

Savannah River Field Office updates to the **Governor's Nuclear Advisory Council**

Jeffrey Allison

Acting Manager, SRFO
National Nuclear Security Administration

October 16, 2020

Tritium Operations

- **Tritium production, extraction and processing capabilities must increase to meet demand.**
 - Requires 8 extractions per year by 2026 and potentially 10
 - Reservoir loading and testing complexity will increase; more complicated surveillance
- **Tritium Finishing Facility (TFF) CD-1 approved**



U.S. Strategic Command visits SRTE

Proposed Plutonium Mission

- **Deliver 80 pits per year**
 - 50 no later than 2030: SR
 - 30 no later than 2026: LANL
- **Upcoming CD-1 submittal**
- **5 knowledge transfer personnel are deployed with LANL**
- **Life Cycle Cost Estimates for proposed SRPPF being developed**



NNSA Administrator Lisa Gordon-Hagerty at proposed location for pSRPPF

SPD Program

- **Transition from MOX Fuel approach to Dilute and Dispose approach**
- **In design phase for a new 3-glovebox line in K Area**
- **Expanding dilute operations and capabilities in K Area**



Plutonium downblend training in SRS K Area

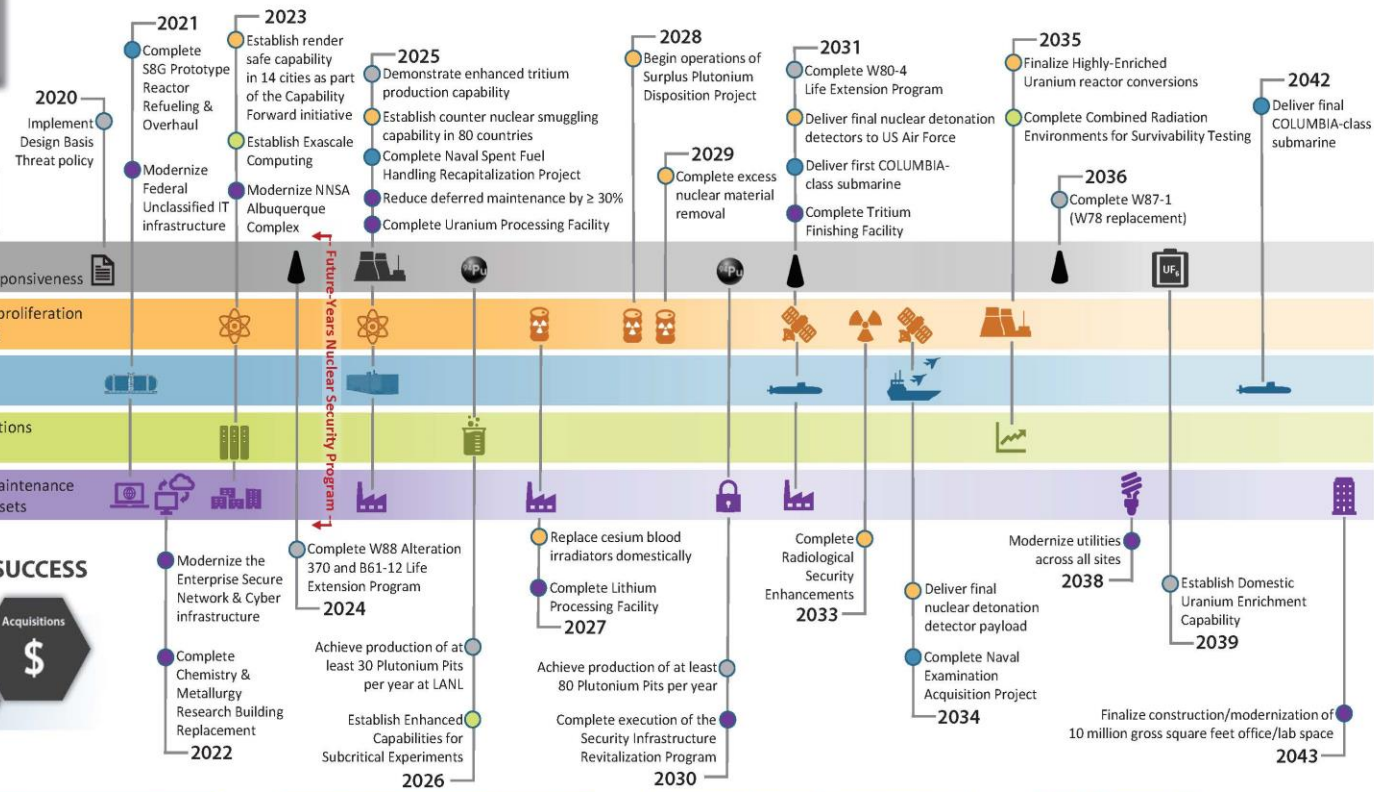
VISION
A national reputation of excellence that is responsive to the Nation's nuclear security and strategic defense needs.

MISSION
To protect the American people by maintaining a safe, secure, and effective weapons stockpile; reducing global nuclear threats; and providing naval nuclear propulsion.

NNSA Strategic Integrated Roadmap 2020-2044

MISSION PRIORITIES → **GOALS**

- Nuclear Deterrent**
 - Integrate and implement nuclear security program
 - Improve weapon product realization cycle time/responsiveness
- Nuclear Threats**
 - Reduce global nuclear threats and prevent nuclear proliferation
 - Counter nuclear terrorism and respond to incidents
- Nuclear Propulsion**
 - Provide nuclear operations to the Fleet
 - Develop new nuclear plants and technology
- Science and Technology**
 - Leverage technology solutions with business operations
 - Lead technology and engineering innovations
- Infrastructure Modernization**
 - Reduce average age of infrastructure & deferred maintenance
 - Recapitalize infrastructure and dispose of excess assets



CROSS-CUTTING INITIATIVES FOR MISSION SUCCESS



PUBLISHED: May 2019



Pit Production Mission

Enduring Capability



Lawrence Livermore National Laboratory is design agency

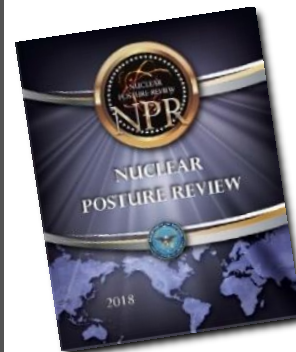
Los Alamos National Laboratory is the nation's Plutonium Center of Excellence for R&D

Two facilities provide DoD more confidence that production requirements can be met

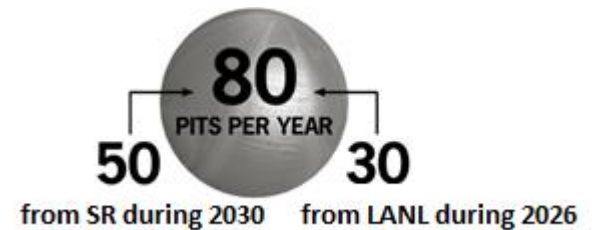
Maximize transfer of LANL technical and process knowledge

Leverage NNSA investment in MOX facility and resources

SRS brings production culture



Reliable delivery of no fewer than



The 2018 Nuclear Posture Review emphasizes the need for “an effective, responsive, and resilient nuclear weapons infrastructure” that can “adapt flexibly to shifting requirements”

Integrated NEPA Team continues weekly telecons for complete integration

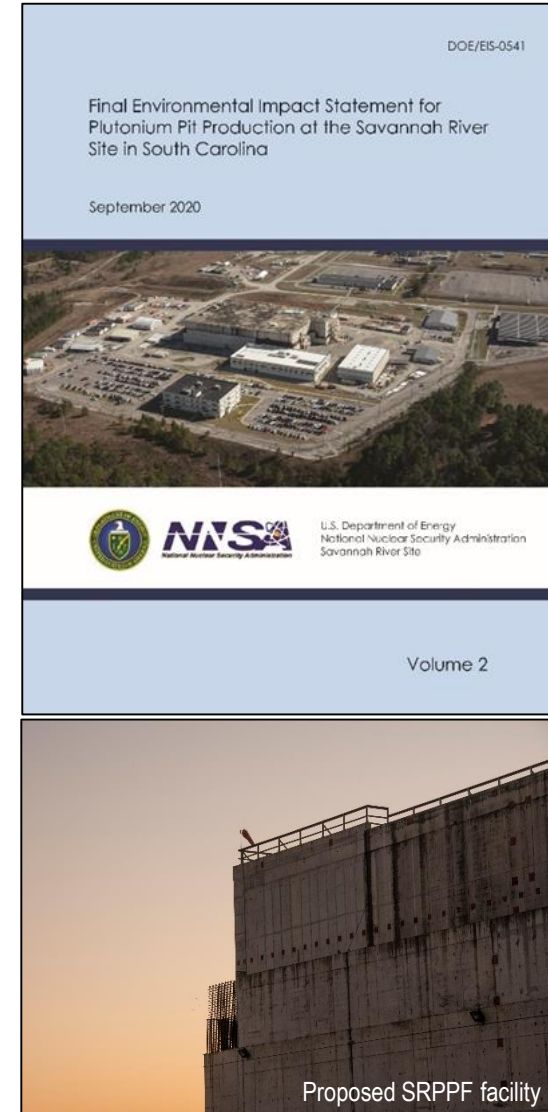
- SA for Complex Transformation PEIS (Dec 2019) & A-ROD for LANL (Aug 2020)
- SA for LANL SWEIS & A-ROD (Aug 2020)

Proposed SRPPF Draft EIS

- Public Comment (April 3 – June 2, 2020)
- Virtual Public Hearing (April 30, 2020)
- 400 comment documents; 44 commenters at Public Hearing

Proposed SRPPF FEIS

- Final EIS was released by EPA on September 25, 2020
- Revised from DEIS considering design evolution, updated references, public comments, waste volumes & worker numbers, seismic information, accident scenarios, air emissions
- NEPA package will be submitted to NNSA Administrator for review by October 27, 2020



Budget

- FY 2020 Enacted: \$964,250
- FY 2021 Requested: \$1,092,790

Workforce Opportunities in Regional Careers (WORC) II Grant

- \$1 Million per year
- Schools: Aiken Technical College, Augusta Technical College, Augusta University, University of South Carolina Aiken, University of South Carolina Salkehatchie, and Claflin University

Funding for Museum

- \$300K for Tritium Exhibit
- Exhibit will contain:
 - Role of tritium as genesis for SRS
 - Description of tritium and its use and production
 - Production mission today
 - Models, artifacts, touchscreens



Tritium Production Mission

- Met all DOD commitments in FY20
- Accelerated two shipments during the height of the pandemic
- Completed two extractions in CY2020
- Shipped four canisters of He-3 to the Office of Science - SRTE is the Nation's only source of He-3
- Diamond stamped a first production unit 3X assembly for the B61-12



Tritium Operations

- No Technical Safety Requirements violations in almost two years
- Improved processes for Small Project execution
- Saved ~ \$10M through Continuous Improvement
- Completed project to eliminate waste gas without interrupting production (Diffuser Stacking)



❑ Status

- NNSA Federal employees following EM site policy, which is in Phase 1
- NNSA federal workforce is in normal operations with maximum telework

❑ Mitigation

- Barriers and masks
- Temperature checks
- Enhanced cleaning and sanitation



Office of Material Disposition updates to the Governor's Nuclear Advisory Council

Virginia Kay

Office of Material Disposition Director
National Nuclear Security Administration

October 16, 2020

Surplus Plutonium Disposition Strategy Progress

- ❑ Continuing progress toward dilute and dispose objectives
 - Priority on materials consolidated at SRS
 - Enduring capability for the disposition of 34 metric tons (MT) of surplus plutonium
- ❑ CD-1 approved (December 2019) for the SPD project; approved site preparation (February 2020); and initiated physical work in K Area
- ❑ Completed optimization modifications in the K-Area Interim Surveillance (KIS) glovebox to improve material handling and process flow and to reduce worker exposure (June 2020)
- ❑ Resumed KIS downblending on two shift operations (July 2020)
- ❑ Issued Supplement Analysis and Amended Record of Decision to disposition 7.1 MT of surplus non-pit plutonium using the dilute and dispose approach (August 2020)
 - Provides NEPA analysis necessary to address the surplus plutonium inventory at SRS
- ❑ Settlement agreement with State of South Carolina (August 2020) allows NNSA to efficiently plan for 34 MT mission



Expanding on the Dilute and Dispose Strategy



Construction of CCO Characterization and Storage Pad June 2020



- Transition KIS to four shift operations by FY 2022
- Complete construction of a characterization and storage pad in K-Area to support storage, characterization, and shipments of diluted product in Criticality Control Overpack (CCO) containers to the Waste Isolation Pilot Plant (WIPP) (FY 2021 completion)
 - Initiate storage in spring 2021
 - Certify waste characterization process in support of initiating shipments in FY 2022
- Execute minor construction projects to modify security entry control points in K-Area to support increased personnel supporting construction and operations activities
- Continue design, early construction and long-lead procurement of the SPD Project to add three gloveboxes with support systems in K-Area (2027-2028 completion)
- Initiate NEPA analysis for the disposition of 34 MT
- Pursue opportunities to improve upon base 34 MT Dilute and Dispose plan

Savannah River Project Management Office updates to the Governor's Nuclear Advisory Council

Scott Cannon

SR PMO Director
National Nuclear Security Administration

October 16, 2020

- ❑ **Proposed Savannah River Plutonium Processing Facility (SRPPF)**
 - CD-1, Approval of Conceptual Design and Cost/Schedule range, Apr 2021
 - SRNS, Fluor Greenville, LANL-Merrick and SNL-Physical Security Center of Excellence (PSCOE) design agents for the Conceptual Design

- ❑ **Surplus Plutonium Disposition (SPD)**
 - NA-1 Approved Tailoring Strategy
 - CD-2/3, Approval of Performance Baseline and Construction start Sept 2022

- ❑ **Tritium Finishing Facility (TFF)**
 - CD-1 Approval of Conceptual Design and Cost/Schedule range, Dec 2019
 - CD-2/3, Approval of Performance Baseline and Construction start, 2024

- ❑ **Mixed Oxide Fuel Project Termination (MOX-T)**
 - All property dispositioned and team demobilized with exception of project closure and financial report, Sept 2021
 - When the identified 7M units is transferred to SRPPF the MOX-T team will have disposition over 10.5M units of property by the end of 2021