Construction of Salt Waste Processing Facility (SWPF)
Charting the Course for Major EM Successes in 2016-2017

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This critical facility will:

- Reduce radioactive waste volume by safely separating high-activity fraction from low-activity fraction of the radioactive liquid salt waste stored in underground tanks at the Savannah River Site and returning high-activity waste fraction for vitrification at the Defense Waste Processing Facility (DWPF)
- Utilize the same radioactive waste removal processes as Interim Salt Processing Facilities (Actinide Removal Process/ Modular Caustic Side Cesium Extraction Unit (ARP/MCU) – Pilot Facility)
- Process 90% of Tank Farm liquid radioactive waste – 97 million gallons after adding liquid to waste (dissolution) to facilitate processing
- Have a nominal capacity of 7.3 million gallons per year

Parsons is the contractor for the SWPF project (design, construct, commission and operate for one year)
SWPF Poised for Success

- Under contract with DOE, Parsons must complete construction of SWPF by December 31, 2016, at a cost of $530 million (January 2013 through Construction Complete)
- Construction is 90 percent complete and is currently projected to finish significantly ahead of schedule and below cost
- Startup and commissioning remains high priority and early involvement of Testing and Commissioning personnel to identify and mitigate risks has positioned the project for operational success
**Basemat Installed**
- Performance Category 3 (PC-3)
- 8-feet thick
- 32,943 square feet
- 10,032 cubic yards

**First Story Under Construction**
- Walls to 100 ft. elev. completed
- Began installation of process piping
- Wall placement to 139 ft. elev. in progress
- Successful installation of contactor modules
- Dark cells fabricated

**Vessel Placement**
- Successful installation of
  - 10 large ASME Vessels
  - 150,000 gal. of tank volume in Central Processing Area
  - PC-1 support structures underway

**TODAY - 90% Physical Completion**
- Roof completed
- HVAC 93% complete
- Ventilation stack completed
- Fireproofing completed
- Transformers and switchgear in place
- All major process equipment in place

- Waste transfer line completed
- 108,000 LF of piping installed (97% complete)
- 82,241 welds made (98% complete)
- 154,000 LF of conduit installed (96% complete)
- 800,000 LF of wire and cable installed (96% complete)

**Baseline Construction Completion Date 12/31/16**
**Current Execution Construction Completion Date 4/22/16**
First Contactors Installed at SWPF
Piping and Actuators in North Labyrinths
Challenges to First-of-a-Kind Nuclear Facilities

- Changing requirements
- NQA-1 vendor atrophy nationwide
- Competition for critical skilled workers
- Underestimating the baseline and contingency. Things rarely are “best case” in NQA-1 first-of-a-kind projects
Keys to Success on FOAK Projects

• Early pilot testing of chosen technology
• Contract and project alignment
• Stable funding
• Strong project management
• Early identification of risk and mitigation
• Significant on-site presence (Engr and QC) for critical NQA-1 items
• Partnering – common objectives and definition of success and issue resolution
• Constructive oversight culture
Key SWPF Successes

- Design-Build contract structure
- Constructability review teams
- ARP/MCU and Parsons Technology Center
- Joint resolution of all technical and regulatory issues
- Construction mitigation in lieu of large ASME tank delay
- Contract/project alignment on construction complete
- Early involvement of Testing and Commissioning personnel
- Recent partnering between DOE and Parsons
- Focus on the objective – achieve CD-4 and plant start-up