



# Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-355



## Joint Air-to-Ground Missile (JAGM)

As of FY 2017 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**

Joint Air-to-Ground Missile (JAGM)

**DoD Component**

Army

**Joint Participants**

Navy

## Responsible Office

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**Date Assigned:** July 12, 2012

## References

**SAR Baseline (Development Estimate)**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated September 29, 2015

**Approved APB**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated September 29, 2015

## Mission and Description

The Joint Air-to-Ground Missile (JAGM) program is an Army led MDAP with Joint interest with the U.S. Marine Corps and U.S. Navy. The JAGM mission is to develop the next generation of aviation launched fire and forget missiles to replace the HELLFIRE laser and Longbow radar missiles. JAGM will be used by Joint service aircraft for destruction of high value stationary, moving and relocatable land and maritime targets from standoff range in day, night, adverse weather and obscured battlefield conditions.

## Executive Summary

### Program Highlights Since Last Report:

JAGM EMD phase activities include: qualifying the all-up round, qualifying the production line, qualifying JAGM on threshold platforms and completing operational test.

On January 26-28, 2016, the Joint Attack Munition Systems Project Office conducted a successful JAGM System Critical Design Review (CDR) / Initial Production Readiness Review. The JAGM CDR confirmed the system design is stable and is able to meet system performance requirements as evidenced by the detailed design documentation. The CDR also demonstrated the program is on track to achieve affordability, should cost goals, and establish the system's initial product baseline. A Post-CDR Assessment Report is being developed by OSD which will provide an overall assessment of the review and technical risk.

On July 29, 2015, the USD(AT&L) signed the Milestone B ADM for the JAGM program and authorized entry into EMD as an ACAT ID program. The associated 2366b certification statement waived three certification components, namely 2366b(1)(B), 2366b(1)(D), and 2366b(2), having determined that the DoD would be unable to meet critical national security objectives without these waivers.

Waived Provision (1) 2366b(1)(B): Appropriate trade-offs among cost, schedule, and performance objectives have been made to ensure that the program is affordable when considering the per unit cost and the total acquisition cost in the context of the total resources available during the period covered by the FYDP submitted during the fiscal year in which the certification is made; and

Waived Provision (2) 2366b(1)(D): Funding is available to execute the product development and production plan under the program, through the period covered by the FYDP submitted during the fiscal year in which the certification is made, consistent with the estimates described in paragraph (a)(1)(C) of the 2366b certification for the program.

The waivers of these two components were necessary because the FYDP submitted during the fiscal year in which the certification is made will not be submitted until February 2016 for this fiscal year.

Waived Provision (3) 2366b(2): The program received a preliminary design review and conducted a formal post-preliminary design review assessment and certifies on the basis of such assessment that the program demonstrates a high likelihood of accomplishing its intended mission.

Based on the maturity of the technology required for the JAGM, it is expected that the requisite technologies are sufficiently mature to proceed to EMD. A JAGM preliminary design review was not conducted prior to Milestone B. However, a critical design review is planned within six months of contract award, followed by the formal post review assessment. Based on this assessment, the final determination as to the program's likelihood of accomplishing its intended mission will be made.

The Department will continue to review the JAGM program at least annually until all waived certification provisions are satisfied.

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

### History of Significant Developments Since Program Initiation:

On October 17, 2014, USD(AT&L) authorized the release of the final request for proposal for the JAGM EMD contract and LRIP options to include LRIP long lead items.

On July 31, 2015, Lockheed Martin was awarded the competitive JAGM EMD contract to develop the next generation of aviation launched missiles to replace the HELLFIRE laser and Longbow radar missiles.

On August 25, 2015, the Joint Attack Munition Systems Project Office, with support from the U.S. Army Aviation and Missile Research, Development and Engineering Center and Lockheed Martin, successfully conducted the third JAGM flight test at Eglin Air Force Base, Florida. The missile had a nominal launch and impacted and destroyed the target. The missile executed a Doppler Beam Sharpening trajectory, increasing the probability of hit against a difficult stationary target using the Active Fire and Forget. Among many firsts, this was the first test of JAGM using the Active Fire and Forget engagement mode and the first engagement of an armored vehicle.



## Threshold Breaches

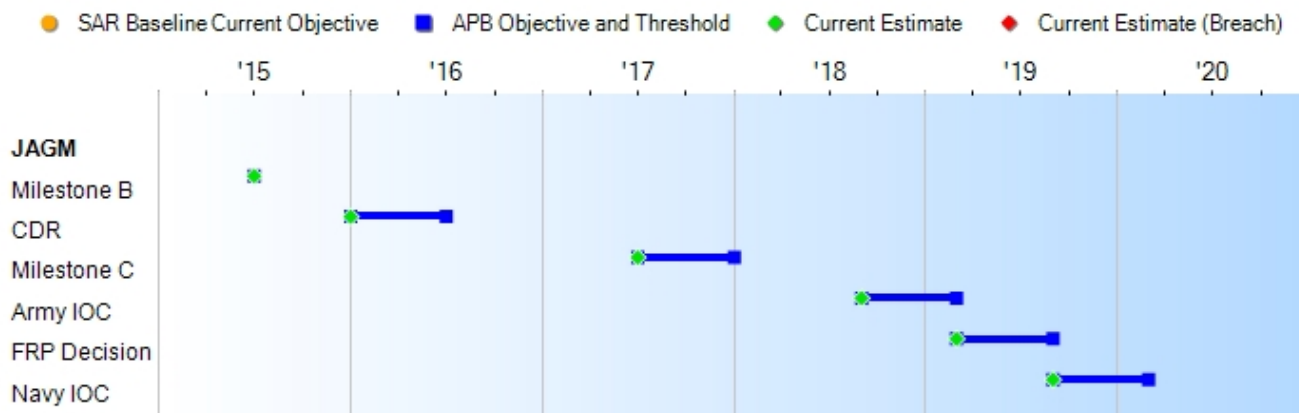
### APB Breaches

- 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



Schedule Events				
Events	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate
Milestone B	Jul 2015	Jul 2015	Jul 2015	Jul 2015
CDR	Jan 2016	Jan 2016	Jul 2016	Jan 2016
Milestone C	Jul 2017	Jul 2017	Jan 2018	Jul 2017
Army IOC	Sep 2018	Sep 2018	Mar 2019	Sep 2018
FRP Decision	Mar 2019	Mar 2019	Sep 2019	Mar 2019
Navy IOC	Sep 2019	Sep 2019	Mar 2020	Sep 2019

### Change Explanations

None

### Acronyms and Abbreviations

CDR - Critical Design Review

## Performance

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
<b>Combat Effectiveness/Reliability</b>				
<b>In-Flight Reliability (Post P-BIT Check)</b>				
0.92 (Initial fielding) 0.94 (System Maturity)	0.92 (Initial fielding) 0.94 (System Maturity)	(T=O) 0.92 (Initial fielding) 0.94 (System Maturity)	TBD	0.92 (Initial fielding) 0.94 (System Maturity)
<b>Range</b>				
<b>Minimum Engagement Range Rotary Wing (RW)</b>				
500 m	500 m	(T=O) 500 m	TBD	500 m
<b>Maximum Range (RW)</b>				
Greater Than 8 km	Greater Than 8 km	8 km	TBD	Greater Than 8 km
<b>Interoperability</b>				
<b>Interoperable with joint rotary and fixed wing (manned and unmanned) aircraft</b>				
AH-64D, AH-1Z	AH-64D, AH-1Z	(T=O) AH-64D, AH-1Z	TBD	AH-64D, AH-1Z
<b>Laser Designation</b>				
Compatible with standard Joint aviation platform laser designation systems, including PRF and PIM codes	Compatible with standard Joint aviation platform laser designation systems, including PRF and PIM codes	(T=O) Compatible with standard Joint aviation platform laser designation systems, including PRF and PIM codes	TBD	Compatible with standard Joint aviation platform laser designation systems, including PRF and PIM codes
<b>Carrier/Shipboard Operability</b>				
<b>Compatible with carrier/shipboard operations without degrading other Naval operations</b>				
Yes	Yes	(T=O) Yes	TBD	Yes
<b>Sustainability (Materiel Availability)</b>				
<b>Percentage of missiles operationally capable of performing an assigned mission at a given time, based on materiel condition</b>				
0.90 (At initial fielding) 0.95 (At system maturity)	0.90 (At initial fielding) 0.95 (At system maturity)	(T=O) 0.90 (At initial fielding) 0.95 (At system maturity)	TBD	0.90 (At initial fielding) 0.95 (At system maturity)

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

### Requirements Reference

JAGM CDD version 2.5, dated October 1, 2012 and approved January 17, 2013

**Change Explanations**

None

**Notes**

The JAGM Life Cycle Sustainment Plan defines system maturity as IOC plus two years.

**Acronyms and Abbreviations**

km - kilometer

m - meter

P-BIT - Power-On Built In Test

PIM - Pulse Interval Modulation

PRF - Pulse Repetition Frequency

T=O - Threshold equals Objective

### Track to Budget

**RDT&E**

Appn	BA	PE
Navy	1319 05	0605450N
	<b>Project</b>	<b>Name</b>
	2211	Joint Air-to-Ground Missile (JAGM)
Army	2040 05	0605450A
	<b>Project</b>	<b>Name</b>
	JA6	Joint Air-to-Ground Missile (JAGM)

**Procurement**

Appn	BA	PE
Navy	1507 02	0206138M
	<b>Line Item</b>	<b>Name</b>
	2248	Joint Air-to-Ground Missile (JAGM)
Army	2032 02	
	<b>Line Item</b>	<b>Name</b>
	C70302	Joint Air-to-Ground Missile (JAGM)

## Cost and Funding

### Cost Summary

Total Acquisition Cost							
Appropriation	BY 2015 \$M			BY 2015 \$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	978.5	978.5	1076.4	967.1	952.8	952.8	941.5
Procurement	4691.4	4691.4	5160.5	4715.7	6371.7	6371.7	6195.4
Flyaway	--	--	--	4645.6	--	--	6106.8
Recurring	--	--	--	4627.5	--	--	6085.6
Non Recurring	--	--	--	18.1	--	--	21.2
Support	--	--	--	70.1	--	--	88.6
Other Support	--	--	--	69.8	--	--	88.3
Initial Spares	--	--	--	0.3	--	--	0.3
MILCON	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
Total	5669.9	5669.9	N/A	5682.8	7324.5	7324.5	7136.9

#### Current APB Cost Estimate Reference

Director of CAPE (DCAPE) ICE dated July 17, 2015

#### Confidence Level

Confidence Level of cost estimate for current APB: 50%

This estimate, like all previous OSD CAPE estimates, is built upon a product-oriented work breakdown structure; is based on historical actual cost information to the maximum extent possible; and, most importantly, is based on conservative assumptions that are consistent with actual demonstrated contractor and Government performance for a series of acquisition programs in which the Department was successful.

It is difficult to calculate mathematically the precise confidence levels associated with life-cycle cost estimates prepared for MDAPs. Based on the rigor in methods used in building estimates, the strong adherence to the collection and use of historical cost information, and the review of applied assumptions, we project that it is about equally likely that the estimate will prove too low or too high for execution of the program described.

Total Quantity			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E	118	118	118
Procurement	26319	26319	26319
Total	26437	26437	26437

## Cost and Funding

### Funding Summary

Appropriation Summary									
FY 2017 President's Budget / December 2015 SAR (TY\$ M)									
Appropriation	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
RDT&E	734.0	109.0	60.9	24.3	12.9	0.2	0.2	0.0	941.5
Procurement	0.0	27.7	128.1	216.7	283.4	251.8	357.1	4930.6	6195.4
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 2017 Total	734.0	136.7	189.0	241.0	296.3	252.0	357.3	4930.6	7136.9
	--	--	--	--	--	--	--	--	--

Quantity Summary										
FY 2017 President's Budget / December 2015 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Development	118	0	0	0	0	0	0	0	0	118
Production	0	0	0	420	600	1376	970	1565	21388	26319
PB 2017 Total	118	0	0	420	600	1376	970	1565	21388	26437
	--	--	--	--	--	--	--	--	--	--



## Cost and Funding

### Annual Funding By Appropriation

Annual Funding							
2040   RDT&E   Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2008	--	--	--	--	--	--	51.7
2009	--	--	--	--	--	--	114.8
2010	--	--	--	--	--	--	118.9
2011	--	--	--	--	--	--	66.4
2012	--	--	--	--	--	--	86.8
2013	--	--	--	--	--	--	11.6
2014	--	--	--	--	--	--	15.7
2015	--	--	--	--	--	--	80.6
2016	--	--	--	--	--	--	83.1
2017	--	--	--	--	--	--	43.0
2018	--	--	--	--	--	--	8.5
2019	--	--	--	--	--	--	5.9
Subtotal	74	--	--	--	--	--	687.0

Annual Funding 2040   RDT&E   Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	BY 2015 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2008	--	--	--	--	--	--	56.5
2009	--	--	--	--	--	--	123.8
2010	--	--	--	--	--	--	126.3
2011	--	--	--	--	--	--	69.2
2012	--	--	--	--	--	--	89.0
2013	--	--	--	--	--	--	11.7
2014	--	--	--	--	--	--	15.5
2015	--	--	--	--	--	--	78.4
2016	--	--	--	--	--	--	80.0
2017	--	--	--	--	--	--	40.7
2018	--	--	--	--	--	--	7.9
2019	--	--	--	--	--	--	5.4
Subtotal	74	--	--	--	--	--	704.4

Annual Funding							
1319   RDT&E   Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2008	--	--	--	--	--	--	11.6
2009	--	--	--	--	--	--	52.8
2010	--	--	--	--	--	--	61.1
2011	--	--	--	--	--	--	48.6
2012	--	--	--	--	--	--	2.6
2013	--	--	--	--	--	--	--
2014	--	--	--	--	--	--	4.7
2015	--	--	--	--	--	--	6.1
2016	--	--	--	--	--	--	25.9
2017	--	--	--	--	--	--	17.9
2018	--	--	--	--	--	--	15.8
2019	--	--	--	--	--	--	7.0
2020	--	--	--	--	--	--	0.2
2021	--	--	--	--	--	--	0.2
Subtotal	44	--	--	--	--	--	254.5

Annual Funding 1319   RDT&E   Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 2015 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2008	--	--	--	--	--	--	12.7
2009	--	--	--	--	--	--	57.1
2010	--	--	--	--	--	--	65.1
2011	--	--	--	--	--	--	50.6
2012	--	--	--	--	--	--	2.7
2013	--	--	--	--	--	--	--
2014	--	--	--	--	--	--	4.7
2015	--	--	--	--	--	--	6.0
2016	--	--	--	--	--	--	25.1
2017	--	--	--	--	--	--	17.1
2018	--	--	--	--	--	--	14.8
2019	--	--	--	--	--	--	6.4
2020	--	--	--	--	--	--	0.2
2021	--	--	--	--	--	--	0.2
Subtotal	44	--	--	--	--	--	262.7

Annual Funding 2032   Procurement   Missile Procurement, Army							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2016	--	27.7	--	--	27.7	--	27.7
2017	324	100.8	--	1.1	101.9	--	101.9
2018	496	186.5	--	0.2	186.7	3.7	190.4
2019	1266	248.0	--	4.6	252.6	6.5	259.1
2020	860	222.6	--	--	222.6	5.0	227.6
2021	1344	297.5	--	4.8	302.3	5.1	307.4
2022	1000	219.1	--	--	219.1	3.9	223.0
2023	1000	214.2	--	--	214.2	3.6	217.8
2024	1000	213.3	--	--	213.3	3.7	217.0
2025	1000	212.1	--	--	212.1	3.7	215.8
2026	1000	211.3	--	0.8	212.1	3.8	215.9
2027	1000	212.2	--	--	212.2	3.8	216.0
2028	1000	213.9	--	--	213.9	3.9	217.8
2029	1000	215.0	--	--	215.0	3.9	218.9
2030	1000	216.2	--	--	216.2	4.0	220.2
2031	1000	217.5	--	0.9	218.4	4.1	222.5
2032	1000	221.3	--	--	221.3	4.1	225.4
2033	1000	223.6	--	--	223.6	0.7	224.3
2034	1000	226.7	--	--	226.7	0.7	227.4
2035	1000	230.5	--	1.0	231.5	0.7	232.2
2036	1000	232.6	--	0.4	233.0	0.7	233.7
2037	1013	234.3	--	0.2	234.5	0.7	235.2
2038	--	13.6	--	--	13.6	--	13.6
Subtotal	20303	4610.5	--	14.0	4624.5	66.3	4690.8

Annual Funding 2032   Procurement   Missile Procurement, Army								
Fiscal Year	Quantity	BY 2015 \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2016	--	26.4	--	--	26.4	--	26.4	
2017	324	94.4	--	1.0	95.4	--	95.4	
2018	496	171.2	--	0.2	171.4	3.4	174.8	
2019	1266	223.2	--	4.1	227.3	5.9	233.2	
2020	860	196.5	--	--	196.5	4.4	200.9	
2021	1344	257.4	--	4.2	261.6	4.4	266.0	
2022	1000	185.9	--	--	185.9	3.3	189.2	
2023	1000	178.1	--	--	178.1	3.0	181.1	
2024	1000	173.9	--	--	173.9	3.0	176.9	
2025	1000	169.5	--	--	169.5	3.0	172.5	
2026	1000	165.6	--	0.6	166.2	3.0	169.2	
2027	1000	163.0	--	--	163.0	3.0	166.0	
2028	1000	161.1	--	--	161.1	3.0	164.1	
2029	1000	158.8	--	--	158.8	2.9	161.7	
2030	1000	156.5	--	--	156.5	2.9	159.4	
2031	1000	154.4	--	0.6	155.0	2.9	157.9	
2032	1000	154.0	--	--	154.0	2.9	156.9	
2033	1000	152.5	--	--	152.5	0.5	153.0	
2034	1000	151.6	--	--	151.6	0.5	152.1	
2035	1000	151.1	--	0.7	151.8	0.5	152.3	
2036	1000	149.5	--	0.3	149.8	0.4	150.2	
2037	1013	147.7	--	0.1	147.8	0.4	148.2	
2038	--	8.4	--	--	8.4	--	8.4	
Subtotal	20303	3550.7	--	11.8	3562.5	53.3	3615.8	

The source for procurement quantity profile is the JAGM OSD CAPE ICE.

Cost Quantity Information 2032   Procurement   Missile Procurement, Army		
Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned With Quantity) BY 2015 \$M
2016	--	--
2017	324	120.8
2018	496	171.2
2019	1266	223.2
2020	860	196.5
2021	1344	257.4
2022	1000	185.9
2023	1000	178.1
2024	1000	173.9
2025	1000	169.5
2026	1000	165.6
2027	1000	163.0
2028	1000	161.1
2029	1000	158.8
2030	1000	156.5
2031	1000	154.4
2032	1000	154.0
2033	1000	152.5
2034	1000	151.6
2035	1000	151.1
2036	1000	149.5
2037	1013	156.1
2038	--	--
Subtotal	20303	3550.7

Annual Funding 1507   Procurement   Weapons Procurement, Navy							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2017	96	24.8	--	0.7	25.5	0.7	26.2
2018	104	24.7	--	0.4	25.1	1.2	26.3
2019	110	22.6	--	0.4	23.0	1.3	24.3
2020	110	22.8	--	0.3	23.1	1.1	24.2
2021	221	45.9	--	3.2	49.1	0.6	49.7
2022	200	48.9	--	0.4	49.3	0.7	50.0
2023	210	50.3	--	0.3	50.6	0.6	51.2
2024	219	51.8	--	0.3	52.1	0.6	52.7
2025	330	73.8	--	0.3	74.1	0.9	75.0
2026	330	73.6	--	0.3	73.9	0.9	74.8
2027	330	74.1	--	0.2	74.3	1.0	75.3
2028	330	74.7	--	0.2	74.9	1.0	75.9
2029	330	75.4	--	0.1	75.5	1.0	76.5
2030	330	76.2	--	0.1	76.3	1.0	77.3
2031	330	77.1	--	--	77.1	1.0	78.1
2032	330	78.1	--	--	78.1	1.0	79.1
2033	330	79.2	--	--	79.2	1.0	80.2
2034	330	80.3	--	--	80.3	1.1	81.4
2035	330	81.5	--	--	81.5	1.1	82.6
2036	330	82.7	--	--	82.7	1.1	83.8
2037	330	83.9	--	--	83.9	1.1	85.0
2038	330	85.0	--	--	85.0	1.1	86.1
2039	126	86.5	--	--	86.5	1.2	87.7
2040	--	1.2	--	--	1.2	--	1.2
<b>Subtotal</b>	<b>6016</b>	<b>1475.1</b>	<b>--</b>	<b>7.2</b>	<b>1482.3</b>	<b>22.3</b>	<b>1504.6</b>



Annual Funding 1507   Procurement   Weapons Procurement, Navy							
Fiscal Year	Quantity	BY 2015 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2017	96	23.3	--	0.6	23.9	0.7	24.6
2018	104	22.7	--	0.4	23.1	1.1	24.2
2019	110	20.4	--	0.4	20.8	1.1	21.9
2020	110	20.2	--	0.3	20.5	0.9	21.4
2021	221	39.8	--	2.8	42.6	0.5	43.1
2022	200	41.6	--	0.3	41.9	0.6	42.5
2023	210	41.9	--	0.3	42.2	0.5	42.7
2024	219	42.3	--	0.2	42.5	0.6	43.1
2025	330	59.1	--	0.2	59.3	0.8	60.1
2026	330	57.8	--	0.2	58.0	0.8	58.8
2027	330	57.1	--	0.2	57.3	0.7	58.0
2028	330	56.4	--	0.2	56.6	0.7	57.3
2029	330	55.8	--	0.1	55.9	0.7	56.6
2030	330	55.3	--	0.1	55.4	0.7	56.1
2031	330	54.9	--	--	54.9	0.7	55.6
2032	330	54.5	--	--	54.5	0.7	55.2
2033	330	54.2	--	--	54.2	0.6	54.8
2034	330	53.8	--	--	53.8	0.8	54.6
2035	330	53.6	--	--	53.6	0.7	54.3
2036	330	53.3	--	--	53.3	0.7	54.0
2037	330	53.0	--	--	53.0	0.7	53.7
2038	330	52.6	--	--	52.6	0.7	53.3
2039	126	52.5	--	--	52.5	0.8	53.3
2040	--	0.7	--	--	0.7	--	0.7
<b>Subtotal</b>	<b>6016</b>	<b>1076.8</b>	<b>--</b>	<b>6.3</b>	<b>1083.1</b>	<b>16.8</b>	<b>1099.9</b>

Cost Quantity Information		
1507   Procurement   Weapons Procurement, Navy		
Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned With Quantity) BY 2015 \$M
2017	96	23.3
2018	104	22.7
2019	110	20.4
2020	110	20.2
2021	221	39.8
2022	200	41.6
2023	210	41.9
2024	219	42.3
2025	330	59.1
2026	330	57.8
2027	330	57.1
2028	330	56.4
2029	330	55.8
2030	330	55.3
2031	330	54.9
2032	330	54.5
2033	330	54.2
2034	330	53.8
2035	330	53.6
2036	330	53.3
2037	330	53.0
2038	330	52.6
2039	126	53.2
2040	--	--
Subtotal	6016	1076.8

## Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	7/29/2015	7/29/2015
Approved Quantity	2631	2631
Reference	JAGM Milestone B ADM	JAGM Milestone B ADM
Start Year	2017	2017
End Year	2018	2018

## **Foreign Military Sales**

None

## **Nuclear Costs**

None

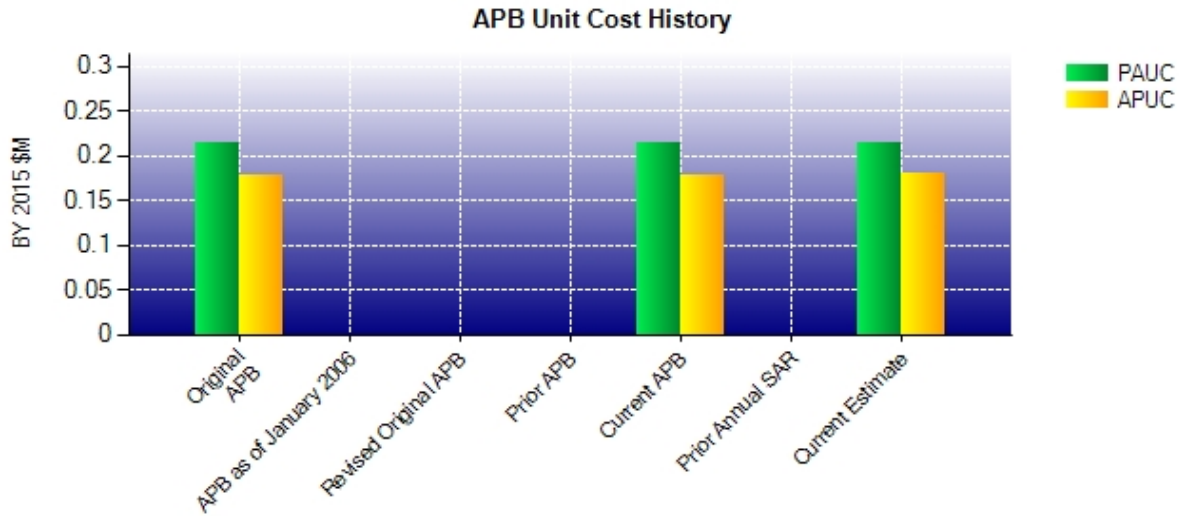
## Unit Cost

**Unit Cost Report**

Item	BY 2015 \$M	BY 2015 \$M	% Change
	Current UCR Baseline (Sep 2015 APB)	Current Estimate (Dec 2015 SAR)	
<b>Program Acquisition Unit Cost</b>			
Cost	5669.9	5682.8	
Quantity	26437	26437	
Unit Cost	0.214	0.215	+0.47
<b>Average Procurement Unit Cost</b>			
Cost	4691.4	4715.7	
Quantity	26319	26319	
Unit Cost	0.178	0.179	+0.56

Item	BY 2015 \$M	BY 2015 \$M	% Change
	Original UCR Baseline (Sep 2015 APB)	Current Estimate (Dec 2015 SAR)	
<b>Program Acquisition Unit Cost</b>			
Cost	5669.9	5682.8	
Quantity	26437	26437	
Unit Cost	0.214	0.215	+0.47
<b>Average Procurement Unit Cost</b>			
Cost	4691.4	4715.7	
Quantity	26319	26319	
Unit Cost	0.178	0.179	+0.56

**Unit Cost History**



Item	Date	BY 2015 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Sep 2015	0.214	0.178	0.277	0.242
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	Sep 2015	0.214	0.178	0.277	0.242
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	Dec 2015	0.215	0.179	0.270	0.235

**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	
0.277	-0.001	0.000	-0.008	0.000	0.001	0.000	0.001	-0.007	0.270

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.242	-0.001	0.000	-0.007	0.000	0.001	0.000	0.001	-0.006	0.235

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	Jul 2015	N/A	Jul 2015
Milestone C	N/A	Jul 2017	N/A	Jul 2017
IOC	N/A	Sep 2018	N/A	Sep 2018
Total Cost (TY \$M)	N/A	7324.5	N/A	7136.9
Total Quantity	N/A	26437	N/A	26437
PAUC	N/A	0.277	N/A	0.270

## Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	952.8	6371.7	--	7324.5
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	+0.4	-31.8	--	-31.4
Quantity	--	--	--	--
Schedule	--	-190.7	--	-190.7
Engineering	--	--	--	--
Estimating	-11.7	+30.8	--	+19.1
Other	--	--	--	--
Support	--	+15.4	--	+15.4
Subtotal	-11.3	-176.3	--	-187.6
Total Changes	-11.3	-176.3	--	-187.6
CE - Cost Variance	941.5	6195.4	--	7136.9
CE - Cost & Funding	941.5	6195.4	--	7136.9



Summary BY 2015 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	978.5	4691.4	--	5669.9
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	-13.0	--	-13.0
Engineering	--	--	--	--
Estimating	-11.4	+22.9	--	+11.5
Other	--	--	--	--
Support	--	+14.4	--	+14.4
Subtotal	-11.4	+24.3	--	+12.9
Total Changes	-11.4	+24.3	--	+12.9
CE - Cost Variance	967.1	4715.7	--	5682.8
CE - Cost & Funding	967.1	4715.7	--	5682.8

Previous Estimate: September 2015

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+0.4
Revised estimate to reflect prior year actuals and program reductions. Prior year actual reductions equals \$3.2M and program reductions equals \$6.4M (Army). (Estimating)	-9.3	-9.6
Revised estimate to account for current and prior inflation adjustments (Army). (Estimating)	+0.4	+0.4
Adjustment for current and prior escalation. (Estimating)	-1.0	-1.0
Revised estimate to reflect prior year actuals and program adjustments. Prior year actual reduction equals -\$7.1M and program adjustments equals +\$5.4M (Navy). (Estimating)	-1.7	-1.7
Revised estimate to account for current and prior inflation adjustments (Navy). (Estimating)	+0.2	+0.2
<b>RDT&amp;E Subtotal</b>	<b>-11.4</b>	<b>-11.3</b>

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-31.8
Adjustment for current and prior escalation. (Estimating)	+0.1	+0.1
Acceleration of the procurement buy profile FY 2019 - FY 2021 due to increased funding (Army). (Schedule)	0.0	-194.1
Acceleration of the procurement buy profile FY 2019 - FY2021 due to increased funding, shortens the procurement phase (Navy). (Schedule)	0.0	-18.7
Revised estimate to account for current and prior inflation adjustments (Army). (Estimating)	+17.6	+23.8
Revised estimate to account for current and prior inflation adjustments (Navy). (Estimating)	+5.2	+6.9
Additional schedule variance due to accelerated buy profile (Navy). (Schedule)	0.0	+19.2
Additional schedule variance due to accelerated buy profile. Army (Schedule)	-13.0	+2.9
Increase in Other Support is due to the accelerated procurement buy profile (Army). (Support)	+14.4	+15.4
<b>Procurement Subtotal</b>	<b>+24.3</b>	<b>-176.3</b>

## Contracts

### Contract Identification

**Appropriation:** RDT&E  
**Contract Name:** EMD and LRIP and Deployment  
**Contractor:** Lockheed Martin Corporation  
**Contractor Location:** 5600 W Sand lake Rd MP-265  
 Orlando, FL 32819  
**Contract Number:** W31P4Q-15-C-0102  
**Contract Type:** Fixed Price Incentive(Firm Target) (FPIF)  
**Award Date:** July 31, 2015  
**Definitization Date:** July 31, 2015

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
195.2	201.3	1155	195.2	201.3	1155	195.2	195.2

### Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FPIF) contract.

### General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because an EVM was waived by the DAE on October 17, 2014 due to the short two-year length of the contract.

## Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	118	0.00%
Production	0	0	26319	0.00%
Total Program Quantity Delivered	0	0	26437	0.00%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	7136.9	Years Appropriated	9
Expended to Date	652.7	Percent Years Appropriated	27.27%
Percent Expended	9.15%	Appropriated to Date	870.7
Total Funding Years	33	Percent Appropriated	12.20%

The above data is current as of February 09, 2016.

## Operating and Support Cost

### Cost Estimate Details

Date of Estimate:	July 17, 2015
Source of Estimate:	CAPE ICE
Quantity to Sustain:	26319
Unit of Measure:	Missile
Service Life per Unit:	25.00 Years
Fiscal Years in Service:	FY 2018 - FY 2065

The 118 developmental missiles will not be sustained.

### Sustainment Strategy

#### Sustainment Approach

- Current: Three years Initial Interim Contractor Support
- Future: Integrated Product Support based sustainment beginning 1st Quarter FY 2022
- Obtain data rights to enable organic depot/partnering as required
- High Materiel Availability through design
- Leverage existing sustainment infrastructure

### Antecedent Information

No Antecedent Program

Annual O&S Costs BY2015 \$K		
Cost Element	JAGM Average Annual Cost Per Missile	No Antecedent Program (Antecedent) N/A
Unit-Level Manpower	--	--
Unit Operations	--	--
Maintenance	0.177	--
Sustaining Support	0.396	--
Continuing System Improvements	0.016	--
Indirect Support	--	--
Other	--	--
Total	0.589	--

Item	Total O&S Cost \$M			
	JAGM		Current Estimate	No Antecedent Program (Antecedent)
	Current Development APB Objective/Threshold			
Base Year	396.5	436.2	387.2	0.0
Then Year	678.1	N/A	668.5	N/A

Disposal Cost is included in the Operating and Support Cost of the current APB objective and threshold for this program.

**Equation to Translate Annual Cost to Total Cost**

Total Missile O&S = \$0.5885K (average annual O&S cost per missile) \* 25 (years of service life) \* 26,319 (total missile quantity) = \$387.2M

O&S Cost Variance		
Category	BY 2015 \$M	Change Explanations
Prior SAR Total O&S Estimates - Sep 2015 SAR	392.6	
Programmatic/Planning Factors	-5.4	Accelerated production shortens sustainment years therefore decreasing sustainment cost.
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	-5.4	
Current Estimate	387.2	

**Disposal Estimate Details**

**Date of Estimate:** February 04, 2016  
**Source of Estimate:** POE  
**Disposal/Demilitarization Total Cost (BY 2015 \$M):** Total costs for disposal of all Missile are 2.6

The JAGM disposal costs changed from \$3.9M to \$2.6M due to a change from using the methodology in the ICE to using HELLFIRE disposal cost actuals. The disposal cost is calculated using the HELLFIRE actuals multiplied by the JAGM disposal quantity (JAGM Procurement quantity less missiles consumed during Stockpile Reliability Program) plus transportation to disposal site.