

Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-503



Joint Direct Attack Munition (JDAM)

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)

JDAM December 2015 SAR

Program Information

Program Name

Joint Direct Attack Munition (JDAM)

DoD Component

Air Force

Joint Participants

Navy

Responsible Office

Col W. Scott Bell 6033 Elm Lane, Bldg 1247 Hill AFB, UT 84056

DSN Fax:

william.bell@us.af.mil

Phone: 801-777-5434 Fax: 801-777-2099 **DSN Phone:** 777-5434

Date Assigned: June 15, 2015

References

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 23, 2001

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated June 30, 2015

Mission and Description

The Joint Direct Attack Munition (JDAM) program is a joint Air Force/Navy program with the Air Force as the lead acquisition service. Designated Acquisition Category IC, this program upgrades the existing inventory of general purpose bombs (MK-84, BLU-109, MK-82 and MK-83) by integrating the bombs with a field installed guidance kit using a Global Positioning System Aided Inertial Navigation System. JDAM provides an accurate, adverse weather capability. JDAM is integrated with the B-52H, B-2A, B-1B, F-16C/D, F/A-18A+/C/D/E/F, F-15E, A-10C, AV-8B and F-22A aircraft. Follow-on integration with the MQ-9 and F-35 Joint Strike Fighter are in progress.

Executive Summary

The Government reached a settlement with Boeing on a final contract price on November 6, 2015 for the Lot 18-22 Indefinite Delivery/Indefinite Quantity contract, and is now working to definitize the contract and increase the current production capacity ceiling from 15,000 tail kits per lot to 36,500 tail kits per lot.

An updated APB was approved on June 30, 2015, and is reflected in this document. The new APB cleared a breach for exceeding total Procurement dollars due to continued JDAM demand over the life of the program.

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

Threshold Breaches

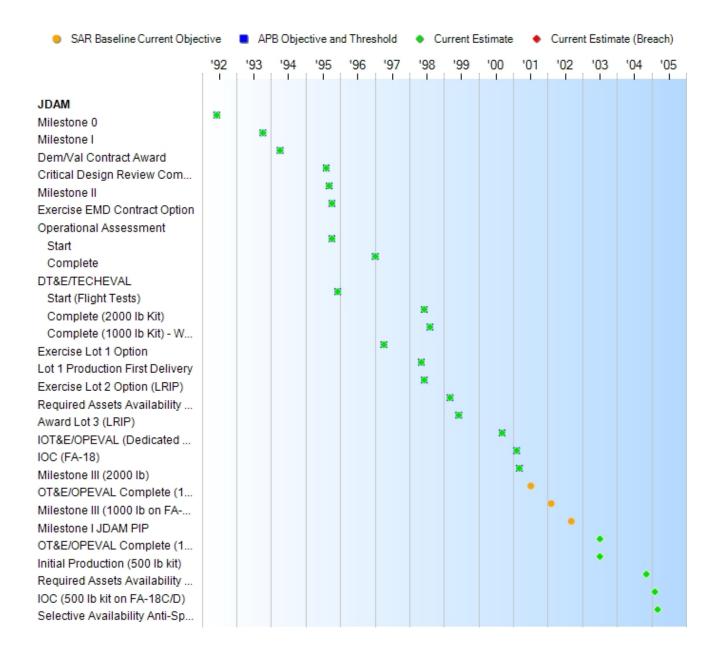
APB Breach	nes						
Schedule							
Performanc	е						
Cost	RDT&E						
	Procurement						
	MILCON						
	Acq O&M						
O&S Cost							
Unit Cost	PAUC						
	APUC						
Nunn-McCurdy Breaches							
Current UC	R Baseline						
	DALIC	Mana					

PAUC None APUC None

Original UCR Baseline

PAUC None APUC None

Schedule



Schedule Events									
Events	SAR Baseline Production Estimate	Prod	nt APB uction /Threshold	Current Estimate					
Milestone 0	Jun 1992	Jun 1992	Jun 1992	Jun 1992					
Milestone I	Oct 1993	Oct 1993	Oct 1993	Oct 1993					
Dem/Val Contract Award	Apr 1994	Apr 1994	Apr 1994	Apr 1994					
Critical Design Review Complete	Aug 1995	Aug 1995	Aug 1995	Aug 1995					
Milestone II	Sep 1995	Sep 1995	Sep 1995	Sep 1995					
Exercise EMD Contract Option	Oct 1995	Oct 1995	Oct 1995	Oct 1995					
Operational Assessment									
Start	Oct 1995	Oct 1995	Oct 1995	Oct 1995					
Complete	Mar 1997	Jan 1997	Jan 1997	Jan 1997					
DT&E/TECHEVAL									
Start (Flight Tests)	Oct 1995	Dec 1995	Dec 1995	Dec 1995					
Complete (2000 lb Kit)	Dec 1997	Jun 1998	Jun 1998	Jun 1998					
Complete (1000 lb Kit) - Weapon Only	Feb 1998	Aug 1998	Aug 1998	Aug 1998					
Exercise Lot 1 Option	Apr 1997	Apr 1997	Apr 1997	Apr 1997					
Lot 1 Production First Delivery	Apr 1998	May 1998	May 1998	May 1998					
Exercise Lot 2 Option (LRIP)	Apr 1998	Jun 1998	Jun 1998	Jun 1998					
Required Assets Availability (AF)	Mar 1999	Mar 1999	Mar 1999	Mar 1999					
Award Lot 3 (LRIP)	Jun 1999	Jun 1999	Jun 1999	Jun 1999					
IOT&E/OPEVAL (Dedicated 2000 lb Kit) Complete	Sep 2000	Sep 2000	Sep 2000	Sep 2000					
IOC (FA-18)	Nov 2000	Feb 2001	Feb 2001	Feb 2001					
Milestone III (2000 lb)	Nov 2000	Mar 2001	Mar 2001	Mar 2001					
OT&E/OPEVAL Complete (1000 lb Kit/FA-18C/D)	Jul 2001	N/A	N/A	N/A					
Milestone III (1000 lb on FA-18C/D)	Feb 2002	N/A	N/A	N/A					
Milestone I JDAM PIP	Sep 2002	N/A	N/A	N/A					
OT&E/OPEVAL Complete (1000 lb Kit/FA-18C/D)	N/A	Jul 2003	Jul 2003	Jul 2003					
Initial Production (500 lb kit)	N/A	Jul 2003	Jul 2003	Jul 2003					
Required Assets Availability (RAA) (500 lb on B-2)	N/A	Nov 2004	Nov 2004	Nov 2004					
IOC (500 lb kit on FA-18C/D)	N/A	Feb 2005	Feb 2005	Feb 2005					
Selective Availability Anti-Spoofing Module (SAASM)/GPS Anti-Jam Production Award	N/A	Mar 2005	Mar 2005	Mar 2005					

Change Explanations

None

JDAM December 2015 SAR

Acronyms and Abbreviations

AF - Air Force
Dem/Val - Demonstration/Validation
DT&E - Development Test and Evaluation
GPS - Global Positioning System
IOT&E - Initial Operational Test and Evaluation
Ib - Pound
OPEVAL - Operational Evaluation
OT&E - Operational Test and Evaluation
PIP - Product Improvement Program
TECHEVAL - Technical Evaluation

Performance

Performance Characteristics										
SAR Baseline Production Estimate	Current Produc Objective/Ti	tion	Demonstrated Performance	Current Estimate						
Weather Capability										
Adverse	Adverse	(T=O) Adverse	Adverse	Adverse						
Accuracy (CEP) (Meter	rs)									
GPS Available, Impa	GPS Available, Impact Angles > 60 Deg									
13 Horizontal Targets	5 Horizontal targets	13	4.3	5 Horizontal Targets						
Inflight Re-targeting C	apability (captive carry)								
Yes	Yes	(T=O) Yes	Yes	Yes						
Carrier Operability										
Yes	Yes	(T=O) Yes	Yes	Yes						
Warhead Compatibility										
MK-82/BLU-111, MK- 83, Improved 1000-lbs, BLU-113/116/117	MK-82/BLU-111, MK- 83, Improved 1000-lbs, BLU-113/116/117	BLU-109, MK-84, MK-83 (F-22)	BLU-109, MK-84, MK-83 (F-22), MK- 82	BLU-109, MK-84, MK-83 (F-22), MK-82						
Aircraft Compatibility			'							
Bomber										
B-1B, B-2	B-1B, B-2	B-52H	Yes	B-52H, B-1B, B-2						
Fighter Attack										
F-16C/D, F/A-18E/F, F- 117A, F-15E, F- 14A/B/D, P-3, S-3, JSF, A-10	F-16C/D, F/A-18E/F, F- 117A, F-15E, F- 14A/B/D, P-3, S-3, JSF, A-10	F/A-18C/D, F-22 (MK-83), AV-8B & F/A-18C/D (MK- 83)	Yes	F-16C/D, F-117, F/A- 18A+/C/D/E/F, F-15E, AV-8B, A-10, F-22A						
Mission Reliability										
.90	.90	(T=O) .90	.983	.90						
JDAM PIP Accuracy (C	CEP) (Meters)									
3	N/A	N/A	N/A	N/A						
JDAM PIP Weather Cap	pability									
Adverse	N/A	N/A	N/A	N/A						
JDAM PIP Warhead Co	mpatibility									
MK-82, MK-83	N/A	N/A	N/A	N/A						
Interoperability										
N/A	Satisfy 100% of critical IERs	(T=O) Satisfy 100% of critical IERs	Satisfied	Satisfied						

Requirements Reference

ORD dated March 10, 2001

Change Explanations

None

Acronyms and Abbreviations

CEP - Circular Error Probable

Deg - Degree

GPS - Global Positioning System

IER - Information Exchange Requirement

JSF - Joint Strike Fighter

lbs - Pounds

PIP - Product Improvement Program

Track to Budget

RDT&E				
Appn		ВА	PE	
Navy	1319	05	0604618N	
	Proj	ect	Name	
	2137		JDAM	(Sunk)
Air Force 3600		05	0604618F	
	Proj	ect	Name	
	3890		JDAM	(Sunk)
Air Force	3600	04	0604618F	
	Proj	ect	Name	
	641200)	JDAM Development & Prototyping	(Sunk)
Air Force	Air Force 3600 0		0604618F	
Project		ect	Name	
653891		1	M-Code Integration	
	674138	3	JDAM Development	
Procurement				
Appn		ВА	PE	
Navy	1508	01	0204162N	
	Line	ltem	Name	
	0145		General Purpose Bombs	(Shared)
Navy	1508	01	0206138M	
	Line	ltem	Name	
	0148		JDAM	(Sunk)
Navy	1508	01	0204162N	
	Line	ltem	Name	
	0148		JDAM	(Sunk)
	0140			\ /
Air Force	3011	01	0207583F	
Air Force			0207583F Name	

Cost and Funding

Cost Summary

	Total Acquisition Cost											
	B	/ 1995 \$M		BY 1995 \$M	TY \$M							
Appropriation	SAR Baseline Production Estimate	Current Produc Objective/T	ction	Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate					
RDT&E	490.3	572.8	630.1	610.3	517.3	602.3	658.3					
Procurement	1810.0	6091.9	6701.1	6347.4	2089.4	7861.2	8440.0					
Flyaway				5924.4			7891.4					
Recurring				5922.6			7888.7					
Non Recurring				1.8			2.7					
Support				423.0			548.6					
Other Support				423.0			548.6					
Initial Spares				0.0			0.0					
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	2300.3	6664.7	N/A	6957.7	2606.7	8463.5	9098.3					

Current APB Cost Estimate Reference

Procurement costs and RDT&E costs for this APB are based on the FY 2016 PB dated February 19, 2015 and the O&S cost are based on an ICE dated August 28, 2014

Confidence Level

Confidence Level of cost estimate for current APB: 50%

A mathematically derived confidence level was not computed for this Life-Cycle Cost Estimate (LCCE). This LCCE represents the expected value, taking into consideration relevant risks, including ordinary levels of external and unforeseen events. It aims to provide sufficient resources to execute the program under normal conditions encountering average levels of technical, schedule, and programmatic risk and external influence.

Total Quantity									
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate						
RDT&E	630	804	804						
Procurement	88435	321182	355445						
Total	89065	321986	356249						

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	602.3	0.0	9.9	14.9	31.2	0.0	0.0	0.0	658.3			
Procurement	5669.5	559.5	777.2	256.0	346.0	423.2	408.6	0.0	8440.0			
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	6271.8	559.5	787.1	270.9	377.2	423.2	408.6	0.0	9098.3			
PB 2016 Total	6273.2	579.1	354.1	245.5	330.0	386.9	0.0	0.0	8168.8			
Delta	-1.4	-19.6	433.0	25.4	47.2	36.3	408.6	0.0	929.5			

	Quantity Summary											
	FY 2017 President's Budget / December 2015 SAR (TY\$ M)											
Quantity	Quantity Undistributed Prior FY FY FY FY FY FY To Total									Total		
Development	804	0	0	0	0	0	0	0	0	804		
Production	0	242380	23560	33953	9781	13559	16604	15608	0	355445		
PB 2017 Total	804	242380	23560	33953	9781	13559	16604	15608	0	356249		
PB 2016 Total	804	242024	20425	11649	7678	10127	11450	0	0	304157		
Delta	0	356	3135	22304	2103	3432	5154	15608	0	52092		

Cost and Funding

Annual Funding By Appropriation

Annual Funding 1319 RDT&E Research, Development, Test, and Evaluation, Navy												
			TY \$M									
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program					
1993							23.2					
1994							7.8					
1995							23.0					
1996							25.4					
1997							22.1					
1998							11.6					
1999							6.1					
2000							7.2					
2001							23.0					
2002							27.3					
2003							15.5					
2004							1.3					
2005							0.5					
2006							0.3					
Subtotal	114						194.3					

	Annual Funding 1319 RDT&E Research, Development, Test, and Evaluation, Navy										
		BY 1995 \$M									
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program				
1993							23.8				
1994							7.8				
1995							22.7				
1996							24.7				
1997							21.2				
1998							11.0				
1999							5.7				
2000							6.7				
2001							21.0				
2002							24.7				
2003							13.8				
2004							1.1				
2005							0.4				
2006							0.2				
Subtotal	114						184.8				

Annual Funding 3600 RDT&E Research, Development, Test, and Evaluation, Air Force										
			, , , , , ,	TY \$M	,					
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program			
1993							21.5			
1994							61.9			
1995							62.9			
1996							76.4			
1997							32.7			
1998							21.1			
1999							28.7			
2000							11.3			
2001							9.7			
2002							16.5			
2003							17.0			
2004							36.0			
2005										
2006										
2007							7.3			
2008										
2009										
2010										
2011										
2012										
2013										
2014							2.5			
2015							2.5			
2016										
2017							9.9			
2018							14.9			
2019							31.2			
Subtotal	690						464.0			

Annual Funding 3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
	000	TO THE THE	caron, Bevelopme	BY 1995 \$		0100	
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1993							22.0
1994							62.1
1995							62.0
1996							74.0
1997							31.2
1998							20.0
1999							26.9
2000							10.4
2001							8.8
2002							14.9
2003							15.1
2004							31.3
2005							
2006							
2007							5.8
2008							
2009							
2010							
2011							
2012							
2013 2014							
2014							1.8
2015							1.8
2016							6.8
2017							10.0
2019							20.6
Subtotal	690	 					425.5

	Annual Funding 1508 Procurement Procurement of Ammunition, Navy and Marine Corps								
				TY \$M					
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program		
1998	547	10.0			10.0	10.9	20.9		
1999	745	14.6			14.6	20.6	35.2		
2000	916	19.3			19.3	15.7	35.0		
2001	2325	50.2			50.2	15.4	65.6		
2002	14551	292.4			292.4	10.1	302.5		
2003	12280	242.4			242.4	8.5	250.9		
2004	12422	243.7			243.7	8.2	251.9		
2005	6876	142.5			142.5	8.6	151.1		
2006	3288	72.5			72.5	9.0	81.5		
2007	3324	73.9			73.9	12.7	86.6		
2008	1422	35.5			35.5	7.1	42.6		
2009	560	13.3			13.3	5.2	18.5		
2010						2.0	2.0		
2011									
2012									
2013									
2014	1137	23.8			23.8		23.8		
2015	876	18.7			18.7		18.7		
2016	1201	25.5			25.5		25.5		
2017	3289	70.1			70.1		70.1		
2018	2404	52.0			52.0		52.0		
2019	2356	52.0			52.0		52.0		
2020	2310	52.0			52.0		52.0		
2021	2265	52.0			52.0		52.0		
Subtotal	75094	1556.4			1556.4	134.0	1690.4		

	Annual Funding 1508 Procurement Procurement of Ammunition, Navy and Marine Corps								
			BY 1995 \$M						
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program		
1998	547	9.4			9.4	10.2	19.6		
1999	745	13.5			13.5	19.1	32.6		
2000	916	17.6			17.6	14.4	32.0		
2001	2325	45.3			45.3	13.9	59.2		
2002	14551	261.2			261.2	9.0	270.2		
2003	12280	211.7			211.7	7.4	219.1		
2004	12422	207.3			207.3	7.0	214.3		
2005	6876	117.8			117.8	7.1	124.9		
2006	3288	58.5			58.5	7.2	65.7		
2007	3324	58.2			58.2	10.1	68.3		
2008	1422	27.6			27.6	5.5	33.1		
2009	560	10.2			10.2	4.0	14.2		
2010						1.5	1.5		
2011									
2012									
2013									
2014	1137	16.8			16.8		16.8		
2015	876	13.0			13.0		13.0		
2016	1201	17.4			17.4		17.4		
2017	3289	47.0			47.0		47.0		
2018	2404	34.2			34.2		34.2		
2019	2356	33.5			33.5		33.5		
2020	2310	32.8			32.8		32.8		
2021	2265	32.2			32.2		32.2		
Subtotal	75094	1265.2			1265.2	116.4	1381.6		

Annual Funding 3011 Procurement Procurement of Ammunition, Air Force								
		TY \$M						
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
1997	937	16.6			16.6	6.4	23.0	
1998	1828	33.5			33.5	5.7	39.2	
1999	3778	72.4			72.4	7.1	79.5	
2000	8725	180.1			180.1	9.1	189.2	
2001	8904	189.9			189.9	13.6	203.5	
2002	14392	285.9			285.9	14.5	300.4	
2003	23420	458.5			458.5	18.6	477.1	
2004	20476	404.2			404.2	20.3	424.5	
2005	22880	491.8			491.8	22.6	514.4	
2006	8205	200.8			200.8	24.4	225.2	
2007	7261	163.6	17.1		180.7	13.4	194.1	
2008	4319	102.1			102.1	22.0	124.1	
2009	6340	149.1			149.1	16.9	166.0	
2010	7488	169.5	7.6		177.1	21.3	198.4	
2011	14551	350.6	6.9		357.5	15.9	373.4	
2012	4637	111.5			111.5	15.7	127.2	
2013	4728	113.8	19.9		133.7	10.9	144.6	
2014	8604	191.9	47.0		238.9	11.6	250.5	
2015	9638	211.0			211.0	17.4	228.4	
2016	22359	482.2	29.4	2.7	514.3	19.7	534.0	
2017	30664	663.7	21.5		685.2	21.9	707.1	
2018	7377	162.1	21.9		184.0	20.0	204.0	
2019	11203	251.2	21.8		273.0	21.0	294.0	
2020	14294	326.9	22.3		349.2	22.0	371.2	
2021	13343	311.2	22.8		334.0	22.6	356.6	
Subtotal	280351	6094.1	238.2	2.7	6335.0	414.6	6749.6	

	Annual Funding 3011 Procurement Procurement of Ammunition, Air Force									
			BY 1995 \$M							
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program			
1997	937	15.5			15.5	6.0	21.5			
1998	1828	30.9			30.9	5.2	36.1			
1999	3778	66.1			66.1	6.5	72.6			
2000	8725	162.3			162.3	8.2	170.5			
2001	8904	168.0			168.0	12.1	180.1			
2002	14392	247.9			247.9	12.6	260.5			
2003	23420	388.5			388.5	15.7	404.2			
2004	20476	332.8			332.8	16.7	349.5			
2005	22880	394.0			394.0	18.1	412.1			
2006	8205	157.8			157.8	19.1	176.9			
2007	7261	126.7	13.2		139.9	10.4	150.3			
2008	4319	78.0			78.0	16.8	94.8			
2009	6340	112.0			112.0	12.7	124.7			
2010	7488	125.1	5.6		130.7	15.7	146.4			
2011	14551	254.5	5.0		259.5	11.6	271.1			
2012	4637	79.4			79.4	11.2	90.6			
2013	4728	80.0	13.9		93.9	7.7	101.6			
2014	8604	132.8	32.5		165.3	8.0	173.3			
2015	9638	143.1			143.1	11.8	154.9			
2016	22359	320.7	19.6	1.8	342.1	13.1	355.2			
2017	30664	432.8	14.0		446.8	14.3	461.1			
2018	7377	103.7	14.0		117.7	12.8	130.5			
2019	11203	157.5	13.6		171.1	13.2	184.3			
2020	14294	200.9	13.8		214.7	13.5	228.2			
2021	13343	187.5	13.7		201.2	13.6	214.8			
Subtotal	280351	4498.5	158.9	1.8	4659.2	306.6	4965.8			

FY 2016 includes Overseas Contingency Operations (OCO) funding of \$184.412M and OCO quantity if 8,511. FY 2017 includes OCO funding of \$403.126M and OCO funding of 18,531.

Laser JDAM (LJDAM) costs are included under the Non End Item Related Recurring Flyaway costs. This includes 2,581 LJDAM kits for FY 2016 and 1,500 LJDAM kits per year from FY 2017 to FY 2021.

FY 2016 Nonrecurring Flyaway costs include investments in LJDAM facilitization, and a Life of Type Buy (LOTB) procurement. The LOTB cost is for the acquisition of one LJDAM component that is reaching obsolescence, and will allow for LJDAM production over the next four contract lots without causing schedule delays or cost increases.

JDAM December 2015 SAR

Low Rate Initial Production

ltem	Initial LRIP Decision	Current Total LRIP
Approval Date	9/20/1995	1/21/2000
Approved Quantity	425	15998
Reference	Milestone II ADM	LRIP 4 ADM
Start Year	1997	1997
End Year	1998	2000

JDAM December 2015 SAR

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost \$M	Description
Belgium	11/20/2015	60	1.3	JDAM Kits
Canada	11/20/2015	350	7.9	JDAM Kits
Denmark	11/20/2015	50	1.2	JDAM Kits
Finland	11/20/2015	18	0.4	JDAM Kits
Israel	11/20/2015	100	2.4	JDAM Kits
Netherlands	11/20/2015	300	6.6	JDAM Kits
Singapore	11/20/2015	917	22.0	JDAM Kits
Taiwan	11/20/2015	1	0.0	JDAM Kit
Turkey	11/20/2015	400	9.4	JDAM Kits
Israel	10/31/2014	3000	65.5	JDAM kits
Norway	10/31/2014	238	4.9	JDAM kits
Morocco	10/30/2014	20	0.4	JDAM kits
United Arab Emirates	10/30/2014	3600	74.4	JDAM kits
Oman	7/1/2013		0.9	Fuzes
Belgium	5/15/2013		0.1	Fuzes
Norway	3/8/2013		2.8	Fuzes
Israel	3/7/2013	3113	88.8	JDAM Kits and Support
Korea	3/7/2013	210	7.8	JDAM Kits, Fuzes
Japan	3/1/2013	68	4.2	JDAM Kits
Poland	1/31/2013		1.1	JDAM Manpower
Turkey	12/19/2012	300	13.4	JDAM Kits, Fuzes
Korea	11/27/2012	140	5.1	JDAM Kits, Fuzes
Israel	11/21/2012	1500	40.8	JDAM Kits
Finland	7/15/2012		0.2	Repair and Return, Spares, Support
Korea	5/1/2012	106	3.6	JDAM Kits
Iraq	4/19/2012	358	2.0	Fuzes
Canada	4/17/2012	0	0.2	Fuzes
Saudi Arabia	2/22/2012	0	61.4	Engineering Support
Saudi Arabia	2/22/2012		5.4	Repair and Return, Spares, Support
Saudi Arabia	2/11/2012	600		JDAM Kits, PLGS, Fuzes
Japan	10/12/2011	16	0.7	
Japan	10/12/2011	8	0.7	JDAM Kits
Belgium	9/8/2011	180	5.4	JDAM Kits, Fuzes
Malaysia	8/23/2011	0	1.8	JDAM Spares, Test Assets
Canada	8/11/2011	533	15.9	JDAM Kits, Integration Support
Japan	7/15/2011	0	2.7	Fuzes
Chile	6/10/2011	210	8.0	JDAM Kits, Fuzes
Norway	4/26/2011	254	9.5	JDAM Kits
Denmark	4/11/2011	210	8.9	JDAM Kits
Belgium	2/2/2011	30	0.8	Spares
Brazil	1/28/2011	0	0.3	Fuzes
Morocco	9/8/2010	10	6.0	JDAM Kits
Japan	2/9/2010	96	4.9	JDAM Kits, Fuzes

Japan	1/29/2010	31	1.7	JDAM Kits, Fuzes
Singapore	1/27/2010	670	35.5	JDAM Kits
Israel	1/22/2010	150	2.1	Precision Laser Guidance Set
Israel	1/12/2010	150	3.5	JDAM Kits
Netherlands	12/4/2009	0		Fuzes
South Korea	11/30/2009	0	3.8	JDAM Integration on F-16
Malaysia	9/28/2009	50	5.8	JDAM Kits
Norway	6/10/2009	30	5.2	
Kuwait	3/31/2009	50 51		JDAM Kits, Support
United Arab Emirates	3/24/2009	0	1.1	Repair and Return, Spares, Support
Japan	3/12/2009	120	9.2	JDAM Kits
Finland	2/25/2009	96	7.0	JDAM Kits
Singapore	2/11/2009	35	4.1	JDAM Kits
Japan	2/3/2009	36	3.1	JDAM Kits, Fuzes
Oman	2/2/2009	0	0.8	Repair and Return, Spares, Support
Israel	1/12/2009	500	14.9	JDAM Kits
Israel	1/12/2009	2950	71.6	JDAM Kits
South Korea	12/29/2008	2330		Fuzes
South Korea	12/16/2008	4	0.5	JDAM Kits
Germany	10/28/2008	7	0.2	Fuzes
South Korea	9/3/2008			Fuzes
Israel	7/21/2008		0.6	Engineering Support
Saudi Arabia	7/2/2008	900	44.2	
South Korea	3/11/2008	900		Fuzes
Japan	3/7/2008	36	2.1	JDAM Kits, Fuzes
United Arab Emirates	2/21/2008	300	70.6	JDAM Kits
South Korea	2/19/2008	300	4.3	Fuzes, Global Positioning System (GPS) Security
South Korea	12/28/2007		0.4	Fuzes
South Korea	12/28/2007			Fuzes
Australia	12/11/2007		2.6	Engineering Support
Greece	11/20/2007	100	21.9	JDAM Kits, Integration Support
Netherlands	10/24/2007	100	2.8	Fuzes
Israel	10/2/2007	1000	28.0	JDAM Kits
Israel	9/26/2007	650	17.3	JDAM Kits
Israel	7/13/2007	300	8.3	JDAM Kits
Turkey	5/29/2007	300		Fuzes
Israel	3/5/2007	500	12.9	JDAM Kits
Japan	12/18/2006	42	1.8	JDAM Kits
Spain	12/14/2006	40	2.5	JDAM Kits
Pakistan	9/30/2006	500	23.6	JDAM Kits
Israel	7/25/2006	300	0.1	Engineering Support
Japan	3/27/2006	44	3.5	JDAM Kits
Japan	3/17/2006	7-7	0.1	Engineering Support
Turkey	12/28/2005	398	9.9	JDAM Kits
Turkey	12/28/2005	390	6.9	Integration
Greece	12/28/2005		2.3	Integration Integration Support
Netherlands	10/7/2005	56	2.3 1.7	JDAM Kits
	4/26/2005	50	4.7	
Turkey	4/20/2003		4.7	Integration Support

Australia	4/5/2005		0.3	Integration Support
Netherlands	3/1/2005	360	8.7	JDAM Kits, Support
Japan	1/25/2005	27	8.5	JDAM Kits, Integration, Test Assets
Belgium	12/22/2004	300	7.9	JDAM Kits
Israel	8/16/2004		17.6	F-15 Integration
Israel	7/14/2004	840	18.1	JDAM Kits, Integration
Portugal	4/15/2004	50	3.7	JDAM Kits, Support
Netherlands	2/23/2004	350	13.8	JDAM Kits, Support
Oman	2/15/2004	20	0.5	JDAM Kits
Israel	7/3/2003	1000	21.5	JDAM Kits
Poland	4/18/2003	272	10.6	JDAM Kits, Integration, Test Assets
Denmark	12/20/2002	274	11.0	JDAM Kits, Support
United Arab Emirates	8/20/2002	300	9.0	JDAM Kits
South Korea	6/12/2002	14	1.1	JDAM Kits
Oman	5/2/2002	80	3.2	JDAM Kits
Belgium	2/11/2002		8.0	Fuzes
Chile	2/1/2002	12	3.0	JDAM Kits, Integration, Test Assets
Australia	11/28/2000		3.2	Fuzes
Australia	11/28/2000		6.8	Fuzes
United Arab Emirates	8/8/2000		1.3	Integration, Test Assets
Israel	2/9/2000	700	31.5	JDAM Kits, Integration

Notes

Nuclear Costs

None

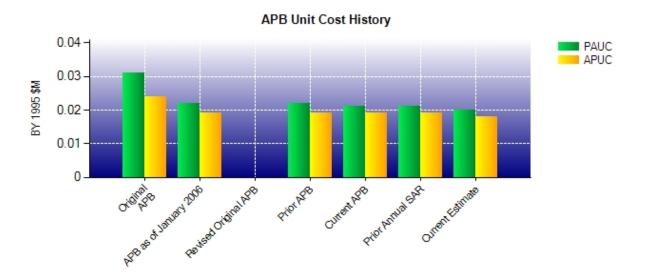
Unit Cost

Unit Cost Report

	BY 1995 \$M	BY 1995 \$M		
Item	Current UCR Baseline (Jun 2015 APB) Current Es (Dec 2015		% Change	
Program Acquisition Unit Cost	•	•		
Cost	6664.7	6957.7	_	
Quantity	321986	356249		
Unit Cost	0.021	0.020	-4.76	
Average Procurement Unit Cost				
Cost	6091.9	6347.4		
Quantity	321182	355445		
Unit Cost	0.019	0.018	-5.26	
	DV 4005 AM	DV 4005 AM		

	BY 1995 \$M	BY 1995 \$M		
Item	Original UCR Baseline (Sep 1995 APB)	Current Estimate (Dec 2015 SAR)	% Change	
Program Acquisition Unit Cost				
Cost	2720.4	6957.7		
Quantity	88126	356249		
Unit Cost	0.031	0.020	-35.48	
Average Procurement Unit Cost				
Cost	2090.6	6347.4		
Quantity	87496	355445		
Unit Cost	0.024	0.018	-25.00	

Unit Cost History



Item	Date	BY 199	BY 1995 \$M		TY \$M		
item	Date	PAUC	APUC	PAUC	APUC		
Original APB	Sep 1995	0.031	0.024	0.038	0.033		
APB as of January 2006	Oct 2002	0.022	0.019	0.025	0.023		
Revised Original APB	N/A	N/A	N/A	N/A	N/A		
Prior APB	Oct 2002	0.022	0.019	0.025	0.023		
Current APB	Jun 2015	0.021	0.019	0.026	0.024		
Prior Annual SAR	Dec 2014	0.021	0.019	0.027	0.025		
Current Estimate	Dec 2015	0.020	0.018	0.026	0.024		

SAR Unit Cost History

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial PAUC	Changes								PAUC
Development Estimate	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	Production Estimate
0.038 -0.002 -0.005 0.002 0.001 -0.005 0.000 0.000 -0.009								0.029	

	Current SAR Baseline to Current Estimate (TY \$M)									
PAUC Production		Changes								
Estimate	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	Current Estimate	
0.029	0.001	-0.006	0.000	0.000	0.001	0.000	0.001	-0.003	0.026	

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial APUC				Char	nges				APUC
Development Estimate	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	Production Estimate
0.03	3 -0.002	-0.003	0.002	0.000	-0.006	0.000	0.000	-0.009	0.024

	Current SAR Baseline to Current Estimate (TY \$M)									
APUC		Changes								
Production Estimate	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	Current Estimate	
0.02	4 0.001	-0.003	0.000	0.000	0.001	0.000	0.001	0.000	0.024	

	SAR	SAR Baseline History									
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate							
Milestone I	Oct 1993	Oct 1993	Oct 1993	Oct 1993							
Milestone II	Oct 1995	Sep 1995	Sep 1995	Sep 1995							
Milestone III	Jul 1999	Nov 2000	Nov 2000	Mar 2001							
IOC	Sep 1999	Sep 1999	Nov 2000	Feb 2001							
Total Cost (TY \$M)	681.5	3392.3	2606.7	9098.3							
Total Quantity	378	88126	89065	356249							
PAUC	1.803	0.038	0.029	0.026							

IOC of February 2001 is specifically for the F/A-18C/D.

Cost Variance

	Sı	ımmary TY \$M		
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	517.3	2089.4		2606.7
Previous Changes				
Economic	+3.5	+78.3		+81.8
Quantity		+4160.8		+4160.8
Schedule		-86.4		-86.4
Engineering	+15.5			+15.5
Estimating	+66.0	+986.6		+1052.6
Other				
Support		+337.8		+337.8
Subtotal	+85.0	+5477.1		+5562.1
Current Changes				
Economic	-0.1	+135.2		+135.1
Quantity		+1525.7		+1525.7
Schedule		-34.5		-34.5
Engineering	+56.0			+56.0
Estimating	+0.1	-797.1		-797.0
Other				
Support		+44.2		+44.2
Subtotal	+56.0	+873.5		+929.5
Total Changes	+141.0	+6350.6		+6491.6
CE - Cost Variance	658.3	8440.0		9098.3
CE - Cost & Funding	658.3	8440.0		9098.3

	Sumr	mary BY 1995 \$M		
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	490.3	1810.0	'	2300.3
Previous Changes				
Economic				
Quantity		+3015.2		+3015.2
Schedule		-7.5		-7.5
Engineering	+12.5			+12.5
Estimating	+70.0	+825.6		+895.6
Other				
Support		+260.7		+260.7
Subtotal	+82.5	+4094.0		+4176.5
Current Changes				
Economic				
Quantity		+945.6		+945.6
Schedule				
Engineering	+37.4			+37.4
Estimating	+0.1	-527.9		-527.8
Other				
Support		+25.7		+25.7
Subtotal	+37.5	+443.4		+480.9
Total Changes	+120.0	+4537.4		+4657.4
CE - Cost Variance	610.3	6347.4		6957.7
CE - Cost & Funding	610.3	6347.4		6957.7

Previous Estimate: December 2014

RDT&E	\$1	Л
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-0.1
Adjustment for current and prior escalation. (Estimating)	+0.1	+0.1
Additional funding was provided for Global Positioning System M-Code integration efforts. (Engineering)	+37.4	+56.0
RDT&E Subtotal	+37.5	+56.0

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+135.2
Adjustment for current and prior escalation. (Estimating)	-94.2	-118.4
Quantity variance resulting from an increase of 8,829 tail kits from 66,265 to 75,094 (Navy). (Quantity)	+160.2	+251.4
Quantity variance resulting from an increase of 43,263 tail kits from 237,088 to 280,351 (Air Force). (Quantity)	+785.4	+1274.3
Acceleration of procurement buy profile from FY 2015 to FY 2021 due to increased production capacity based on urgent operational need by the Warfighter (Navy). (Schedule)	0.0	-3.2
Acceleration of procurement buy profile from FY 2015 to FY 2021 due to increased production capacity based on urgent operational need by the Warfighter (Air Force). (Schedule)	0.0	-31.3
Lower unit pricing due to contract negotiations and increased quantities procured; funds reinvested internally to procure additional tail kits (Navy). (Estimating) (QR)	-65.3	-99.7
Lower unit pricing due to contract negotiations and increased quantities procured; funds reinvested internally to procure additional tail kits (Air Force). (Estimating) (QR)	-367.7	-577.9
Revised estimate to reflect actuals (Air Force). (Estimating)	-0.7	-1.1
Adjustment for current and prior escalation. (Support)	-6.3	-7.6
Increase in Other Support to align with engineering efforts for software updates and M-Code integration (Air Force). (Support)	+32.0	+51.8
Procurement Subtotal	+443.4	+873.5

(QR) Quantity Related

JDAM December 2015 SAR

Contracts

General Notes

Ongoing strategy change requiring Certified Cost or Pricing data has put pressure on the procurement schedule for Lots 18 through 22; risk mitigated with an Undefinitized Contract Action (UCA).

Contract Identification

Appropriation: Procurement

Contract Name: JDAM Lot 18 UCA

Contractor: Boeing

Contractor Location: 6200 JS McDonnell Blvd

Saint Louis, MO 63134

Contract Number: FA8213-15-D-0002/1
Contract Type: Firm Fixed Price (FFP)
Award Date: October 30, 2014

Definitization Date:

Contract Price									
Initial Co	Initial Contract Price (\$M) Current Contract Price (\$M)					Estimated Price At Completion (\$M)			
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager		
213.9	N/A	9202	204.2	N/A	9202	204.2	204.2		

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to lower unit prices resulting from contract negotiations.

Cost and Schedule Variance Explanations

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

Notes

Data includes Air Force and Navy only. Foreign Military Sales data is not included in the contract price or quantity.

Contract Identification

Appropriation: Procurement

Contract Name: JDAM Lot 19 UCA

Contractor: Boeing

Contractor Location: 6200 JS McDonnell Blvd

Saint Louis, MO 63134

Contract Number: FA8213-15-D-0002/2
Contract Type: Firm Fixed Price (FFP)
Award Date: November 20, 2015

Definitization Date:

Contract Price									
Initial Contract Price (\$M) Current Contract Price (\$M)						Estimated Price At Completion (\$M)			
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager		
286.7	N/A	13127	286.7	N/A	13127	286.7	286.7		

Cost and Schedule Variance Explanations

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

Notes

This is the first time this contract is being reported.

Data includes Air Force and Navy only. Foreign Military Sales data is not included in the contract price or quantity.

Deliveries and Expenditures

Deliveries										
Delivered to Date Planned to Date Actual to Date Total Quantity Per										
Development	804	804	804	100.00%						
Production	226796	226104	355445	63.61%						
Total Program Quantity Delivered	227600	226908	356249	63.69%						

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	9098.3	Years Appropriated	24
Expended to Date	5847.5	Percent Years Appropriated	82.76%
Percent Expended	64.27%	Appropriated to Date	6831.3
Total Funding Years	29	Percent Appropriated	75.08%

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

Deliveries and Expenditures include both U.S. Air Force (USAF) and U.S. Navy (USN).

This SAR report does not include quantities or costs paid for with Defense Emergency Response Funds (DERF). DERF funds acquired 6,348 USAF tail kits and 7,890 USN tail kits. The previous SAR report had included these quantities.

Operating and Support Cost

Cost Estimate Details

Date of Estimate: August 28, 2014

Source of Estimate: POE

Quantity to Sustain: 356249

Unit of Measure: Total Quantity
Service Life per Unit: 35.00 Years

Fiscal Years in Service: FY 1998 - FY 2049

The JDAM O&S cost estimate was based on the Joint Munitions Operations & Support Model which was tailored to reflect specific JDAM program attributes. This model estimated Air Force and Navy O&S costs for the JDAM tail kits only. The ground rules used in the O&S cost estimate are as follows: The total JDAM inventory that had been expended was 88,569 tail kits. JDAM uses a 20 year extended warranty to cover all tail kit repairs except for government induced failures. In the model, one half of a percent of the total JDAM failures were assumed to be induced out-of-warranty failures. The base year of the estimate was FY 2015 (all sunk costs from FY 1998 to FY 2014 are excluded from the estimate). The estimate included calculations for 35 years (FY 2015 to FY 2049) to cover unwarranted failures for 15 years after the warranty period ended. The fiscal years in service is stated to end in FY 2049; however, the actual program complete date is indefinite as long as there is continued demand for JDAM.

Sustainment Strategy

The JDAM system support strategy is a 20-year warranty that includes both the guidance kit and container. Boeing is the Source of Repair (SOR) under the warranty. Non-warranty repairs and sustaining engineering support are covered under separate technical support contracts with Boeing.

Antecedent Information

No Antecedent

Annual O&S Costs BY1995 \$M				
Cost Element	JDAM Average Annual Cost Per Total Quantity	No Antecedent (Antecedent)		
Unit-Level Manpower	0.647			
Unit Operations	15.671			
Maintenance	0.001			
Sustaining Support	3.562			
Continuing System Improvements				
Indirect Support	0.477			
Other	<u></u>			
Total	20.358			

		Cost \$M			
Item	JDAM			No Antecedent	
item -	Current Production APB Objective/Threshold		Current Estimate	(Antecedent)	
Base Year	712.5	783.8	712.5	N/A	
Then Year	1494.9	N/A	1494.9	N/A	

Equation to Translate Annual Cost to Total Cost

Total O&S Cost = Average Annual Cost x Assumed Life in Years = \$20.358M x 35 years = \$712.5M (BY 1995\$)

O&S Cost Variance					
Category	BY 1995 \$M	Change Explanations			
Prior SAR Total O&S Estimates - Dec 2014 SAR	712.5				
Programmatic/Planning Factors	0.0				
Cost Estimating Methodology	0.0				
Cost Data Update	0.0				
Labor Rate	0.0				
Energy Rate	0.0				
Technical Input	0.0				
Other	0.0				
Total Changes	0.0				
Current Estimate	712.5				

Disposal Estimate Details

Date of Estimate: August 28, 2014

Source of Estimate: POE

Disposal/Demilitarization Total Cost (BY 1995 \$M): Total costs for disposal of all Total Quantity are 51.3