



THE NATION'S

URANIUM PROCESSING FACILITY

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Practical Application of What We Have All Learned
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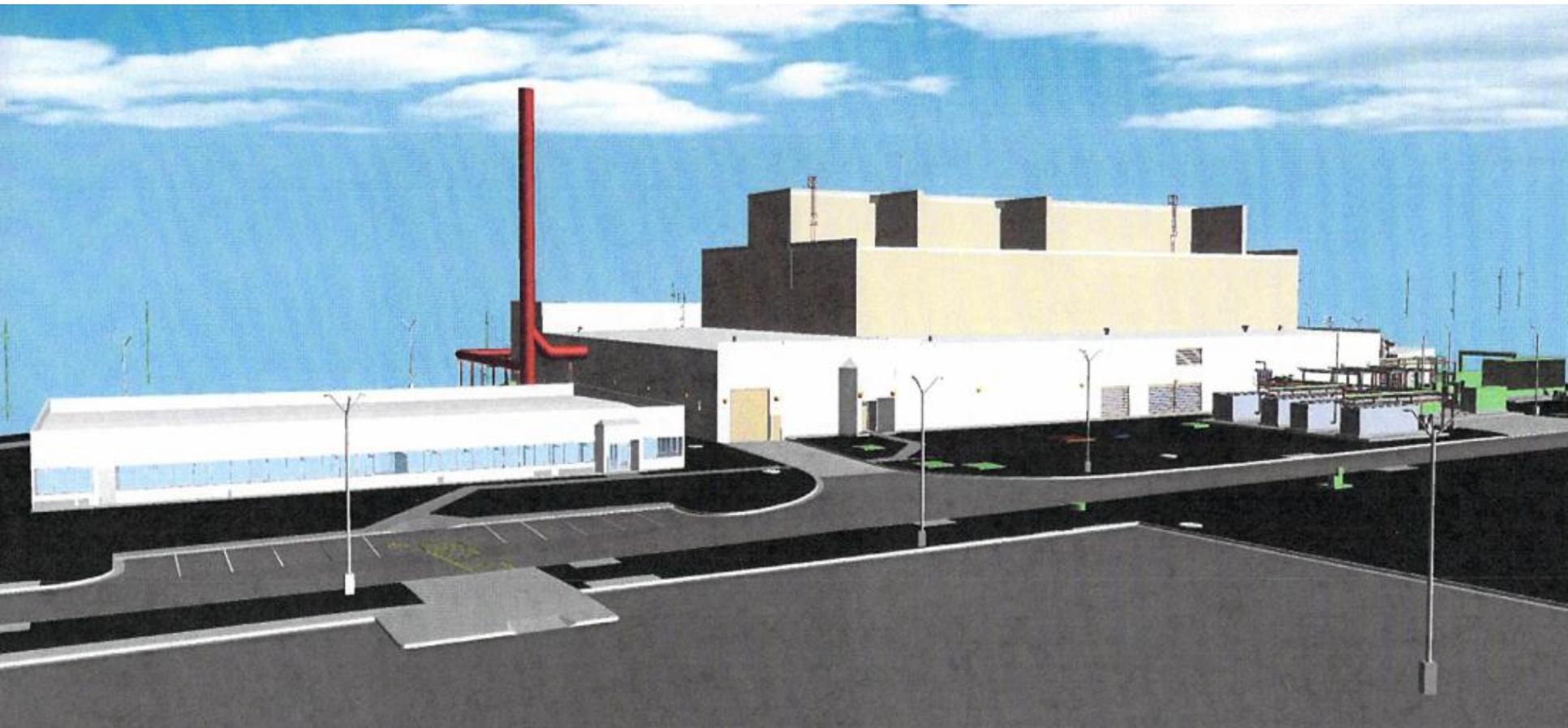
www.y12.doe.gov

Y-12 NATIONAL SECURITY COMPLEX

Salt Waste Processing Facility (SWPF)

Initial: \$900M

Current: \$1.8B



MOX Fuel Fabrication Facility

Initial: \$414M

Current: \$8B



Y-12 NATIONAL SECURITY COMPLEX

K-25 Site Demolition

Initial: \$880M

Current: \$1.4M



Hanford Waste Treatment and Immobilization Plant

Initial: \$4B

Current: \$12B +



We are not alone...

Project	Initial	Current
Olkiluoto Nuclear Power Plant	3.2B €	8.5B €
Flamanville Nuclear Power Plant	2.5B €	8.5B €
The Big Dig	\$2.8B	\$14.6B
Denver International Airport	\$2.5B	\$5.3B
Chunnel	2.6B £	4.8B £

We will succeed or fail together

- DOE hires the best companies in the world
- DOE's capital work is some of the most technically complex in the world
- Our goal is to get the right team involved from the start
- Our contractors have struggled with large, complex, first-of-a-kind projects

WHY?

Our Opportunity: The Uranium Processing Facility Project



Y-12 NATIONAL SECURITY COMPLEX

Building 9212



1945

Building 9212



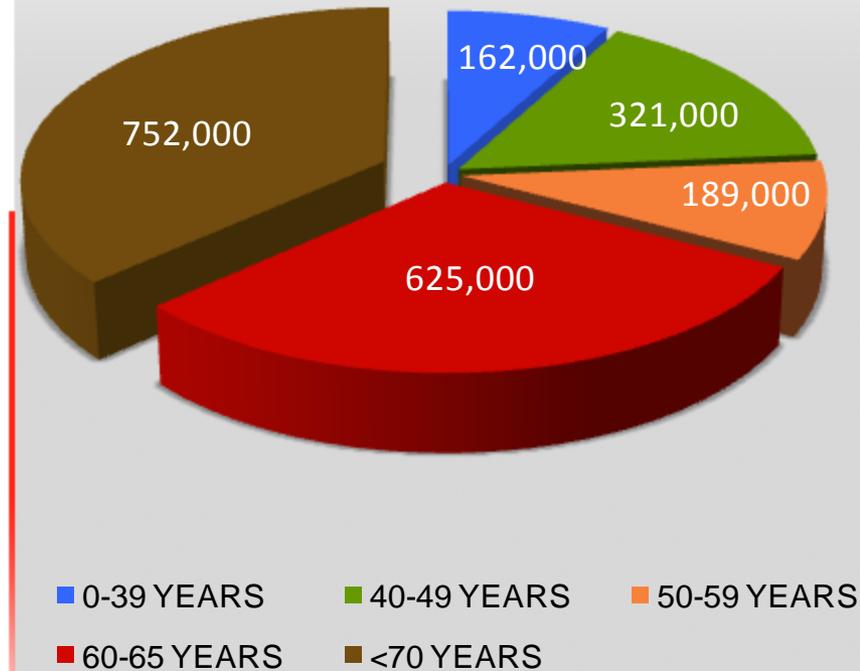
2014

Y-12 NATIONAL SECURITY COMPLEX

Y-12 Transformation — Why It's Important



Age of Mission-Critical Facilities by GSF





Y-12 NATIONAL SECURITY COMPLEX

Smart Parsing to Build Credibility

- Segmentation of scope
- Build a track record of successes and incrementally earn stakeholder confidence
- Celebration of individual subproject completions generates momentum and team morale
- Allows project to “work out the bugs” on low risk work

Develop Workforce Expertise and Culture Early-on

Consider broader use of corporate design centers

- Greater concentration of expertise
- Lower rate structure
- Unaffected by press/media coverage
- Tend to have better unit rate

Challenge the use of the “Indigenous Workforce”

- Seen as long-term assignments – design completion seen as a lay-off, not a celebration
- Come with preconceived ideas, training and culture
- Must establish sunset dates by position

Develop Workforce Expertise and Culture Early-on

Develop university and community college partnerships

- Technical staff
- Support staffs
- Construction
- Start-up and operations

Establish a formal on-boarding process and training

- Procedures
- Design Tools
- Management expectations

Improving Our Cost Estimating Capabilities

Often a perception that we only want the *should* cost not the *could* cost

Escalation rates are difficult to predict

- Long duration of DOE projects
- Construction labor trended down over the last 10 years
- Many bulk commodities are higher than projected
- Target a basket rate that covers up/down trends
- Scrutinize the escalation rate guidance

The Challenge in Controlling Requirements Generation

First Set Them

- Must improve our discipline
 - Challenging due to extended project durations
 - Evolving mission needs
- Better communication with program offices and end-users in early stages
- End-users must remain engaged

The Challenge in Controlling Requirements Generation

Then Control Them

Develop and Manage the Design Code of Record

- FPD Chairs a senior-level Change Control Board
- New departmental directives

Conduct comprehensive design reviews at pre-specified intervals

- Staff level interpretations
- Insidious creep of self-imposed requirements
- Essential or “Desire-ment”

Some Elements of Fast-tracking Still Exist

Balance/beware of risks from smart-parsing

- Long-lead procurements
- Site infrastructure work may be insufficient

False Sense of Urgency

- Contractors will push to get to field fastest
- Risks are high and not out-weighed by hotel cost

Design work out-paces the safety basis

- Safety basis will always be on or close to Critical Path
- Being out of phase has significant consequence

Revitalizing the Procurement and Supply Chains

Developed partnerships with TVA, State and local governments

Advance buy bulk and raw materials – don't take receipt

Developed program to train potential suppliers

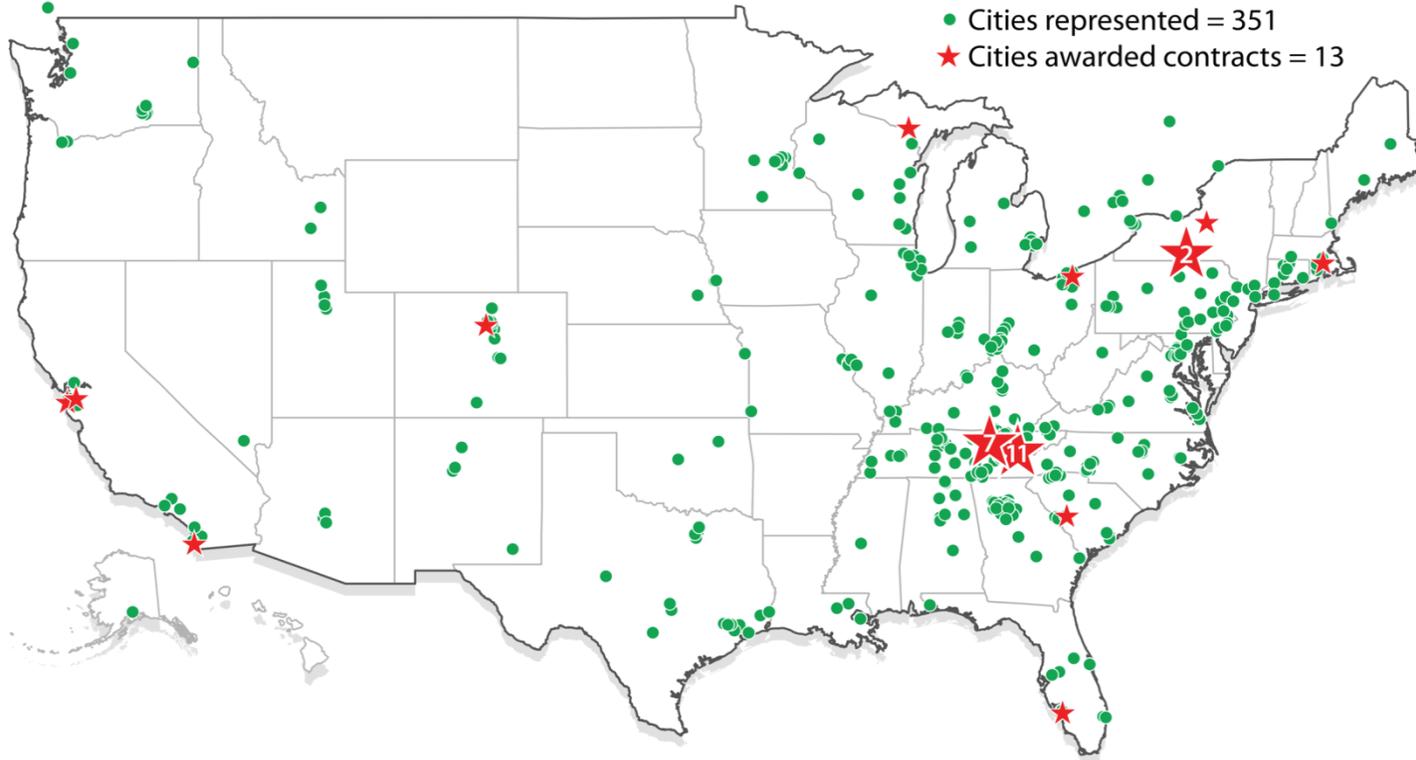
Managing procurement related risks

- Financial viability of long term vendor subcontracts
- Inefficiencies associated with “piece meal” approach to procurements over a long planning horizon

Revitalizing the Procurement and Supply Chains

Developed catalog of materials, consumables & equipment

Identified over 1000 potential vendors/suppliers



Contracting Strategies to Generate Competition

Smart-parsing facilitates use of multiple acquisition approaches

- Use of the USACE
- Federal direct managed contract
- Use of fixed-price and fixed unit rate
- Negotiation of site overhead rates

We are NOT limited to using the M&O Contractor