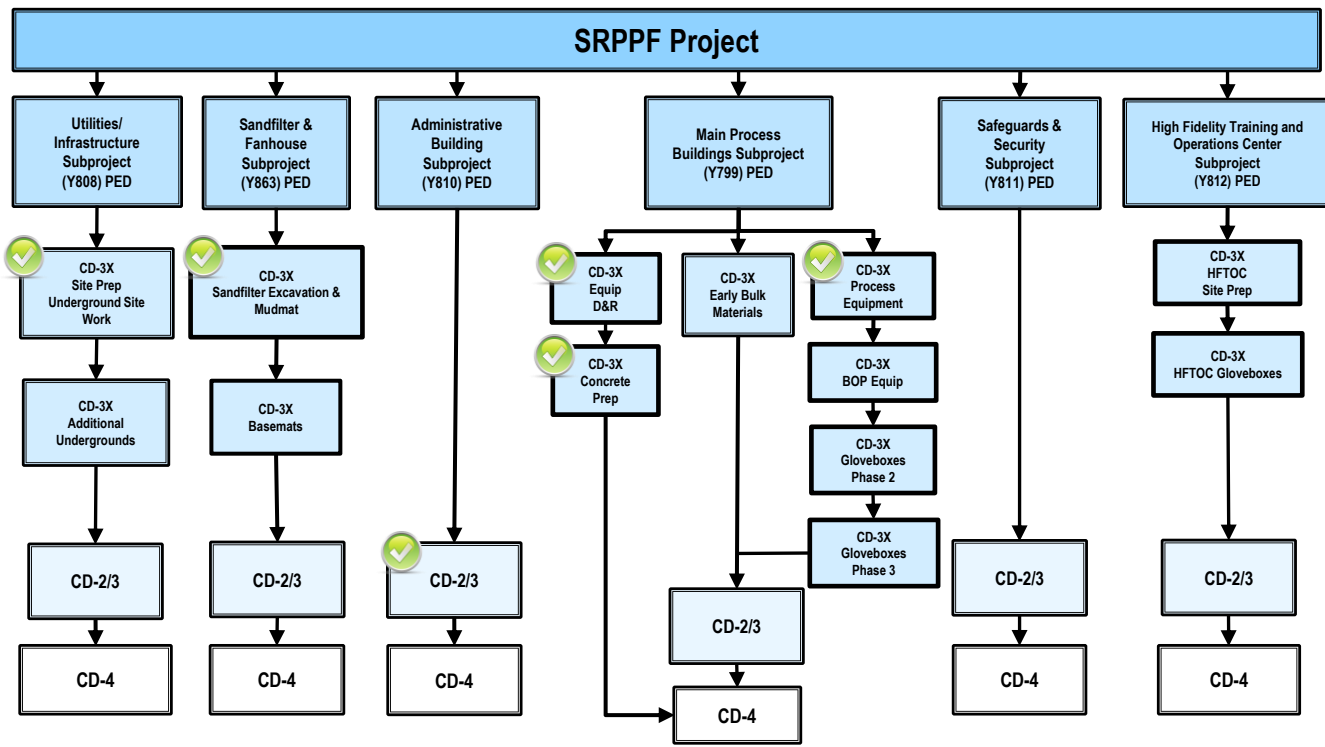
Repurposing a seismically-qualified structure

- 400,000 square feet of Hazard Category-2 space
- Interior walls of reinforced concrete for personnel shielding and durability for 50-year facility design life

FY24 work focused on:

- Achieving 60% design complete milestone
Removing unnecessary walls and equipment from existing 226-F structure
- Site prep and early construction work packages
- SRPPF Process design now 90% complete
- Balance of Plant design at 55%
- Near term construction strategy prioritizes early work packages (CD-3X) with a focus on CD-4 date in 2032.

SRPPF Project - Current Tailoring Strategy



SRPPF Project – Notional Schedule



	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32-35
Y799 Main Process Building Design										
CD-3X D&R										
CD-3X Walls										
CD-3X Process Equipment										
CD-3X Early Bulk Materials										
CD-3X BOP Equipment										
CD-3X Gloveboxes Phase 2										
CD-3X Gloveboxes Phase 3										
CD-2/3 Construction										
Y808 Utilities / Site Preparation Design										
CD-3X UG/Site Prep/Infrastructure										
CD-3X Additional Undergrounds										
CD-2/3 Construction Closeout										
Y810 Administration Building Design										
CD-2/3 Construction Maintenance Facility										
Y811 Safeguards & Security Design										
CD-2/3 Construction										
Y812 HFTOC Design										
CD-3X HFTOC Early Scope										
CD-3X HFTOC Gloveboxes										
CD-2/3 Construction										
Y863 Sandfilter and Fanhouse										
CD-3X Sandfilter Excavation and Mudmat										
CD-3X Basemats										
CD-2/3 Construction										

Surplus Plutonium Disposition Mission



Initiated shipments of downblended surplus plutonium in December 2022.

- 13 shipments and a total of 123.1 Kg of plutonium dispositioned in FY 2023.
- Completed 23 shipments as of March 2024.
- Plan to complete an additional 18 shipments for a total of 28 in FY24.
- 120 planned downblends in FY24, up from 111 in FY23.

Completed several enhancements to enable shipments to WIPP:

- Upgraded the existing glovebox in K-Area to optimize the downblend process.
- Increased staffing (over 100 FTEs) for K-Area downblending process, transitioning from a single shift to round the clock operation.
- Constructed a facility to provide interim storage, waste characterization, and shipping for drums (Criticality Control Overpacks) of downblended plutonium.

Adding new security entry control facilities (ECF) and upgrades in K-Area to accommodate increased operations and personnel.

- Perimeter ECF completed in March 2024.
- Material access area ECF expected completion later this year.



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Surplus Plutonium Disposition Project

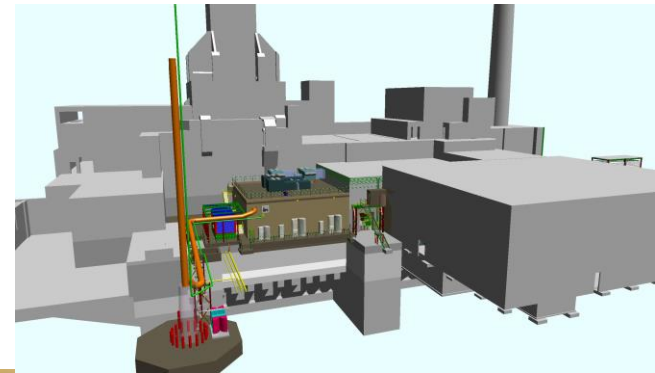


Project Scope - Expand current capacity to downblend plutonium oxide with adulterant.

- Install three gloveboxes
- Install support systems (i.e., security and safety systems, electrical, piping, active confinement ventilation, and fire protection systems, etc.)
- Construct HEPA/Electrical Building and stacks

Cost and Schedule

- CD-1 approved in 12/2019
 - Total Project Cost - ~\$775M
 - CD-4 – ~FY2030
- CD-3X Phase 1, Early Site Prep, approved 2/2020, **completed in FY2022**
- CD-3X Phase 2, Procurement of Long Lead Items, approved 12/2020, **forecast complete FY2024**
- CD-3X, Phase 3, Additional Site Prep, approved 8/2022, **forecast complete FY2024**
- CD-3X, Phase 5, Additional Early Procurement approved 12/2024, **forecast complete FY2026**
- CD-2/3, Approve Performance Baseline and Start of Construction, **forecast complete in FY2024**



Operational Updates - Tritium Operations



- Nation's sole source of tritium for the weapons supply chain.
 - SRTE currently supports 7 weapon systems and 10 reservoir types for the nation's nuclear deterrent
- Entering the fourth of five extraction windows for FY24.
- Projecting 8 tritium extractions per year by FY26 with plans to increase to 10 in future years.
- Preparing for a critical facility recapitalization in CY25 that will allow for new technology and repairs with no impact to the weapons stockpile.
 - Upgrading Thermal Cycling Absorption Process (TCAP) and Cryogenic Valves in H Area New Manufacturing (HANM)
- Updating the Safety Basis to allow for greater confidence in worker and public protection and to assist in meeting DNFSB recommendations.
 - Additional and improved administrative controls
 - Increased engineering rigor fire barriers
- Site Preparations for a new Tritium Finishing Facility to replace the 70+ year old H Area Old Manufacturing.



Savannah River Tritium Enterprise

Fast Critical Assembly Mission

- H Canyon recently installed an electrolytic dissolver as part of a mission to dissolve Fast Critical Assembly (FCA) stainless-steel clad fuel from the Japan Atomic Energy Agency.
- The plutonium fuel is currently stored on-site and will be transferred to the canyon for processing upon the completion of all preparation tasks.
- Forecasting mission start in May 2024 with completion in late 2025.

Accelerated Basin Deinventory Mission

- H Canyon is currently dissolving fuel bundles for vitrification and on-site storage until a permanent repository is available. This mission will process over 3,000 Spent Nuclear Fuel (SNF) bundles to line up with the natural end of the SRS Liquid Waste Mission in the mid-2030s.
- To date, approximately 100 bundles, equivalent to almost 120,000 gallons of solution have been discarded to the SRS liquid waste program.

High Assay Low Enriched Uranium Mission

- Restoration efforts on the H Canyon A-Line facility are underway to facilitate planned mission start of HALEU production in 2025.



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