



Selected Acquisition Report (SAR)

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



Joint Direct Attack Munition (JDAM)

As of FY 2011 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

Common Acronyms and Abbreviations for MDAP Programs	3
Program Information	5
Responsible Office	5
References	5
Mission and Description	6
Executive Summary	7
Threshold Breaches	9
Schedule	10
Performance	13
Track to Budget	15
Cost and Funding	16
Low Rate Initial Production	26
Foreign Military Sales	27
Nuclear Costs	28
Unit Cost	29
Cost Variance	32
Contracts	35
Deliveries and Expenditures	38
Operating and Support Cost	39

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 Direct Attack Munition (JDAM) (JDAM)

DoD Component

Air Force

Joint Participants

Navy

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Date Assigned: August 15, 2008

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 October 7, 2002

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 ACAT 1C, 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 (GPS/INS). 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.

Executive Summary

Production

Completed Lot 10 (FY2006 funded) production of 11,493 JDAM tail kits and Lot 11 (FY2007 funded) production of 10,585 JDAM tail kits and began delivery of Lot 12 (FY2008 funded) production. The Air Force revised Lots 11 and 12 delivery schedules to accommodate a Foreign Military Sales (FMS) request to expedite deliveries to the Israeli Air Force to meet their schedule. This did not impact Air Force operations. The production option for Lot 13 (FY2009 funded) was awarded on December 5, 2008 for 4,437 tail kits which included 622 tail kits funded with FY2008 Overseas Contingency Operations (OCO) funding. On October 26, 2009 \$59.8M of FY2009 OCO funding was added to the Lot 14 production option to procure 2,429 tail kits. An additional \$20.9M of FY2010 CRA funding was added to Lot 14 on January 21, 2010 to procure 850 tail kits. Upon release of the remaining FY2010 funding and the anticipated FY2010 OCO funding of \$98M, approximately 6,700 tail kits will be added to Lot 14. December 2009 marks 140 consecutive months of on-time delivery of JDAM tail kits.

Laser JDAM Urgent Operational Need

Laser JDAM CENTAF Urgent Operational Need (UON) was received September 2006 with Air Force Required Assets Available (RAA) met on May 30, 2008 and Navy Initial Operational Capability (IOC) met on October 27, 2008. First combat drop was August 12, 2008. All 400 Air Force and all 400 Navy Laser JDAM kits were delivered on schedule.

Enhancements

F-15E (Suite 6)/JDAM Integration - Universal Armament Interface (UAI):

Migration to the universal interface allows JDAM integration on aircraft that implemented the UAI interface without requiring a unique aircraft Operational Flight Program (OFP) modification. In 2008 DT and OT testers successfully released 32 JDAMs from Universal Armament Interface (UAI)-configured F-15E aircraft and demonstrated Laser JDAM UAI interface via captive carry. As of October 2009 all platforms received the UAI-compliant JDAM Block 8 software for SIL and regression testing. Initial UAI fielding is on schedule for April 2010.

Integration and Test - A-10C

A-10C Laser JDAM Integration: The A-10C is an Objective aircraft for GBU-54 (Laser JDAM). ACC evaluated Laser JDAM employment from the A-10C in 2008 and decided against fielding due to high pilot workload and limited employment envelope. Improvements included in JDAM Block 8 and A-10C Suite 7 software may mitigate these issues; follow-on testing with the new software is planned for 4QFY10.

B-1B/JDAM Transfer Alignment Investigation

In spring 2009 Area of Responsibility (AOR) B-1B units reported higher-than-normal occurrence of degraded navigation warnings from JDAM weapons. Flight testing and analysis revealed the warnings were false alarms originating from unnecessarily tight inertial measurement unit bias limits in JDAM weapon software. The limits have been revised in JDAM Block 8 software with no impact to weapon performance; Block 8 will be fielded in April 2010. B-1B software has also been upgraded to provide aircrews clearer indications of JDAM navigation health prior to release.

MQ-9 Integration

The MQ-9 is one of the newest platforms to integrate JDAM. Integration activities (which included developing a low-speed fuze bomb initiator (FZU) for the Joint Programmable Fuze) began in July 2007 and culminated with successful ripple employment of 4 live JDAMs against a fixed target at China Lake in January 2009. Force Development Evaluation (FDE) of JDAM from MQ-9 began November 2009. Initial weapons releases were successful; however, FDE was halted after several weapons airburst when programmed for impact detonation. Analysis, SIL, and captive carry testing verified the MQ-9/JDAM targeting methodology used in the FDE missions caused the airbursts. Procedural changes can eliminate this problem for fielded JDAM weapons; the JDAM Block 8 software (to be fielded April 2010) implements a more robust corrective solution.

JDAM/MQ-9 FDE remains paused awaiting a DOT&E-directed Operational Test Readiness Review; fielding is now anticipated by July 2010.

B-52H

B-52 Software Block 03 (BSB-03) testing is ongoing. BSB-03 removes launch restrictions, adds two pylon stations for GBU -38, simplifies direct targeting, enhances Targeting Pod integration and changes the JDAM/Aircraft interface from the Alternate Interface to the Core Interface. Flight testing began in May 2009, has progressed through successful guided release missions as of December 2009, and is expected to complete in February 2010 supporting fielding in June 2010.

BLU 121

46 TW completed inert and live testing of JDAM configured with the BLU-121 thermobaric warhead in 2009. Two releases successfully demonstrated safe separation at medium altitude, JDAM employment, and the weapon's penetration and survivability capability.

Block 08 Software

The JDAM Block 08 OFP was released to all aircraft SILs in October 2009; the OPF remains on track for April 2010 fielding.

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

Threshold Breaches

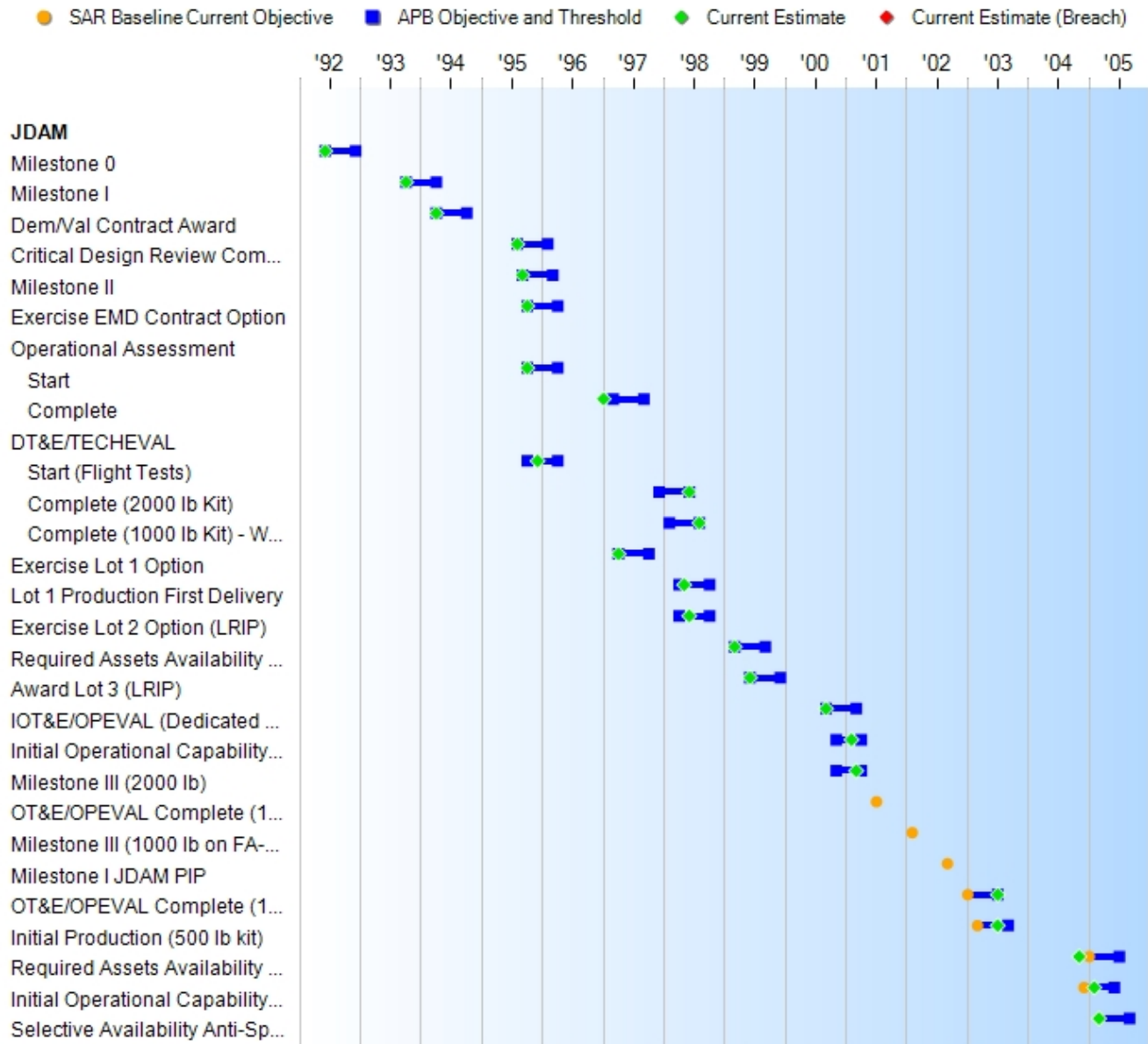
APB Breaches

- Schedule
- Performance
- Cost
 - RDT&E
 - Procurement
 - MILCON
 - Acq O&M
- O&S Cost
- Unit Cost
 - PAUC
 - APUC

Nunn-McCurdy Breaches

- Current UCR Baseline**
 - PAUC None
 - APUC None
- Original UCR Baseline**
 - PAUC None
 - APUC None

Schedule



Schedule Events				
Events	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate
Milestone 0	Jun 1992	Jun 1992	Dec 1992	Jun 1992
Milestone I	Oct 1993	Oct 1993	Apr 1994	Oct 1993
Dem/Val Contract Award	Apr 1994	Apr 1994	Oct 1994	Apr 1994
Critical Design Review Complete	Aug 1995	Aug 1995	Feb 1996	Aug 1995
Milestone II	Sep 1995	Sep 1995	Mar 1996	Sep 1995
Exercise EMD Contract Option	Oct 1995	Oct 1995	Apr 1996	Oct 1995
Operational Assessment				
Start	Oct 1995	Oct 1995	Apr 1996	Oct 1995
Complete	Mar 1997	Mar 1997	Sep 1997	Jan 1997
DT&E/TECHEVAL				
Start (Flight Tests)	Oct 1995	Oct 1995	Apr 1996	Dec 1995
Complete (2000 lb Kit)	Dec 1997	Dec 1997	Jun 1998	Jun 1998
Complete (1000 lb Kit) - Weapon Only	Feb 1998	Feb 1998	Aug 1998	Aug 1998
Exercise Lot 1 Option	Apr 1997	Apr 1997	Oct 1997	Apr 1997
Lot 1 Production First Delivery	Apr 1998	Apr 1998	Oct 1998	May 1998
Exercise Lot 2 Option (LRIP)	Apr 1998	Apr 1998	Oct 1998	Jun 1998
Required Assets Availability (AF)	Mar 1999	Mar 1999	Sep 1999	Mar 1999
Award Lot 3 (LRIP)	Jun 1999	Jun 1999	Dec 1999	Jun 1999
IOT&E/OPEVAL (Dedicated 2000 lb Kit) Complete	Sep 2000	Sep 2000	Mar 2001	Sep 2000
Initial Operational Capability (FA-18)	Nov 2000	Nov 2000	Apr 2001	Feb 2001
Milestone III (2000 lb)	Nov 2000	Nov 2000	Apr 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	Jan 2003	Jul 2003	Jul 2003
Initial Production (500 lb kit)	N/A	Mar 2003	Sep 2003	Jul 2003
Required Assets Availability (RAA) (500 lb on B-2)	N/A	Jan 2005	Jul 2005	Nov 2004
Initial Operational Capability (IOC) (500 lb kit on FA-18C/D)	N/A	Dec 2004	Jun 2005	Feb 2005
Selective Availability Anti-Spoofing Module (SAASM)/GPS Anti-Jam Production Award	N/A	Mar 2005	Sep 2005	Mar 2005

Change Explanations

None

Acronyms and Abbreviations

AF - Air Force
DEM/VAL - Demonstration/Validation
DT&E - Development Test and Evaluation
EMD - Engineering, Manufacturing and Development
GPS - Global Positioning System
IOC - Initial Operational Capability
IOT&E - Initial Operational Test and Evaluation
LB - Pound
LRIP - Low Rate Initial Production
OPEVAL - Operational Evaluation
OT&E - Operational Test and Evaluation
PIP - Product Improvement Program
RAA - Required Assets Availability
SAASM - Selective Availability Anti Spoofing Module
TECHEVAL - Technical Evaluation

Performance

Performance Characteristics				
SAR Baseline Production Estimate	Current APB Production Objective/Threshold	Demonstrated Performance	Current Estimate	
Weather Capability				
Adverse	Adverse	(T=O) Adverse	Adverse	Adverse
Accuracy (CEP) (Meters)				
GPS Available, Impact Angles > 60 Deg				
13 Horizontal Targets	5 Horizontal targets	13	4.3	5.0 Horizontal Targets
Inflight Re-targeting Capability (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	.953	.90
JDAM PIP Accuracy (CEP) (Meters)				
3	N/A	N/A	N/A	N/A
JDAM PIP Weather Capability				
Adverse	N/A	N/A	N/A	N/A
JDAM PIP Warhead Compatibility				
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

Joint Operational Requirements Document (JORD) dated March 10, 2001

Change Explanations

None

Acronyms and Abbreviations

APB - Acquisition Program Baseline
CEP - Circular Error Probable
DEG - Degree
GPS - Global Positioning System
IER - Information Exchange Requirement
JSF - Joint Strike Fighter
PIP - Product Improvement Program
SAR - Selective Acquisition Report

Track to Budget

General Notes

The Defense Emergency Response Funds (DERF) received in FY2001 and FY2002 are excluded from both the Air Force and Navy production funding.

RDT&E

Appn	BA	PE
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Air Force 3600 05 0604618F

Project	Name
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3890 JDAM

Navy 1319 05 0604618N

Project	Name
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2137 JDAM

Procurement

Appn	BA	PE
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Navy 1508 01 0204162N

Line Item	Name
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0148 JDAM

Air Force 3011 01 0207583F

Line Item	Name
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353620 JDAM

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 1995 \$M			BY 1995 \$M	TY \$M		
	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate
RDT&E	490.3	575.1	661.4	569.2	517.3	604.3	597.3
Procurement	1810.0	4307.5	4738.3	4317.8	2089.4	5026.5	5155.1
Flyaway	--	--	--	3976.5	--	--	4744.3
Recurring	--	--	--	3976.5	--	--	4744.3
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	341.3	--	--	410.8
Other Support	--	--	--	341.3	--	--	410.8
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	2300.3	4882.6	N/A	4887.0	2606.7	5630.8	5752.4

Total Quantity			
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate
RDT&E	630	778	804
Procurement	88435	221091	219513
Total	89065	221869	220317

Quantity Notes

JDAM is a field installed guidance kit using a global positioning system (GPS) aided by an inertial navigation system (INS).

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2011 President's Budget / December 2009 SAR (TY\$ M)									
Appropriation	Prior	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	To Complete	Total
RDT&E	597.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	597.3
Procurement	4293.1	192.4	252.6	101.7	103.2	105.1	107.0	0.0	5155.1
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 2011 Total	4890.4	192.4	252.6	101.7	103.2	105.1	107.0	0.0	5752.4
PB 2009 Total	4827.1	108.1	109.3	106.9	108.7	0.0	0.0	0.0	5260.1
Delta	63.3	84.3	143.3	-5.2	-5.5	105.1	107.0	0.0	492.3

Quantity Summary										
FY 2011 President's Budget / December 2009 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	To Complete	Total
Development	804	0	0	0	0	0	0	0	0	804
Production	0	190065	7517	9331	3250	3250	3100	3000	0	219513
PB 2011 Total	804	190065	7517	9331	3250	3250	3100	3000	0	220317
PB 2009 Total	804	187070	3592	3620	3454	3453	0	0	0	201993
Delta	0	2995	3925	5711	-204	-203	3100	3000	0	18324

Cost and Funding

Annual Funding By Appropriation

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
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							
Fiscal Year	Quantity	BY 1995 \$M					
		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							
Fiscal Year	Quantity	TY \$M					
		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
Subtotal	690	--	--	--	--	--	403.0

Annual Funding 3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 1995 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1993	--	--	--	--	--	--	21.9
1994	--	--	--	--	--	--	62.1
1995	--	--	--	--	--	--	62.0
1996	--	--	--	--	--	--	73.9
1997	--	--	--	--	--	--	31.2
1998	--	--	--	--	--	--	20.0
1999	--	--	--	--	--	--	26.9
2000	--	--	--	--	--	--	10.5
2001	--	--	--	--	--	--	8.8
2002	--	--	--	--	--	--	14.9
2003	--	--	--	--	--	--	15.1
2004	--	--	--	--	--	--	31.3
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	5.8
Subtotal	690	--	--	--	--	--	384.4

Annual Funding								
1508 Procurement Procurement of Ammunition, Navy and Marine Corps								
Fiscal Year	Quantity	TY \$M						
		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	171	4.1	--	--	4.1	5.2	9.3	
2010	--	--	--	--	--	2.0	2.0	
Subtotal	58867	1201.1	--	--	1201.1	134.0	1335.1	

Annual Funding								
1508 Procurement Procurement of Ammunition, Navy and Marine Corps								
Fiscal Year	Quantity	BY 1995 \$M						
		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	7.2	125.0	
2006	3288	58.5	--	--	58.5	7.2	65.7	
2007	3324	58.3	--	--	58.3	10.0	68.3	
2008	1422	27.6	--	--	27.6	5.5	33.1	
2009	171	3.2	--	--	3.2	3.9	7.1	
2010	--	--	--	--	--	1.5	1.5	
Subtotal	58867	1031.4	--	--	1031.4	116.3	1147.7	

Annual Funding							
3011 Procurement Procurement of Ammunition, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
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	180.7	--	--	180.7	13.4	194.1
2008	4319	102.1	--	--	102.1	22.0	124.1
2009	6073	147.8	--	--	147.8	18.0	165.8
2010	7517	177.9	--	--	177.9	12.5	190.4
2011	9331	238.4	--	--	238.4	14.2	252.6
2012	3250	87.4	--	--	87.4	14.3	101.7
2013	3250	89.1	--	--	89.1	14.1	103.2
2014	3100	92.3	--	--	92.3	12.8	105.1
2015	3000	93.8	--	--	93.8	13.2	107.0
Subtotal	160646	3543.2	--	--	3543.2	276.8	3820.0

Annual Funding 3011 Procurement Procurement of Ammunition, Air Force							
Fiscal Year	Quantity	BY 1995 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1997	937	15.7	--	--	15.7	6.1	21.8
1998	1828	31.4	--	--	31.4	5.3	36.7
1999	3778	67.0	--	--	67.0	6.5	73.5
2000	8725	164.8	--	--	164.8	8.3	173.1
2001	8904	171.9	--	--	171.9	12.3	184.2
2002	14392	254.6	--	--	254.6	12.9	267.5
2003	23420	403.6	--	--	403.6	16.4	420.0
2004	20476	348.1	--	--	348.1	17.5	365.6
2005	22880	411.9	--	--	411.9	18.9	430.8
2006	8205	163.5	--	--	163.5	19.9	183.4
2007	7261	143.5	--	--	143.5	10.7	154.2
2008	4319	79.7	--	--	79.7	17.2	96.9
2009	6073	113.9	--	--	113.9	13.8	127.7
2010	7517	135.5	--	--	135.5	9.5	145.0
2011	9331	179.0	--	--	179.0	10.6	189.6
2012	3250	64.5	--	--	64.5	10.6	75.1
2013	3250	64.7	--	--	64.7	10.2	74.9
2014	3100	65.9	--	--	65.9	9.1	75.0
2015	3000	65.9	--	--	65.9	9.2	75.1
Subtotal	160646	2945.1	--	--	2945.1	225.0	3170.1

Low Rate Initial Production

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

The Low Rate Initial Production (LRIP) quantities approved in the Acquisition Decision Memorandum (ADM) at Milestone II, September 20, 1995, were 425 units for Lot 1. Subsequent FY1997 budget cycle decisions approved a buy-to-budget approach for determining annual quantities and Lot 1 became 937 units. With the lower than expected unit costs and a higher demand for JDAM Guidance Kits, a second, third and fourth LRIP were added making LRIP a total quantity of 15,998. The additional LRIP quantities, required to replenish JDAM inventories depleted during Operation Allied Force, caused the Air Force to exceed the 10% LRIP limit. However, all four Congressional Defense committees concurred with the Air Force's plan before the Lot 4 contract was awarded on February 24, 2000.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost \$M	Description
Netherlands	12/4/2009		2.8	Fuzes
South Korea	11/30/2009		0.4	JDAM Integration on F-16
Malaysia	9/28/2009	50	5.8	JDAM Kits
Norway	6/10/2009	30	7.1	JDAM Kits & Support
Kuwait	3/31/2009	51	5.9	JDAM Kits & Support
United Arab Emirates	3/24/2009		1.4	R&R, Spares, Support
Japan	3/15/2009	120	9.7	JDAM Laser Kits
Japan	3/12/2009	120	9.2	JDAM Kits
Finland	2/25/2009	96	7.4	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		0.3	R&R, Spares, Support
Israel	1/12/2009	500	15.0	JDAM Kits
Israel	1/12/2009	1250	74.1	JDAM Kits
South Korea	12/29/2008		0.4	Fuzes
South Korea	12/16/2008	4	0.5	JDAM Kits
United Arab Emirates	11/27/2008	200	6.4	JDAM Kits
Germany	10/28/2008		0.2	Fuzes
South Korea	9/3/2008		0.2	Fuzes
Israel	7/21/2008		0.6	Engineering Support
Saudi Arabia	7/2/2008	900	44.2	JDAM Kits & Support
South Korea	3/11/2008		2.2	Fuzes
Japan	3/7/2008	36	2.1	JDAM Kits, Fuzes
United Arab Emirates	2/21/2008	450	25.4	JDAM Kits
South Korea	2/19/2008		4.3	Fuzes, GPS Security
South Korea	12/28/2007		0.4	Fuzes
South Korea	12/28/2007		0.4	Fuzes
Australia	12/11/2007		2.6	Engineering Support
Greece	11/20/2007	100	23.1	JDAM Kits and Integration Support
Netherlands	10/24/2007		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	200	8.3	JDAM Kits
Turkey	5/29/2007		0.4	Fuzes
Israel	3/5/2007	500	12.9	JDAM Kits
Japan	12/18/2006	42	1.8	JDAM Kits
Spain	12/14/2006	40	2.4	JDAM Kits
Pakistan	9/30/2006	500	23.6	JDAM Kits
Israel	7/25/2006		0.1	Engineering Support
Japan	3/27/2006	44	3.5	JDAM Kits
Japan	3/17/2006		0.1	Engineering Support
Turkey	12/28/2005		6.9	Integration
Turkey	12/28/2005	398	9.9	JDAM Kits

Greece	12/13/2005		3.3	Integration Support
Netherlands	10/7/2005	56	1.7	JDAM Kits
Turkey	4/26/2005		3.7	Integration Support
Australia	4/5/2005		0.3	Integration Support
Netherlands	3/1/2005	360	8.7	JDAM Kits and Support
Japan	1/25/2005	27	8.5	JDAM Kits and Integration and Test Assets
Belgium	12/22/2004	200	5.2	JDAM Kits
Israel	8/16/2004		17.6	F-15 Integration
Israel	7/14/2004	840	18.1	JDAM Kits and Integration
Portugal	4/15/2004	50	3.7	JDAM Kits and Support
Netherlands	2/23/2004	350	13.8	JDAM Kits and Support
Oman	2/15/2004	20	0.5	JDAM Kits
Israel	7/3/2003	1000	21.5	JDAM Kits
Poland	4/18/2003	272	13.7	JDAM Kits, Integration and Test Assets
Denmark	12/20/2002	274	11.9	JDAM Kits and 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	4.0	JDAM Kits
Belgium	2/11/2002		0.8	Fuzes
Chile	2/1/2002	12	2.5	JDAM Kits, Integration and Test Assets
Australia	11/28/2000		2.2	Fuzes
United Arab Emirates	8/8/2000		1.3	Integration and Test Assets
Israel	2/9/2000	700	31.5	JDAM Kits and Integration
Israel	9/10/1999	12	3.2	JDAM kits, Integration, Test Assets

Notes

JDAM is sold via Foreign Military Sales (FMS) to the following countries: Australia, Belgium, Chile, Denmark, Finland, Germany, Greece, Israel, Italy, Japan, South Korea, Malaysia, Morocco, Netherlands, Norway, Oman, Pakistan, Poland, Portugal, Saudi Arabia, Singapore, Spain, Turkey and United Arab Emirates.

LASER JDAM (LJDAM) is sold via FMS and Direct Commercial Sales (DCS) to the following countries: Germany, Israel, Japan, Norway, Singapore, and United Arab Emirates.

Nuclear Costs

None.

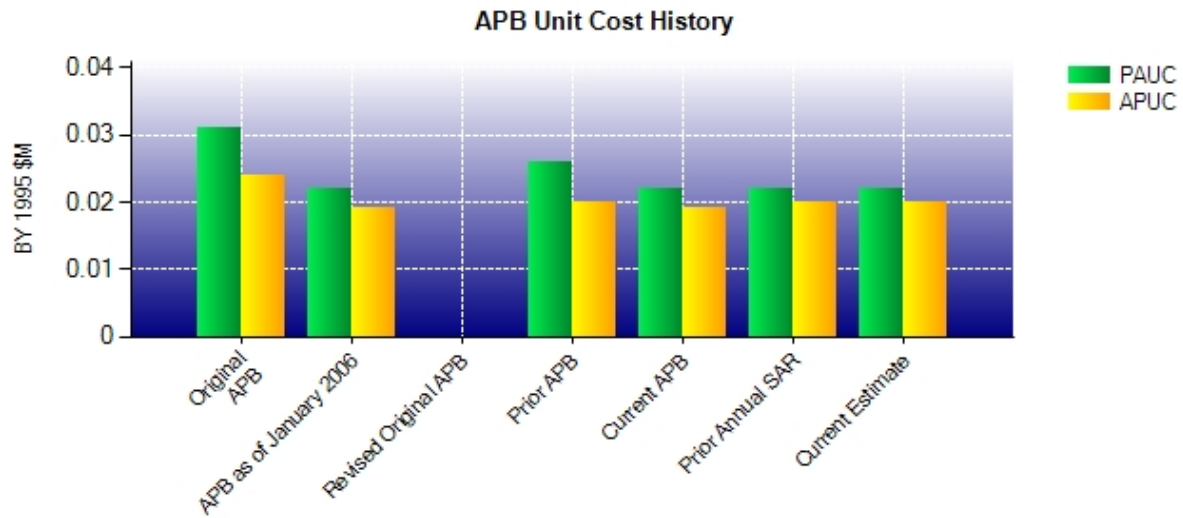
Unit Cost

Unit Cost Report

Item	BY 1995 \$M	BY 1995 \$M	% Change
	Current UCR Baseline (Oct 2002 APB)	Current Estimate (Dec 2009 SAR)	
Program Acquisition Unit Cost			
Cost	4882.6	4887.0	
Quantity	221869	220317	
Unit Cost	0.022	0.022	0.00
Average Procurement Unit Cost			
Cost	4307.5	4317.8	
Quantity	221091	219513	
Unit Cost	0.019	0.020	+5.26

Item	BY 1995 \$M	BY 1995 \$M	% Change
	Original UCR Baseline (Sep 1995 APB)	Current Estimate (Dec 2009 SAR)	
Program Acquisition Unit Cost			
Cost	2720.4	4887.0	
Quantity	88126	220317	
Unit Cost	0.031	0.022	-29.03
Average Procurement Unit Cost			
Cost	2090.6	4317.8	
Quantity	87496	219513	
Unit Cost	0.024	0.020	-16.67

Unit Cost History



Item	Date	BY 1995 \$M		TY \$M	
		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	Mar 2001	0.026	0.020	0.029	0.024
Current APB	Oct 2002	0.022	0.019	0.025	0.023
Prior Annual SAR	Dec 2007	0.022	0.020	0.026	0.023
Current Estimate	Dec 2009	0.022	0.020	0.026	0.023

SAR Unit Cost History

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
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 Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.029	0.000	-0.008	0.000	0.000	0.004	0.000	0.001	-0.003	0.026

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.033	-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 Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.024	0.000	-0.006	0.000	0.000	0.004	0.000	0.001	-0.001	0.023

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	5752.4
Total Quantity	378	88126	89065	220317
PAUC	1.803	0.038	0.029	0.026

NOTE: SAR Planning Estimate (PE) total cost of \$681.5 and total quantity of 378 reflect only RDT&E values as shown in the December 31, 1993 SAR.

Initial Operational Capability (IOC) February 2001 is specifically for F/A-18C/D.

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	517.3	2089.4	--	2606.7
Previous Changes				
Economic	+3.8	+64.9	--	+68.7
Quantity	--	+1452.1	--	+1452.1
Schedule	--	-38.6	--	-38.6
Engineering	+15.5	--	--	+15.5
Estimating	+74.4	+858.5	--	+932.9
Other	--	--	--	--
Support	--	+222.8	--	+222.8
Subtotal	+93.7	+2559.7	--	+2653.4
Current Changes				
Economic	-0.2	-3.9	--	-4.1
Quantity	--	+455.6	--	+455.6
Schedule	--	-8.6	--	-8.6
Engineering	--	--	--	--
Estimating	-13.5	+32.5	--	+19.0
Other	--	--	--	--
Support	--	+30.4	--	+30.4
Subtotal	-13.7	+506.0	--	+492.3
Total Changes	+80.0	+3065.7	--	+3145.7
Current Estimate	597.3	5155.1	--	5752.4

Summary BY 1995 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	490.3	1810.0	--	2300.3
Previous Changes				
Economic	--	--	--	--
Quantity	--	+1225.2	--	+1225.2
Schedule	--	--	--	--
Engineering	+12.5	--	--	+12.5
Estimating	+77.1	+724.0	--	+801.1
Other	--	--	--	--
Support	--	+183.0	--	+183.0
Subtotal	+89.6	+2132.2	--	+2221.8
Current Changes				
Economic	--	--	--	--
Quantity	--	+332.4	--	+332.4
Schedule	--	-0.6	--	-0.6
Engineering	--	--	--	--
Estimating	-10.7	+22.1	--	+11.4
Other	--	--	--	--
Support	--	+21.7	--	+21.7
Subtotal	-10.7	+375.6	--	+364.9
Total Changes	+78.9	+2507.8	--	+2586.7
Current Estimate	569.2	4317.8	--	4887.0

Previous Estimate: December 2007

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-0.2
Adjustment for current and prior escalation. (Estimating)	+0.2	+0.2
Funding reduced due to cancellation of the Affordable Moving Surface Target Engagement (AMSTE) program. (Estimating)	-10.9	-13.7
RDT&E Subtotal	-10.7	-13.7

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-3.9
Acceleration of procurement buy profile (Air Force). (Schedule)	0.0	-7.8
Acceleration of procurement buy profile (Navy). (Schedule)	0.0	-0.1
Total Quantity variance resulting from an increase of 18257 Guidance Kits from 142389 to 160646 (Air Force). (Subtotal)	+343.2	+470.4
Quantity variance resulting from an increase of 18257 Guidance Kits from 142389 to 160646 (Air Force). (Quantity)	(+331.2)	(+454.0)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(+12.6)	(+17.1)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(-0.6)	(-0.7)
Total Quantity variance resulting from an increase of 67 Guidance Kits from 58800 to 58867 (Navy). (Subtotal)	+1.3	+1.7
Quantity variance resulting from an increase of 67 Guidance Kits from 58800 to 58867 (Navy). (Quantity)	(+1.2)	(+1.6)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(+0.1)	(+0.1)
Decrease in Other Support (Navy). (Support)	-0.5	-0.5
Correction to align support and flyaway. (Subtotal)	0.0	0.0
(Estimating)	(+0.1)	(+0.1)
(Support)	(-0.1)	(-0.1)
Adjustment for current and prior escalation. (Estimating)	-4.0	-4.5
Increase to buy additional JDAM Guidance Kits (Navy). (Estimating) (QR)	+3.8	+4.7
Decrease in prior year due to realignment of funds in Product Support (Navy). (Estimating)	-1.3	-1.6
Adjustment to estimating assumptions that calculated unit cost at higher rates that did not take into consideration the impact of deflation (Air Force). (Estimating)	+10.8	+16.6
Adjustment for current and prior escalation. (Support)	0.0	-0.1
Increase in Other Support due to program extention (Air Force). (Support)	+22.3	+31.1
Procurement Subtotal	+375.6	+506.0

(QR) Quantity Related

Contracts

Contract Identification

Appropriation: Procurement
Contract Name: JDAM Lot 12
Contractor: Boeing
Contractor Location: St. Louis, MO 63166
Contract Number: FA8681-08-C-0001
Contract Type: Firm Fixed Price (FFP)
Award Date: January 10, 2008
Definitization Date: January 10, 2008

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
115.6	N/A	4907	120.8	N/A	5119	120.8	120.8

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to

Cost and Schedule Variance Explanations

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

Notes

Contract FA8681-08-C-0001 increased to purchase additional U.S. Navy Guidance Kits.

Contract Identification

Appropriation: Procurement
Contract Name: JDAM Lot 13
Contractor: Boeing
Contractor Location: St. Louis, MO 63166
Contract Number: FA8681-09-C-0057
Contract Type: Firm Fixed Price (FFP)
Award Date: December 05, 2008
Definitization Date: December 05, 2008

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
106.9	N/A	4372	108.6	N/A	4437	108.6	108.6

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to

Cost and Schedule Variance Explanations

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

Notes

Contract FA/681-09-C-0057 Increased to convert Blu-109 Guidance Kits to Mk-84 Guidance Kits for the U.S. Navy.

Contract Identification

Appropriation: Procurement
Contract Name: JDAM Lot 14
Contractor: Boeing
Contractor Location: St. Louis, MO 63166
Contract Number: FA8681-10-C-0072
Contract Type: Firm Fixed Price (FFP)
Award Date: October 26, 2009
Definitization Date: October 26, 2009

Contract Price								
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)		
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager	
72.0	N/A	2925	72.0	N/A	2925	72.0	72.0	

Cost and Schedule Variance Explanations

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

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	804	804	804	100.00%
Production	195018	196420	219513	89.48%
Total Program Quantity Delivered	195822	197224	220317	89.52%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	5752.4	Years Appropriated	18
Expended to Date	4617.5	Percent Years Appropriated	78.26%
Percent Expended	80.27%	Appropriated to Date	5082.8
Total Funding Years	23	Percent Appropriated	88.36%

Operating and Support Cost

Assumptions and Ground Rules

Operating and Support (O&S) costs include both Air Force and Navy dollars.

O&S costs reflect the Milestone III Defense Acquisition Board (DAB) program position of March 2001.

The JDAM O&S cost estimate was based on the Joint Munitions O&S (JMOS) Model. This model estimated Air Force and Navy O&S costs for the JDAM tailkits only. Assumptions used in the O&S cost estimate are as follows: The total JDAM inventory used was 88,569 tailkits. The warranty assumed was a 20 year extended repair warranty to cover all tailkit 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 Milestone III estimate included calculations for 35 years. This was an increase of five years from the previous Milestone estimate. The model also included new assumptions to calculate unwarranted failures for 15 years after the warranty period ended and to include demilitarization costs.

There is no antecedent system for JDAM.

Note: "Other" costs are demilitarization costs.

Cost Estimate Reference:

None

Sustainment Strategy:

None

Antecedent Information:

None

Unitized O&S Costs BY1995 \$M		
Cost Element	JDAM Avg Annual Costs For 88,569 JDAM Units	No Antecedent (Antecedent) System
Mission Pay & Allowance	0.400	--
Unit Level Consumption	1.900	--
Intermediate Maintenance	0.000	--
Depot Maintenance	0.000	--
Contractor Support	2.000	--
Sustaining Support	0.600	--
Indirect	1.800	--
Other	--	--
Total	6.700	--

Unitized Cost Comments:

None

Item	Total O&S Cost \$M				
	JDAM			No Antecedent (Antecedent)	
	Current Production APB Objective/Threshold		Current Estimate		
Base Year	N/A	N/A	232.6	N/A	
Then Year	N/A	N/A	421.3	N/A	

Total O&S Cost Comment

None

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 1995 \$M):