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

Face Coverings

SRS Heat Map/Contact Tracing

Protocols Sheet

Communications

COVID-19 Updated Protocol
Employee Actions

Believe you have been exposed to COVID-19? (fever, chills, cough, trouble breathing)

No known exposure

Savannah River Nuclear Solutions

SAVANNAH RIVER NUCLEAR SOLUTIONS
COVID-19 Site Integrated Response (continued)

5,217 employees screened by medical
as of October 2, 2020

2,780 employees tested
as of October 2, 2020

792 Facilities Cleaned
as of October 2, 2020

386 responses to COVID-19 account
as of October 2, 2020
COVID-19 Site Integrated Response (continued)

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

Tornado Response

April 13, 2020

SAVANNAH RIVER NUCLEAR SOLUTIONS
Changing SRNS Customer Landscape

Our Missions

- **EM**
  - FY18–19: 60%
  - FY20–25: 45%
  - Environmental Management
    - Management, stabilization and disposal of nuclear materials
    - Management and disposition of solid, liquid and transuranic wastes
    - Spent fuel management
    - Environmental remediation and cleanup

- **NNSA**
  - FY18–19: 35%
  - FY20–25: 50%
  - National Nuclear Security Administration
    - Tritium operations and extraction
    - Helium-3 recovery
    - Nonproliferation support
    - Uranium blending and shipping
    - Foreign fuel receipts

- **WFO**
  - FY18–19: 5%
  - FY20–25: 5%
  - Work for Others
    - Other Federal agencies
    - Other DOE sites
    - Private industry
    - Other minor entities

ADDS
- MOX Termination
- Proposed Pit Production Mission
- Surplus Plutonium Disposition Acceleration
- Tritium Finishing Facility
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

$400M FY20 Programmatic Lab Budget

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-Battelle
- Voorhees College

Plant Vogtle construction completion (2021-22)

NNSA Workforce
- Tritium Finishing Facility
- Surplus Plutonium Disposition
- Savannah River Tritium Enterprise
- Pit Production
- MFFF Transition

Subject to Congressional appropriations
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