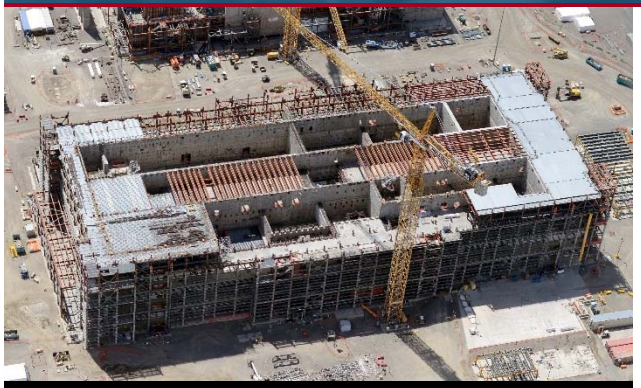
Waste Treatment and Immobilization Plant Project



Pretreatment Facility Technical Decision Briefing

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OFFICE OF RIVER PROTECTION United States Department of Energy

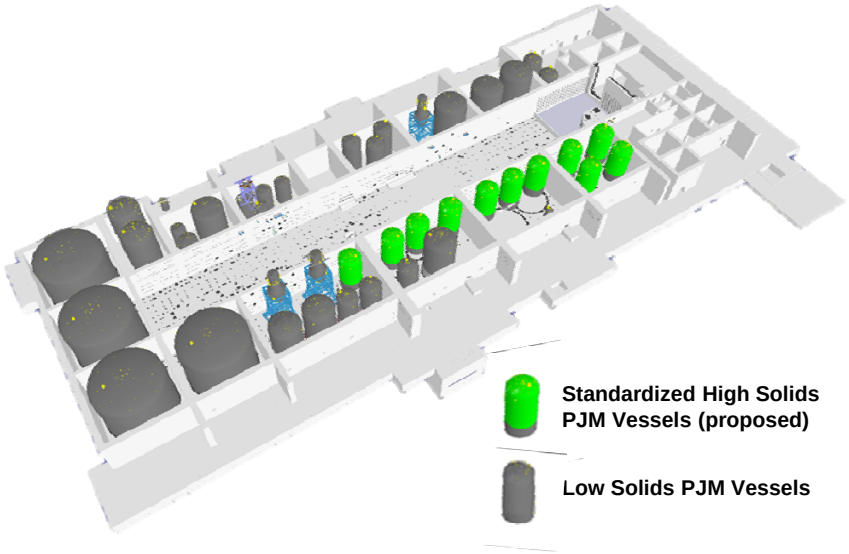
Bechtel National, Inc.

AECOM

T-4 Resolution – Full-scale Vessel Testing

Overview

- Baseline technology: Pulse Jet Mixed (PJM) vessels
- Design confirmation strategy: Full-scale testing and analysis
- Test campaigns:
  - Controls Testing (13 ft) **Complete**
  - Small-scale Mixing Testing (8 ft) **Complete**
  - Full-scale (qualifications) Testing **In-Progress**



13 ft diameter full-scale prototype vessel

8 ft diameter small-scale test vessel

Purpose

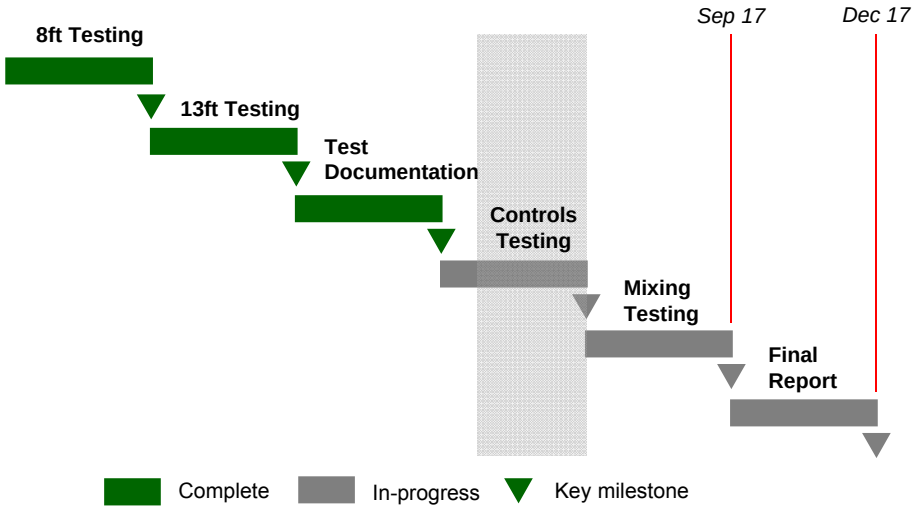
- Technical basis to confirm design (mixing and process control)
- Increase technical assurance
- Cost and schedule mitigation

T-4 Resolution – Full-Scale Vessel Testing (cont.)

Status

- Safety: 162,000 hrs (calendar year 2016) without lost-time or recordable injury
- Test Documentation: Completed
- Integrated Technical Team
- Instruments: 175 ea
- Simulant: 885,000 lbs
- Testing Data Runs: 350 ea

Key Milestones



T-6 Resolution – Conceptual Plan

Concrete
114K CY

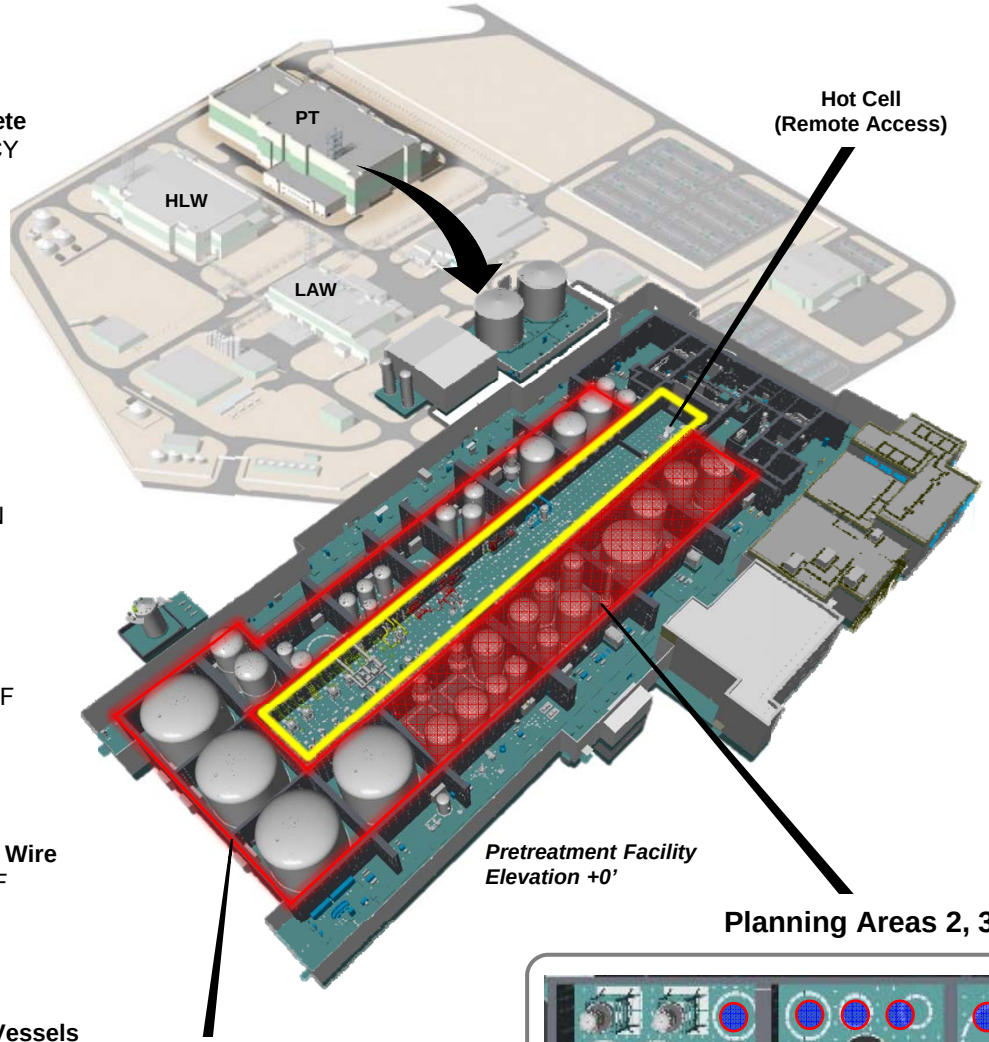
Steel
20K TN

Rebar
25K TN

Pipe
557K LF

Cable / Wire
1.8M LF

Major Vessels
34 EA



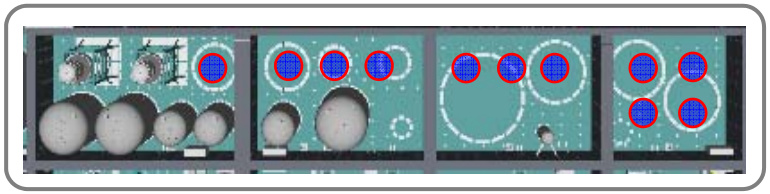
Facility Overview

- Dimensions: 540 x 215 x 120 LF
- Treat Tank Farm Waste (56M gal.)
- Key Processes:
  - Radionuclide Removal
  - Solids Separation
  - Reduce Water Content
- Process Two Waste Streams:
  - HLW (40M gal)
  - LAW (125M gal)

Objectives

- Fit and Function
- Integration of Technical Decisions
- Optimization

Planning Areas 2, 3, and 4

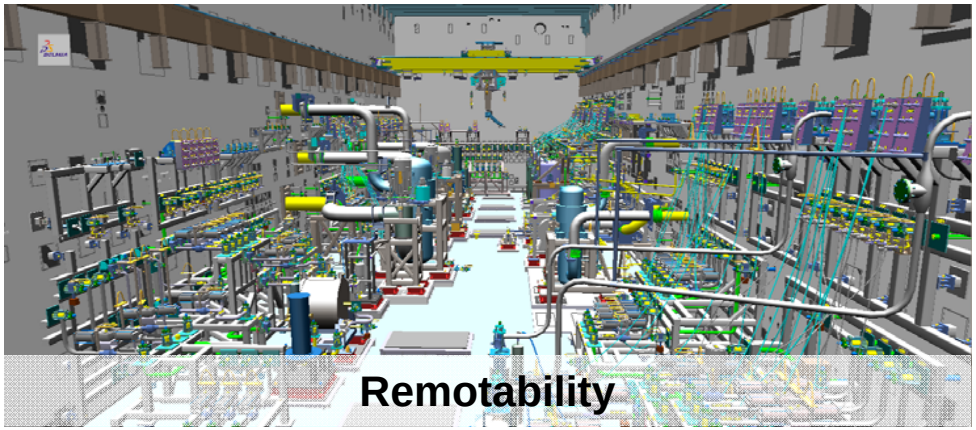


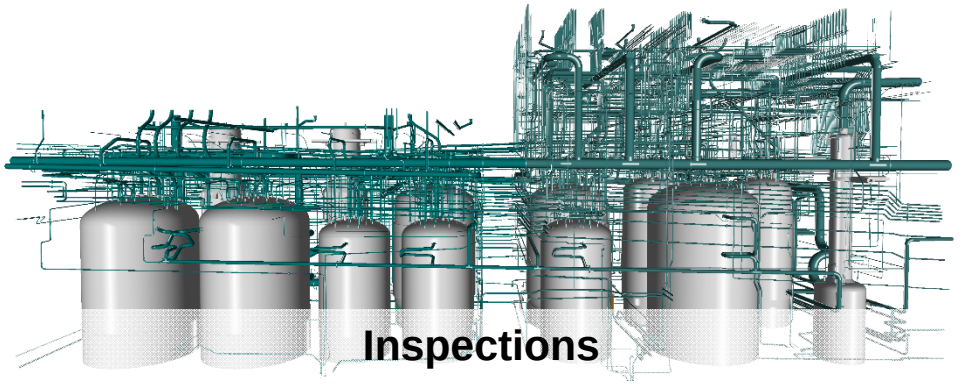
"World's largest radioactive chemical separations facility"

T-6 Resolution – Conceptual Plan (Optimization)

Optimizing:

- Safety
- Plant reliability
- Throughput
- Operability





Leveraging new advanced technologies