



Mixed Oxide Fuel Fabrication Facility (MFFF)





MFFF Project Overview



- **Baselined in 2008: \$4.86B and 2016 completion date**
- **Cost and schedule growth during construction cycle**
- **Latest Government estimate: \$17.2B and 2048 completion date**
- **Government Accountability Office found Government estimate reliable**
- **CB&I estimate is \$9.99 B; GAO found this estimate to be unreliable**
- **DOE committed to removing Plutonium from South Carolina as quickly as possible**
- **FY 2018 DOE Budget recommends pursuit of alternative approach**



MOX Cost Estimate

- **DOE and MOX Services cost estimates are significantly different**

Estimated By	Total Project Cost	Completion Date (CD-4)	Inflation (%)
DOE	\$17.2B	2048	4%
MOX Services	\$9.99B	2029	2%

- **DOE Estimate followed GAO Best Practices and is considered to be reliable – July 2017 GAO Draft Report**
 - “This estimate substantially met best practices and can be considered reliable...”
- **Primary Differences between the Estimates include**
 - Inflation Rates
 - Productivity rates
 - Project duration
 - Obsolescence
- **MOX Services latest estimate is similar to their 2012 estimate which GAO determined not to be reliable in their Feb. 2014 report**
 - “Contractors proposed estimate for the MOX facility did not meet most best practices for reliability”



Inflation



- **DOE follows GAO practices selecting an index that most closely matches the program to be estimated**
 - GAO specifically states the CPI is a poor indicator
 - DOE data conforms to several industry standards
 - MOX Services identified an appropriate index in their estimate update but chose the general CPI rate – 50% lower
- **Significant impacts will be borne by the Government**
 - GAO 2005 Shipbuilding report stated use of inappropriate indexes accounted for 30% of shipbuilding cost overruns
 - Navy changed their inflation policy to align with the methodology DOE is using

DOE followed GAO Best Practices, MOX Services did not



Productivity Rates

- **DOE follows GAO Cost Estimating Guide: “it is always better to use actual costs rather than estimates as data sources”**
 - DOE estimate based on actual productivity rates
 - DOE peer review indicated MOX Services rates are unrealistic and unachievable
- **MOX Services estimate used actual data for two years, then uses forecasted rates that have never been achieved**
 - Does not meet GAO practices which require the rationale behind the assumptions and historical data to back up any claims
 - Unit rates in latest estimate have not been achieved to date
 - Projected improvements starting in FY 18 are unreasonable

MOX Services productivity rates are optimistic and unachievable



Schedule

- **DOE performed sensitivity analysis – GAO Best Practice**
- **DOE estimate considers inflation effects during the construction period**
 - Perform less work each year with the same budget creating schedule extensions
- **DOE estimate considers risk in a time phased manner**
 - As risks occur, planned work is delayed and schedule increases
- **MOX services did not include time phasing of risks or perform schedule sensitivity analysis**
- **USACE contract review determined GAO and Defense Contract Management Agency best practices not followed**
 - Not resource loaded
 - Incomplete schedule logic
 - Not correlated to the Work Breakdown structure or funding constraints
- **MOX services schedule actually finishes in 2031 not 2029**

MOX Services schedule portrays optimistic results – USACE report



Obsolescence

- **Extended project duration creates high likelihood of equipment problems at start-up**
 - High tech electronics operate this plant
 - 20-35 years in a sub-optimal environment
 - Used on previous estimates with significant schedule growth
 - Major construction industry partners agree
- **DOE estimate: \$500 Million**
- **MOX Services has no allowance**

DOE estimate includes a reasonable assumption for obsolescence