Savannah River Site Update

Dr. David C. Moody
Manager
U.S. Department of Energy
Savannah River Operations Office

South Carolina Governor’s Nuclear Advisory Council
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SRS Budget Challenges

• Fiscal cliff = Challenging times
• March 1 mandated sequestration = $100M or 8% across-the-board cut for SRS
• Presently no flexibility for Site to manage impacts to workforce and work scope
• Request at HQ (formal reprogramming)
• Post March 27 is next decision point (end of current Continuing Resolution)
• If reprogramming or requested funding comes through, gain much needed flexibility to manage cuts and impacts

• People are our Priority

• With flexibility, we can:
  — De-obligate funds
  — Defer projects we can
  — Complete critical work we must, and
  — Protect our people
Budget Impacts

Operating on anticipated $1.213B based on FY2012 adjusted appropriation funding, sequestration impacts to SRS include:

**Workforce Impacts**
- Reduced work schedules imposed in early April for 2000 contractor employees
  - 20% pay reduction for those affected
- Furloughs
  - 150 employees impacted starting in April w/additional furloughs in May & June (depending on funding)

**Work Scope Impacts**

*(April/May)*
- Reduced H Canyon operability limiting ability to:
  - Process used nuclear fuel
  - Receive highly-enriched uranium materials from offsite entities
  - Process plutonium for MOX
  - Receive used nuclear fuel from domestic research reactors
- Slow down in K Area project
- Slowdown in 235-F risk reduction

*(June-September)*
- Shutdown in H, K and L Areas and SRNL activities
- Limited waste receipts,
- No shipments to WIPP

➢ *No crystal ball ~ In the interim, continue work at hand and positioning ourselves for future*
Liquid Waste

Salt Waste Processing

- Physical construction 65% complete (March 2013)
- Continuing to work with Parsons (Cost and Schedule)

Waste Disposition

- Defense Waste Processing Facility canister production total to date: 3,587
  — ~47% of sludge waste immobilization lifecycle
  — ~6% of salt waste disposition lifecycle
- Taking advantage of developing technologies and improvements made last year in our interim salt waste processing facilities
- At-tank treatment successfully augmenting high level waste processing
- Increasing salt waste treatment capacity with enhanced ARP/MCU throughput
- Planning deployment of supplemental, at-tank Small Column Ion Exchange (SCIX) and micro-rotary filtration treatment capabilities
- Enhanced throughput strategy provides the basis to achieve 3-4 million gallons/year processing rate.
- High-Level Waste Integration between Savannah River and Hanford
The Tank Closure Program at SRS continues to make progress

- Next tanks in **F-Area Tank Farm** to be closed will be Tanks 5 and 6
  - Public comments on Closure Module being solicited (comment period runs until March 22)
  - Field activities accelerated in preparation to grout tanks this year
  - DOE anticipates SCDHEC, EPA and DOE final decisions by May
  - Goal to complete grouting is November 2013

- Activities toward closure of **H-Area Tank Farm** are also underway
  - In February, DOE initiated consultation with NRC on closure of H Area Tank Farm
  - Public comment period on DOE’s Draft Basis for Section 3116 Determination for Closure of H-Tank Farm Document open until May 1, 2013
  - Documents and contacts for submitting comments are available at [http://srs.gov/f_htankfarmsdocuments.htm](http://srs.gov/f_htankfarmsdocuments.htm)
  - Following NRC consultation, a DOE decision on H-Area Tank Farm closure anticipated in 2014

- Tank specific activities are on schedule to **support closure of two additional tanks**, Tanks 12 and 16, in H Area Tank Farm in 2015
  - Tank 12: chemical cleaning with oxalic acid to facilitate removal of residual heel waste anticipated to be completed this summer
  - Tank 16: discussions between DOE, SCDHEC and EPA on ceasing waste removal underway. Next step: sample and characterize the residual waste to support future preparation of Closure Module for public comment
Nuclear Materials Disposition

- **DNFSB Technical Report** -38, “Storage Conditions of Reactive Metal Fuel in L-Basin at the Savannah River Site” (January 2013) asserts “Further attention to the disposition of the other vulnerable fuel types remaining in the L-Basin is warranted.”

- **Program Status and DOE Response:**
  - Potentially vulnerable fuel accounts for approximately 1% of the Used Nuclear Fuel bundles stored in L-Area
  - Sodium Reactor Experiment fuel is being processed in H-Canyon (at a reduced rate due to funding limitations)
  - Other vulnerable fuel types referenced are not able to be processed in H-Canyon due to different cladding types (i.e., Stainless Steel and Zircalloy).
  - Other potentially vulnerable fuel captured under contractor’s Augmented Monitoring and Condition Assessment Program
    - However, these activities have also been impacted by FY13 funding limitations
Ultrasonic Testing of the oversize isolation cans and water sampling within 10 of the L-Bundles

No issues identified to indicate fuel was not remaining intact

DOE-EM initiated exchange program with the UK’s Nuclear Decommission Agency (share experience, lessons learned)

Some UK fuel stored wet has been inspected and repackaged recently with the results that the majority of the fuel remained intact

Not the same configuration/makeup as L-Basin but information will be useful in our planning

DOE agrees with the DNFSB report’s position that further attention is warranted.

Challenges to moving forward are funding and timing

In interim, SRS continues to demonstrate safe storage of these fuels
Never waste a good crisis.

Offer one-of-a-kind assets and technologies to:

- manage nuclear materials and waste
- restore clean environments
- deploy clean energy technologies
- strengthen national security

Key to our Nation’s nuclear materials management strategy

- operate Nation’s only full-scale nuclear materials management complex

SRNL technical expertise and innovative technologies applications deployed throughout the world

- Nuclear Materials and Waste Management
- Radiochemical Processing
- Environmental Risk Reduction
- Tritium/Hydrogen Technology
- National Security Threat Reduction
E.SRS Alive and Well

- Nuclear weapons program
  - Expanded tritium role
- Nuclear non-proliferation
  - “Global threat” receipts & disposition
- Surplus weapons material disposition
  - Pu storage and disposition, isotope extraction
- Nuclear energy
  - Used fuel management, recycle
- Nuclear waste clean-up
  - International remediation solutions
- Homeland security
  - Nuclear surveillance systems
enterprise at Work

- Pu oxide production in H-Canyon
- Canadian Used Nuclear Fuel
- Return of Swedish Pu
- Advising on cleanup after Fukushima
- Regional nuclear medicine industry
- Detecting rad materials in shipping containers
- Training police to detect rad sources
- Resource sharing at Livermore
- National Center of Radioecology
- Natural gas storage grant

Think outside the box.
Solid Investments for a Sustainable Future
Asset Revitalization Realized at SRS: In Progress

- **Isotopes provided to government and industry, taking advantage of SRS unique expertise and facilities**
  - Americium-241 purified in H-Canyon (2-3 kgs annually) and provided to industry
  - Nation’s supply of Helium-3 provided through industry partnership
  - Plutonium-238 for space exploration is purified and packaged for NASA at SRS

- **SRS has key role in advancing Small Modular Reactors (SMRs)**
  - Capturing entire tritium mission of NNSA-SRS
  - NQA-1 manufacturing for SMR components regionally located and provides support to commercial power industry
  - HEU used fuel processed in H-Canyon and blended down (20%) to be the first charge in an advanced SMR

- **Regional nuclear medicine industry grown from partnership between SRS and local medical universities**
  - Initial production of cyclotron and SMRs forthcoming; isotope processing at SRS and patient studies at university hospitals
• Continue joint industry/government collaborations to advance DOE projects and accomplish goals
  - At-tank treatment successfully augmenting HLW processing at interim salt processing facilities
  - Increased throughput of ARP/MCU using next generation solvent and at-tank processing achieving 7Mgal annually
  - SWPF now processing tank waste using next generation solvent to meet 2028 cleanup commitments
  - SRS liquid waste program achieves steady rate of 10 – 12Mgal tank waste processed annually

• Glass waste storage buildings (GWSB) 1 and 2 have been emptied
  - Approximately 4000 glass waste canisters readied for transport to pilot storage facility scheduled to receive HLW and used fuel in 2021
  - Lighter-weight shipping cask design licensed by NRC for more efficient transport of lower activity canisters
SRS Poised for Success

- Manage budget impacts to get best bang for the buck.
- Become recognized solutions provider.
- Measurable progress.
- Involved employees and stakeholders.

- Future leadership cultivated.
- New missions secured.
- Enduring future sustained.