U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

Construction of Salt Waste Processing Facility (SWPF)

Charting the Course for Major EM Successes in 2016-2017

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SWPF Mission

PARSONS

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

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

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

SWPF Construction Progression

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

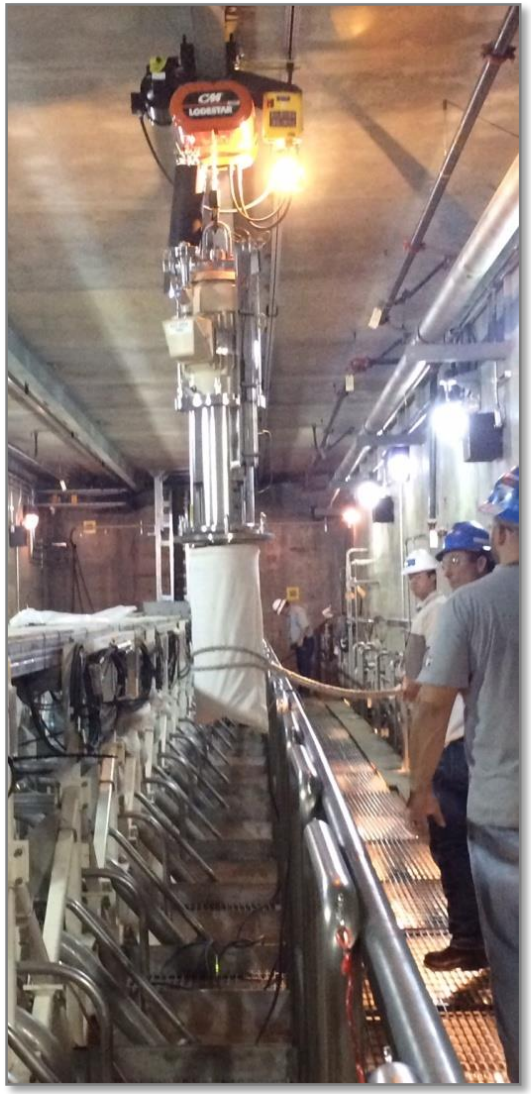
- Successful installation of
- 10 large ASME Vessels
- 150,000 gal. of tank volume in Central Processing Area
- PC-1 support structures underway

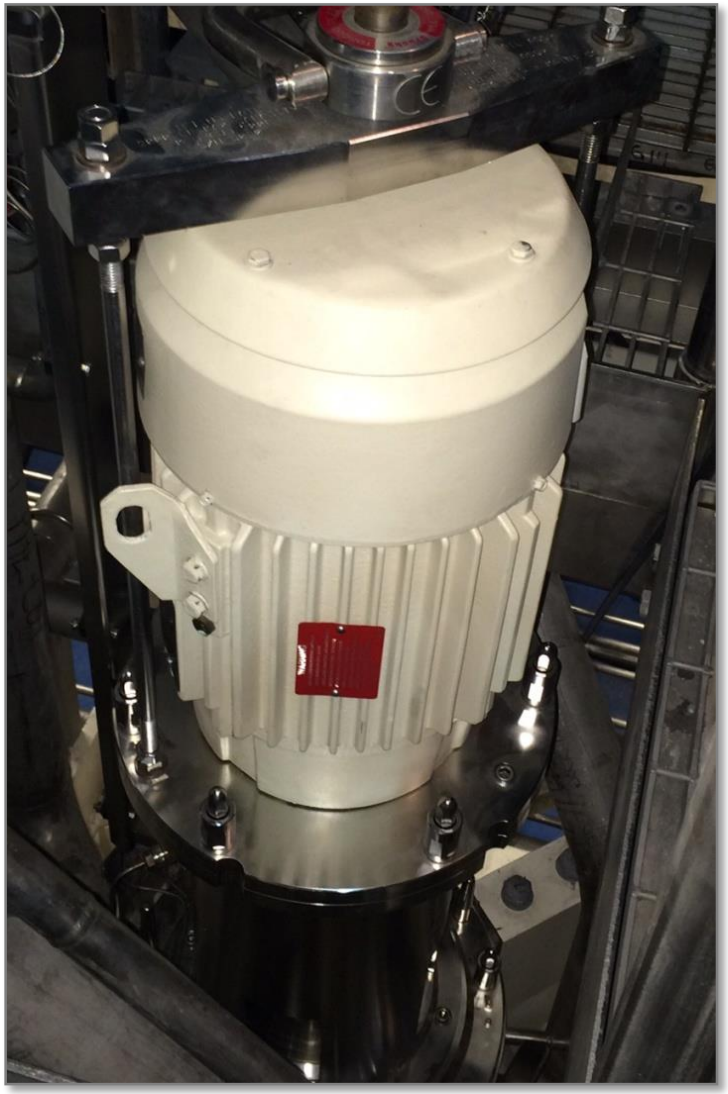
TODAY - 90% Physical Completion

- 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)

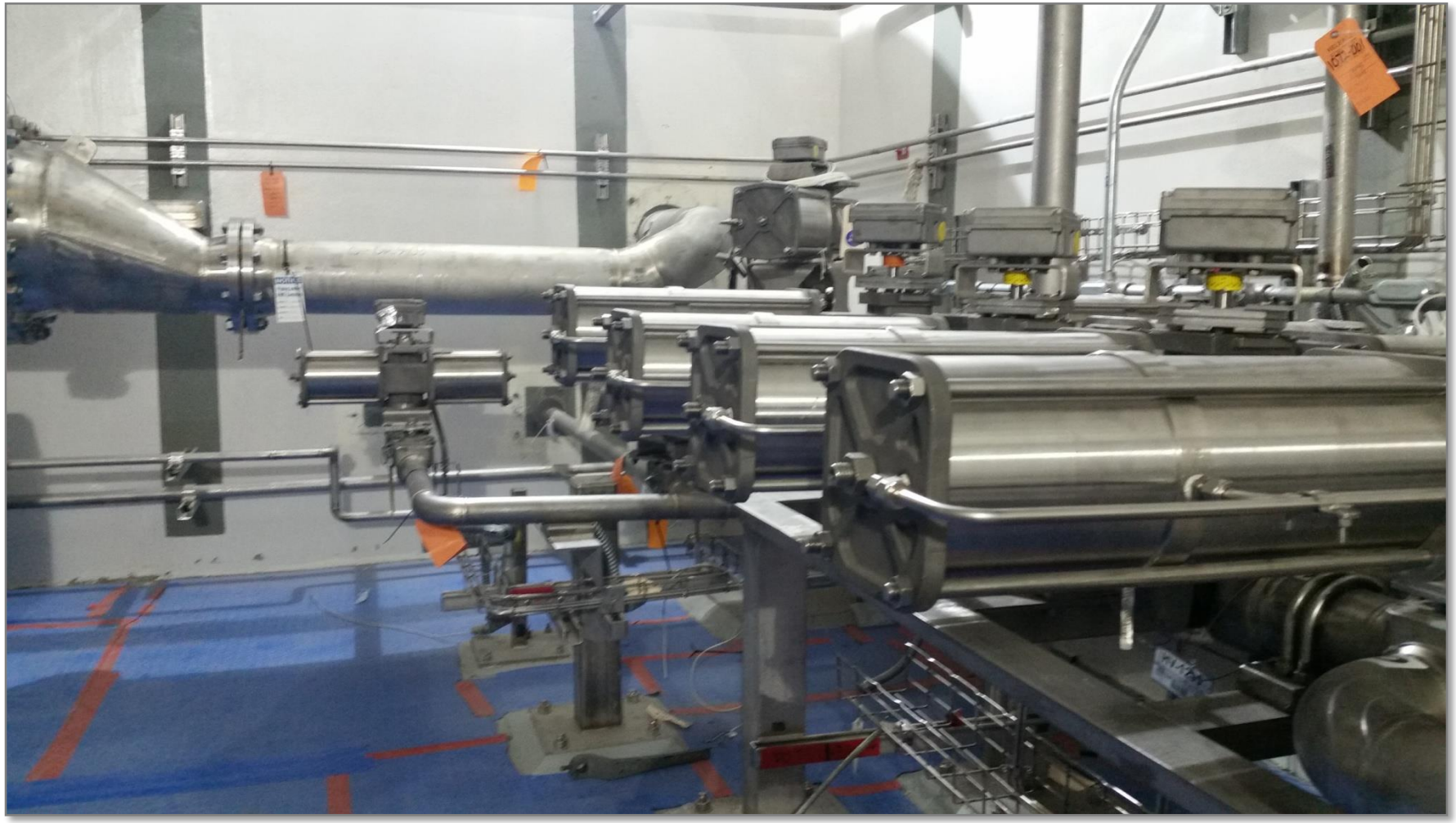
Baseline Construction Completion Date 12/31/16
Current Execution Construction Completion Date 4/22/16

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