SRNS: Supporting the Delivery of Strategic Materials
Proposed Savannah River Plutonium Processing Facility (pSRPPF)

Dave Olson
SRPPF Mission Director

Annual Nuclear Deterrence Summit
February 12, 2020
SRNS: Supplying solutions around the world

Environmental Stewardship
for soil, water and facilities

Nuclear Materials for National Security
for nuclear weapons deterrent

Securing Nuclear Materials
to prevent unwanted proliferation

Transforming Nuclear Materials
into assets and stable wasteforms

Savannah River National Laboratory
putting science to work

Additional Support Services
Emergency Services • Water • Electrical
Cyber/IT • Roads • Construction • Maintenance

6,800 Employees
“Making the World Safer”

World-class safety culture
Strong community support
Plutonium Processing Mission Objective

Reliable delivery of
No fewer than 80 pits per year*

50 ppy* during 2030 at Savannah River
30 ppy* during 2026 at Los Alamos National Laboratory
Repurposing the 226-F Complex for the Proposed SRPPF

- 500,000-square-foot seismically qualified production facility
- 11 support facilities on ~110 acres
- >100 construction storage and support structures
- Site infrastructure includes electrical; domestic and fire protection water; sanitary/sewage systems in all occupied buildings
- 225,000 sq.ft. of office space available within the 226-F Complex
The 2020 Current State

- Administration Building
- Technical Support Building
- Process Building
- Secure Warehouse
- Construction Administration
- Training
- Management Administration
- Equipment Assembly Building
- Local Warehouses
- Manufacturing Processes
- Aqueous Processing & Receiving
- Administration Building
- Local Warehouses

SAVANNAH RIVER NUCLEAR SOLUTIONS
pSRPPF Project Progression

• Proposed Savannah River Plutonium Processing Facility (SRPPF)
  – Execute per DOE Order 413.3B, Program and Project Management for the Acquisition of Capital Assets
    • CD-0 Approve Mission Need – Complete
    • Analysis of Alternative (A of A) and a supplemental Engineering Assessment (EA) - Complete
    • Cost and schedule plan for CD-1 submitted in January 2019
    • Direction to proceed with Conceptual Design in February 2019
    • PRD specific to SRPPF issued April 2019 and revised June 2019

• Assembled contractor Project team to produce and deliver conceptual design package to enable CD-1 approval by NNSA by September 2020.
  – Scope is to design the process and non-process equipment and infrastructure support facilities
pSRPPF Project Progression - continued

- Conducted benchmarking of UPF for project management and several nuclear sites for Pu processing
  - Incorporating Lessons Learned and Best Practices from LANL, LLNL, RF, UPF, AWE, and SRS
- Drafted Technology Readiness Assessment on critical technology elements; all elements at TRL 6
- Replicated LANL flowsheet and utilizing LANL and SRS production throughput models to validate equipment count and layout
- NNSA began developing a NEPA Environmental Impact Statement to evaluate the impacts of establishing a pit mission at SRS
- Initiated knowledge transfer and training for SRS team using two prong approach
  - Assignment rotations at LANL
  - Activating Training and Operations Center
CD-1 Deliverables – Status of Major Milestones

- Conceptual Design Packages complete by March 31, 2020
- Key plans, reports and documents complete by April 30, 2020
  - Regulatory and Environmental; Safety Design; Safeguards and Security
  - Project Management, Construction and Acquisition
- Cost and Schedule complete by May 31, 2020 with reviews through June 5, 2020
- Conceptual Design Report and CD-1 Package submitted by 4th Quarter 2020
Disposition and Identified Potential Reuse of Uninstalled MOX Project Equipment and Commodities
SRNS pSRPPF Project Staffing Plan

October 2020 through May 2021 staffing data will be updated in June 2020 upon completion of the CD-1 estimate and schedule.
Changing SRNS Workforce Landscape

- 3,664 new full-service employees (FY14-present)
- 80% hired from local area
- 46 average age of employees

Hiring Profile

<table>
<thead>
<tr>
<th>Year</th>
<th>New Hires</th>
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<tr>
<td>FY14 (actual)</td>
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<tr>
<td>FY15 (actual)</td>
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<td>FY16 (actual)</td>
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<td>FY17 (actual)</td>
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<td>FY19 (actual)</td>
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<tr>
<td>FY20 (projected)</td>
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SRS Infrastructure Investment Behind the NNSA Mission

• Refurbished ~40 miles of paved roads
• Replaced 22 roofs
• Refurbished 29 firewater systems
• Replaced all emergency vehicles
• Replaced 13 of 16 SRNL shielded cell windows
• Replaced radio systems
• Replaced major power distribution systems
• Habitability upgrades

$350M spent on infrastructure improvements in FY16 - FY19
pSRPPF Project Execution Challenges

- Continue accelerated ramp up of staffing, including large EPC experience, backfill for longstanding Pu processing expertise, and obtaining security clearances
- Manage the design integration of multiple design agencies in multiple locations
- Confirm the approach to the IT infrastructure – classified and unclassified
- Accelerate schedule of final design, long lead procurement and construction to meet production commitment during 2030
- Drive supply chain availability, capability and capacity
- Stable funding is required for the project