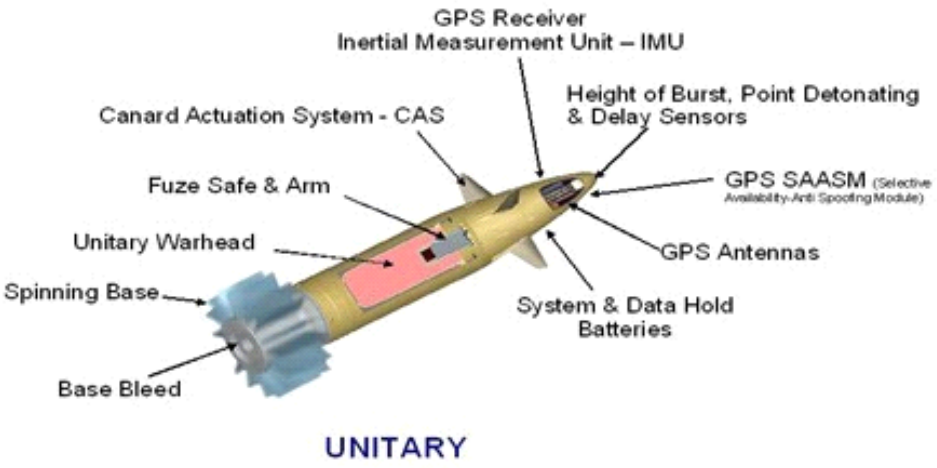
Selected Acquisition Report (SAR)

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



EXCALIBUR

As of December 31, 2011

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

Excalibur Precision 155mm Projectiles (EXCALIBUR)

DoD Component

Army

Responsible Office

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 March 14, 2011

Mission and Description

Excalibur provides improved fire support through a Precision Guided Extended Range family of munitions with greatly increased accuracy and significantly reduces collateral damage in most urban environments. The Excalibur is interoperable with the M777A2 Lightweight 155mm howitzer (LW155), and the M109A6 (Paladin) howitzer. Excalibur will provide a 33% range increase over current Rocket Assisted Projectiles, with a 10 meter accuracy (Circular Error Probable) at all ranges.

Excalibur is an international program, teamed with the Kingdom of Sweden (KoS), who contributes resources towards the development and have procured projectiles in accordance with an established Project Agreement. Excalibur has completed Foreign Military Sales to Canada and Australia, completed a compatibility test series with the United Kingdom, and has received interest for future sales from numerous other countries.

The Excalibur program is using an incremental development approach to provide a combat capability to the Soldier as quickly as possible, and to deliver advanced capabilities at lower costs as technology matures. Increment Ia-1 entered production in 2005 and Increment Ia-2 achieved Initial Operational Capability (IOC) in December 2011. Increments Ia-1 and Ia-2 have been fielded in response to urgent need requests (Increment Ia-1 only) in support of Operation Iraqi Freedom (as of September 2010 re-named to Operation New Dawn) and Operation Enduring Freedom. Production deliveries of Increment Ia-1 and Ia-2 continue to support the Warfighters.

Increment Ib, the third planned development effort, will significantly lower unit costs and improve reliability over currently fielded Increments Ia-1 and Ia-2.

Executive Summary

On January 10, 2011, the Principal Undersecretary of Defense, Acquisition, Technology & Logistics and Acting Defense Acquisition Executive signed the Excalibur Nunn-McCurdy (N-M) certification package. The Office of the Secretary of Defense delivered the certification letters to members of Congress on January 12, 2011. The proximate root cause of the critical breach was the reduction in quantity from 30,000 to 6,264 projectiles. This action ended the N-M review, retained acquisition authority with the Army, and allowed the program to enter the restructuring phase of the program. This certification preserves the Army's decisions from both the 2010 Precision Fires Capabilities Portfolio Review and the associated Configuration Steering Board (CSB) to deliver 6,264 Excalibur projectiles to the inventory necessary to meet both current and future war reserve.

Increments Ia-1 and Ia-2

The Ia increments successfully achieved many significant events during this reporting period (January 1, 2011 through December 31, 2011). Notably, Increment Ia-2 achieved a successful Full Rate Production (FRP) Review in March 2011 and Initial Operational Capability (IOC) with projectiles for the M777A2 Light Weight 155 (LW155) and M109A6 Paladin howitzers in December 2011.

As of December 31, 2011, Product Manager (PM) Excalibur has procured 2,092 Increment Ia-1 (DA39) projectiles and 639 Ia-2 (DA45) projectiles with 1,187 projectiles fielded to United States (U.S.) Forces in Theaters of Operations. In addition, 418 projectiles have been delivered to foreign customers including: Canada, Australia, Sweden and the United Kingdom. U.S. operational forces (U.S. Army and U.S. Marine Corps) have fired a total of 558 projectiles since the first production deliveries were made available to troops in 2007 with a proven field reliability better than 85%. During this reporting period, the U.S. Marine Corps significantly increased the usage of Excalibur supporting Operation Enduring Freedom (OEF) through the use of decentralized fire control measures. 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.

Increment Ib

Increment Ib is an integral part of the strategy to field Excalibur capability to the DoD and the Kingdom of Sweden (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. (ATK) 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 (EMD).

During 2011, efforts focused on design maturation and readiness for formal government qualification testing. Testing was performed throughout the year on the Base assembly, Fuze, Safe and Arm (FSA) and the Guidance Electronics Assembly (GEA) in support of subsystem qualification and on the Warhead assembly in support of Insensitive Munitions compliance.

A Critical Design Review (CDR) was held in April 2011 in support of finalizing the design and entry into system qualification. Actions related to maturity of the subsystems listed above and system readiness for qualification were generated and subsequently addressed during the year.

First Article Inspections (FAI) of the key components and assemblies were held throughout the year in support of hardware builds for system qualification and production readiness.

The Army plans to procure 3,489 projectiles of Increment Ib out of the 6,964 to meet cost and performance goals. The total procurement quantity of 6,964 provides 6,264 projectiles for operational use and 700 projectiles for consumption in contract acceptance and reliability growth testing.

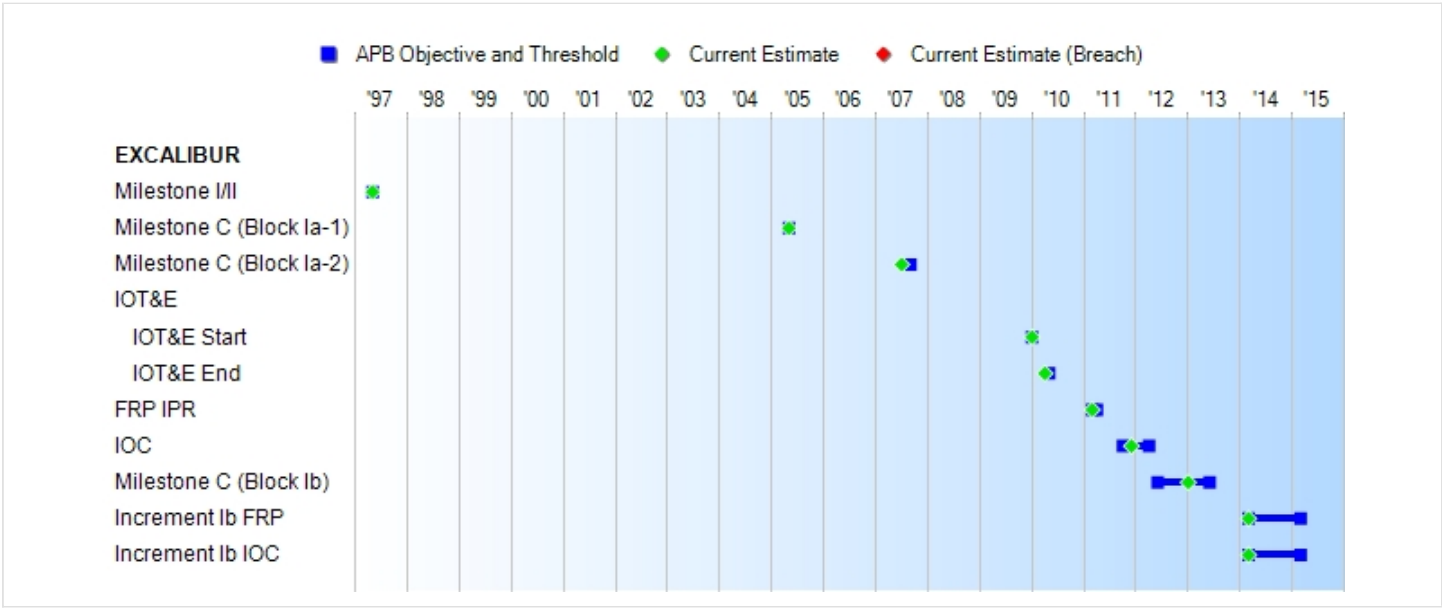
There are no significant software-related issues with this program at this time.

Threshold Breaches

APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
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	(Ch-1)
Milestone C (Block Ib)	JUN 2012	JUN 2012	JUN 2013	JAN 2013	(Ch-2)
Increment Ib FRP	MAR 2014	MAR 2014	MAR 2015	MAR 2014	
Increment Ib IOC	MAR 2014	MAR 2014	MAR 2015	MAR 2014	

Acronyms And Abbreviations

FPR IPR - Full Rate Production In-Process Review
IOC - Initial Operational Capability for Block Ia
IOT&E - Initial Operational Test and Evaluation

Change Explanations

(Ch-1) IOC changed from October 2011 to December 2011 to reflect actuals of Increment Ia-2.

(Ch-2) The planned date for Increment Ib Milestone C changed from June 2012 to January 2013 due to

developmental issues with the now replaced fixed base and a United States Government change to the test article delivery schedule to allow for a two-part test plan to mitigate risk.

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	(Ch-2)
Reliability (percent)	>= 96	>= 96	>= 85	88	88	(Ch-2)
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	TBD	<= 10m CEP	
Range (Increment Ib)	>=40 km	>=40 km	>= 35 km	TBD	>=35 km	(Ch-1)
Effectiveness (Increment Ib)	>=M107 HE	>=M107 HE	>=M107 HE	TBD	>=M107 HE	
Reliability (percent) (Increment Ib)	>=96%	>=96%	>=90%	TBD	>=90%	(Ch-1)
Net Ready (Increment Ib)	ATO	ATO	IATO	TBD	ATO	

Requirements Source: Capabilities Production Document (CPD), dated October 5, 2007.

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)
N/A - Not Applicable
TBD - To Be Determined

Change Explanations

(Ch-1) Increment Ib Range and Reliability estimates were revised based on projections made at the Increment Ib System Critical Design Review (CDR) in April 2011 and subsequent program office technical assessments.

(Ch-2) Increment Ia Accuracy and Reliability Demonstrated Performance and Current Estimate reflect observations of Excalibur projectiles in controlled firings. Operational firings have reflected similar performance.

Memo

The Army Evaluation Center (AEC) provided an independent assessment of the official demonstrated Increment Ia-1 reliability at 85%, by combining First Article Testing and Limited User Testing.

Track To Budget

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

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 $67 million to the development program ($57M was contributed to Increment Ia and $10M 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			(DoD)

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

Excalibur procured additional projectiles in FY2007-2009 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	993.4	1142.4	987.0	972.7	972.7	966.8
Procurement	661.2	661.2	727.3	659.5	706.3	706.3	709.9
Flyaway	656.5	--	--	655.0	701.3	--	705.0
Recurring	639.2	--	--	637.8	683.3	--	687.0
Non Recurring	17.3	--	--	17.2	18.0	--	18.0
Support	4.7	--	--	4.5	5.0	--	4.9
Other Support	4.7	--	--	4.5	5.0	--	4.9
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	1654.6	N/A	1646.5	1679.0	1679.0	1676.7

Confidence Level For Current APB Cost 50% - Per the Nunn McCurdy (N-M) certification Acquisition Decision Memorandum issued by the Under Secretary of Defense for Acquisition, Technology & Logistics (USD(AT&L)), “The Army will fully fund the Excalibur program to the … Director, Cost Assessment and Program Evaluation (CAPE) approved acquisition cost estimate and funding profile.” Like all CAPE life-cycle cost estimates, this acquisition cost estimate is not consistent with the 80% confidence level specified in Weapon System Acquisition Reform Act (WSARA) of 2009. The CAPE estimate is built upon a product-oriented work breakdown structure, based on historical actual cost information to the maximum extent possible, and most importantly, based on assumptions that are consistent with demonstrated contractor and government performance for a series of previous acquisition programs. The CAPE Office of Cost Assessment projects that it is about equally likely that the estimate will prove too low or too high for execution of the program.

The Office of the Secretary of Defense (OSD) conducted its evaluation of the program as part of the N-M process, which was completed in April 2011. The Current Estimate shown in this document reflects the OSD CAPE estimate of costs for the remainder of the certified Excalibur program plus fact of life changes incorporated into the FY 2013 President's Budget as well as projected Overseas Contingency Operation funding in FY 2013.

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E	544	544	544
Procurement	6930	6930	6964
Total	7474	7474	7508

Excalibur's total procurement quantity of 6,964 includes 6,264 projectiles to be delivered to the inventory and 700 projectiles for contract acceptance and reliability growth testing. This is an increase of 34 projectiles for contract acceptance and reliability growth testing from the previous SAR, which is the net result of a decrease in the FY 2012 estimate and an increase in the FY 2013 and FY 2014 estimates.

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2013 President's Budget / December 2011 SAR (TY$ M)

Appropriation	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
RDT&E	920.6	39.6	4.3	2.3	0.0	0.0	0.0	0.0	966.8
Procurement	461.3	58.1	122.6	67.9	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 2013 Total	1381.9	97.7	126.9	70.2	0.0	0.0	0.0	0.0	1676.7
PB 2012 Total	1414.4	113.7	113.2	69.3	0.0	0.0	0.0	0.0	1710.6
Delta	-32.5	-16.0	13.7	0.9	0.0	0.0	0.0	0.0	-33.9

Excalibur is an international program, with a Memorandum of Agreement (MOA) for the cooperative development with the Kingdom of Sweden (KoS), which has contributed $67 million (M) to the development program ($57M to Increment Ia and $10M to Increment Ib). These funds are included in the total Research, Development, Test and Evaluation for the program.

The FY 2013 Overseas Contingency Operation (OCO) funding projection of $12.3M enables the Excalibur program to meet its Army Procurement Objective (APO) of 6,246 projectiles. However, it does not meet the OCO funding objective of replacing combat fired projectiles. In order to meet its APO while applying the OCO funding towards replacing combat fired projectiles, the Excalibur program will compete for funding amongst all of the Army's requirements and priorities in the FY 2014 President's Budget.

Quantity	Undistributed	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
Development	544	0	0	0	0	0	0	0	0	544
Production	0	3475	619	2287	583	0	0	0	0	6964
PB 2013 Total	544	3475	619	2287	583	0	0	0	0	7508
PB 2012 Total	544	3475	881	2001	573	0	0	0	0	7474
Delta	0	0	-262	286	10	0	0	0	0	34

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	--	--	--	--	--	--	25.5
2012	--	--	--	--	--	--	37.6
2013	--	--	--	--	--	--	4.3
2014	--	--	--	--	--	--	2.3
Subtotal	**544**	**--**	**--**	**--**	**--**	**--**	**899.8**

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	--	--	--	--	--	--	23.4
2012	--	--	--	--	--	--	33.9
2013	--	--	--	--	--	--	3.8
2014	--	--	--	--	--	--	2.0
Subtotal	**544**	**--**	**--**	**--**	**--**	**--**	**919.3**

Excalibur is an international program, with a Memorandum of Agreement (MOA) for the cooperative development with the Kingdom of Sweden (KoS), which has contributed $67 million (M) ($67.7M in Base Year 2007 dollars) to the development program ($57M to Increment Ia and $10M to Increment Ib). These funds are included in this SAR as Non-Treasury Research, Development, Test and Evaluation funds (9999).

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	--	--	--	--	--	--	2.5
2011	--	--	--	--	--	--	2.5
2012	--	--	--	--	--	--	2.0
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**67.0**

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	--	--	--	--	--	--	2.4
2011	--	--	--	--	--	--	2.3
2012	--	--	--	--	--	--	1.8
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**67.7**

This appropriation is being used to account for the $67 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	619	55.7	--	1.7	57.4	0.7	58.1
2013	2287	121.0	--	1.1	122.1	0.5	122.6
2014	583	66.6	--	0.6	67.2	0.7	67.9
Subtotal	**6565**	**650.3**	**--**	**18.0**	**668.3**	**4.9**	**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	619	49.8	--	1.6	51.4	0.6	52.0
2013	2287	105.8	--	1.0	106.8	0.4	107.2
2014	583	57.2	--	0.5	57.7	0.6	58.3
Subtotal	**6565**	**602.3**	**--**	**17.2**	**619.5**	**4.5**	**624.0**

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	7/31/2007
Approved Quantity	500	2500
Reference	* AAE ADM signed May 23, 2005.	** AAE ADM signed and AAE MS-C approved July 31, 2007.
Start Year	2005	2005
End Year	2006	2009

* 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 2005-2006.

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 2005-2009.

The significant decrease in Army Procurement Objective from 30,000 projectiles to 6,264 resulted in more than 10% of Excalibur quantities already procured during LRIP. The Increment Ib LRIP quantity will be determined at the Increment Ib Milestone C.

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. Three projectiles were delivered on February 19, 2007 for acceptance testing and 27 were delivered on October 7, 2007.

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 (MAR 2011 APB)	BY2007 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	1654.6	1646.5	
Quantity	7474	7508	
Unit Cost	0.221	0.219	-0.90
Average Procurement Unit Cost (APUC)			
Cost	661.2	659.5	
Quantity	6930	6964	
Unit Cost	0.095	0.095	0.00

Unit Cost	BY2007 $M Revised Original UCR Baseline (MAR 2011 APB)	BY2007 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
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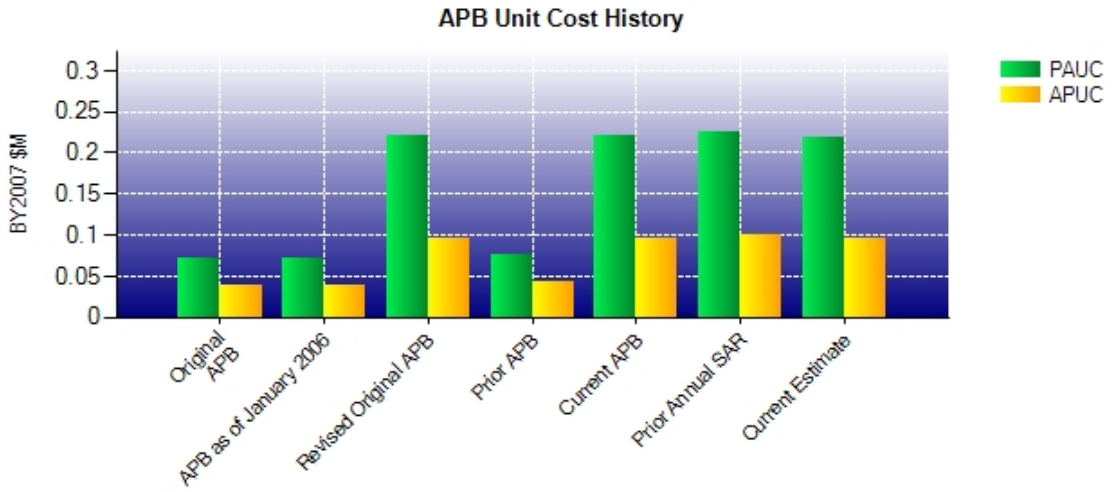
Unit Cost History



		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	JUL 2007	0.075	0.044	0.083	0.054
Current APB	MAR 2011	0.221	0.095	0.225	0.102
Prior Annual SAR	DEC 2010	0.225	0.100	0.229	0.106
Current Estimate	DEC 2011	0.219	0.095	0.223	0.102

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	0.000	0.000	0.000	-0.003	0.000	0.000	-0.002	0.223

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	0.002	0.000	0.000	-0.003	0.000	0.000	0.000	0.102

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	1676.7
Total Quantity	N/A	76677	7474	7508
Prog. Acq. Unit Cost (PAUC)	N/A	0.063	0.225	0.223

Cost Variance

Cost Variance Summary

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	972.7	706.3	--	1679.0
Previous Changes				
Economic	-0.1	-0.6	--	-0.7
Quantity	--	+12.8	--	+12.8
Schedule	--	+3.6	--	+3.6
Engineering	--	--	--	--
Estimating	+0.1	+15.8	--	+15.9
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	+31.6	--	+31.6
Current Changes				
Economic	+1.2	+6.5	--	+7.7
Quantity	--	+3.4	--	+3.4
Schedule	--	-3.6	--	-3.6
Engineering	--	--	--	--
Estimating	-7.1	-34.2	--	-41.3
Other	--	--	--	--
Support	--	-0.1	--	-0.1
Subtotal	-5.9	-28.0	--	-33.9
Total Changes	-5.9	+3.6	--	-2.3
CE - Cost Variance	966.8	709.9	--	1676.7
CE - Cost & Funding	966.8	709.9	--	1676.7

Summary Base Year 2007 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	993.4	661.2	--	1654.6
Previous Changes				
Economic	--	--	--	--
Quantity	--	+16.1	--	+16.1
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+0.1	+13.8	--	+13.9
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+0.1	+29.9	--	+30.0
Current Changes				
Economic	--	--	--	--
Quantity	--	+2.9	--	+2.9
Schedule	--	-3.3	--	-3.3
Engineering	--	--	--	--
Estimating	-6.5	-31.0	--	-37.5
Other	--	--	--	--
Support	--	-0.2	--	-0.2
Subtotal	-6.5	-31.6	--	-38.1
Total Changes	-6.4	-1.7	--	-8.1
CE - Cost Variance	987.0	659.5	--	1646.5
CE - Cost & Funding	987.0	659.5	--	1646.5

Previous Estimate: December 2010

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+1.2
Adjustment for current and prior escalation. (Estimating)	-1.1	-1.1
Reduced estimate of development costs due to Congressional decrement to the FY 2012 President's Budget request. (Estimating)	-4.5	-5.0
Reduced estimate of test range costs at White Sands Missile Range, NM (Estimating)	-0.9	-1.0
RDT&E Subtotal	-6.5	-5.9

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+6.5
Total Quantity variance resulting from an increase of 34 projectiles from 6531 to 6565 (Army). (Subtotal)	+3.3	+3.8
Quantity variance resulting from an increase of 34 projectiles from 6531 to 6565 (Army). (Quantity)	(+2.9)	(+3.4)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(+0.1)	(+0.1)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(+0.3)	(+0.3)
Acceleration of procurement buy profile to align with FY 2013 President's Budget (Army). (Schedule)	-3.4	-3.7
Adjustment for current and prior escalation. (Estimating)	-2.7	-2.9
Reduced procurement estimate to reflect CAPE-approved cost estimate per Nunn-McCurdy certification. (Estimating)	-28.6	-31.6
Adjustment for current and prior escalation. (Support)	0.0	-0.1
Decrease in Support to align with revised buy profile (Army). (Support)	-0.2	0.0
Procurement Subtotal	-31.6	-28.0

(QR) Quantity Related

Contracts

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	62.4	N/A	N/A	65.3	65.3

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2011)	-3.6	-2.5
Previous Cumulative Variances	+0.4	-0.6
Net Change	-4.0	-1.9

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to Guidance, Navigation & Control, Projectile Base, and Program Management overruns tied to ongoing technical issues, hardware slips, and risk mitigation efforts.

The unfavorable net change in the schedule variance is due to late deliveries of test article hardware due to delays and issues with First Article Inspections (FAI), as well as investigation and review of projectile base performance on Development Verification Test (DVT) 4c.

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 II of the Phase II contract.

This contract is for Phase 2 (Qualification) of Increment Ib Engineering and Manufacturing Development (EMD). The Phase 1 contracts were Firm Fixed Price and the Phase 2 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.

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 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 $272.8 million 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 $101.3 million (793 projectiles), $96.9 million (400 projectiles), and $74.6 million (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.

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.

This is the first time this contract is being reported in the SAR.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	324	324	544	59.56%
Production	1888	1732	6964	24.87%
Total Program Quantities Delivered	2212	2056	7508	27.38%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	1676.7	Years Appropriated	16
Expenditures To Date	1287.8	Percent Years Appropriated	88.89%
Percent Expended	76.81%	Appropriated to Date	1479.6
Total Funding Years	18	Percent Appropriated	88.24%

Plan and actual projectile quantities refer to projectiles delivered to the United States Army. Foreign Military Sales and United States Marine Corps (USMC) sales are not included. This data is as of December 31, 2011.

Operating and Support Cost

Assumptions And Ground Rules

The Operating and Support (O&S) costs account for all life cycle requirements identified in establishing an updated Acquisition Program Baseline in March 2011. The following costs reflect the current projected acquisition schedule for 6,264 projectiles. Procurement contracts began in FY 2005 and are scheduled to end in FY 2014 (10 total years of production contracts). The projectile operational life is 20 years at which time the projectile is scheduled for demilitarization. Periodic stockpile surveillance is scheduled throughout its storage life. The last production contract option in FY 2014 is scheduled for demilitarization in FY 2036 (20 years after delivery); therefore, the total years of planned O&S costs for inventory, stockpile surveillance and demilitarization is 30 years (FY 2007 through FY 2036).

The total O&S estimate of $26.1 million (M) (Base Year (BY) 2007 dollars) was determined by multiplying 30 years times $870.8 K (per year estimate). The $870.8 K annual estimate was determined through the development of the Program Office Estimate for the reduced Army Procurement Objective of 6,264 projectiles. The table below reflects the average annual costs for all projectiles across this 30-year period of support (FY 2007 through FY 2036).

There is no antecedent system that the Excalibur replaced.

Costs BY2007 $K		
Cost Element	**EXCALIBUR Average Annual Cost**	**Antecedent System N/A**
Unit-Level Manpower	--	--
Unit Operations	--	--
Maintenance	--	--
Sustaining Support	--	--
Continuing System Improvements	--	--
Indirect Support	--	--
Other	870.8	--
Total Unitized Cost (Base Year 2007 $)	870.8	--

Total O&S Costs $M	EXCALIBUR	Antecedent System
Base Year	26.1	--
Then Year	35.6	--

Demilitarization/Disposal costs of $2.5M BY 2007 are included in the O&S estimate.