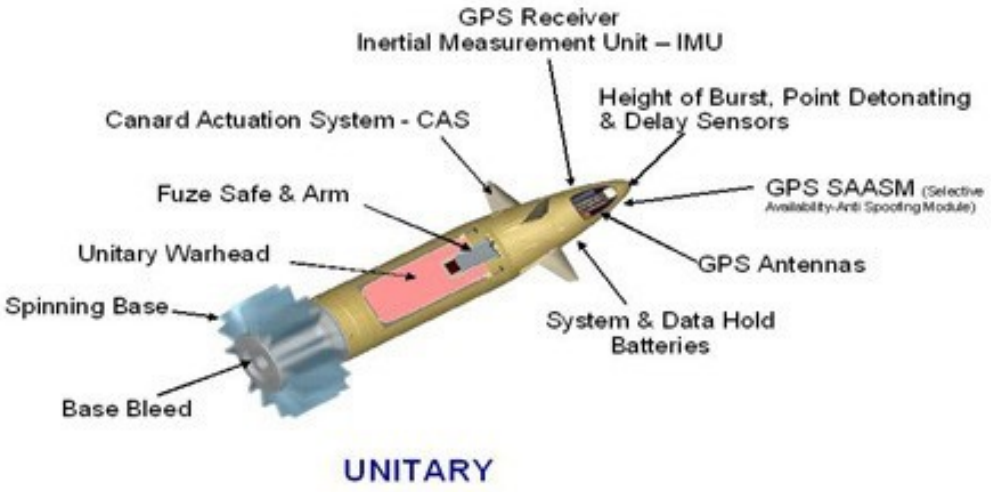
Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-366



Excalibur Precision 155mm Projectiles (Excalibur)

As of December 31, 2012

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Program Name

Excalibur Precision 155mm Projectiles (Excalibur)

DoD Component

Army

Responsible Office

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References

SAR Baseline (Production Estimate)

Army Acquisition Executive (AAE) Approved Acquisition Program Baseline (APB) dated March 14, 2011

Approved APB

Army Acquisition Executive (AAE) Approved Acquisition Program Baseline (APB) dated December 13, 2012

Mission and Description

Excalibur is a Precision Guided Extended Range 155 millimeter (mm) Artillery projectile providing Brigade Combat Teams an organic precision fires capability. Additionally it provides improved fire support capability due to its increased range of 37.5 kilometers (km) and demonstrated accuracy of less than four meters (m) radial miss distance, which enables a first round effect on target reducing the number of rounds required while reducing collateral damage. Excalibur is compatible with the M777A2 Lightweight 155mm Howitzer (LW155) and the M109A6 Paladin Howitzer. Excalibur provides a 33 percent range increase over current Rocket Assisted Projectiles with a less than ten m circular error probable requirement at all ranges. Excalibur is also highly resistant to Global Positioning System jamming. This item is Code A, approved for service use.

Excalibur Increments Ia-1 and Ia-2 are currently fielded and in use by units throughout Afghanistan and deployed globally to support other Military Contingency Operations. Excalibur is an International Cooperative Development program, teamed with the Kingdom of Sweden (KoS), which contributes resources towards the development in accordance with an established Project Agreement. Excalibur has completed Foreign Military Sales to Canada, United Kingdom, Australia, and the KoS, and has received interest for future sales from numerous other countries. Excalibur Increment Ia-1 was initially fielded to units in Iraq and Afghanistan in response to urgent need requests in support of Operation Iraqi Freedom (as of September 2010 re-named to Operation New Dawn) and Operation Enduring Freedom. Increment Ia-2 was fielded in early FY 2012 and greatly increases range from 25.2 km to 37.5 km. The Excalibur guided projectile program is using an incremental development approach to provide a combat capability to the Soldier as quickly as possible while delivering advanced capabilities at lower costs. Excalibur Increment Ib will provide further performance improvements while significantly lowering unit costs.

Executive Summary

Increments Ia-1 and Ia-2

As of December 31, 2012, Product Manager (PM) Excalibur has procured 2,132 Increment Ia-1 (DA39) projectiles and 1,307 Ia-2 (DA45) projectiles with 1,313 projectiles fielded to United States (U.S.) Forces in Theaters of Operations. In addition, 493 projectiles have been delivered to foreign customers including: Canada, United Kingdom, Australia, and the Kingdom of Sweden (KoS). U.S. operational forces (U.S. Army and U.S. Marine Corps (USMC)) have fired a total of 653 projectiles since the first production deliveries were made available to troops in 2007 with a proven field reliability better than 86 percent. Excalibur has been highly successful at proving the value of precision munitions in dense urban environments by virtually eliminating collateral damage while providing effects on the intended target.

On January 18, 2013, 1st Battalion 41st Field Artillery (FA) executed the longest range Excalibur Increment Ia-2 fire mission in combat. 1-41 FA conducted a combat mission from Forward Operating Base Sweeney, Afghanistan, firing four Excalibur Increment Ia-2 projectiles in delay mode into a 20 x 10 meter (m) structure target. All four projectiles functioned successfully with a reported miss distance of less than 10m. The gun-to-target range was between 36,194m and 36,204m. These shots eclipsed the previous record of 36,008m fired by the USMC in Afghanistan on March 3, 2012.

Increment Ib

Increment Ib is an integral part of the strategy to field Excalibur capability to the DoD and the KoS. Increment Ib consists of two phases: a competitive down selection phase followed by a qualification phase.

On September 26, 2008, after conducting a competitive procurement process, the Joint Munitions and Lethality Acquisition Center awarded two contracts for the Excalibur Increment Ib Demonstration Phase. Phase 1 contracts were awarded to Alliant Techsystems, Inc., of Plymouth, Minnesota and Raytheon Missile Systems (RMS) of Tucson, Arizona. Both contractors performed detailed design and subsystem and system-level testing during this effort.

On August 25, 2010, the Government selected RMS through a competitive down-selection and exercised a contract option to continue Engineering and Manufacturing Development.

On February 3, 2012, RMS, in consultation with Office of the Project Manager - Combat Ammunition Systems and Office of the PM - Excalibur, made the decision to switch to the BAE Systems-Bofors spinning base design in use on its Excalibur Increment Ia projectiles. This switch provided a significantly lower risk approach to completing the development and qualification of the Excalibur Increment Ib projectile - alleviating reliability, performance, and design maturity issues that the program had faced with the RMS-developed fixed base design. Additionally, the switch to the Bofors spinning base will likely allow the KoS to achieve its threshold range of 50 kilometers with its Archer 155 mIllimeter (mm) howitzer system and achieve range in excess of the program's threshold for U.S. 155mm artillery systems, as well.

On December 12, 2012, the Assistant Secretary of the Army for Acquisition, Logistics & Technology and Army Acquisition Executive (AAE) chaired the Excalibur Increment Ib Milestone C Army Systems Acquisition Review Council to review the program’s status and consider the request to enter into Low Rate Initial Production (LRIP). The AAE concurred with the recommendation for Excalibur Increment Ib to proceed into LRIP.

On December 21, 2012, the Government modified Contract W15QKN-08-C-0530 to definitize Excalibur Increment Ib production options through FY 2016 with a maximum contract quantity threshold of 9,000 projectiles. This

modification included the first LRIP procurement of 819 Increment Ib projectiles. The current negotiated amount for all projectiles under the contract is $68,400 per projectile.

The Army plans to procure 3,455 projectiles of Increment Ib out of the 6,930 to meet cost and performance goals. The total procurement quantity of 6,930 provides 6,264 projectiles for operational use and 666 projectiles for consumption in contract acceptance and reliability growth testing.

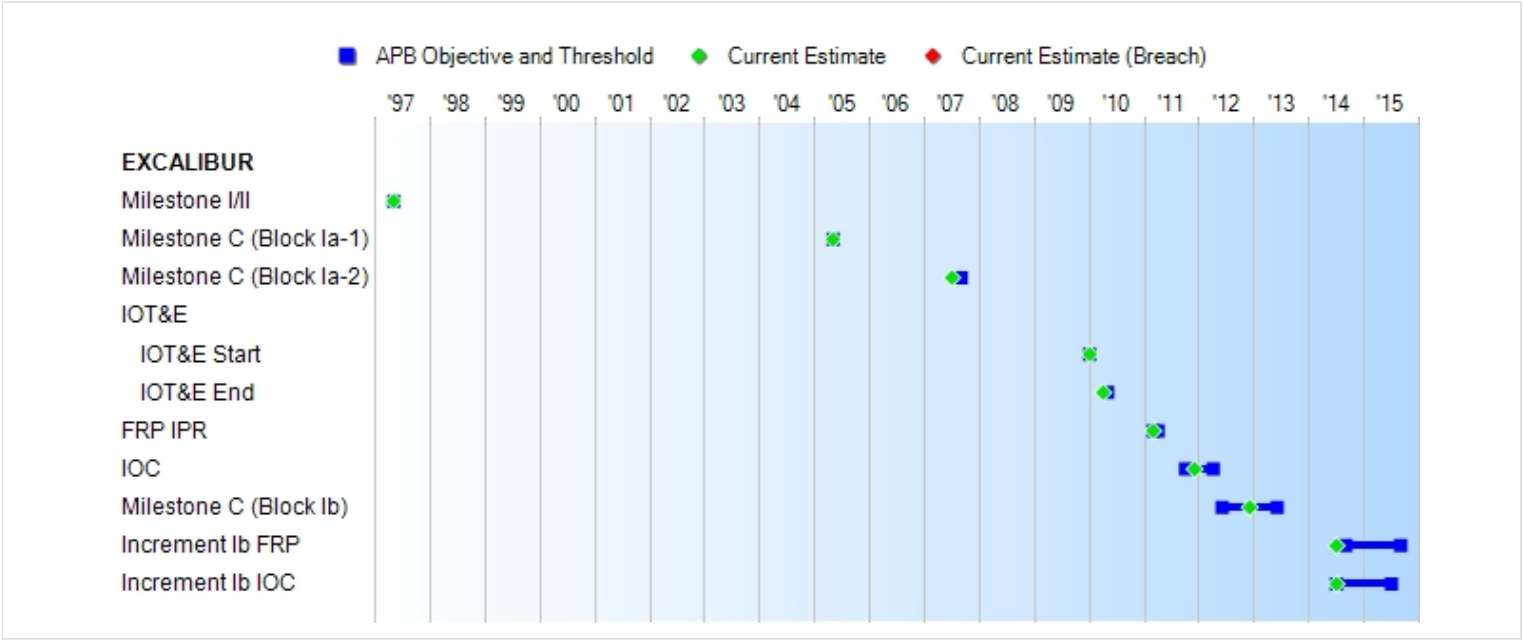
There are no significant software-related issues with this program at this time.

Threshold Breaches

APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
O&S Cost		☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Schedule



Milestones	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	
Milestone I/II	MAY 1997	MAY 1997	MAY 1997	MAY 1997	
Milestone C (Block Ia-1)	MAY 2005	MAY 2005	MAY 2005	MAY 2005	
Milestone C (Block Ia-2)	SEP 2007	SEP 2007	SEP 2007	JUL 2007	
IOT&E					
IOT&E Start	JAN 2010	JAN 2010	JAN 2010	JAN 2010	
IOT&E End	MAY 2010	MAY 2010	MAY 2010	APR 2010	
FRP IPR	MAR 2011	MAR 2011	APR 2011	MAR 2011	
IOC	OCT 2011	OCT 2011	APR 2012	DEC 2011	
Milestone C (Block Ib)	JUN 2012	JUN 2012	JUN 2013	DEC 2012	(Ch-1)
Increment Ib FRP	MAR 2014	SEP 2014	SEP 2015	JUL 2014	(Ch-2)
Increment Ib IOC	MAR 2014	JUL 2014	JUL 2015	JUL 2014	(Ch-2)

Acronyms And Abbreviations

FRP IPR - Full Rate Production In-Process Review
IOC - Initial Operational Capability
IOT&E - Initial Operational Test and Evaluation

Change Explanations

(Ch-1) Block Ib Milestone (MS) C changed from January 2013 to December 2012 due to successful MS C review in December 2012.

(Ch-2) Dates for Initial Operating Capability and the Full-Rate Production decision were revised from March 2014 to July 2014 in the Block Ib MS C Acquisition Program Baseline.

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate	
Accuracy (CEP)(m)	<= 10 CEP	<= 10 CEP	<= 20 CEP	<4m CEP	<4m CEP	
Reliability (percent)	>= 96	>= 96	>= 85	88	88	
Effectiveness	>=M107 HE	>=M107 HE	>=M107 HE	>=M107 HE	>=M107 HE	
Net Ready	ATO	ATO	IATO	ATO	ATO	
Accuracy (CEP)(m) Increment Ib	<= 10m CEP	<= 10m CEP	<= 10m CEP	<=10m CEP	<= 10m CEP	(Ch-1)
Range (Increment Ib)	>=40 km	>=40 km	>= 35 km	37.5 km	>=37.5 km	(Ch-1)
Effectiveness (Increment Ib)	>=M107 HE	>=M107 HE	>=M107 HE	>=M107 HE	>=M107 HE	(Ch-1)
Reliability (percent) (Increment Ib)	>=96%	>=96%	>=90%	TBD	>=90%	
Net Ready (Increment Ib)	ATO	ATO	IATO	TBD	ATO	

Requirements Source: Capability Production Document (CPD) dated October 24, 2012

Acronyms And Abbreviations

ATO - Approval to Operate
CEP - Circular Error Probable
HE - High Explosive(s)
IATO - Interim Approval to Operate
km - kilometer
m - meter(s)
TBD - To Be Determined

Change Explanations

(Ch-1) Due to results demonstrated during developmental testing, the Current Estimate for Increment Ib Accuracy was changed from TBD to <= 10m CEP, Increment Ib Range was increased from >=35 km to >=37.5 km, and Increment Ib Effectiveness was changed from TBD to >= M107 HE.

Memo

The first four performance characteristics listed above (Accuracy, Reliability, Effectiveness, and Net Ready) pertain to Increment Ia projectiles.

The current assessment of the overall Increment Ia-2 reliability, based on combined results from both test results and in-theater firings, is approximately 88%. When considered independently, the point estimate for reliability in the Production contract acceptance testing is currently at 93%.

Track To Budget

RDT&E				
APPN 2040	BA 05	PE 0604814A	(Army)	
	Project 708	M982 Projectile	(Shared)	
APPN 9999	BA 05	PE 0604814A	(DoD)	
	Project 708	M982 Projectile	(Shared)	(Sunk)

Excalibur's Research, Development, Test & Evaluation (RDT&E) funding line supports the Excalibur Unitary variant. This funding line is shared with all Excalibur Increments and was shared in prior years with the Spin Stabilized Sensor Fuzed Munition (SSSFM) and the Enhanced Portable Inductive Artillery Fuze Setter (EPIAFS).

Excalibur is an international program, with a Memorandum of Agreement for the cooperative development with the Kingdom of Sweden (KoS), which has contributed $69 million to the development program ($57M was contributed to Increment Ia and $12M to Increment Ib). These funds are included in this SAR as Non-Treasury RDT&E (9999).

Procurement				
APPN 2034	BA 01	PE 41376600	(Army)	
	ICN E80103	Excalibur Unitary		
APPN 0300	BA 01	PE 41376600	(DoD)	
	ICN E80103	Excalibur		(Sunk)

The parent Item Control Number (ICN) for Excalibur is E80100.

Excalibur procured additional projectiles in FY 2007 - FY 2009 as Foreign Military Sales Buy Back rounds. The funds are included in this SAR as Other Procurement, Defense Agency (0300).

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	BY2007 $M			BY2007 $M	TY $M		
Appropriation	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Prod Est	Current APB Production Objective	Current Estimate
RDT&E	993.4	1003.9	1104.3	1005.7	972.7	984.1	987.9
Procurement	661.2	701.3	771.4	657.4	706.3	758.3	709.9
Flyaway	656.5	--	--	654.1	701.3	--	706.4
Recurring	639.2	--	--	635.0	683.3	--	685.8
Non Recurring	17.3	--	--	19.1	18.0	--	20.6
Support	4.7	--	--	3.3	5.0	--	3.5
Other Support	4.7	--	--	3.3	5.0	--	3.5
Initial Spares	0.0	--	--	0.0	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	1654.6	1705.2	N/A	1663.1	1679.0	1742.4	1697.8

Confidence Level for Current APB Cost 50% -
The Excalibur Army Cost Position (ACP), approved November 15, 2012 by Assistant Secretary of the Army for Financial Management & Comptroller (ASA FM&C) was used to establish the Acquisition Program Baseline (APB). Costs are reflected at a 50% Confidence Level in accordance with the Army Cost and Economic Analysis Program, AR 11-18.

The costs presented here as the Current Estimate reflect the FY 2014 President's Budget (PB) Submission. The FY 2014 PB did not reflect the enacted DoD Appropriation for FY 2013; it reflected the President's requested amounts for FY 2013. (Note on March 26, 2013, the Appropriations bill signed by the President included $60.3 million (M) in FY 2013 Procurement of Ammunition, Army and $12.3M in FY 2013 Overseas Contingency Operations funding, a net decrease of $50M in FY 2013). During the Excalibur Ib Milestone C review the Army committed to fully funding the program.

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E	544	544	544
Procurement	6930	6930	7308
Total	7474	7474	7852

Excalibur's total planned procurement quantity of 6,930 includes 6,264 projectiles to be delivered to inventory and 666 projectiles for contract acceptance and reliability growth testing. This is an decrease of 34 projectiles for contract acceptance and reliability growth testing from the previous SAR, which is the result of the Program of Record revised at the Increment Ib Milestone C review.

The Current Estimate in this document reflects the FY 2014 President's Budget Submission, which procures 7,308 projectiles, but does not reflect the enacted DoD Appropriation for FY 2013.

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2014 President's Budget / December 2012 SAR (TY$ M)

Appropriation	Prior	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	To Complete	Total
RDT&E	975.4	4.3	8.2	0.0	0.0	0.0	0.0	0.0	987.9
Procurement	519.4	122.6	67.9	0.0	0.0	0.0	0.0	0.0	709.9
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 2014 Total	1494.8	126.9	76.1	0.0	0.0	0.0	0.0	0.0	1697.8
PB 2013 Total	1479.6	126.9	70.2	0.0	0.0	0.0	0.0	0.0	1676.7
Delta	15.2	0.0	5.9	0.0	0.0	0.0	0.0	0.0	21.1

Program funding and production quantities listed in this SAR are consistent with the FY 2014 President's Budget (PB). The FY 2014 PB did not reflect the enacted DoD appropriation for FY 2013, nor sequestration; it reflected the President's requested amounts for FY 2013. While the FY 2013 DoD Appropriation decreased Excalibur funding by $50 million, during the Excalibur Ib Milestone C review the Army committed to fully funding the program.

Quantity	Undistributed	Prior	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	To Complete	Total
Development	544	0	0	0	0	0	0	0	0	544
Production	0	4219	2287	802	0	0	0	0	0	7308
PB 2014 Total	544	4219	2287	802	0	0	0	0	0	7852
PB 2013 Total	544	4094	2287	583	0	0	0	0	0	7508
Delta	0	125	0	219	0	0	0	0	0	344

Cost and Funding

Annual Funding By Appropriation

Annual Funding TY$
2040 | RDT&E | Research, Development, Test, and Evaluation, Army

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
1997	--	--	--	--	--	--	4.7
1998	--	--	--	--	--	--	8.9
1999	--	--	--	--	--	--	7.5
2000	--	--	--	--	--	--	9.8
2001	--	--	--	--	--	--	28.6
2002	--	--	--	--	--	--	59.3
2003	--	--	--	--	--	--	102.1
2004	--	--	--	--	--	--	112.5
2005	--	--	--	--	--	--	129.0
2006	--	--	--	--	--	--	102.0
2007	--	--	--	--	--	--	95.1
2008	--	--	--	--	--	--	60.9
2009	--	--	--	--	--	--	68.8
2010	--	--	--	--	--	--	40.9
2011	--	--	--	--	--	--	30.5
2012	--	--	--	--	--	--	45.8
2013	--	--	--	--	--	--	4.3
2014	--	--	--	--	--	--	8.2
Subtotal	**544**	**--**	**--**	**--**	**--**	**--**	**918.9**

Annual Funding BY$
2040 | RDT&E | Research, Development, Test, and Evaluation, Army

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2007 $M	Non End Item Recurring Flyaway BY 2007 $M	Non Recurring Flyaway BY 2007 $M	Total Flyaway BY 2007 $M	Total Support BY 2007 $M	Total Program BY 2007 $M
1997	--	--	--	--	--	--	5.5
1998	--	--	--	--	--	--	10.4
1999	--	--	--	--	--	--	8.7
2000	--	--	--	--	--	--	11.1
2001	--	--	--	--	--	--	32.1
2002	--	--	--	--	--	--	65.8
2003	--	--	--	--	--	--	111.2
2004	--	--	--	--	--	--	119.6
2005	--	--	--	--	--	--	133.3
2006	--	--	--	--	--	--	102.6
2007	--	--	--	--	--	--	93.4
2008	--	--	--	--	--	--	58.7
2009	--	--	--	--	--	--	65.5
2010	--	--	--	--	--	--	38.3
2011	--	--	--	--	--	--	28.0
2012	--	--	--	--	--	--	41.2
2013	--	--	--	--	--	--	3.8
2014	--	--	--	--	--	--	7.0
Subtotal	**544**	**--**	**--**	**--**	**--**	**--**	**936.2**

Annual Funding TY$
9999 | RDT&E | Non Treasury Funds

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2003	--	--	--	--	--	--	9.5
2004	--	--	--	--	--	--	9.5
2005	--	--	--	--	--	--	9.5
2006	--	--	--	--	--	--	9.5
2007	--	--	--	--	--	--	9.5
2008	--	--	--	--	--	--	9.5
2009	--	--	--	--	--	--	3.0
2010	--	--	--	--	--	--	3.0
2011	--	--	--	--	--	--	4.0
2012	--	--	--	--	--	--	2.0
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**69.0**

Annual Funding BY$
9999 | RDT&E | Non Treasury Funds

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2007 $M	Non End Item Recurring Flyaway BY 2007 $M	Non Recurring Flyaway BY 2007 $M	Total Flyaway BY 2007 $M	Total Support BY 2007 $M	Total Program BY 2007 $M
2003	--	--	--	--	--	--	10.3
2004	--	--	--	--	--	--	10.1
2005	--	--	--	--	--	--	9.8
2006	--	--	--	--	--	--	9.6
2007	--	--	--	--	--	--	9.3
2008	--	--	--	--	--	--	9.2
2009	--	--	--	--	--	--	2.9
2010	--	--	--	--	--	--	2.8
2011	--	--	--	--	--	--	3.7
2012	--	--	--	--	--	--	1.8
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**69.5**

This appropriation is being used to account for the $69 million of development funding provided by the Kingdom of Sweden for the Excalibur program.

Annual Funding TY$
2034 | Procurement | Procurement of Ammunition, Army

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2005	127	35.1	--	1.8	36.9	--	36.9
2006	321	48.3	--	1.0	49.3	--	49.3
2007	793	84.5	--	1.7	86.2	--	86.2
2008	400	47.5	--	--	47.5	--	47.5
2009	435	57.9	--	10.1	68.0	0.8	68.8
2010	900	103.2	--	--	103.2	2.2	105.4
2011	100	30.5	--	--	30.5	--	30.5
2012	744	56.1	--	2.0	58.1	--	58.1
2013	2287	121.0	--	1.1	122.1	0.5	122.6
2014	802	65.0	--	2.9	67.9	--	67.9
Subtotal	**6909**	**649.1**	**--**	**20.6**	**669.7**	**3.5**	**673.2**

Annual Funding BY$
2034 | Procurement | Procurement of Ammunition, Army

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2007 $M	Non End Item Recurring Flyaway BY 2007 $M	Non Recurring Flyaway BY 2007 $M	Total Flyaway BY 2007 $M	Total Support BY 2007 $M	Total Program BY 2007 $M
2005	127	35.9	--	1.9	37.8	--	37.8
2006	321	48.0	--	1.0	49.0	--	49.0
2007	793	82.0	--	1.7	83.7	--	83.7
2008	400	45.4	--	--	45.4	--	45.4
2009	435	54.7	--	9.5	64.2	0.8	65.0
2010	900	95.8	--	--	95.8	2.1	97.9
2011	100	27.7	--	--	27.7	--	27.7
2012	744	50.0	--	1.7	51.7	--	51.7
2013	2287	104.7	--	0.9	105.6	0.4	106.0
2014	802	55.3	--	2.4	57.7	--	57.7
Subtotal	**6909**	**599.5**	**--**	**19.1**	**618.6**	**3.3**	**621.9**

Annual Funding TY$
0300 | Procurement | Procurement, Defense-Wide

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2007	295	25.1	--	--	25.1	--	25.1
2008	75	6.2	--	--	6.2	--	6.2
2009	29	5.4	--	--	5.4	--	5.4
Subtotal	**399**	**36.7**	**--**	**--**	**36.7**	**--**	**36.7**

Annual Funding BY$
0300 | Procurement | Procurement, Defense-Wide

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2007 $M	Non End Item Recurring Flyaway BY 2007 $M	Non Recurring Flyaway BY 2007 $M	Total Flyaway BY 2007 $M	Total Support BY 2007 $M	Total Program BY 2007 $M
2007	295	24.5	--	--	24.5	--	24.5
2008	75	5.9	--	--	5.9	--	5.9
2009	29	5.1	--	--	5.1	--	5.1
Subtotal	**399**	**35.5**	**--**	**--**	**35.5**	**--**	**35.5**

This appropriation captures the procurement of Foreign Military Sales buy back projectiles.

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	5/23/2005	12/13/2012
Approved Quantity	500	1800
Reference	AAE ADM for Increment Ia Milestone (MS) C	AAE ADM for Increment Ib MS C
Start Year	2005	2012
End Year	2006	2014

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the significant decrease in Army Procurement Objective from 30,000 projectiles to 6,264.

The program received an Army Acquisition Executive (AAE) Acquisition Decision Memorandum (ADM) dated May 23, 2005 to authorize entry into Low Rate Initial Production (LRIP) and procurement of up to 500 Increment Ia-1 projectiles in FY 2005 - FY 2006.

The AAE provided a revised ADM on March 26, 2007 to increase the authorized LRIP procurement quantity up to 1,500 Increment Ia-1 projectiles.

A revised ADM dated July 31, 2007 authorized entry into Increment Ia-2 LRIP with procurement authorization of up to 2,500 Increment Ia projectiles in FY 2005 - FY 2009.

An ADM dated December 13, 2012 authorized entry into Increment Ib LRIP with procurement authorization of up to 1,800 Increment Ib projectiles in FY 2013 - FY 2014.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost $M	Memo
Canada	1/10/2011	75	8.8	A Letter of Authorization and Acceptance (LOA) with Canada was signed on January 10, 2011 to procure 75 M982 Ia-2 projectiles. These 75 projectiles were procured against the FY 2010 production contract awarded March 30, 2011.
Sweden	9/23/2009	114	12.0	114 Increment Ia-2 projectiles were sold to the Kingdom of Sweden (KoS) under the Excalibur Production Project Agreement.
United Kingdom	3/6/2009	6	1.1	The United Kingdom has purchased six projectiles.
Australia	5/8/2008	250	26.9	Australia has purchased 250 Excalibur Increment Ia-1 projectiles.
Sweden	10/15/2007	18	2.3	KoS Letter of Offer and Acceptance FMS Case was signed October 15, 2007.
Canada	10/7/2007	30	4.1	Canadian Defense Forces FMS contract for FY 2007 projectiles.

Other countries have expressed interest in Excalibur and have begun development of FMS cases.

Nuclear Cost

None

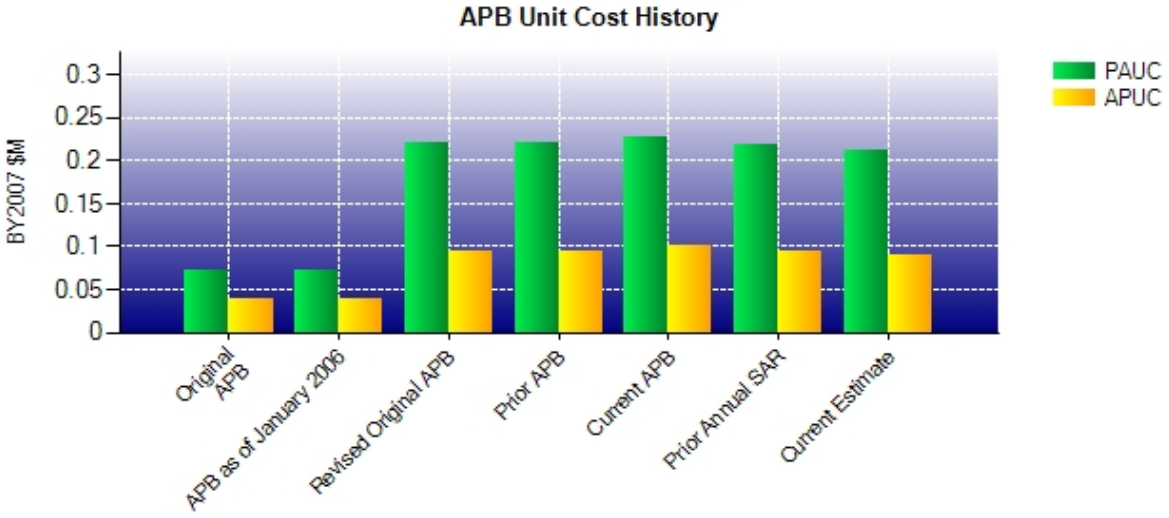
Unit Cost

Unit Cost Report

Unit Cost	BY2007 $M Current UCR Baseline (DEC 2012 APB)	BY2007 $M Current Estimate (DEC 2012 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	1705.2	1663.1	
Quantity	7474	7852	
Unit Cost	0.228	0.212	-7.02
Average Procurement Unit Cost (APUC)			
Cost	701.3	657.4	
Quantity	6930	7308	
Unit Cost	0.101	0.090	-10.89

Unit Cost	BY2007 $M Revised Original UCR Baseline (MAR 2011 APB)	BY2007 $M Current Estimate (DEC 2012 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	1654.6	1663.1	
Quantity	7474	7852	
Unit Cost	0.221	0.212	-4.07
Average Procurement Unit Cost (APUC)			
Cost	661.2	657.4	
Quantity	6930	7308	
Unit Cost	0.095	0.090	-5.26

Unit Cost History



		BY2007 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	OCT 2004	0.072	0.039	0.076	0.045
APB as of January 2006	OCT 2004	0.072	0.039	0.076	0.045
Revised Original APB	MAR 2011	0.221	0.095	0.225	0.102
Prior APB	MAR 2011	0.221	0.095	0.225	0.102
Current APB	DEC 2012	0.228	0.101	0.233	0.109
Prior Annual SAR	DEC 2011	0.219	0.095	0.223	0.102
Current Estimate	DEC 2012	0.212	0.090	0.216	0.097

SAR Unit Cost History

Initial SAR Baseline to Current SAR Baseline (TY $M)

Initial PAUC Dev Est	Changes								PAUC Prod Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.063	-0.005	0.142	0.011	0.006	0.006	0.000	0.000	0.160	0.225

Current SAR Baseline to Current Estimate (TY $M)

PAUC Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.225	0.001	-0.007	0.000	0.002	-0.005	0.000	0.000	-0.009	0.216

Initial SAR Baseline to Current SAR Baseline (TY $M)

Initial APUC Dev Est	Changes								APUC Prod Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.054	-0.005	0.040	0.010	0.000	0.003	0.000	0.000	0.048	0.102

Current SAR Baseline to Current Estimate (TY $M)

APUC Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.102	0.001	0.000	0.000	0.002	-0.008	0.000	0.000	-0.005	0.097

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone I	N/A	MAY 1997	N/A	N/A
Milestone II	N/A	MAY 1997	MAY 1997	MAY 1997
Milestone C	N/A	JUN 2006	MAY 2005	MAY 2005
IOC	N/A	SEP 2008	OCT 2011	DEC 2011
Total Cost (TY $M)	N/A	4798.7	1679.0	1697.8
Total Quantity	N/A	76677	7474	7852
Prog. Acq. Unit Cost (PAUC)	N/A	0.063	0.225	0.216

Cost Variance

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	972.7	706.3	--	1679.0
Previous Changes				
Economic	+1.1	+5.9	--	+7.0
Quantity	--	+16.2	--	+16.2
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-7.0	-18.4	--	-25.4
Other	--	--	--	--
Support	--	-0.1	--	-0.1
Subtotal	-5.9	+3.6	--	-2.3
Current Changes				
Economic	+0.2	+2.4	--	+2.6
Quantity	--	+23.8	--	+23.8
Schedule	--	-0.4	--	-0.4
Engineering	--	+12.8	--	+12.8
Estimating	+20.9	-37.2	--	-16.3
Other	--	--	--	--
Support	--	-1.4	--	-1.4
Subtotal	+21.1	--	--	+21.1
Total Changes	+15.2	+3.6	--	+18.8
CE - Cost Variance	987.9	709.9	--	1697.8
CE - Cost & Funding	987.9	709.9	--	1697.8

Summary Base Year 2007 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	993.4	661.2	--	1654.6
Previous Changes				
Economic	--	--	--	--
Quantity	--	+19.0	--	+19.0
Schedule	--	-3.3	--	-3.3
Engineering	--	--	--	--
Estimating	-6.4	-17.2	--	-23.6
Other	--	--	--	--
Support	--	-0.2	--	-0.2
Subtotal	-6.4	-1.7	--	-8.1
Current Changes				
Economic	--	--	--	--
Quantity	--	+20.2	--	+20.2
Schedule	--	--	--	--
Engineering	--	+11.1	--	+11.1
Estimating	+18.7	-32.2	--	-13.5
Other	--	--	--	--
Support	--	-1.2	--	-1.2
Subtotal	+18.7	-2.1	--	+16.6
Total Changes	+12.3	-3.8	--	+8.5
CE - Cost Variance	1005.7	657.4	--	1663.1
CE - Cost & Funding	1005.7	657.4	--	1663.1

Previous Estimate: December 2011

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+0.2
Adjustment for current and prior escalation. (Estimating)	-0.2	-0.2
Increased costs related to Developmental and Qualification testing. (Estimating)	+4.6	+5.0
Additional funding provided by the Kingdom of Sweden to mitigate technical issues and ensure compatibility with their Archer howitzer. (Estimating)	+1.9	+2.0
Extension of Engineering and Manufacturing Development contract from September 2012 to March 2013 to mitigate risk regarding Increment Ib base assembly. (Estimating)	+7.4	+8.2
Additional costs for Initial Operational Test and achieving Full Rate Production and Full Material Release for Increment Ib. (Estimating)	+5.0	+5.9
RDT&E Subtotal	+18.7	+21.1

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+2.4
Quantity variance resulting from an increase of 344 projectiles from 6,565 to 6,909 (Army). (Quantity) (QR)	+20.2	+23.8
Re-phased procurement schedule due to fixed unit price contract in lieu of variable, quantity-based unit prices. (Schedule)	0.0	-0.4
Increment Ib design changes to incorporate projectile base and warhead assemblies from Increment Ia-2 variant. (Engineering)	+11.1	+12.8
Adjustment for current and prior escalation. (Estimating)	-1.5	-1.7
Increment Ib production contract awarded with fixed unit price in lieu of variable, quantity-based unit prices. (Estimating)	-17.5	-20.0
Decreased cost due to directed use of FY 2013 President's Budget request. (Estimating)	-13.2	-15.5
Decrease in support costs due to collaboration of New Equipment Training events with other precision munitions. (Support)	-1.2	-1.4
Procurement Subtotal	-2.1	0.0

(QR) Quantity Related

Contracts

Appropriation: Procurement	
Contract Name	**XM982 ER Projectile-Incr Ib Production**
Contractor	Raytheon Missile Systems
Contractor Location	Tucson, AZ 85706
Contract Number, Type	W15QKN-08-C-0530/3, FFP
Award Date	December 21, 2012
Definitization Date	December 21, 2012

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
56.6	N/A	819	56.6	N/A	819	56.6	56.6

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

This is the first time this contract is being reported.

This is a contract option for Low Rate Initial Production of the Excalibur Increment Ib projectile.

Appropriation: RDT&E

Contract Name	**XM982 ER Projectile-Incr Ib RDT&E SDD-RMS**
Contractor	Raytheon Missile Systems
Contractor Location	Tucson, AZ 85706
Contract Number, Type	W15QKN-08-C-0530/2, CPIF
Award Date	August 25, 2010
Definitization Date	August 25, 2010

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
22.8	N/A	N/A	75.8	N/A	N/A	78.0	78.0

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/18/2012)	-6.8	-1.2
Previous Cumulative Variances	-3.6	-2.5
Net Change	-3.2	+1.3

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to technical issues with the Guidance, Navigation and Control as well as Canard Actuator System Assemblies. Additionally, there was unplanned cost incurred through test failure investigations and projectile base assembly risk mitigation.

The favorable net change in the schedule variance is due to close out of numerous work packages as the development effort nears completion.

General Contract Variance Explanation

The December 2012 Contract Performance Report is the final submission under this contract.

Contract Comments

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to exercising the contract option for Part 2 of the Phase II contract.

This contract is for Phase II (Qualification) of Increment Ib Engineering and Manufacturing Development. The Phase I contracts were Firm Fixed Price and the Phase II contract is Cost Plus Incentive Fee. Increment Ib is the next Increment in the development of the fielded Excalibur Increment Ia projectile that provides higher reliability at a lower unit production cost. The lower unit production cost is a result of competition for the Increment Ib contract, which drove the contractor to reduce the manufacturing complexity of the projectile and utilize lower cost materials without sacrificing performance.

Appropriation: Procurement

Contract Name	**XM982 ER Projectile-Incr Ia Prod FY2010, FY2011**
Contractor	Raytheon Missile Systems
Contractor Location	Tucson, AZ 85437
Contract Number, Type	W15QKN-07-C-0100/4, FFP
Award Date	March 30, 2011
Definitization Date	March 30, 2011

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
79.1	N/A	1000	79.1	N/A	1000	79.1	79.1

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

This contract modification was a single combined FY 2010 & FY 2011 Full Rate Production award for Excalibur Increment Ia-2 projectiles. It procures 1,000 projectiles for the United States Army as well as 2,163 projectiles for the United States Marine Corps.

Appropriation: Procurement

Contract Name	**XM982 ER Projectile-Incr Ia Prod FY2007, FY2008, FY2009**
Contractor	Raytheon Missile Systems
Contractor Location	Tucson, AZ 85437
Contract Number, Type	W15QKN-07-C-0100/3, FFP
Award Date	April 05, 2007
Definitization Date	July 31, 2007

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
31.2	N/A	327	272.8	N/A	1628	272.8	272.8

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the exercising of production options to buy additional projectiles.

The Initial FY 2007 contract target price award was $31.2 million (M) and included 327 projectiles which were based on the initial Letter of Contract award (Undefinitized Contract Action). The total current definitized target contract price of $272.8M with a total projectile quantity of 1,628 represents the awarded base contract for FY 2007 and awarded contract options for FY 2008 and FY 2009, with contract values of $101.3M (793 projectiles), $96.9M (400 projectiles), and $74.6M (435 projectiles), respectively. These were all Low Rate Initial Production (LRIP) awards. This contract also includes requirements for the United States Army, United States Marine Corps, and Foreign Military Sales.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	544	496	544	91.18%
Production	2859	2087	7308	28.56%
Total Program Quantities Delivered	3403	2583	7852	32.90%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	1697.8	Years Appropriated	17
Expenditures To Date	1412.0	Percent Years Appropriated	94.44%
Percent Expended	83.17%	Appropriated to Date	1621.7
Total Funding Years	18	Percent Appropriated	95.52%

The above data is current as of 3/31/2013.

Plan and actual projectile quantities refer to projectiles delivered to the United States Army. Foreign Military Sales and United States Marine Corps sales are not included.

Operating and Support Cost

EXCALIBUR

Assumptions and Ground Rules

Cost Estimate Reference:
This estimate is part of the Excalibur Increment Ib Milestone (MS) C Army Cost Position (ACP), which was approved by the Assistant Secretary of the Army (Financial Management & Comptroller) on November 15, 2012.

Sustainment Strategy:
Excalibur is a one shot use item. There is no scheduled maintenance over the 20-year shelf life. There is a defined stockpile surveillance program which will be used to calculate stockpile reliability and detect/measure adverse trends of critical parameters. To-date, tracking reliability from continuous theater usage has allowed the program to delay initiation of stockpile surveillance.

Quantity: A total of 6,930 projectiles will be procured, 6,264 will be delivered to inventory and 666 will be consumed in testing.
Service Life: Excalibur is planned to be in the field for 30 years from FY 2007 to FY 2036.

Antecedent Information:
No Antecedent program.

Unitized O&S Costs BY2007 $K		
Cost Element	**EXCALIBUR Average Annual Cost for all Projectiles**	**N/A (Antecedent) N/A**
Unit-Level Manpower	0.0	0.0
Unit Operations	0.0	0.0
Maintenance	306.7	0.0
Sustaining Support	273.3	0.0
Continuing System Improvements	590.0	0.0
Indirect Support	0.0	0.0
Other	0.0	0.0
Total	1170.0	--

Unitized Cost Comments:
These costs are calculated as the average annual cost for all projectiles for each category over the 30 years Excalibur is planned to be in the field (FY 2007 - FY 2036).

Maintenance costs include stockpile surveillance, laboratory teardown testing, and Depot Inventory Management. Sustaining Support includes the storage cost of projectiles and Systems Engineering/Program Management. Continuing System Improvements include the cost of maintaining the system's knowledge base and making software fixes/updates as required.

	Total O&S Cost $M			
	Current Production APB Objective/Threshold		Current Estimate	
	EXCALIBUR		EXCALIBUR	N/A (Antecedent)
Base Year	36.9	40.6	35.1	N/A
Then Year	50.7	N/A	47.9	N/A

Total O&S Costs Comments:

Variance Explanation:

The total Base Year 2007 Operating and Support cost estimate increased from $26.1 million (M) to $35.1M. The estimate was updated with more recent data for storage and surveillance costs, but the increase was driven by the inclusion of Continuing System Improvements in the estimate as a contingency should software issues arise during the Sustainment phase of the program.

Disposal Costs

Demilitarization/Disposal costs of $1.8M (Base Year 2007) are included in the Increment Ib Milestone C Army Cost Position.