



# Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-468



## **B61 Mod 12 Life Extension Program Tailkit Assembly (B61 Mod 12 LEP TKA)**

As of FY 2016 President's Budget

Defense Acquisition Management  
Information Retrieval  
(DAMIR)

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## Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance  
ACAT - Acquisition Category  
ADM - Acquisition Decision Memorandum  
APB - Acquisition Program Baseline  
APPN - Appropriation  
APUC - Average Procurement Unit Cost  
\$B - Billions of Dollars  
BA - Budget Authority/Budget Activity  
Blk - Block  
BY - Base Year  
CAPE - Cost Assessment and Program Evaluation  
CARD - Cost Analysis Requirements Description  
CDD - Capability Development Document  
CLIN - Contract Line Item Number  
CPD - Capability Production Document  
CY - Calendar Year  
DAB - Defense Acquisition Board  
DAE - Defense Acquisition Executive  
DAMIR - Defense Acquisition Management Information Retrieval  
DoD - Department of Defense  
DSN - Defense Switched Network  
EMD - Engineering and Manufacturing Development  
EVM - Earned Value Management  
FOC - Full Operational Capability  
FMS - Foreign Military Sales  
FRP - Full Rate Production  
FY - Fiscal Year  
FYDP - Future Years Defense Program  
ICE - Independent Cost Estimate  
IOC - Initial Operational Capability  
Inc - Increment  
JROC - Joint Requirements Oversight Council  
\$K - Thousands of Dollars  
KPP - Key Performance Parameter  
LRIP - Low Rate Initial Production  
\$M - Millions of Dollars  
MDA - Milestone Decision Authority  
MDAP - Major Defense Acquisition Program  
MILCON - Military Construction  
N/A - Not Applicable  
O&M - Operations and Maintenance  
ORD - Operational Requirements Document  
OSD - Office of the Secretary of Defense  
O&S - Operating and Support  
PAUC - Program Acquisition Unit Cost

PB - President's Budget  
PE - Program Element  
PEO - Program Executive Officer  
PM - Program Manager  
POE - Program Office Estimate  
RDT&E - Research, Development, Test, and Evaluation  
SAR - Selected Acquisition Report  
SCP - Service Cost Position  
TBD - To Be Determined  
TY - Then Year  
UCR - Unit Cost Reporting  
U.S. - United States  
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

## Program Information

**Program Name**

B61 Mod 12 Life Extension Program Tailkit Assembly (B61 Mod 12 LEP TKA)

**DoD Component**

Air Force

## Responsible Office

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**Date Assigned:** January 1, 2012

## References

**SAR Baseline (Development Estimate)**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated December 14, 2012

**Approved APB**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated December 14, 2012

## Mission and Description

The B61 Mod 12 Life Extension Program will consolidate Modifications 3, 4, 7 and 10 into a single modification (B61-12) while extending the system's service life. B61-12 is an air-delivered nuclear gravity weapon providing nuclear capability on existing legacy aircraft and dual capable aircraft. The single variant will operate in two modes: System 1 (analog/ballistic mode) and System 2 (digital/guided mode).

The B61 Mod 12 Life Extension Program Tailkit Assembly (B61 Mod 12 LEP TKA) (herein referred to as B61-12 TKA) is the enabler for realizing System 2. This is an Air Force led, joint DoD/Department of Energy (DOE) program managed through the B61 LEP Project Officers Group and its subgroups.

The DoD responsibility is accomplished through a partnership between the Air Force Life Cycle Management Center (AFLCMC) and Air Force Nuclear Weapons Center (AFNWC). In accordance with the Air Force Materiel Command mission assignment memorandum (dated February 11, 2011) and the National Nuclear Security Administration (NNSA)/AFNWC Memorandum of Understanding (dated June 28, 2012), the AFLCMC is responsible for the development, acquisition, and delivery of a guided tailkit assembly and the AFNWC is responsible for all-up-round technical integration, system qualification, and fielding of the B61-12 variant.

Additionally, the AFNWC has overall responsibility for B61-12 programmatic integration and operational safety, suitability, and effectiveness.

The DOE/NNSA is responsible for the B61-12 Bomb Assembly and all aspects of the nuclear warhead, including design, manufacture, and portions of sustainment. Funding of these activities will be shared between the DoD and DOE.

## Executive Summary

The B61-12 TKA is an Air Force led ACAT ID program in the EMD phase.

In February 2012, the Nuclear Weapons Council, chaired by the USD(AT&L), authorized the B61 Life Extension Program to progress to Phase 6.3 of the nuclear systems life cycle as defined by DoD Instruction 5030.55. This major milestone cleared the path for the National Nuclear Security Administration to begin Engineering Development for the B61-12 warhead refurbishment effort.

In April 2012, the USD(AT&L) directed the B61-12 TKA program office to proceed to a Milestone B decision based on the maturity of the required technology. On November 19, 2012, the Department of the Air Force was granted approval of Milestone B and authorization to enter the EMD phase.

In November 2012, in conjunction with the Milestone B decision, certification was made pursuant to section 2366b of title 10, United States Code. Based on program maturity, the B61-12 TKA was deemed ready to enter the EMD phase; however, the USD(AT&L) waived four of the 2366b provisions. On July 7, 2014, the program satisfied two of the four waived provisions, (a)(1)(B) and (a)(1)(D), on the basis that the program was fully funded in the future years defense program associated with the FY 2015 PB. On November 5, 2014, the program satisfied the requirement for provision, (a)(2) following completion of the Preliminary Design Review (PDR) and post-PDR assessment (the program demonstrated a high likelihood of accomplishing its intended mission). Based on the maturity of the required technology, the USD(AT&L) determined that a Technology Readiness Assessment for the B61-12 TKA is not needed; however, the Assistant Secretary of Defense for Research and Engineering will conduct an independent review and assessment to satisfy the certification requirement for the fourth waived provision, (a)(3)(D). This review will be based upon the Point of Departure Design, test data from a guided test flight, and the change point analysis between the Point of Departure Design and guided test configuration. The Department will continue to review the B61-12 TKA program at least annually until this last certification component is satisfied.

On November 27, 2012, the B61-12 TKA program office awarded a Cost Plus Incentive Fee contract to Boeing for EMD Phase 1 with priced options for EMD Phase 2 and a Technical Data Package. In addition, the contract contains production lot design-to-unit-cost goals, which are tied to performance incentives for the production phase of the program. Finally, the APB was approved on December 14, 2012. Major risks include concurrent development activities being conducted by the DoD for the B61-12 TKA and the Department of Energy for the Bomb Assembly. Therefore, threshold dates are one year beyond objective dates in the APB for Milestone C, First TKA Production Delivery, and FRP Decision to mitigate the risks associated with concurrent development activities.

In November 2013, the B61-12 TKA program office conducted a PDR and closed identified action items in July 2014. The program office successfully completed F-15E , F-16 and B-2A Vibration Fly Around (VFA)/Instrumented Measurement Vehicle (IMV) flights in July, August, and December 2014, respectively.

There are no significant software-related issues with this program at this time.

## Threshold Breaches

### APB Breaches

<b>Schedule</b>		<input type="checkbox"/>
<b>Performance</b>		<input type="checkbox"/>
<b>Cost</b>	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
<b>O&amp;S Cost</b>		<input type="checkbox"/>
<b>Unit Cost</b>	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

### Nunn-McCurdy Breaches

#### Current UCR Baseline

PAUC	None
APUC	None

#### Original UCR Baseline

PAUC	None
APUC	None

### Schedule



Schedule Events				
Events	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate
Milestone B	Nov 2012	Nov 2012	Nov 2012	Nov 2012
Preliminary Design Review	Jan 2014	Jan 2014	Jul 2014	Jul 2014
Critical Design Review	Oct 2015	Oct 2015	Apr 2016	Oct 2015
First TKA Developmental Test Flight	Nov 2015	Nov 2015	May 2016	Nov 2015
Milestone C	Apr 2018	Apr 2018	Apr 2019	Apr 2018
First TKA Production Delivery	Jun 2019	Jun 2019	Jun 2020	Jun 2019
Full Rate Production Decision	Sep 2019	Sep 2019	Sep 2020	Sep 2019

(Ch-1)

#### Change Explanations

(Ch-1) The current estimate for PDR was updated to reflect the actual PDR completion date.

#### Notes

Risks associated with concurrent development activities being conducted by the DoD and the Department Of Energy (DOE) drive threshold dates that are one year beyond objective dates for Milestone C and Full Rate Production Decision.

Risks associated with concurrent development activities being conducted by the DoD and the DOE drive a threshold date that is one year beyond the objective date for First Tailkit Assembly (TKA) Production Delivery. Delivery of the first production unit (First TKA Production Delivery) is used as a surrogate for IOC; DOE is responsible for production integration of the Bomb Assembly/TKA and subsequent all-up-round deliveries to the field for IOC.

**Acronyms and Abbreviations**

PDR - Preliminary Design Review

## Performance

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Development Objective/Threshold	Demonstrated Performance	Current Estimate	
<b>Aircraft Integration (KPP)</b>				
B61-12 TKA, when mated to the B61-12 BA, must be integrated on the F-35A and LRS-B for System 2 guided delivery; F-16C/D (Blk 40-52), F-16 MLU, and PA-200 for System 1 ballistic delivery.	B61-12 TKA, when mated to the B61-12 BA, must be integrated on the F-35A and LRS-B for System 2 guided delivery; F-16C/D (Blk 40-52), F-16 MLU, and PA-200 for System 1 ballistic delivery.	B61-12 TKA, when mated to the B61-12 BA, must be integrated on B-2A and F-15E aircraft for System 2 guided delivery.	TBD	B61-12 TKA, when mated to the B61-12 BA, must be integrated on the B-2A, F-15E, F-35A and LRS-B for System 2 guided delivery; F-16C/D (Blk 40-52), F-16 MLU, and PA-200 for System 1 ballistic delivery. (Ch-1)
<b>WS3 Vault Compatibility (KPP)</b>				
B61-12 TKA, while mated to the B61-12 BA, must permit the storage of four (4) B61-12 AURs in a single WS3 vault.	B61-12 TKA, while mated to the B61-12 BA, must permit the storage of four (4) B61-12 AURs in a single WS3 vault.	B61-12 TKA, while mated to the B61-12 BA, must permit the storage of four (4) B61-12 AURs in a single WS3 vault.	Verified by fit checks conducted at Sheppard AFB on April 9, 2013.	B61-12 TKA, while mated to the B61-12 BA, must permit the storage of four (4) B61-12 AURs in a single WS3 vault.
<b>HEMP Survivability (KSA)</b>				
B61 TKA achieves the accuracy KPP after exposure to the HEMP environment.	B61 TKA achieves the accuracy KPP after exposure to the HEMP environment.	B61 TKA achieves the accuracy KPP after exposure to the HEMP environment.	TBD	B61 TKA achieves the accuracy KPP after exposure to the HEMP environment.

Classified Performance information is provided in the classified annex to this submission.

### Requirements Reference

Capability Development Document (CDD) dated September 20, 2012

### Change Explanations

(Ch-1) The current estimate for Aircraft Integration was revised to incorporate meeting both the threshold and objective requirements.

### Notes

The demonstrated performance for WS3 Vault Compatibility was updated to reflect actual performance.

**Acronyms and Abbreviations**

AFB - Air Force Base  
AUR - All-Up-Round  
BA - Bomb Assembly  
Blk - Block  
HEMP - High Altitude Electro-Magnetic Pulse  
KPP - Key Performance Parameter  
KSA - Key System Attribute  
LRS-B - Long Range Strike-Bomber  
MLU - Mid-Life Upgrade  
TKA - Tailkit Assembly  
WS3 - Weapon Storage and Security System

## Track to Budget

### RDT&E

Appn	BA	PE
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Air Force 3600 05 0101125F

Project	Name
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657007 B61 LEP

### Procurement

Appn	BA	PE
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Air Force 3011 01 0101125F

Line Item	Name
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354040 B61

## Cost and Funding

### Cost Summary

Total Acquisition Cost							
Appropriation	BY 2012 \$M			BY 2012 \$M	TY \$M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	1007.6	1007.6	1108.4	984.1	1090.7	1090.7	1064.1
Procurement	314.0	314.0	345.4	313.5	361.1	361.1	357.7
Flyaway	--	--	--	313.5	--	--	357.7
Recurring	--	--	--	313.5	--	--	357.7
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	0.0	--	--	0.0
Other Support	--	--	--	0.0	--	--	0.0
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	1321.6	1321.6	N/A	1297.6	1451.8	1451.8	1421.8

#### Confidence Level

Confidence Level of cost estimate for current APB: 56%

The confidence level for the Engineering and Manufacturing Development (EMD) total estimate is 56%; the confidence level for the Procurement estimate is 51%; and the confidence level for the Operating and Support (O&S) estimate is 50%.

The Acquisition Program Baseline (APB) costs reflect the Service Cost Position (SCP), which was approved on October 19, 2012. The SCP aims to provide sufficient resources to execute the program under normal conditions, encountering average levels of technical, schedule, and programmatic risk and external interference. It is consistent with average resource expenditures on historical efforts of similar size, scope, and complexity. Therefore, the approved SCP represents a mean cost estimate.

Total Quantity			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E		77	77
Procurement		813	813
Total		890	890

## Cost and Funding

### Funding Summary

Appropriation Summary									
FY 2016 President's Budget / December 2014 SAR (TY\$ M)									
Appropriation	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
RDT&E	177.0	168.4	212.1	206.3	152.4	99.7	48.2	0.0	1064.1
Procurement	0.0	0.0	0.0	0.0	146.6	208.6	2.5	0.0	357.7
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2016 Total	177.0	168.4	212.1	206.3	299.0	308.3	50.7	0.0	1421.8
PB 2015 Total	177.0	198.4	213.5	207.9	301.6	308.0	45.4	0.0	1451.8
Delta	0.0	-30.0	-1.4	-1.6	-2.6	0.3	5.3	0.0	-30.0

#### Funding Notes

In RDT&E, the total reduction of \$26.6M will be addressed in a future budget cycle. The SCP is \$1,090.7M in TY dollars, but will be revisited based on retired risk and realized savings.

In Procurement, the total reduction of \$3.4M will be addressed in a future budget cycle. The SCP is \$361.1M in TY dollars, but will be revisited based on retired risk and realized savings.

Quantity Summary										
FY 2016 President's Budget / December 2014 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Development	77	0	0	0	0	0	0	0	0	77
Production	0	0	0	0	0	250	563	0	0	813
PB 2016 Total	77	0	0	0	0	250	563	0	0	890
PB 2015 Total	77	0	0	0	0	250	563	0	0	890
Delta	0	0	0	0	0	0	0	0	0	0

## Cost and Funding

### Annual Funding By Appropriation

Annual Funding							
3600   RDT&E   Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2012	--	--	--	--	--	--	81.6
2013	--	--	--	--	--	--	62.4
2014	--	--	--	--	--	--	33.0
2015	--	--	--	--	--	--	168.4
2016	--	--	--	--	--	--	212.1
2017	--	--	--	--	--	--	206.3
2018	--	--	--	--	--	--	152.4
2019	--	--	--	--	--	--	99.7
2020	--	--	--	--	--	--	48.2
Subtotal	77	--	--	--	--	--	1064.1

Annual Funding 3600   RDT&E   Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 2012 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2012	--	--	--	--	--	--	80.8
2013	--	--	--	--	--	--	60.7
2014	--	--	--	--	--	--	31.6
2015	--	--	--	--	--	--	159.4
2016	--	--	--	--	--	--	197.4
2017	--	--	--	--	--	--	188.5
2018	--	--	--	--	--	--	136.6
2019	--	--	--	--	--	--	87.6
2020	--	--	--	--	--	--	41.5
Subtotal	77	--	--	--	--	--	984.1

Annual Funding							
3011   Procurement   Procurement of Ammunition, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2018	250	146.6	--	--	146.6	--	146.6
2019	563	208.6	--	--	208.6	--	208.6
2020	--	--	2.5	--	2.5	--	2.5
Subtotal	813	355.2	2.5	--	357.7	--	357.7

Annual Funding 3011   Procurement   Procurement of Ammunition, Air Force							
Fiscal Year	Quantity	BY 2012 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2018	250	129.9	--	--	129.9	--	129.9
2019	563	181.5	--	--	181.5	--	181.5
2020	--	--	2.1	--	2.1	--	2.1
Subtotal	813	311.4	2.1	--	313.5	--	313.5

## Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
<b>Approval Date</b>	11/19/2012	11/19/2012
<b>Approved Quantity</b>	250	250
<b>Reference</b>	Milestone B ADM	Milestone B ADM
<b>Start Year</b>	2018	2018
<b>End Year</b>	2019	2019

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the low production run and the need to synchronize DoD deliveries with the Department of Energy B61-12 Bomb Assembly program.

## **Foreign Military Sales**

None

## **Nuclear Costs**

Nuclear costs related to the B61-12 TKA program are captured in the Department of Energy Bomb Assembly SAR.

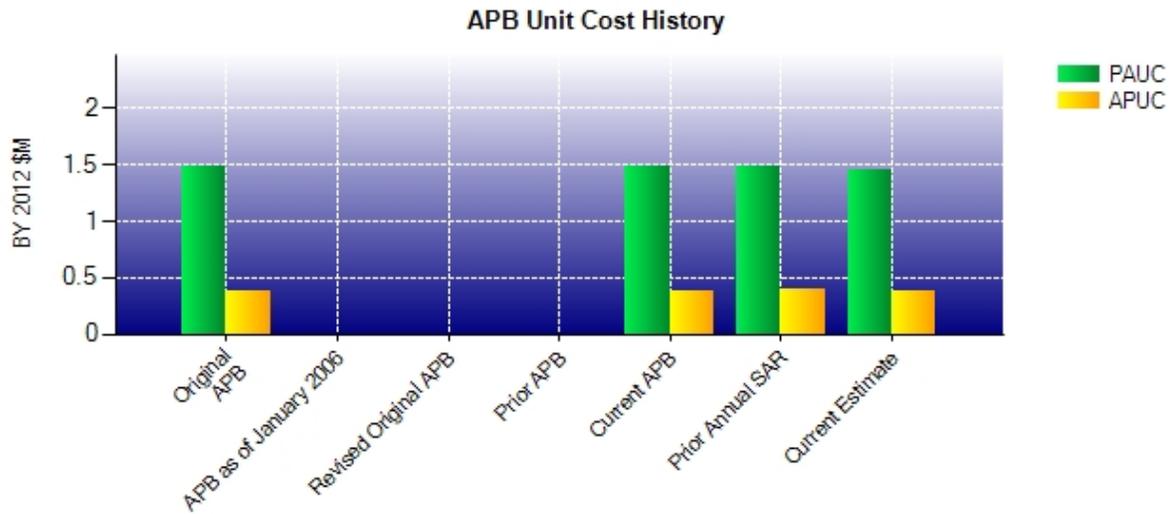
## Unit Cost

### Unit Cost Report

Item	BY 2012 \$M	BY 2012 \$M	% Change
	Current UCR Baseline (Dec 2012 APB)	Current Estimate (Dec 2014 SAR)	
<b>Program Acquisition Unit Cost</b>			
Cost	1321.6	1297.6	
Quantity	890	890	
Item	1.485	1.458	-1.82
<b>Average Procurement Unit Cost</b>			
Cost	314.0	313.5	
Quantity	813	813	
Unit Cost	0.386	0.386	0.00

Item	BY 2012 \$M	BY 2012 \$M	% Change
	Original UCR Baseline (Dec 2012 APB)	Current Estimate (Dec 2014 SAR)	
<b>Program Acquisition Unit Cost</b>			
Cost	1321.6	1297.6	
Quantity	890	890	
Unit Cost	1.485	1.458	-1.82
<b>Average Procurement Unit Cost</b>			
Cost	314.0	313.5	
Quantity	813	813	
Unit Cost	0.386	0.386	0.00

**Unit Cost History**



Item	Date	BY 2012 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Dec 2012	1.485	0.386	1.631	0.444
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	Dec 2012	1.485	0.386	1.631	0.444
Prior Annual SAR	Dec 2013	1.480	0.389	1.631	0.444
Current Estimate	Dec 2014	1.458	0.386	1.598	0.440

**SAR Unit Cost History**

Current SAR Baseline to Current Estimate (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
1.631	-0.010	0.000	0.000	0.000	-0.023	0.000	0.000	-0.033	1.598

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.444	-0.003	0.000	0.000	0.000	-0.001	0.000	0.000	-0.004	0.440

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	Nov 2012	N/A	Nov 2012
Milestone C	N/A	Apr 2018	N/A	Apr 2018
IOC	N/A	Jun 2019	N/A	N/A
Total Cost (TY \$M)	N/A	1451.8	N/A	1421.8
Total Quantity	N/A	890	N/A	890
PAUC	N/A	1.631	N/A	1.598

First Tailkit Assembly (TKA) Production Delivery is used as a surrogate for IOC; the Department of Energy is responsible for production integration of the Bomb Assembly/TKA and subsequent all-up-round deliveries to the field for IOC.

## Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	1090.7	361.1	--	1451.8
Previous Changes				
Economic	+3.2	-2.6	--	+0.6
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-3.2	+2.6	--	-0.6
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	-9.6	--	--	-9.6
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-17.0	-3.4	--	-20.4
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-26.6	-3.4	--	-30.0
Total Changes	-26.6	-3.4	--	-30.0
CE - Cost Variance	1064.1	357.7	--	1421.8
CE - Cost & Funding	1064.1	357.7	--	1421.8

Summary BY 2012 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	1007.6	314.0	--	1321.6
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-6.5	+2.5	--	-4.0
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-6.5	+2.5	--	-4.0
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-17.0	-3.0	--	-20.0
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-17.0	-3.0	--	-20.0
Total Changes	-23.5	-0.5	--	-24.0
CE - Cost Variance	984.1	313.5	--	1297.6
CE - Cost & Funding	984.1	313.5	--	1297.6

Previous Estimate: December 2013

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-9.6
Revised estimate to reflect the application of new outyear escalation indices. (Estimating)	+10.0	+11.5
Revised estimate due to Congressional reduction. (Estimating)	-28.4	-30.0
Adjustment for current and prior escalation. (Estimating)	+1.4	+1.5
RDT&E Subtotal	-17.0	-26.6

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised estimate due to Air Force-wide funding adjustments. (Estimating)	-3.0	-3.4
Procurement Subtotal	-3.0	-3.4

## Contracts

### Contract Identification

**Appropriation:** RDT&E  
**Contract Name:** B61-12 TKA EMD Phase 1  
**Contractor:** Boeing  
**Contractor Location:** 2600 N 3rd Street  
 St. Charles, MO 63301  
**Contract Number:** FA2103-13-C-0006  
**Contract Type:** Cost Plus Incentive Fee (CPIF)  
**Award Date:** November 27, 2012  
**Definitization Date:** November 27, 2012

### Contract Price

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
178.6	N/A	N/A	185.0	N/A	N/A	185.0	186.8

### Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to additional modifications post initial contract award.

### Contract Variance

Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/18/2014)	+3.0	-4.8
Previous Cumulative Variances	+5.5	-0.9
Net Change	-2.5	-3.9

### Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to increased cost in performance of work packages for the Mission Computer (MC); environmental testing; munitions software; launch system Integration, Assembly, Test, and Checkout (IAT&C); and guidance algorithms.

The unfavorable net change in the schedule variance is due to delays regarding the Inertial Measurement Unit; actuators; munitions IAT&C; Development Test and Evaluation; and MC.

## Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	77	0.00%
Production	0	0	813	0.00%
Total Program Quantity Delivered	0	0	890	0.00%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	1421.8	Years Appropriated	4
Expended to Date	158.4	Percent Years Appropriated	44.44%
Percent Expended	11.14%	Appropriated to Date	345.4
Total Funding Years	9	Percent Appropriated	24.29%

The above data is current as of January 31, 2015.

## Operating and Support Cost

### Cost Estimate Details

<b>Date of Estimate:</b>	December 31, 2014
<b>Source of Estimate:</b>	SCP
<b>Quantity to Sustain:</b>	824
<b>Unit of Measure:</b>	Tailkit Assembly (TKA)
<b>Service Life per Unit:</b>	20.00 Years
<b>Fiscal Years in Service:</b>	FY 2019 - FY 2040

- Unit of Measure = Tailkit Assembly (TKA)
- Total Quantity = 824
  - Production quantity: 813
  - Trainers in RDT&E quantity: 11
- 77 units utilized in RDT&E are expended; not sustained
- Estimate assumes wooden round -- Production Lifetime Sparing Concept
- Contractor services retained for failure analysis, test support, logistical support, destructive testing, etc.
- Projected contractor labor rates are through FY 2040
  - Used 4% increase in base pay rate to account for differences in contractor inflation versus OSD published inflation
- No nuclear certification required for Tailkit Assembly Stand-Alone Test Sets
- Continental United States (CONUS) shipping costs for Weapon System Evaluation Program assets paid by the Department of Energy
- Personnel Outside of the CONUS locations exist solely to support this weapon

### Sustainment Strategy

B61-12 TKA Sustainment Strategy is based on system reliability requirements/projections. Planned Material Availability is sustained through a 20-year service life spares buy that is included in the TKA production quantities. Air Force Materiel Command (AFMC) has determined no organic depot level repair requirements at this time. Organizational/Intermediate level maintenance is limited to replacement, inspection, disassembly/reassembly of TKA from All Up Round (B61-12 All Up Round). A TKA Business Case Analysis (BCA) projected for late FY 2016 will evaluate cost effectiveness of selecting an optional warranty, organic, or Contractor Logistics Support (CLS) based on final reliability projections, test set design, support equipment, and engineering requirements.

### Antecedent Information

No Antecedent

Annual O&S Costs BY2012 \$M			
Cost Element	B61 Mod 12 LEP TKA		No Antecedent (Antecedent)
	Average Annual Cost Per Tailkit Assembly (TKA)		
Unit-Level Manpower		0.069	--
Unit Operations		0.001	--
Maintenance		0.005	--
Sustaining Support		0.015	--
Continuing System Improvements		0.000	--
Indirect Support		0.042	--
Other		0.000	--
Total		0.132	--

Data Source: SCP

Item	Total O&S Cost \$M			
	B61 Mod 12 LEP TKA			No Antecedent (Antecedent)
	Current Development APB Objective/Threshold		Current Estimate	
<b>Base Year</b>	2283.3	2511.6	2283.3	N/A
<b>Then Year</b>	2887.3	N/A	2887.3	N/A

#### Equation to Translate Annual Cost to Total Cost

Average Annual Unitized Cost = (Total O&S Cost/Quantity)/Service Life (includes lead-in time for trainers) = (\$2,283.3M/824)/21

O&S Cost Variance		
Category	BY 2012 \$M	Change Explanations
Prior SAR Total O&S Estimates - Dec 2013 SAR	2283.3	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	0.0	
Current Estimate	2283.3	

#### Disposal Estimate Details

**Date of Estimate:** December 31, 2014  
**Source of Estimate:** SCP  
**Disposal/Demilitarization Total Cost (BY 2012 \$M):** Total costs for disposal of all Tailkit Assembly (TKA) are 0.1  
\$0.190M in TY dollars