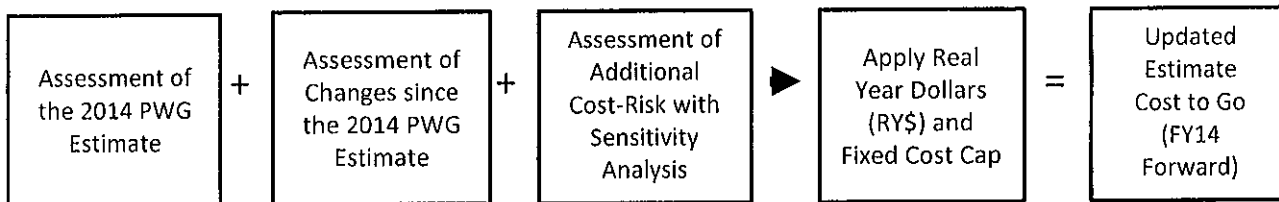


Aerospace Independent Assessment April 22, 2015

Background:

- In April 2014, DOE issued its preliminary analysis of plutonium disposition options, i.e. the Plutonium Working Group (PWG) April 2014 options analysis, which included five options
- The Consolidated and Further Continuing Appropriations Act, 2015 requires DOE submit an independently verified lifecycle cost estimate of two of the five options to dispose of surplus plutonium: the MOX fuel option and the downblend and disposal option.
- DOE tasked Aerospace Corporation, a U.S. Air Force Federally Funded Research and Development Center (FFRDC), to perform the assessment.
- The following is a short summary of Aerospace's approach and findings.

Approach Used by Aerospace:



Summary of Aerospace Assessment:

- The PWG April 2014 cost estimates developed for the program elements were done in a manner consistent with best practices for grass-roots and analogy-based cost estimating.
- The PWG's individual program element cost estimates were appropriately integrated into the program/project estimate.
- The PWG underestimated program level contingency.

	Plutonium Working Group (PWG) 2014 Report Estimate	Assessment of Changes Since PWG 2014 Report Estimate	Assessment of Cost-Risk Drivers Through Sensitivity Analysis (85th Percentile Confidence)	
	Cost-to-Go FY14 Forward	+ Changes	+ Cost Risk = Updated Estimate	
			500M RY\$/Yr Cap on Construction/Capital	~375M RY\$/Yr Cap on Construction/Capital
Option 1: MOX Fuel	25.1B RY\$ 18.0B FY14\$	30.7 B RY\$ 21.5B FY14\$	47.5B RY\$ FY 2044 (1) 27.0B FY14\$	110.4B RY\$ (2) 29.8B FY14\$
Option 4: Downblend	10.3B RY\$ 8.2B FY14\$	13.2 B RY\$ 10.1 B FY14\$	17.2B RY\$ 13.1B FY14\$	

FY 2100

(1) 500M RY\$/Yr cost cap on construction/capital is based on 2014 PWG estimate assumption on annual funding.

(2) 375M RY\$/Yr represents an estimate of the minimum annual funding required to complete MFFF construction.

Note: MOX Fuel Option: Costs for MFFF shutdown to a safe state at end of operations are included in this assessment; however, this study did not assess MFFF decommission, demolition (D&D) and return to green field.

Note: Differences leading up to the PWG numbers referenced by Aerospace

- Estimates on the chart are "To Go" estimates; MFFF prior year expenditure ~\$4 B.
- Option 4 Downblend in PWG report listed at 8.78 B RY\$ vs 10.3 B RY\$ - PWG; Did not include MFFF and WSB suspension and shut down cost in the "Cost To Go" estimate but were included in the total LCC numbers of the PWG Report