



U.S. DEPARTMENT OF  
**ENERGY**

OFFICE OF  
**ENVIRONMENTAL  
MANAGEMENT**

# SEVEN LINES



## ONE PROJECT

Integration • Safety • Production

# DUF6 Operations

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## Mid-America Conversion Services is a joint venture that blends the strengths of its partners into a single cohesive team

**ATKINS**



**FLUOR**<sup>®</sup>

Program Management, Nuclear/Chemical Operations, Commercial Waste Processing Expertise

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Conversion Program Management, Engineering, Design Operations Experience,

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Efficient integration into the Paducah and Portsmouth sites

## DUF6 Conversion Project

- › DUF6 resulted from uranium enrichment process at three Gaseous Diffusion Plants (GDP) in Portsmouth, OH, Paducah, Kentucky, and Oak Ridge, Tennessee.
- › DUF6 placed in steel cylinders that accumulated over time in site storage yards.
- › Facilities constructed at Portsmouth and Paducah to convert DUF6 into aqueous hydrofluoric acid (HF) for recycle into commerce and stable uranium oxide for storage, beneficial reuse, or disposal.

**Approximately 800,000 total  
metric tons initial DOE inventory**



# DUF6 Conversion Project

## DUF6 Mission

- › Operate conversion facilities to safely convert DUF6 into a more stable chemical form (oxide) for beneficial reuse or disposal thus reducing immediate and future risk to workers and surrounding community.



## First 18 Months of Contract

- › PORTS had not operated in previous 2 ½ years
- › Significant training weaknesses identified at PORTS and PAD
- › Minor corrective maintenance work packages drove excessive shutdowns
- › Frequent safety occurrences and pauses
- › Plant Operational Uptime at 12%



# Improvement Initiatives

- › **Training - Fixed Highest Priority Issues Promptly**
  - Committed early to highly qualified workforce
  - "All Hands-On-Deck" approach - Everybody helped!
  - Longer Term improvements ongoing
- › **Engaged Workforce**
  - Safety Initiatives and Safety First advocacy
  - Job tasks and approaches in work packages
- › **Listened and Engaged Quickly, Decisively and Effectively**
  - Plant Manager directly involved
  - Short turnaround times
  - Communications
  - Formed "focused task teams" to address most urgent
    - › labor force played key roles on teams

# Improvement Initiatives...continued

## › Implemented Long-Term Plant Improvements

- Reduced worker time in hazard area
- Modifications made tasks easier to perform
- New equipment has higher reliability

## › Voluntary Protection Program participation

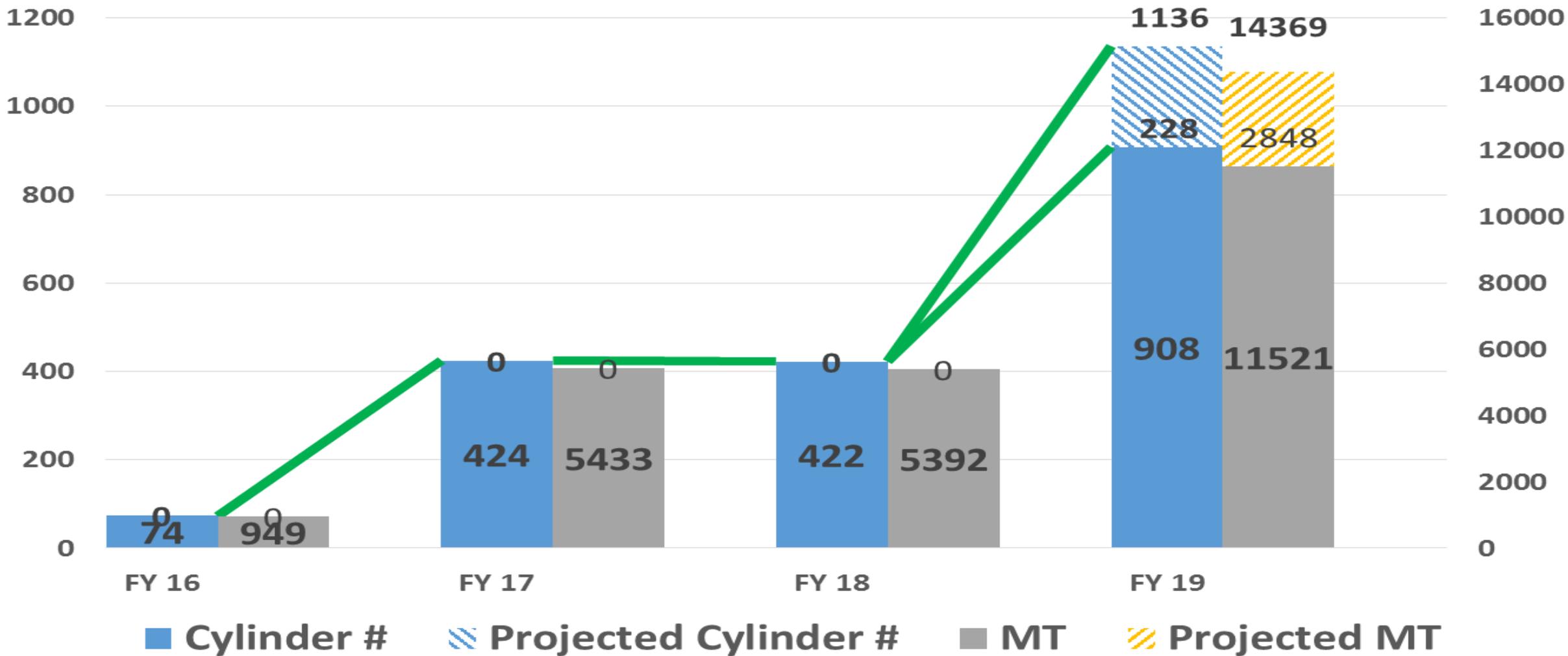
- Process of self-assessing was valuable
- Demonstrated to workforce we were committed to worker involvement
- Portsmouth achieved STAR Status!
  - › Paducah next
- Workforce is proud of where they are at - and want to do more

## Today

- › PORTS/PAD are fully operational
- › 7 Lines operating has been demonstrated
- › Most training deficiencies resolved and program improvements continue
- › Corrective maintenance packages similar to prior year can now be completed and lines returned operational within 48 hours (Rebound)
- › Demonstrated Plant Operational Uptime 70% over 6-month period



## Production - Cylinders/Tons Converted



## Closing Summary

- › Non-standard/defective cylinders are challenging and present project risk
- › DOE – MCS interface is good
- › Safety initiatives successful

