SRNS Update

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Governor’s Nuclear Advisory Council
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SRNS: Supplying solutions around the world

Environmental Stewardship for soil, water and facilities

Nuclear Materials for National Security 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
COVID-19 Site Integrated Response

Infectious Disease Response Team
War Room

Protocols Sheet

COVID-19 Updated Protocol
Employee Actions

Face Coverings

SRS Heat Map/Contact Tracing

Communications
COVID-19 Site Integrated Response (continued)

- 5,217 employees screened by medical
- 2,780 employees tested
- 792 Facilities Cleaned
- 386 responses to COVID-19 account

as of October 2, 2020
COVID-19 Site Integrated Response (continued)

Tornado Response

April 13, 2020

5,500 capability for Citrix & VPN
6,100 SRS employees telework ready
20K face covers produced/procured
>750 face shields produced/procured
>100 temperature monitoring stations
>600 thermometers/scanners distributed
Changing SRNS Customer Landscape

**Our Missions**

**Environmental Management**
- Management, stabilization and disposition of nuclear materials
- Management and disposition of solid, liquid and transuranic wastes
- Spent fuel management
- Environmental remediation and cleanup

**National Nuclear Security Administration**
- Tritium operations and extraction
- Helium-3 recovery
- Nonproliferation support
- Uranium blending and shipping
- Foreign fuel receipts

**Work for Others**
- Other federal agencies
- Other DOE sites
- Private industry
- Other minor entities

**FY18–19**
- EM: 60%
- NNSA: 35%
- WFO: 5%

**FY20–25**
- EM: 45%
- NNSA: 50%
- WFO: 5%
Delivering on EM Commitments

Remediation and D&D
- Passive groundwater remediation
  - P Barrier Wall – injected 760 tons of iron
  - G Area Oil Seepage Basin remediation completed one year early
- Transitioned M-Area groundwater solvent removal from steam injection to solar powered MicroBlowers (saves $200K/year)
- D&D of four buildings this year
- Ford Building D&D underway; D Area Powerhouse upcoming

235-F Plutonium Facility
- Viewed by DNFSB as one of top 10 most dangerous buildings in the United States
- High hazard deactivation
- Performed D&D and met requirements to close DNFSB Recommendation 2012-1
- Goal to achieve “Cold and Dark” by 2022

H Canyon
- Recent and Current Campaigns
  - Target Residue Material
  - Material Test Reactor Fuel
  - High Flux Isotope Reactor Cores
  - Sodium Reactor Experiment discard to Sludge Batch 9
- Changed processing techniques
  - Layup portion of the canyon
  - Potential for significant life cycle costs savings
  - Meets non-proliferation objectives
### NNSA Scope Expansion and Capital Projects

#### Tritium Operations
- 85% growth in three years
- Tritium extraction and processing capabilities must increase to meet demand
  - Complete 3X at 6/year rate
  - Requires 6 extractions per year by 2023
  - Reservoir loading and testing complexity will increase; more complicated surveillance
- Tritium Finishing Facility (TFF)
  - CD-1 approved
  - Project Team formed and moving out

#### Surplus Pu Program
- Repackaged and shipped one metric ton of plutonium from South Carolina to meet a court order by January 2020.
- Transition from MOX Fuel approach to Dilute and Dispose approach
- Outage for optimization of existing glovebox complete
- CD-1 approved and construction started on project to expand downblending capability
- 12/7 operations in KIS glovebox; preparing to move to round the clock by July 2021

#### Proposed SRPPF
- Deliver 80 pits per year
  - 50 during 2030 - SRS
  - 30 during 2026 – LANL
- Conceptual Design Report and CD-1 package by 12/31/2020
- Implementing knowledge transfer with LANL to share best practices
- Former MOX property being repurposed for UPF, PPF, SPD and other NNSA missions
- Established Pu Modernization Program Office
SRPPF – A project like no other

Meeting the National Need

In 20 Months

• Organized and staffed to more than 560 Full Time Employees in 5 locations in 18 months
• Strong collaboration between SRS, LANL, LLNL, NNSA, and subcontractors
• Three field tests commencing this Fall
• Technology readiness assessments completed
• SRS personnel assigned to LANL for knowledge transfer
• Conceptual Design > 30%
• 13,500 conceptual design documents prepared (Design Reviews this fall)
• Completed $174M in scope during FY20 – poised to complete $400M in FY21
  (D&R, Site Prep, TDA field work begins, Final Design)
Savannah River National Laboratory: Continued Growth

**FY20 Programmatic Lab Budget**

- $400M

**Future Growth Areas**

- Cybersecurity
- Test Range and System Evaluation
- Modeling and Computing

Overall anticipated growth for 2021 >10%

**Collaborations**

- **SRNL College/University Faculty Members**
  - 24 Adjunct Professors in 11 Schools
  - 10 Advisory Board Members in 7 schools

- **Growth of Postgrads**
  - In the past 12 months, 21.7 percent of SRNL new hires have Graduate Level Degrees or higher

- **University Relationships**
  - Relationships with 24 Universities including MOUs with 12
Overarching Strategy: Workforce Development

- Recruit and retain critical workforce
- Leverage Workforce Opportunities in Regional Careers Programs
- Develop succession planning
- Continue education alliances

SRNS and MOU Partners in Education

- Aiken Technical College
- Allen University
- Augusta Technical College
- Augusta University
- Benedict College
- Claflin University
- Clemson University
- University of South Carolina-Columbia
- University of South Carolina-Aiken
- USC Aiken VET Center
- South Carolina State University
- Denmark Technical College
- Florida International University
- Fort Gordon Veterans Program
- UT-Batelle
- Voorhees College

NNSA Workforce

- Tritium Finishing Facility
- Surplus Plutonium Disposition
- Savannah River Tritium Enterprise
- Pit Production
- MFF Transition

Plant Vogtle construction completion (2021-22)

Subject to Congressional appropriations

6,800 employees down from 54 in 2008

46 average age of employees
FY20 Infrastructure Accomplishments

Roofs / Habitability
- 704-C, 706-N, 722-A habitability improvements
- B Area cubicle replacement projects

Roads / Grounds / Rolling Stock
- New pumper truck
- J Area Domestic Water final tie-in for SWPF
- Road C Phase 7 traffic signal improvements
- Road F Guardrail repairs

Site Communication / IT
- A Area Radio Trunking Expansion
- Replaced over 800 aging network devices, enhanced cyber security posture
- Upgrades to improved cellular signals in B Area
- Enabled the Spider Node for additional cellular phone connections and significantly faster data transfer speeds.
- Provided access for an additional 2,000 teleworkers
- Increased from a 2G to a 10G circuit from SRS to ESNet Atlanta
Laboratory Consolidation
- Completed Lab B-118 modifications; the first of seven labs to be modified by the project
- B-107 Laboratory Radiohood/bench equipment installation
- B-115 Laboratory - Glovebox and Off-Gas Exhaust ductwork testing is in progress
- 48 of 58 analytical methods successfully qualified and moved to A Area
- Layup of 7 of 8 772-F/772-1F individual laboratories to support the future closure of F/H Lab

SRNL
- SRNL 773-A Conference Rooms and building lobby improvements
- Implemented DSA/TSR Rev 19/21 resolving many fire water supply and suppression system issues.
- Glass Shop Relocation modifications in 735-A
- Field work on the replacement of the 773-A, D-Wing South roof resumed
Site Overheads

Driving base costs down with savings
Increased infrastructure investment

8% reduction in overhead cost

Driving base costs down with savings
Increased infrastructure investment

G&A Base = $39,361
G&A Base = $36,051
G&A Base = $35,146
G&A Base = $33,969

ESS Base = $97,218
ESS Base = $92,402
ESS Base = $83,911
ESS Base = $88,257

LLS Base = $62,747
LLS Base = $61,871
LLS Base = $61,270
LLS Base = $59,246

SOH Total = $199,326
SOH Total = $190,324
SOH Total = $181,472
SOH Escalation $10M

FY20 Budget $248,413

in $K