

## MOX Update



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## What is MOX?

- **Mission**
  - Convert 34 metric tons of weapon-grade plutonium to mixed oxide (MOX) fuel for use in commercial power reactors
- **Impact**
  - Removes many thousands of warheads from the nuclear arsenal
  - Eliminates \$500 million/year in security costs
  - Provides clean, carbon free energy that offsets over \$31.5 billion in imported oil costs at \$72/barrel

*MOX SAFETY FUELS THE FUTURE*



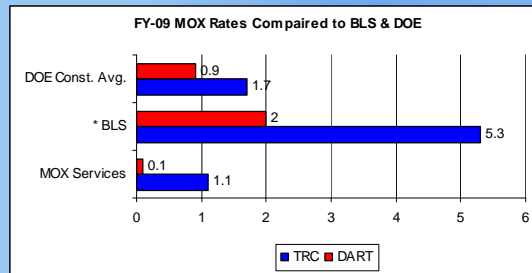
### MOX Project Team Values

- Quality
- Safety
- Personal Commitment
- Financial Responsibility
- Environmental Stewardship

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### MOX Safety Rates



- Had MOX performed at the national average for construction over the 6.4 million hours (project to date), just over 110 employees would have experienced a disabling injury.
- MOX experienced **only three** lost workday cases over this period of time

\*Bureau of Labor Statistics

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# Accomplishments in 2009

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## Material quantities installed:

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Office Space (Completed)	340,500 square feet
Office Space (In process)	72,000 square feet

Structural Concrete	63,963 cubic yards
(unreinforced)	51,366 cubic yards

Rebar	12,004 tons
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Embedded Plates	13,391 plates
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MOX Project Employment	1,639
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### Administration Bldg

57,000 ft<sup>2</sup>  
Office space for 230  
LEED facility



### Secure Warehouse

21,000 ft<sup>2</sup>  
Construction - storage and  
fabrication shops  
Operations - spare parts and  
storage supply  
LEED facility

## MFFF



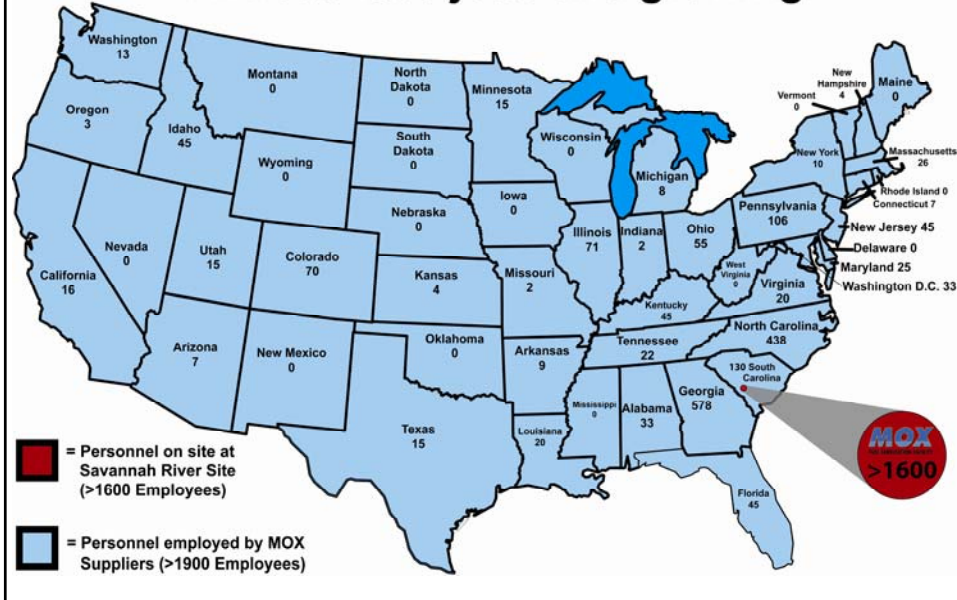
# Construction





# Construction



## MOX Employment in the United States Almost 4000 jobs and growing



### FY 2009 Subcontract awards

Total: \$361,809,828

- Large businesses: 45%
- Small businesses: 55%
- Received two gloveboxes and 38 tanks
- Awarded new contract for construction
- Awarded contract for heating, ventilation, and air conditioning (HVAC)
- Awarded contract for diesel generators



## Number of tanks purchased/received

- Total: 38 tanks  
- 11 Annular  
- 25 Conventional  
- 2 Slabs

## Number of tanks tested

- Total: 34 tanks  
- 10 Annular  
- 22 Conventional  
- 2 Slabs

## Number of tanks installed

- Total: 23 tanks  
- A total of 74 tanks to be installed

## Tanks

Conventional tank



Annular tank



Slab tank



## Tanks in Process Assembly Facility



## Testing of tanks and gloveboxes

- Lessons learned being applied to all future acquisitions and activities
- Testing conducted at MOX, in France and at vendor facilities
- Start up of machine shop (NQA-1 certified)
- First gloveboxes and assemblies tested



## Glovebox Testing



## Gloveboxes





# Performance Review

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## Performance Review

- Nuclear Regulatory Commission (NRC) Inspection Reports
  - Submitted Notice of Violation (NOV) responses including corrective actions and actions to preclude recurrence
    - Corrective actions ensure compliance with 10 Code of Federal Regulations (CFR) 70.61 performance requirements
    - Internal audits and surveillances being used to monitor effectiveness

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## Performance Review

- Design control
  - Corrective Action Program, NRC NOVs, and process improvements have resulted in
    - Improved processes
    - Strengthening of barriers
    - Enhanced training

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## Performance Review

- Improved quality barriers
  - Incorporated American Concrete Institute (ACI) tolerances into general notes drawing
  - Expanded MOX quality control (QC) checklists to clearly identify ACI tolerances
  - Incorporated quality checklists (similar to those used by QC) into subcontractor and construction procedures
  - Briefed subcontractor and construction engineering on use of quality checklists

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## Performance Review

- Improved quality barriers (cont'd.)
  - Training of subcontractor field supervision and management by MOX QC organization
  - Subcontractor and construction engineering checklists completed prior to release for final QC inspection
  - Revised QC process for extended inspections

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## Performance Review

- Vendor oversight – significant effort in 2009
  - 50,000+ Quality Assurance (QA) hours on supplier quality and receipt inspection
  - 14,000 engineering hours in vendor shops
  - Includes US and foreign suppliers
- Continued project focus in 2010

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## Performance Review

- Conclusion
  - Effectively implementing MOX Project Quality Assurance Plan
  - Constructed facility meets 10 CFR 70.61 performance requirements
  - Low significance issues are being corrected
    - Preclude future significant issues
    - Documentation consistent with constructed facility and regulatory requirements

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## Ahead in 2010

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## Ahead in 2010

- Workforce expected to reach 1,800
- 25,000 cubic yards structural concrete goal
- Begin construction on the Gabion wall
- Begin HVAC fabrication and installation
- Begin process pipe installation
- Delivery of all tanks: remaining two annular tanks, 22 slab tanks and 11 conventional tanks
- Begin construction of Construction Package 20 - Release 3B (completes facility)
- Testing of tanks and gloveboxes continue with ramp up on purchase of gloveboxes