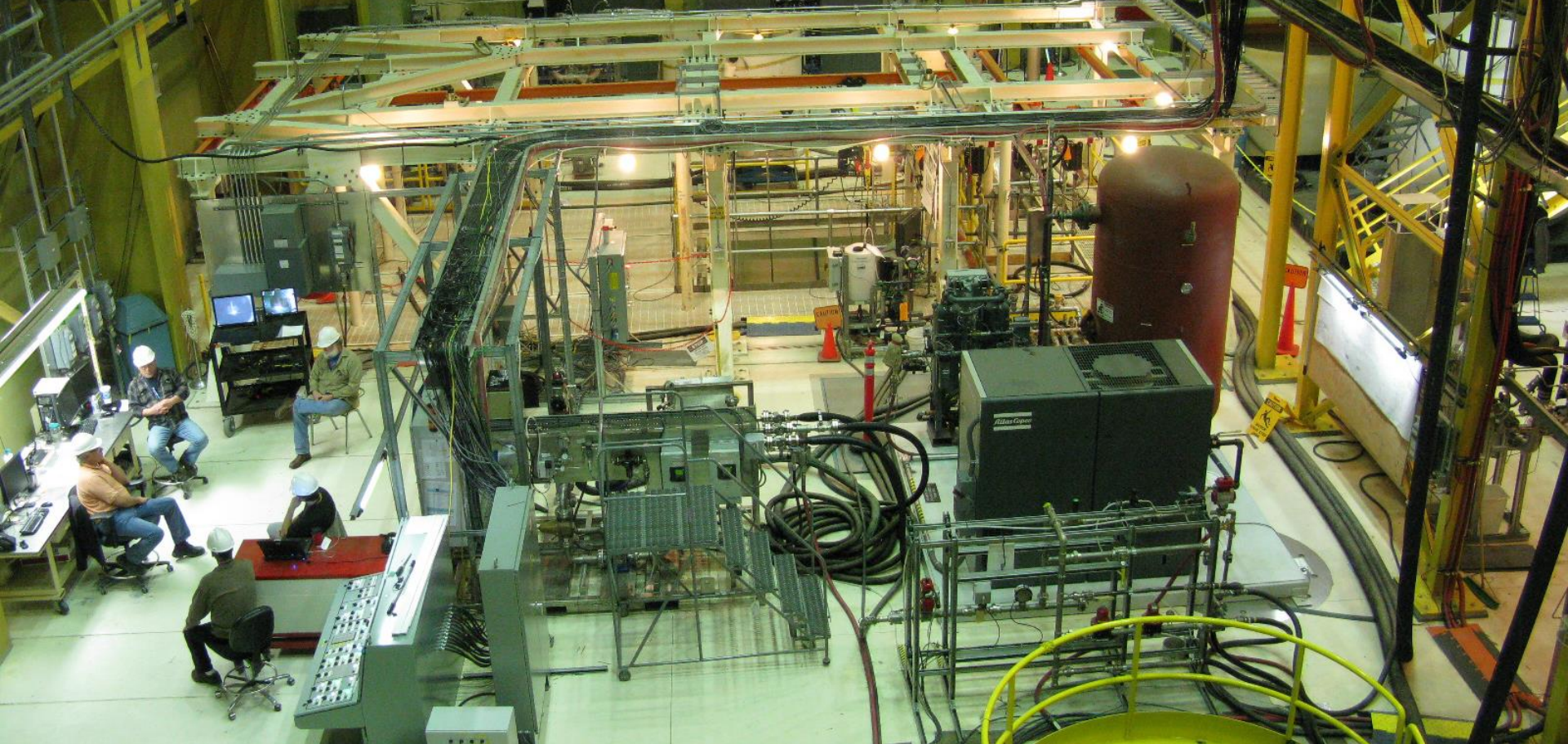




Development and Testing of a First-of-a-Kind Process to Support Commissioning a New Hazard Category 2 Nuclear Facility

Project Management Institute - Project of the Year Gala
Community Center, Richland, WA – February 23, 2017



U.S. DEPARTMENT OF
ENERGY

Sludge Treatment Project Mission

- Design, Build and Commission an Engineered System to:
 - Remove radioactive sludge from Hanford's K Basin
 - Safely transport sludge to interim storage



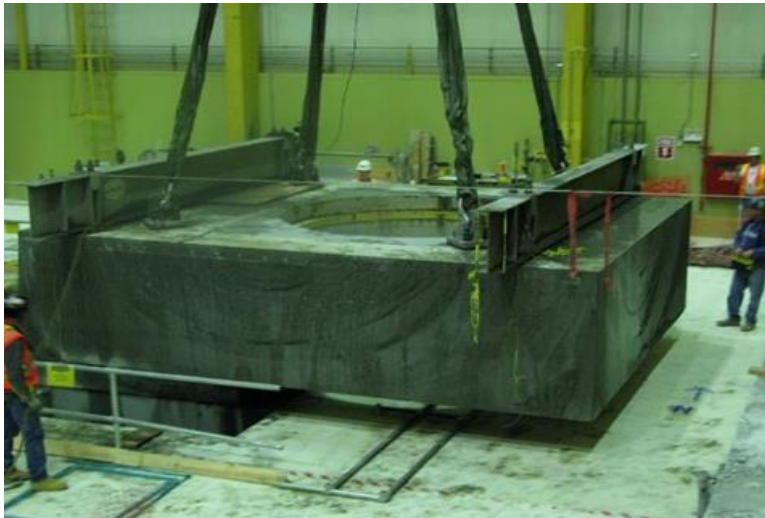
Managing the Project

- **Schedule** – Field Execution Schedule (FES) integrated and aligned with baseline schedule; reviewed weekly, re-sequenced to avoid impact to critical path
- **Cost** – Budget established by Federal Acquisition Regulation (FAR) compliant estimate and managed within company's Earned Value Management System (EVMS)
- **Risk** – Identified through CH2M Risk Management Plan (RMP); tracked via Risk Matrix/Register
- **Project Change Management** – Rigorous change management system used to ensure changes affecting the approved contract work scope, schedule, and budget baselines are effectively managed
- **Lessons Learned** – Resolving issues prior to field installation results in reduced cost and schedule



Progress toward Retrieving Highly Radioactive Sludge

Re-purposing the Maintenance and Storage Facility



Basin Versus MASF



Hardware Development, Cold Commissioning, Training

Hardware Development



Unexpected "sludge" accumulation discovered

Operator Training



Hands-on training opportunity

Cold Commissioning



*Confirmation of fit-up and functionality
of production equipment*

Benefit: Risk Reduction and Value

Testing at MASF:

- Corrected design errors
- Reduced worker radiation dose
- Confirmed operating procedures
- Trained operators and construction personnel on full scale equipment
- Reduced construction installation and project startup time

HUGE RISK REDUCTION & VALUE!

Cost Versus Value

- Overall Project cost: **\$308M**
- Re-purpose MASF as a test facility: **\$4M**
 - Test mockup (pool, test articles, etc.)
 - Infrastructure upgrades (e.g., power distribution)
- Tests to valid complex engineered design: **\$15M**
 - Confirmed design solution
 - Optimized process efficiency
 - Cold Commissioning: integrated production equipment fabricated by multiple sub-contractors

*Cost and schedule delay avoidance realized by using MASF:
PRICELESS!*

