Savannah River Field Office
Briefing to the
Acquisition Integrated Project Team

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NNSA Scope at SRS

Tritium Operations
- Nuclear Weapons
- Deterrent

Proposed Plutonium Pit Production
- Nuclear Weapons
- Deterrent

Surplus Plutonium Disposition
- Global Nonproliferation

NNSA Mission: Enhancing national security through the military application of nuclear science; maintaining and enhancing the safety, security, and effectiveness of the U.S. nuclear weapons stockpile; working to reduce the global danger from weapons of mass destruction; providing the U.S. Navy with safe and militarily effective nuclear propulsion; and responds to nuclear and radiological emergencies in the United States and abroad.
NNSA Scope Expansion

**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
- Critical Decision (CD)-1 for the Tritium Finishing Facility (TFF) approved

**Proposed Savannah River Plutonium Processing Facility (SRPPF)**
- Deliver 80 pits per year
  - 50 no later than 2030: SR
  - 30 no later than 2026: LANL
- CD-1 submittal no later than 12/31/20
- 5 knowledge transfer personnel deployed with Los Alamos National Laboratory (LANL)
- Life Cycle Cost Estimates for SRPPF being developed

**Surplus Plutonium Disposition (SPD) Program**
- Transition from Mixed Oxide (MOX) Fuel approach to Dilute and Dispose
- Design phase under way for a new $500M 3-glovebox line in K Area
- SPD CD-1/3 approved
  - Began CD-3A field activities
  - Began constructing isolation wall between Material Access Area and construction area
  - Reviewing 50% glovebox design by Merrick

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Container being lowered into the Tritium Extraction Facility

NNSA Administrator Lisa Gordon-Hagerty at proposed location for pSRPPF

Plutonium downblend training in SRS K Area
SRS Tritium Missions

- **Sustain Tritium Supply**
  - Recycle tritium from reservoirs of existing warheads and extract tritium from target rods irradiated at Tennessee Valley Authority.

- **Maintain Weapons Stockpile**
  - Replenish tritium in gas transfer systems to support the schedule for limited-life component exchanges.

- **Ensure Stockpile Reliability**
  - Conduct surveillance of gas transfer systems to support annual stockpile certification.

- **Tritium Technologies R&D (SRNL)**
  - Conduct R&D to support new gas transfer system designs and to enhance gas processing in the Tritium facility.

- **Supply He-3 for the U.S. Government**
  - Recovery, purify, and bottle helium-3, a decay product of tritium used in instrumentation for neutron detectors.
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

80 PITS PER YEAR
50 from SR during 2030
30 from LANL during 2026

The 2018 Nuclear Posture Review emphasizes the need for “an effective, responsive, and resilient nuclear weapons infrastructure” that can “adapt flexibly to shifting requirements”
Reliable delivery of no fewer than 80 pits per year during 2030

LANL

SR
AoA EA, Concept. Design, Concept. Design, Design/CD-3a Construct., Design/Procure, Construct./Procure/Non-Class. Training, Construct./Classified Training, Training/PIDAS/ORR/Startup, DEV, PPI, QUAL, 50 PPY

Reduced standard time

SRPPF project's cost and schedule baseline will be established when design is 90% complete.

Two facilities provide more confidence that production goals will be met
Leverages NNSA investment in MDX facility and resources
Maximizes transfer of LANL and LLNL technical and process knowledge
SRS brings plutonium production experience
Integrated NEPA Team continues weekly telecons for complete integration:
- SA for LANL SWEIS & A-ROD (Aug 2020)

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

SRPPF FEIS
- Final EIS was released on September 25, 2020
- Revised from DEIS considering design evolution, updated references, public comments, waste volumes & worker numbers, seismic information, accident scenarios, air emissions
- Administrator Approval and Signature on ROD and AROD (30 Days) October 27, 2020
NNSA Capital Line Items

- **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 demolished 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