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SELECTED ACQUISITION REPORT (RCS:DD-COMP(0&A)823)  
PROGRAM: JDAM

AS OF DATE: December 31, 1993

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1. Designation and Nomenclature (Preferred Name):  
Joint Direct Attack Munitions (JDAM)

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2. DoD Component: USAF  
  
Joint Participants:  
USAF, Navy

MAR 9 1994 10

3. Responsible Office and Telephone Number:  
ASC/YH-2  
Conventional Munitions SPO  
102 West D Ave Suite 168  
Eglin AFB, FL 32542-6807

GM-15 TERRY LITTLE  
Assigned: January 6, 1992  
AV 872-3525 COMM 904-882-3525

4. Program Elements/Procurement Line Items:

- RDT&E:
- PE 0604618F (Shared) JDAM 1 & 3 (PIP)
- PE 0604618N (Shared) JDAM 1 & 3 (PIP)

This report excludes Navy JDAM 2 and 3. Navy JDAM 3 funding remains TBD.

5. Related Programs:  
JDAM 2 [Joint Programmable Fuze (JPF), DSU-33 (USAF Only), 500 lb CAS (NAVY only)].

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OATSD (PA) DFOISR 94-C-029

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**5. Related Programs (Cont'd):**

Joint Standoff Weapon (JSOW), B-1B, B-2, F-15E, F/A-18 C/D, F-22, F-16 C/D, B-52H, F-111F, F-117, F-14A/B/D, F/A-18 E/F.

**6. Mission and Description:**

Desert Storm emphasized the need for a weapon that can be delivered accurately in all types of weather and battlefield conditions without exposing the delivery or designating aircraft to excessive risk from enemy defenses. Failure to remedy this condition will allow the enemy to continue to take advantage of the sanctuary of weather and/or prevent US air power from prosecuting the war on its own terms. Mission requirements were documented in the Mission Needs Statement (MNS) for an Adverse Weather Precision Strike Capability JROCM-015-092 dated 15 Mar 92. The Joint Operational Requirements Document (Joint ORD), validated in April 1993, further refines the JDAM requirements. The JDAM program was established to satisfy these requirements. The Air Force is the executive service with the Navy in a support role. JDAM will develop an inertial navigation system/global positioning system (INS/GPS) aided guidance kit and airfoil group for application on current inventory 2000 pound and 1000 pound warheads. The program may attempt to develop some degree of commonality between the JDAM INS/GPS unit and the INS/GPS unit under development for the Joint Standoff Weapon System (JSOW) managed by the Navy. The JDAM Product Improvement Program (PIP) will field improvements to the JDAM system, with initial emphasis on attaining precision (3 meters or less) accuracy through non-seeker and seeker initiatives.

**7. Program Highlights:**

a. Significant Historical Developments --  
A Milestone 0 Defense Acquisition Board (DAB) met on 8 Jun 92. The DAB approved the Mission Need Statement (MNS), directed planning for Joint Direct Attack Munitions (JDAM) 1 to be oriented towards a Milestone I/II DAB review in 93 and directed JDAM 3 planning for Milestone I. The Air Force has since obtained OSD approval to seek a modified Milestone I for JDAM-1 in lieu of the Milestone I/II.

b. Significant Developments Since Last Report --  
The JDAM Demonstration/Validation Request for Proposal (RFP) was released on 20 Aug 93 with an estimated April 1994 contract award.

The JDAM program successfully completed Milestone I DAB on 1 Oct 93. The Acquisition Decision Memorandum (ADM) was signed 1 Dec 93.

The JDAM 3 was redesignated as a Product Improvement Program (PIP) Nov 93 to concurrently conduct risk reduction efforts towards providing a precision capability to the basic JDAM I.

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**7b. Program Highlights (Cont'd):**

The Under Secretary of Defense for Acquisition USD(A), by letter dated 30 Jul 93, nominated the JDAM program to become a Defense Acquisition Pilot Program. This decision is still pending.

Limited Reporting is permitted for Pre-Milestone II programs IAW Title 10, USC, Section 2432.

The JDAM system is expected to satisfy all mission requirements.

c. Changes Since As Of Date --  
A-6E aircraft deleted from related programs per Chief of Naval Operations (CNO) letter, Serial Number N880D5/4U65112 dated 2 Feb 94.

**8. Threshold Breaches:**

There is currently no approved Acquisition Program Baseline (APB). The ADM directs the USAF to submit a revised draft JDAM I APB within 120 days after 1 Dec 93. Nunn-McCurdy unit cost reporting is not required for Pre-Milestone II programs, IAW Title 10, USC Section 2433.

**9. Schedule:**

a. Milestones --

	<u>Planning Estimate</u>	<u>Approved Program</u>	<u>Current Estimate</u>
JDAM 1 and 3 Milestone 0 DAB	JUN 92	N/A	JUN 92
JDAM 1 Milestone I DAB	JUL 93	N/A	OCT 93(Ch-1)
JDAM 1 Contract Award	NOV 93	N/A	APR 94(Ch-1)
Critical Design Review Complete	N/A	N/A	AUG 95(Ch-2)
Production Readiness Review #1	N/A	N/A	SEP 95(Ch-2)
JDAM 1 Milestone II DAB	JUN 95	N/A	OCT 95(Ch-1)
Exercise EMD Contract Option	N/A	N/A	OCT 95(Ch-2)
DT&E/TECHVAL-Start (Flight Tests)	N/A	N/A	OCT 95(Ch-2)
Complete (2000 lb Kit)	N/A	N/A	FEB 98(Ch-2)
Complete (1000 lb Kit/F-16)	N/A	N/A	JUL 98(Ch-2)
Operational Assessment Start	N/A	N/A	MAY 96(Ch-2)
Operational Assessment Complete	N/A	N/A	APR 97(Ch-2)
First Guided Flight	N/A	N/A	JUN 96(Ch-2)
IOT&E/OPEVAL - Start	N/A	N/A	APR 97(Ch-2)
Complete (2000 lb Kit)	N/A	N/A	FEB 99(Ch-2)
Complete 1000 lb Kit/F-22)	N/A	N/A	SEP 01(Ch-2)
Production Readiness Review #2	N/A	N/A	JUL 97(Ch-2)
Exercise LRIP-1 Option	N/A	N/A	OCT 97(Ch-2)
Organizational Organic Support Available	N/A	N/A	APR 98(Ch-2)

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9a. Schedule (Cont'd):

Milestones (Cont'd) --	<u>Planning Estimate</u>	<u>Approved Program</u>	<u>Current Estimate</u>
LRIP-2 Contract Award	N/A	N/A	OCT 98(Ch-2)
LRIP-1 Production First Delivery	N/A	N/A	JAN 99(Ch-2)
AUR Depot Support Available 1/	N/A	N/A	APR 99(Ch-2)
JDAM 1 Milestone III DAB	APR 99	N/A	JUL 99(Ch-1)
Initial Operational Capability (F/A-18)	N/A	N/A	SEP 99(Ch-2)
Full Rate Production Contract Award	N/A	N/A	OCT 99(Ch-2)
Component Depot Support Available	N/A	N/A	APR 00(Ch-2)

1/ All Up Round (AUR) Depot Support for both Air Force and Navy available at Naval Weapons Stations.

b. Previous Change Explanations -- There are no previous changes.

c. Current Change Explanations --

(Ch-1) The schedule slips reflected in the current estimate were caused by inclusion of the MK-83 1000 pound general purpose bomb for the F-22 as a threshold requirement and the requirement for an early B-2 initial operational capability.

(Ch-2) The added milestones are part of the proposed draft JDAM 1 APB that will be forwarded for approval on or about 1 Apr 94 in response to the DAB Milestone I ADM.

d. References --

Planning Estimate:  
FY94 President's Budget dated 8 Apr 93.

Approved Program: None.

10. Performance Characteristics:

a. Performance --	<u>PE</u>	<u>Approved Program Objective/Threshold</u>	<u>Demonstrated Perf</u>	<u>Current Estimate</u>
JDAM 1 Accuracy (CEP) Horizontal Targets >60 degrees impact angle (Meters)	13	N/A / N/A	TBD	13
JDAM 1 Weather Capability	Adverse	N/A / N/A	TBD	Adverse

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10a. Performance Characteristics (Cont'd):

	<u>PE</u>	<u>Approved Program Objective/Threshold</u>		<u>Demonstrated Perf</u>	<u>Current Estimate</u>	
In-Flight Re-targeting (captive carriage)	Yes	N/A	/ N/A	TBD	Yes	
Carrier Operability	Yes	N/A	/ N/A	TBD	Yes	
Warhead Compatibility						
MK-84	Yes	N/A	/ N/A	TBD	Yes	
BLU-109	Yes	N/A	/ N/A	TBD	Yes	
MK-83	Yes	N/A	/ N/A	TBD	Yes	
Aircraft Compatibility (Required Loadout)						
Air Force						
B-1B(16)	Yes (16)	N/A	/ N/A	TBD	Yes	(Ch-1)
B-2(16)	Planned	N/A	/ N/A	TBD	Yes	(Ch-1)
F-22	N/A	N/A	/ N/A	TBD	Yes	(Ch-2)
Navy						
F/A-18C/D(4)	Yes (4)	N/A	/ N/A	TBD	Yes	(Ch-1)
JDAM 3 Accuracy (CEP) (Meters)	3	N/A	/ N/A	TBD	3	
JDAM 3 Weather Capability	Adverse	N/A	/ N/A	TBD	Adverse	
JDAM 3 Warhead Compatibility						
MK-84	Yes	N/A	/ N/A	TBD	Yes	
BLU-109	Yes	N/A	/ N/A	TBD	Yes	

b. Previous Change Explanations -- No previous change explanations.

c. Current Change Explanations --

(Ch-1) Required loadout will not be part of JDAM APB. JROC Memo-020-93, 22 MAR 93 did not include loadout requirements as key performance parameters.

(Ch-2) The JDAM ADM dated 1 Dec 93 directed inclusion of the MK-83 1000 pound general purpose bomb as a threshold requirement for JDAM, for the F-22 aircraft.

NOTE: JDAM 3 was redirected as a Product Improvement Program (PIP) during Air Force FY95 POM actions.

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10d. Performance Characteristics (Cont'd):

d. References --

Planning Estimate:

JDAM Joint Operational Requirements Document dated 11 March 1993.

Approved Program: None.

11. Total Program Cost and Quantity (Current Estimate in Millions of Dollars):

a. Cost --	<u>Planning Estimate</u>	<u>Approved Program</u>	<u>Current Estimate</u>
Development (RDT&E)	626.7	0.0	611.2
Procurement	0.0		0.0
Peculiar Support	(0.0)		(0.0)
Initial Spares	(0.0)		(0.0)
Construction (MILCON)	0.0		0.0
Ops. and Maint. (O&M)	<u>0.0</u>	<u>N/A</u>	<u>0.0</u>
Total FY 93 Base-Year \$	626.7	0.0	611.2
 Escalation	 61.1	 0.0	 70.3
Development (RDT&E)	(61.1)	(0.0)	(70.3)
Procurement	(0.0)	(N/A)	(0.0)
Construction (MILCON)	(0.0)	(N/A)	(0.0)
Ops. and Maint. (O&M)	<u>(0.0)</u>	<u>(N/A)</u>	<u>(0.0)</u>
Total Then-Year \$	687.8	0.0	681.5

JDAM Acquisition Program Baseline has not been approved by the DOD Acquisition Executive. The DAB Milestone I ADM requires the USAF to submit a revised draft JDAM APB within 120 days after 1 Dec 93. The revised APB submitted for approval in response to DAB Milestone I ADM will be based on JDAM Joint Operational Requirements Document #CAF 401-91-I-A, dated 13 May 93.

RDT&E costs reflect JDAM-1 and JDAM-3 (PIP) for the USAF and JDAM 1 for the NAVY.

Current estimate column represents cumulative funding and quantities through FY00. Total program funding and quantities are TBD.

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**11b. Total Program Cost and Quantity (Cont'd):**

	<u>Planning Estimate</u>	<u>Approved Program</u>	<u>Current Estimate</u>
b. Quantity --			
Development (RDT&E)	97	N/A	378
Procurement	0	N/A	
Total	97	N/A	378

Note: Excludes 57 RDTE prototypes from the SAR Baseline and 194 from the Current Estimate that are not considered fully configured.

The increase from 97 to 378 fully configured prototypes was caused by the addition of 38 units for the F-22, 128 units for the acceleration of B-2 integration, 1 additional unit for the B-1 and 114 units for the Navy. (The Navy RDT&E cost data has been added to the JDAM SAR beginning with this report.)

c. Foreign Military Sales/International Cooperative Programs -- None

d. Nuclear Costs -- None

e. References --

Planning Estimate:

FY94 President's Budget dated 8 APR 93.

Approved Program: None.

**12. Program Acquisition/Current Procurement Unit Cost Summary:**

Note: Not required for Pre-Milestone II programs in accordance with Section 2433, Title 10, USC.

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13. Cost Variance Analysis:

a. Summary (Current (Then-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Planning Estimate	687.8	0.0	0.0	687.8
Previous Changes:				
Economic	-	-	-	-
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-	-	-	-
Current Changes:				
Economic	+11.1	-	-	+11.1
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-17.4	-	-	-17.4
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-6.3	-	-	-6.3
Total Changes	-6.3	-	-	-6.3
Current Estimate	681.5	-	-	681.5

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**13a. Cost Variance Analysis (Cont'd):**

a. Summary (FY 1993 Constant (Base-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Planning Estimate	626.7	0.0	0.0	626.7
Previous Changes:				
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-	-	-	-
Current Changes:				
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-15.5	-	-	-15.5
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-15.5	-	-	-15.5
Total Changes	-15.5	-	-	-15.5
Current Estimate	611.2	-	-	611.2

b. Previous Change Explanations -- None.

c. Current Change Explanations --

(Dollars in Millions)  
Base-Year    Then-Year

(1) RDT&E

Revised economic escalation indices. (Economic)	N/A	+16.2
Economic Adjustment for Negative Program Change. (Economic)	N/A	-5.1
Addition of Navy JDAM 1 RDT&E effort. (Estimating)	+153.8	+171.0

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**13c. Cost Variance Analysis (Cont'd):**

	(Dollars in Millions)	
	<u>Base-Year</u>	<u>Then-Year</u>
Adjustment for Current & Prior Inflation. (Estimating)	-0.6	-0.6
Revised planning for USAF JDAM PIP. (Estimating)	-271.1	-301.4
Definitize USAF JDAM 1 program. (Estimating)	+102.4	+113.6
 RDT&E Subtotal	 <u>-15.5</u>	 <u>-6.3</u>

**14. Program Acquisition Unit Cost (PAUC) History (Then-Year Dollars in Millions):**

Not required for Pre-Milestone II programs in accordance with 10 USC 2433, Title 10, USC.

**15. Contract Information:**

Two JDAM competitive demonstration/validation contracts are expected to be awarded in April 1994.

**16. Program Funding Summary (Current Estimate in Millions of Dollars):**

a. Program Status --

- (1) Percent Program Completed: 25.0% (2 yrs/8 yrs)
- (2) Percent Program Cost Appropriated: 19.1% (\$130.4 / \$681.5)

b. Appropriation Summary (Then-Year Dollars in Millions)

<u>Appropriation</u>	<u>Prior Years (FY93)</u>	<u>Budget Year (FY94)</u>	<u>Budget Year (FY95)</u>	<u>Balance To Complete (FY96-2000)</u>	<u>Total</u>
RDT&E	45.0	85.4	110.2	440.9	681.5
Procurement	-	-	-	-	-
MILCON	-	-	-	-	-
O&M	-	-	-	-	-
Total	45.0	85.4	110.2	440.9	681.5

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16c. Program Funding Summary (Cont'd):

c. Annual Summary --

Fiscal Year	Qty	Flyaway FY93 Dollars		Total Base Year\$	Total Then-Year \$			Escl Rate (%)
		Nonrec	Rec		Program	Obligated	Expended	

Appropriation: RDT&E - All Sources

1993				44.1	45.0	36.0	23.3	2.7
1994				81.5	85.4	1.5	0.1	2.5
1995				102.2	110.2			2.8
1996				126.4	140.2			2.9
1997				122.2	139.6			3.0
1998				75.0	88.4			3.0
1999				52.1	63.1			3.0
2000				7.7	9.6			3.0
Subtot	378			611.2	681.5	37.5	23.4	

Appropriation: Procurement - All Sources - None.

Appropriation: MILCON - All Sources - None.

Appropriation: O&M - All Sources - None.

Total	378			611.2	681.5	37.5	23.4	
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Appropriation: 1319 Research, Development, Test + Eval, Navy

1993				22.0	22.4	19.6	16.1	2.7
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16c. Program Funding Summary (Cont'd):

Fiscal Year	Qty	Flyaway FY93 Dollars		Total Base Year\$	Total Then-Year \$			Esc1 Rate (%)
		Nonrec	Rec		Program	Obligated	Expended	

Appropriation: 1319 Research, Development, Test + Eval, Navy (Cont'd)

1994				10.2	10.7			2.5
1995				23.4	25.2			2.8
1996				38.5	42.6			2.9
1997				28.8	32.9			3.0
1998				13.4	15.8			3.0
1999				9.8	11.8			3.0
2000				7.7	9.6			3.0
Subtot	114			153.8	171.0	19.6	16.1	
Navy	114			153.8	171.0	19.6	16.1	

The FY95 President's Budget included an additional \$16.6M for JDAM 2 which is not reflected in this SAR.

A surplus of \$.8M in FY93 will be carried over to remedy the \$.8M deficit in FY94.

Expenditures and Obligations reflect program office records as of 31 Dec 93.

Appropriation: 3600 Research, Development, Test + Eval, AF

1993				22.1	22.6	16.4	7.2	2.7
1994				71.3	74.7	1.5	0.1	2.5

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**16c. Program Funding Summary (Cont'd):**

Fiscal Year	Qty	Flyaway FY93 Dollars		Total Base Year\$	Total Then-Year \$			Escl Rate (%)
		Nonrec	Rec		Program	Obligated	Expended	

Appropriation: 3600 Research, Development, Test + Eval, AF (Cont'd)

1995				78.8	85.0			2.8
1996				87.9	97.6			2.9
1997				93.4	106.7			3.0
1998				61.6	72.6			3.0
1999				42.3	51.3			3.0
Subtot	264			457.4	510.5	17.9	7.3	
USAF	264			457.4	510.5	17.9	7.3	
Grand Total	378			611.2	681.5	37.5	23.4	

Expenditures and Obligations reflect program office records as of 31 Dec 93.

**17. Production Rate Data:**

- a. Not applicable for Pre-Milestone II programs.
- b. Not applicable for Pre-Milestone II programs.
- c. Deliveries (Plan/Actual) -- None.

RDT&E to date 0/0.

- d. Not applicable for Pre-Milestone II programs.

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18. Operating and Support Costs:

Not applicable for Pre-Milestone II programs.

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SELECTED ACQUISITION REPORT (RCS:DD-COMP (Q&A) 823)  
PROGRAM: JDAM

AS OF DATE: December 31, 1994

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1. Designation and Nomenclature (Preferred Name):  
Joint Direct Attack Munition (JDAM)

2. DoD Component: USAF

Joint Participants:  
USAF, Navy

3. Responsible Office and Telephone Number:

ASC OL/YU	GM-15 TERRY LITTLE
Joint Direct Attack Munition	Assigned: January 6, 1992
102 West D Ave Suite 168	AV 872-3525 x 3005
Eglin AFB, FL 32542-6807	COMM 904-882-3525 x 3005

4. Program Elements/Procurement Line Items:

RDT&E:

PE 0604618F (Shared) JDAM and PIP

PE 0604618N (Shared) JDAM and PIP

Air Force and Navy RDT&E funding includes the Product Improvement Program (PIP).

5. Related Programs:

Joint Programmable Fuze (JPF), Joint Stand-Off Weapon (JSOW), DSU-33 (Air Force Only), 500 pound Close Air Support (CAS) (Navy Only),

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AND SECURITY (OASD-PA)  
DEPARTMENT OF DEFENSE

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**5. Related Programs (Cont'd):**

B-1B, B-2, F/A-18C/D, F-22, F-16C/D, F-15E, B-52H, F-117A, F-14A/B/D, F/A-18E/F, P-3, S-3, and AV-8B.

**6. Mission and Description:**

The Air Force and Navy do not intend for the Joint Direct Attack Munition (JDAM) to replace any existing weapon system. Operation DESERT STORM confirmed the need for a more accurate weapon delivery capability in adverse weather conditions and from medium/high altitudes. Failure to satisfy this requirement will allow the enemy to continue to take advantage of the sanctuary of weather and/or prevent United States air power from prosecuting a conflict on its terms. The JDAM is an Air Force and Navy munitions program to correct these shortfalls, with the Air Force as the Executive Service. JDAM will upgrade the existing inventory of general purpose bombs (MK-84, BLU-109/B, and MK-83) by integrating them with a guidance kit consisting of a global positioning system (GPS) aided inertial navigation system (INS). JDAM will provide an accurate (13 meters) adverse weather capability. The primary platforms for the JDAM development are the B-1B, B-2, F/A-18C/D and the F-22 (for the MK-83 only). The Services will certify other aircraft (e.g. F-16, F-15E, S-3, P-3, AV-8B) to deliver JDAM after JDAM development is over and money becomes available. The JDAM Product Improvement Program (PIP) will field improvements to the JDAM system, with emphasis on attaining precision (3 meters) accuracy through both non-seeker and seeker initiatives. JDAM development will proceed in a two-phased Engineering and Manufacturing Development (EMD) effort. EMD Phase I will emphasize competitive design and manufacturing processes. EMD Phase II will emphasize full scale hardware build and flight test to verify system performance and will also support Operational Test and Evaluation (OT&E).

**7. Program Highlights:**

a. Significant Historical Developments --  
The Joint Requirements Oversight Council (JROC) approved the Mission Need Statement (TAF-401-91) on 5 March 1992. A Milestone (MS) 0 Defense Acquisition Board (DAB) met on 8 June 1992 and directed planning for the basic Joint Direct Attack Munition (JDAM) program for a MS I/II DAB review and directed JDAM 3 planning for MS I. The Air Force obtained approval from OUSD(A&T) to seek a modified MS I for JDAM in lieu of the MS I/II. The modified MS I DAB review was successfully completed 1 October 1993. JDAM 3 was redesignated as a Product Improvement Program (PIP) November 1993 to concurrently conduct risk reduction efforts toward providing a precision capability to the basic JDAM.

The MS I Acquisition Decision Memorandum (ADM) was signed 1 December 1993.

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7a. Program Highlights (Cont'd):

The A-6E aircraft was deleted from Related Programs per Chief of Naval Operations letter dated 2 February 1994.

b. Significant Developments Since Last Report --  
The Joint Direct Attack Munition (JDAM) Engineering and Manufacturing Development (EMD) Phase I contracts were awarded on 11 April 1994 to Martin Marietta and McDonnell Douglas.

In May 1994, the Chief of Staff of the Air Force reconfirmed the requirement for B-1/JDAM integration. Subsequently, however, the FY95 Omnibus reprogramming bill did not include B-1 funds for JDAM integration, as requested. In addition, JDAM FY95 funding was reduced by \$17.5M which included funds for B-1/JDAM integration. These actions slipped the current JDAM/B-1 Development Test and Evaluation (DT&E) flight test schedule by four months. During November 1994, agreement was reached with the Director for Operational Test and Evaluation (DOT&E) staff that the level of testing without additional B-1 drops is adequate to enter Low Rate Initial Production (LRIP).

In June 1994, JDAM initiated an accelerated, one year program to demonstrate the potential of wide area differential Global Positioning System (GPS) as a way to improve JDAM's accuracy. The program, Exploitation of Differential GPS Guidance Enhancement (EDGE), will culminate in five demonstration drops. If the concept works, it, along with improvements in target location error, could improve JDAM accuracy to the 6 - 8 meter circular error probable category. The demonstration program is on schedule.

In response to Congressional concerns related to GPS jamming, the program office briefed the Defense Science Board (DSB) on 26 July 1994 on JDAM GPS capabilities. The DSB concurred with the JDAM design approach.

Contract modifications to incorporate acquisition streamlining initiatives were completed in August 1994. All military specifications and standards were eliminated.

Martin Marietta successfully conducted a Preliminary Design Review on their JDAM System in September 1994.

The Federal Acquisition Streamlining Act of October 1994 designated the JDAM program as a Defense Acquisition Pilot Program.

The JDAM Program Management Directive (PMD) 2321(2)/PE 0604618F/PE 0207583, dated 12 August 1993, added the S-3, P-3, and AV-8B as

JDAM, December 31, 1994

7b. Program Highlights (Cont'd):

potential platforms and PMD 2321(4), dated 16 November 1994, deleted the F-111F as a JDAM platform.

The program is expected to satisfy all mission requirements.

c. Changes Since As Of Date --

McDonnell Douglas successfully conducted a Preliminary Design Review on their JDAM System in January 1995.

8. Threshold Breaches:

There is currently no Approved Acquisition Program Baseline. The Acquisition Program Baseline (APB) was forwarded for approval on 5 December 1994. Nunn-McCurdy unit cost reporting is not required for Pre-Milestone II programs, in accordance with Title 10, United States Code, Section 2433.

9. Schedule:

a. Milestones --

	<u>Planning Estimate</u>	<u>Approved Program</u>	<u>Current Estimate</u>
Milestone 0	JUN 92	N/A	JUN 92
Milestone I	OCT 93	N/A	OCT 93
Dem/Val Contract Award	APR 94	N/A	APR 94
Critical Design Review Complete	AUG 95	N/A	AUG 95
Production Readiness Review #1	SEP 95	N/A	N/A
Milestone II	OCT 95	N/A	OCT 95
Exercise EMD Contract Option	OCT 95	N/A	OCT 95
DT&E/TECHEVAL			
Start (Flight Tests)	OCT 95	N/A	OCT 95
Complete (2000 lb Kit)	FEB 98	N/A	MAY 98
Complete (1000 lb Kit)	JUL 98	N/A	JUL 98
Operational Assessment			
Start	MAY 96	N/A	OCT 95
Complete	APR 97	N/A	JUN 97
First Guided Flight	JUN 96	N/A	N/A
IOT&E/OPEVAL			
Start	APR 97	N/A	APR 97
Complete (2000 lb Kit)	FEB 99	N/A	FEB 99
OT&E/OPEVAL			
Complete (1000 lb Kit/F-22)	SEP 01	N/A	SEP 01
Production Readiness Review #2	JUL 97	N/A	N/A
Exercise LRIP-1 Option	OCT 97	N/A	OCT 97
Organizational Organic Support Capability	APR 98	N/A	APR 98

JDAM, December 31, 1994

9a. Schedule (Cont'd):

Milestones (Cont'd) --	<u>Planning Estimate</u>	<u>Approved Program</u>	<u>Current Estimate</u>
LRIP-2 Contract Award	OCT 98	N/A	OCT 98
LRIP-1 Production First Delivery	JAN 99	N/A	JAN 99
AUR Depot Support Capability	APR 99	N/A	JAN 99
Milestone III	JUL 99	N/A	JUL 99
Required Assets Availability	N/A	N/A	TBD
Initial Operational Capability	SEP 99	N/A	SEP 99
Full Rate Production Contract Award	OCT 99	N/A	OCT 99
Component Depot Support Capability	APR 00	N/A	APR 00
Milestone I JDAM PIP	N/A	N/A	DEC 98

The Selected Acquisition Report (SAR) Baseline has been adjusted to reflect the Milestone I Decision dated 1 October 1993.

b. Previous Change Explanations -- None.

c. Current Change Explanations --

NOTE: Required Assets Availability (RAA) and Milestone I JDAM PIP milestones were added and are considered to be significant milestones by the program office. The RAA milestone date will be provided once Air Combat Command (ACC) identifies what is required for RAA.

d. References --

Planning Estimate:

FY95 President's Budget (PB) dated 7 February 1994.

Approved Program: None.

10. Performance Characteristics:

a. Performance --	<u>PE</u>	<u>Approved Program Objective/Threshold</u>	<u>Demonstrated Perf</u>	<u>Current Estimate</u>
Weather Capability Accuracy (CEP) (Meters)	Adverse	N/A / N/A	TBD	Adverse
With GPS, Impact Angles > 60 Deg	13	N/A / N/A	TBD	13 Against Horizon- tal Targets

JDAM, December 31, 1994

10a. Performance Characteristics (Cont'd):

	PE	Approved Program Objective/Threshold		Demonstrated Perf	Current Estimate
Without GPS, Impact Angles >60 Deg	N/A	N/A	/ N/A	TBD	30 Against Horizon- tal Targets
Inflight Re-targeting Capability (captive carry)	Yes	N/A	/ N/A	TBD	Yes
Carrier Operability	Yes	N/A	/ N/A	TBD	Yes
Warhead Compatibility	MK-84, BLU-109, MK-83	N/A	/ N/A	TBD	BLU-109, MK-84, MK-83 (F-22 Only)
Aircraft Compatibility					
Bomber	B-1B, B-2	N/A	/ N/A	TBD	B-1B, B-2
Fighter Attack	F-22, F/A-18C/ D	N/A	/ N/A	TBD	F/A-18C/ D, F-22 (MK-83 Only)
USD(A&T) RISK					
ASSESSMENT ITEMS:					
Footprint (20,000 MSL/.8 Mach/Level)					
Downrange Limits (NM)	N/A	N/A	/ N/A	TBD	TBD
Crossrange Limits (NM)	N/A	N/A	/ N/A	TBD	TBD
Mission Reliability In-Flight (%)	N/A	N/A	/ N/A	TBD	TBD
Built-In-Test (BIT) (Fault Detection)	N/A	N/A	/ N/A	TBD	TBD
JDAM PIP Accuracy (CEP) (Meters)	3	N/A	/ N/A	TBD	3
JDAM PIP Weather Capability	N/A	N/A	/ N/A	TBD	Adverse
JDAM PIP Warhead Compatibility	MK-84, BLU-109	N/A	/ N/A	TBD	BLU-109, MK-84

The SAR Baseline has been adjusted to reflect the Milestone I Decision dated 1 October 1993.

JDAM, December 31, 1994

10a. Performance Characteristics (Cont'd):

1/ Adverse weather is defined as natural/man-made conditions such as rain, haze, dust, smoke, fog, snow, ice, wind, and/or clouds that preclude the use of current inventory munitions.

2/ The target location error portion of the total system error is assumed to be 7.2 meters. For impact angles below 60 degrees (with GPS updates) accuracy degradation up to 19 meters CEP against horizontal targets is an objective. If GPS is denied due to jamming/spoofing, the objective accuracy is 30 meters CEP against vertical targets for impact angles greater than 60 degrees.

3/ In-flight programming/targeting will be possible through MIL-STD-1553/1760 data bus interface to the weapon from existing aircraft stores management hardware and modified software.

4/ JDAMs will be capable of withstanding aircraft carrier catapult launches and arrested landings.

5/ Compatibility with the S-3, P-3, and AV-8B will be addressed as follow-on integration efforts when these requirements are better defined. The A-6E aircraft was deleted by Chief of Naval Operations (CNO) Letter, Serial Number N880D5/4UG59112, dated 2 February 1994. The F-111F has been deleted (Reference AF/XOR Message 260111Z January 1994).

6/ F-22 compatibility will be limited to internal carriage of the MK-83 configuration.

7/ The Acquisition Decision Memorandum, dated 1 December 1993, directed that threshold values associated with risk assessment items be listed as TBD's until they are defined no later than Milestone II.

8/ Reliability requirement applies to the guidance kit only. Warhead and fuzes are not included. In-flight reliability is the probability that the guidance kit can perform its intended mission after separation from the aircraft.

9/ Fault detection rate calculated as the number of failures correctly detected by BIT divided by the total number of actual system failures.

ACRONYMS: BIT - Built-In Test  
CEP - Circular Error Probable  
DEG - Degree  
DEL - Delete  
GPS - Global Positioning System  
MSL - Mean Sea Level

JDAM, December 31, 1994

10a. Performance Characteristics (Cont'd):

PIP - Product Improvement Program  
 TBD - To Be Determined

b. Previous Change Explanations -- None.

c. Current Change Explanations -- None.

d. References --

Planning Estimate:

JDAM Joint Operational Requirements Document dated 13 May 1993.

Approved Program: None.

11. Total Program Cost and Quantity (Current Estimate in Millions of Dollars):

	<u>Planning Estimate</u>	<u>Approved Program</u>	<u>Current Estimate</u>
a. Cost --			
Development (RDT&E)	611.2	0.0	730.1
Procurement	0.0		0.0
Peculiar Support	(0.0)		(0.0)
Initial Spares	(0.0)		(0.0)
Construction (MILCON)	0.0		0.0
Ops. and Maint. (O&M)	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
Total FY 93 Base-Year \$	611.2	0.0	730.1
 Escalation	 70.3	 0.0	 139.4
Development (RDT&E)	(70.3)	(0.0)	(139.4)
Procurement	(0.0)	(N/A)	(0.0)
Construction (MILCON)	(0.0)	(N/A)	(0.0)
Ops. and Maint. (O&M)	<u>(0.0)</u>	<u>(0.0)</u>	<u>(0.0)</u>
Total Then-Year \$	681.5	0.0	869.5

The SAR Baseline has been adjusted to reflect the Milestone I Decision dated 1 October 1993. Changes between the Initial SAR Baseline and the Milestone I Baseline are a result of awarding the EMD Phase I contracts and a revised cost estimate supporting a better defined JDAM PIP.

b. Quantity --

Development (RDT&E)	378	N/A	533
Procurement	<u>0</u>	<u>N/A</u>	<u>N/A</u>
Total	378	N/A	533

Note: Excludes 194 RDTE prototypes from the SAR Baseline and 201 from the Current Estimate that are not considered fully configured.

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11b. Total Program Cost and Quantity (Cont'd):

The increase of fully configured prototypes from 378 in the SAR Baseline to 533 in the Current Estimate is due to additional funding in FY96 to buy 150 additional assets for the B-2 initial capability. Also, five additional assets (previously planned as a separate line item) will be used as flyable weapon simulators.

c. Foreign Military Sales/International Cooperative Programs --  
To be determined.

d. Nuclear Costs -- None.

e. References --

Planning Estimate:

FY95 President's Budget dated 7 February 1994.

Approved Program: None.

12. Unit Cost Summary:

Note: Not required for Pre-Milestone II programs in accordance with Section 2433, Title 10, USC.

JDAM, December 31, 1994

13. Cost Variance Analysis:

a. Summary (Current (Then-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Planning Estimate	681.5	0.0	0.0	681.5
Previous Changes:				
Economic	-	-	-	-
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-	-	-	-
Current Changes:				
Economic	-3.1	-	-	-3.1
Quantity	13.0	-	-	+13.0
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	178.1	-	-	+178.1
Other	-	-	-	-
Support	-	-	-	-
Subtotal	+188.0	-	-	+188.0
Total Changes	+188.0	-	-	+188.0
Current Estimate	869.5	-	-	869.5

JDAM, December 31, 1994

13a. Cost Variance Analysis (Cont'd):

a. Summary (FY 1993 Constant (Base-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Planning Estimate	611.2	0.0	0.0	611.2
Previous Changes:				
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-	-	-	-
Current Changes:				
Quantity	11.8	-	-	+11.8
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	107.1	-	-	+107.1
Other	-	-	-	-
Support	-	-	-	-
Subtotal	+118.9	-	-	+118.9
Total Changes	+118.9	-	-	+118.9
Current Estimate	730.1	-	-	730.1

b. Previous Change Explanations -- None.

c. Current Change Explanations --

(Dollars in Millions)  
Base-Year    Then-Year

(1) RDT&E

Revised escalation indices. (Economic)	N/A	-3.1
Variance resulting from increase in Air Force procurement of 150 additional assets. (Quantity)	+11.8	+13.0
Adjustment for Current & Prior Inflation. (Estimating)	+1.1	+1.1

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13c. Cost Variance Analysis (Cont'd):

	(Dollars in Millions)	
	<u>Base-Year</u>	<u>Then-Year</u>
Funding increase due to inclusion of Air Force funding for follow-on PIP efforts (FY00-FY12) beyond PIP MS I in FY99. (Estimating)	+209.1	+291.9
Decrease in costs due to redefining the Air Force PIP in FY93-99. (Estimating)	-98.8	-111.7
Decrease of Navy funding due to Small Business Innovative Research and revision of Navy cost estimate. (Estimating)	-4.3	-3.2
 RDT&E Subtotal	<u>+118.9</u>	<u>+188.0</u>

14. Program Acquisition Unit Cost (PAUC) History (Then-Year Dollars in Millions):

Not required for Pre-Milestone II programs in accordance with Section 2433, Title 10, USC.

15. Contract Information (Then-Year Dollars in Millions):

a. RDT&E --			Initial Contract Price		
<u>JDAM:</u>			<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>
Martin Marietta Corp, Orlando, FL			\$13.8	\$0.0	0
F08626-94-C-0002, CPAF					
Award: April 11, 1994					
Definitized: April 11, 1994					
Current Contract Price			Estimated Price At Completion		
<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>	<u>Contractor</u>	<u>Program Manager</u>	
\$	\$		\$	\$	
			<u>Cost Variance</u>	<u>Schedule Variance</u>	
Previous Cumulative Variances			\$	\$	
Cumulative Variances To Date (12/31/94)			\$	\$	
Net Change			\$0.0	\$0.0	

Explanation of Change: None.

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

The Source Document for this contract is the Contractor's Internal Performance System.

Contract cost performance information is, because of the competitive nature of Phase I, SOURCE SELECTION SENSITIVE. This information is

JDAM, December 31, 1994

15. Contract Information (Cont'd):

provided to the Air Force Program Executive Office for Conventional Strike (AFPEO/TS) and will be available on request. After the downselect and MS II (October 1995) we will provide cost performance information.

JDAM has an Average Unit Procurement Price Requirement (AUPPR) as part of the technical specification. Martin Marietta has proposed an aggressive unit procurement price requirement and is devoting a substantial portion of the first 18 months effort to doing what is necessary to meet the requirement.

The major development challenge will be keeping the JDAM test program and aircraft Operational Flight Program (OFF) development in harmony. A schedule problem in the OFF development process, which the respective aircraft program offices manage, could have a major impact on the JDAM program's cost performance.

<u>JDAM:</u>			<u>Initial Contract Price</u>		
	<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>		
McDonnell Douglas Corp, St Louis, MO					
F08626-94-C-0003, CPAF	\$35.0	\$0.0	0		
Award: April 11, 1994					
Definitized: April 11, 1994					
<u>Current Contract Price</u>			<u>Estimated Price At Completion</u>		
<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>	<u>Contractor</u>	<u>Program Manager</u>	
\$	\$		\$	\$	
			<u>Cost Variance</u>	<u>Schedule Variance</u>	
Previous Cumulative Variances			\$	\$	
Cumulative Variances To Date (12/31/94)			\$	\$	
Net Change			\$0.0	\$0.0	

Explanation of Change: None.

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

The Source Document for this contract is the Contractor's Internal Performance System.

Contract cost performance information is, because of the competitive nature of Phase I, SOURCE SELECTION SENSITIVE. This information is provided to the Air Force Program Executive Office for Conventional Strike (AFPEO/TS) and will be available on request. After the downselect and MS II (October 1995) we will provide cost performance information.

JDAM has an AUPPR as part of the technical specification. McDonnell

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15. Contract Information (Cont'd):

Douglas has proposed a conservative unit procurement price requirement and is devoting a substantial portion of the first 18 months effort to aggressively reduce their AUPPR.

The major development challenge will be keeping the JDAM test program and aircraft OFP development in harmony. A schedule problem in the OFP development process, which the respective aircraft program offices manage, could have a major impact on the JDAM program's cost performance.

16. Program Funding Summary (Current Estimate in Millions of Dollars):

a. Program Status --

- (1) Percent Program Completed: 15.0% (3 yrs/20 yrs)
- (2) Percent Program Cost Appropriated: 24.1% (\$209.7 / \$869.5)

b. Appropriation Summary (Then-Year Dollars in Millions)

<u>Appropriation</u>	<u>Prior Years (FY93-95)</u>	<u>Budget Year (FY96)</u>	<u>Budget Year (FY97)</u>	<u>Balance To Complete (FY98-2012)</u>	<u>Total</u>
RDT&E	209.7	126.2	119.0	414.6	869.5
Procurement	-	-	-	-	-
MILCON	-	-	-	-	-
O&M	-	-	-	-	-
Total	209.7	126.2	119.0	414.6	869.5

JDAM, December 31, 1994

16c. Program Funding Summary (Cont'd):

c. Annual Summary --

Fiscal Year	Qty	Flyaway FY93 Dollars		Total Base Year\$	Total Then-Year \$			Escl Rate (%)
		Nonrec	Rec		Program	Obligated	Ex-pended	

Appropriation: 1319 Research, Development, Test + Eval, Navy

1993				22.8	23.2	22.9	21.4	2.7
1994				7.6	7.9	7.9	6.0	2.0
1995				23.3	24.9	6.1		2.7
1996				30.9	34.0			3.0
1997				29.2	33.1			3.0
1998				10.2	11.9			3.0
1999				6.3	7.6			3.0
2000				7.5	9.3			3.0
2001				12.1	15.4			3.0
Subtot	117			149.9	167.3	36.9	27.4	
Navy	117			149.9	167.3	36.9	27.4	

Funding reflects the FY96 PB dated 6 February 1995. Funding changed due to program adjustments during the FY96 PB cycle and a revised program cost estimate. Although the Navy Program Element (PE) includes monies for the Joint Programmable Fuze (JPF), JPF funding is not included in this Navy Funding Summary because it is not part of the JDAM program.

Expenditures and Obligations reflect program office records as of 31 December 1994.

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16c. Program Funding Summary (Cont'd):

Fiscal Year	Qty	Flyaway FY93 Dollars		Total Base Year\$	Total Then-Year \$			Escl Rate (%)
		Nonrec	Rec		Program	Obligated	Expended	

Appropriation: 3600 Research, Development, Test + Eval, AF

1993				21.1	21.5	21.4	16.1	2.7
1994				62.6	65.3	60.3	20.5	2.0
1995				62.3	66.9	13.0	0.6	2.7
1996				83.4	92.2			3.0
1997				75.5	85.9			3.0
1998				40.4	47.3			3.0
1999				25.8	31.2			3.0
2000				4.2	5.2			3.0
2001				3.8	4.9			3.0
2002				46.5	61.3			3.0
2003				55.6	75.5			3.0
2004				39.3	55.0			3.0
2005				27.8	40.0			3.0
2006				13.5	20.0			3.0
2007				3.9	6.0			3.0
2008				3.8	6.0			3.0
2009				3.7	6.0			3.0
2010				2.4	4.0			3.0

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16c. Program Funding Summary (Cont'd):

Fiscal Year	Qty	Flyaway FY93 Dollars		Total Base Year\$	Total Then-Year \$			Escl Rate (%)
		Nonrec	Rec		Program	Obligated	Ex-pended	

Appropriation: 3600 Research, Development, Test + Eval, AF (Cont'd)

2011				2.3	4.0			3.0
2012				2.3	4.0			3.0
Subtot	416			580.2	702.2	94.7	37.2	
USAF	416			580.2	702.2	94.7	37.2	
Grand Total	533			730.1	869.5	131.6	64.6	

Funding reflects the FY96 PB dated 6 February 1995. Funding was increased in FY96 \$13M to buy an additional 150 assets for the B-2 initial capability. Also, the PIP program was redefined and includes funding through FY12.

Expenditures and Obligations reflect program office records as of 31 December 1994.

17. Production Rate Data:

a. Deliveries (Plan/Actual) -- None.

Delivery units are SOURCE SELECTION SENSITIVE because of the competitive nature of Phase I. This information will be available to the Air Force Program Executive Office for Conventional Strike (AFPEO/TS) on request. We will report deliveries in the SAR after downselect and MS II (October 1995).

b. Approved Design-to-Cost Objective --  
N/A for Pre-Milestone II programs.

\*\*\* UNCLASSIFIED \*\*\*

JDAM, December 31, 1994

18. Operating and Support Costs:

Not applicable for Pre-Milestone II programs.

\*\*\* UNCLASSIFIED \*\*\*

**UNCLASSIFIED**

\*\*\* UNCLASSIFIED \*\*\*

SELECTED ACQUISITION REPORT (RCS:DD-COMP(Q&A)823)

PROGRAM: JDAM

AS OF DATE: September 30, 1995

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1. Designation and Nomenclature (Preferred Name):  
Joint Direct Attack Munition (JDAM)

2. DoD Component: USAF

Joint Participants:  
USAF, Navy

3. Responsible Office and Telephone Number:

ASC OL/YU	GM-15 TERRY LITTLE
Joint Direct Attack Munition	Assigned: January 6, 1992
102 West D Ave Suite 168	AV 872-3525 x 3005
Eglin AFB, FL 32542-6807	COMM 904-882-3525 x

4. Program Elements/Procurement Line Items:

RDT&E:

PE 0604618F (Shared) JDAM and PIP
PE 0604618N (Shared) JDAM and PIP

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FOR OPEN PUBLICATION

17 OCT 13 1995

DIRECTORATE FOR FREEDOM OF INFORMATION  
AND SECURITY REVIEW (OASD-PA)  
DEPARTMENT OF DEFENSE

Air Force and Navy RDT&E funding includes the Product Improvement Program (PIP).

5. Related Programs:

Joint Programmable Fuze (JPF), Joint Stand-Off Weapon (JSOW), Joint Air-to-Surface Standoff Missile (JASSM), Wind Corrected Munitions

\*\*\* UNCLASSIFIED \*\*\*  
**UNCLASSIFIED**

95-C-1248  
SAF/PAS

JDAM, September 30, 1995

5. Related Programs (Cont'd):

Dispenser (WCMD), DSU-33 (Air Force Only), 500 pound Close Air Support (CAS) (Navy Only), B-1B, B-2, FA-18C/D, F-22, F-16C/D, F-15E, B-52H, F-117A, F-14A/B/D, FA-18E/F, P-3, S-3, and AV-8B.

6. Mission and Description:

The Air Force and Navy do not intend for the Joint Direct Attack Munition (JDAM) to replace any existing weapon system. Operation DESERT STORM confirmed the need for a more accurate weapon delivery capability in adverse weather conditions and from medium/high altitudes. Failure to satisfy this requirement will allow the enemy to continue to take advantage of the sanctuary of weather and/or prevent United States air power from prosecuting a conflict on its terms. The JDAM is an Air Force and Navy munitions program to correct these shortfalls, with the Air Force as the Executive Service. JDAM will upgrade the existing general purpose bombs (MK-84, BLU-109/B, and MK-83/BLU-110) by integrating them with a tail guidance kit consisting of a global positioning system (GPS) aided inertial navigation system (INS). JDAM will provide an accurate (13 meters) adverse weather capability. The primary platforms for the JDAM development are the B-1B, B-2, B-52H, FA-18C/D and the F-22 (for the MK-83/BLU-110 only). The services will certify other aircraft (e.g. F-16, F-14D, F-15E, S-3, P-3, AV-8B) to deliver JDAM when funding becomes available. The JDAM Product Improvement Program (PIP) will field improvements to the JDAM system, with emphasis on attaining precision (3 meters) accuracy through both non-seeker and seeker initiatives. JDAM development will proceed in a two-phased Engineering and Manufacturing Development (EMD) effort. EMD Phase I emphasized competitive design and manufacturing processes. EMD Phase II will emphasize full scale hardware build and flight test to verify system performance and will also support Operational Test and Evaluation (OT&E).

7. Program Highlights:

a. Significant Historical Developments --

The Joint Requirements Oversight Council (JROC) approved the Mission Need Statement (TAF-401-91) 5 March 1992. A Milestone (MS) 0 Defense Acquisition Board (DAB) met 8 June 1992 and directed planning for the basic Joint Direct Attack Munition (JDAM) program for a MS I/II DAB review and directed JDAM 3 planning for MS I. The Air Force obtained approval from OUSD(A&T) to seek a modified MS I for JDAM in lieu of the MS I/II. The modified MS I DAB review was successfully completed 1 October 1993. JDAM 3 was redesignated as a Product Improvement Program (PIP) November 1993 to concurrently conduct risk reduction efforts toward providing a precision capability to the basic JDAM.

The MS I Acquisition Decision Memorandum (ADM) was signed 1 December 1993.

JDAM, September 30, 1995

7a. Program Highlights (Cont'd):

The A-6E aircraft was deleted from Related Programs per Chief of Naval Operations letter dated 2 February 1994.

The JDAM Engineering and Manufacturing Development (EMD) Phase I contracts were awarded 11 April 1994 to Martin Marietta and McDonnell Douglas.

In May 1994, the Chief of Staff of the Air Force reconfirmed the requirement for B-1/JDAM integration. Subsequently, however, the FY95 Omnibus reprogramming bill did not include B-1 funds for JDAM integration and, in addition, JDAM FY95 funding was reduced by \$17.5M which included funds for B-1/JDAM integration. These actions caused the JDAM/B-1 Development Test and Evaluation (DT&E) flight test schedule to slip by four months. During November 1994, agreement was reached with the Director for Operational Test and Evaluation (DOT&E) staff that the level of testing without additional B-1 drops is adequate to enter Low Rate Initial Production (LRIP).

JDAM initiated an accelerated, one year program in June 1994 to demonstrate the potential of wide area differential Global Positioning System (GPS) as a way to improve JDAM's accuracy. The program, Exploitation of Differential GPS Guidance Enhancement (EDGE), culminated in five demonstration drops. The demonstration program was successful.

On 26 July 1994 the program office briefed the Defense Science Board (DSB) on JDAM GPS capabilities. The DSB concurred with the JDAM design approach.

Contract modifications to incorporate acquisition streamlining initiatives were completed in August 1994. The requirement for all military specifications and standards was eliminated.

The Federal Acquisition Streamlining Act (FASTA) of October 1994 designated the JDAM program as a Defense Acquisition Pilot Program.

The JDAM Program Management Directive (PMD) 2321(2)/PE 0604618F/PE 0207583F, dated 12 August 1993, added the S-3, P-3, and AV-8B as potential platforms and PMD 2321(4), dated 16 November 1994, deleted the F-111F as a JDAM platform.

b. Significant Developments Since Last Report --

IMPORTANT NOTE: This SAR reflects funding as shown in the FY96 President's Budget dated February 6, 1995. The MS II baseline and associated funding representing the program acceleration discussed below will be reflected in the Dec 95 annual SAR submission.

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7b. Program Highlights (Cont'd):

In July 1995, USD(A&T) approved an acceleration of the JDAM Baseline program. In doing so, we are providing more JDAMs earlier, freeing funds to produce more B-1 launcher kits earlier and establishing a capability with the B-52 much earlier than originally planned--all with no increase in funding.

USD(A&T) signed the Milestone I JDAM Acquisition Program Baseline (APB) and Acquisition Strategy Report (ASR) on 11 July 1995. An updated APB and ASR were residual Milestone I Decision actions.

The Air Force Cost Analysis Improvement Group (CAIG) met 21 July 1995 to establish the Service cost position for the 14 September 1995 Milestone II Decision. There were no major issues. OSD CAIG presented the Independent Cost Estimate (ICE) on 11 August 1995. The ICE for development was two percent higher than the Service estimate; the production ICE was nine percent higher.

DUSD(AR) selected the JDAM program to implement pay-for-performance as a pilot project in accordance with the 1994 FASTA. The program manager mapped out an approach to financially incentivize our acquisition workforce to execute the JDAM program at or below the Services' approved estimate for Engineering and Manufacturing Development (EMD).

The Common Munition Built-In Test and Reprogramming Equipment (CMBRE) program released its Request For Proposal (RFP) on 31 July 1995--a slip of 108 days from the original plan. The slip and future potential slips increase the risk that we will not have an operationally representative Mission Loader Verify/Built-In-Test capability by the end of development testing. We have therefore combined with the ANRAAM program to pursue a backup based on the modified Common Field Memory Reprogramming Equipment (CFMRE). We will continue to support CMBRE as long as it remains a viable solution.

All testing continues to proceed extremely well. Both contractors have measured the captive flight environment of the F-15E, F-16C/D, FA-18C/D, B-1B, B-2A, and B-52H aircraft using specially instrumented versions of their designs. In addition, the contractors have verified their weapons fit properly on the AV-8B, B-1B, B-2A, B-52H, F-14A/B/D, F-15E, F-16C/D, F-117, FA-18C/D, and F-22. Test planning for EMD II is on track. We have released an updated Test and Evaluation Master Plan (TEMP) dated 18 August 1995. It reflects the Milestone II Joint Operational Requirements Document (ORD). Any Joint ORD changes will be reflected promptly via a newly-established Test Engineering Master Plan (TEMP) change control process.

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7b. Program Highlights (Cont'd):

The Joint ORD was updated and signed on 2 August 1995 and the Joint Requirements Oversight Committee (JROC) validated the key performance parameters on 30 August 1995.

Milestone I for the JDAM PIP has slipped more than six months, from April 1998 to September 1999, due to the revised schedule in the APB approved by USD(A&T) on 20 September 1995. This programmatic slip is reported in this out-of-cycle Selected Acquisition Report (SAR).

USD(A&T) approved the Acquisition Strategy and the Milestone II APB portions of the Single Acquisition Management Plan (SAMP) that supported the Milestone II DAB. Milestone II approval was provided at the DAB Readiness Review on 6 September 1995. The Milestone II Decision and APB will be reflected in the December 1995 transition SAR. The Milestone II Acquisition Decision Memorandum (ADM) was also signed on 20 September 1995.

The JDAM program is on track. Testing continues to go well. We believe the Average Unit Procurement Price (AUPP) for our JDAM units will be substantially below the \$40,000 cost goal in the Joint ORD--the proof will be in the contractor's proposals and the subsequent EMD II contract to be awarded 11 October 1995.

The program is expected to satisfy all mission requirements.

c. Changes Since As Of Date -- None.

8. Threshold Breaches:

There are no breaches to the Approved Defense Acquisition Executive (DAE) Acquisition Program Baseline (APB) dated 11 July 1995. Nunn-McCurdy unit cost reporting is not required for Pre-Milestone II programs in accordance with Title 10, United States Code (USC), Section 2433.

9. Schedule:

a. Milestones --	<u>Planning</u> <u>Estimate</u>	<u>Approved</u> <u>Program</u>	<u>Current</u> <u>Estimate</u>
Milestone 0	JUN 92	JUN 92	JUN 92
Milestone I	OCT 93	OCT 93	OCT 93
Dem/Val Contract Award	APR 94	APR 94	APR 94
Critical Design Review Complete	AUG 95	AUG 95	AUG 95

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9a. Schedule (Cont'd):

Milestones (Cont'd) --	<u>Planning Estimate</u>	<u>Approved Program</u>	<u>Current Estimate</u>
Production Readiness Review #1 Milestone II	SEP 95	N/A	N/A
Exercise RMD Contract Option	OCT 95	OCT 95	SEP 95 (Ch-1)
DT&E/TCHEVAL			OCT 95
Start (Flight Tests)	OCT 95	OCT 95	OCT 95
Complete (2000 lb Kit)	FEB 98	MAY 98	MAY 98
Complete (1000 lb Kit)	JUL 98	JUL 98	JUL 98
Operational Assessment			
Start	MAY 96	OCT 95	OCT 95
Complete	APR 97	JUN 97	JUN 97
First Guided Flight	JUN 96	N/A	N/A
IOT&E/OPEVAL			
Start	APR 97	APR 97	APR 97
Complete (2000 lb Kit)	FEB 99	FEB 99	FEB 99
OT&E/OPEVAL			
Complete (1000 lb Kit/F-22)	SEP 01	SEP 01	SEP 01
Production Readiness Review #2	JUL 97	N/A	N/A
Exercise LRIP-1 Option	OCT 97	OCT 97	OCT 97
Organizational Organic Support Capability	APR 98	APR 98	APR 98
LRIP-2 Contract Award	OCT 98	OCT 98	OCT 98
LRIP-1 Production First Delivery	JAN 99	JAN 99	JAN 99
AUR Depot Support Capability	APR 99	APR 99	JAN 99
Milestone III	JUL 99	JUL 99	JUL 99
Required Assets Availability	N/A	TBD	TBD
Initial Operational Capability	SEP 99	SEP 99	SEP 99
Full Rate Production Contract Award	OCT 99	OCT 99	OCT 99
Component Depot Support Capability	APR 00	APR 00	APR 00
Milestone I JDAM PIP	N/A	APR 98	SEP 99 (Ch-2)

ACRONYMS: AUR - All Up Round

b. Previous Change Explanations --

Required Assets Availability (RAA) and Milestone I JDAM PIP milestones were added and are considered to be significant milestones by the program office.

c. Current Change Explanations --

(Ch-1) Milestone II date changed from October 1995 to September 1995 to reflect the actual date of the Milestone II Program Review.

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9c. Schedule (Cont'd):

(Ch-2) Milestone I - JDAM PIP slipped by more than six months from April 1998 to September 1999 due to the revised schedule approved by USD(A&T) on 20 September 1995.

d. References --

Planning Estimate:

FY95 President's Budget (PB) dated February 7, 1994.

Approved Program:

DAE Approved Acquisition Program Baseline dated July 11, 1995.

10. Performance Characteristics:

a. Performance --	PE	Approved Program Objective/Threshold	Demonstrated Perf	Current Estimate
Weather Capability Accuracy (CEP) (Meters)	Adverse	Adverse / Adverse	TBD	Adverse
With GPS, Impact Angles > 60 Deg	13	13 / 13 Against Horizontal Targets	TBD	13 Against Horizontal Targets
Without GPS, Impact Angles >60 Deg	N/A	17 / 30 Against Horizontal Targets	TBD	30 Against Horizontal Targets
Inflight Re-targeting Capability (captive carry)	Yes	Yes / Yes	TBD	Yes
Carrier Operability	Yes	Yes / Yes	TBD	Yes
Warhead Compatibility	MK-84, BLU-109, MK-83	TMD, MK-83, MK-82	BLU-109, MK-84, MK-83 (F-22 only)	BLU-109, MK-84, MK-83 (F-22 Only)
Aircraft Compatibility Bomber	B-1B, B-2	B-52H / B-1, B-2	TBD	B-1, B-2

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10a. Performance Characteristics (Cont'd):

	PE	Approved Program Objective/Threshold	Demonstrated Perf	Current Estimate
Fighter Attack	F-22, F/A-18C/D	F-15E, / F/A-18C/ F-16C/D, D F-22 F-117A, (MK-83 only) F-14A/B/ D, AV-8B, F/A-18E/ F, F-22	TBD	FA-18C/ D, F-22, (MK-83 Only)
USD(A&T) RISK ASSESSMENT ITEMS:				
Footprint (20,000 MSL/.8 Mach/Level)				
Downrange Limits (NM)	N/A	2.5-8.5 / TBD	TBD	TBD
Crossrange Limits (NM)	N/A	+/-2.0 / TBD	TBD	TBD
Mission Reliability In-Flight (%)	N/A	95 / TBD	TBD	TBD
Built-In-Test (BIT) (Fault Detection)	N/A	TBD / TBD	TBD	TBD
JDAM PIP Accuracy (CEP) (Meters)	3	3 / 3	TBD	3
JDAM PIP Weather Capability	N/A	Adverse / Adverse	TBD	Adverse
JDAM PIP Warhead Compatibility	MK-84, BLU-109	MK-82, / BLU-109, MK-83 MK-84	TBD	BLU-109, MK-84

1/ Adverse weather is defined as natural/man-made conditions such as rain, haze, dust, smoke, fog, snow, ice, wind, and/or clouds that preclude the use of current inventory munitions.

2/ The target location error portion of the total system error is assumed to be 7.2 meters. For impact angles below 60 degrees (with GPS updates) accuracy degradation up to 19 meters CEP against horizontal targets is an objective. If GPS is denied due to jamming/spoofing, the objective accuracy is 30 meters CEP against vertical targets for impact angles greater than 60 degrees.

3/ Inflight programming/targeting will be possible through MIL-STD-1553/1760 data bus interface to the weapon from existing aircraft stores management hardware and modified software.

4/ JDAMs will be capable of withstanding aircraft carrier catapult launches and arrested landings.

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10a. Performance Characteristics (Cont'd):

5/ Physical compatibility with the B-1B, B-2, FA-18C/D, AV-8B and B-52H were successfully demonstrated during actual fit test in EMD Phase 1. F-22A physical compatibility was also demonstrated using computerized physical fit analysis during this phase. Integration with the F-15E, F-16C/D, F-117, FA-18E/F, F-14D, S-3, and P-3 will be addressed as follow-on integration efforts. The A-6E aircraft was deleted by Chief of Naval Operations (CNO) Letter, Serial Number N880D5/4UG59112, dated 2 February 1994. The F-111F has been deleted (Reference AF/XOR Message 260111Z January 1994).

6/ F-22 compatibility will be limited to internal carriage of the MK-83 configuration.

7/ The Acquisition Decision Memorandum dated 1 December 1993, directed that threshold values associated with risk assessment items be listed as TBD's until they are defined no later than Milestone II.

8/ Reliability requirement applies to the guidance kit only. Warhead and fuzes are not included. Inflight reliability is the probability that the guidance kit can perform its intended mission after separation from the aircraft.

9/ Fault detection rate calculated as the number of failures correctly detected by BIT divided by the total number of actual system failures.

Note: Performance Characteristics requirements reflect the Joint Operational Requirements Document (ORD) dated 13 May 1993.

ACRONYMS: CEP - Circular Error Probable  
DEG - Degree  
GPS - Global Positioning System  
MSL - Mean Sea Level  
PIP - Product Improvement Program  
TBD - To Be Determined

b. Previous Change Explanations -- None.

c. Current Change Explanations -- None.

d. References --

Planning Estimate:

JDAM Joint Operational Requirements Document dated May 13, 1993.

Approved Program:

DAE Approved Acquisition Program Baseline dated July 11, 1995.

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11. Total Program Cost and Quantity (Current Estimate in Millions of Dollars):

	Planning <u>Estimate</u>	Approved <u>Program</u>	Current <u>Estimate</u>
a. Cost --			
Development (RDT&E)	611.2	905.2	724.4
Procurement	0.0	N/A	0.0
Peculiar Support	(0.0)		(0.0)
Initial Spares	(0.0)		(0.0)
Construction (MILCON)	0.0	N/A	0.0
Ops. and Maint. (O&M)	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
Total FY 93 Base-Year \$	611.2	905.2	724.4
 Escalation	 70.3	 187.1	 139.2
Development (RDT&E)	(70.3)	(187.1)	(139.2)
Procurement	(0.0)	(N/A)	(0.0)
Construction (MILCON)	(0.0)	(N/A)	(0.0)
Ops. and Maint. (O&M)	<u>(0.0)</u>	<u>(0.0)</u>	<u>(0.0)</u>
Total Then-Year \$	681.5	1092.3	863.6

Funding reflects the FY96 President's Budget dated 6 February 1995.

b. Quantity --			
Development (RDT&E)	378	378	630
Procurement	<u>0</u>	<u>N/A</u>	<u>N/A</u>
Total	378	378	630

Note: Excludes 194 RDTE prototypes from the SAR Baseline and 126 from the Current Estimate that are not considered fully configured.

The overall total of fully configured prototypes increased from 533 in the 31 December 1994 SAR to 630 in this report. Air Force quantities increased from 416 to 516 to support the required Captive Carriage Reliability Program/Margin Testing and for an Integrated System Evaluation (ISE) on the F-16 to support LRIP. Navy quantities decreased from 117 to 114 due to misclassification of three test assets previously reported.

c. Foreign Military Sales/International Cooperative Programs -- To be determined.

d. Nuclear Costs -- None.

e. References --

Planning Estimate:  
FY95 President's Budget dated February 7, 1994.

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11e. Total Program Cost and Quantity (Cont'd):

Approved Program:

DAE Approved Acquisition Program Baseline dated July 11, 1995.

12. Unit Cost Summary:

Note: Not required for Pre-Milestone II programs in accordance with Section 2433, Title 10, USC.

13. Cost Variance Analysis:

a. Summary (Current (Then-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Planning Estimate	681.5	0.0	0.0	681.5
Previous Changes:				
Economic	-3.1	-	-	-3.1
Quantity	+13.0	-	-	+13.0
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	+178.1	-	-	+178.1
Other	-	-	-	-
Support	-	-	-	-
Subtotal	+188.0	-	-	+188.0
Current Changes:				
Economic	-	-	-	-
Quantity	4.1	-	-	+4.1
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-10.0	-	-	-10.0
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-5.9	-	-	-5.9
Total Changes	+182.1	-	-	+182.1
Current Estimate	863.6	-	-	863.6

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13a. Cost Variance Analysis (Cont'd):

a. Summary (FY 1993 Constant (Base-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Planning Estimate	611.2	0.0	0.0	611.2
Previous Changes:				
Quantity	+11.8	-	-	+11.8
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	+107.1	-	-	+107.1
Other	-	-	-	-
Support	-	-	-	-
Subtotal	+118.9	-	-	+118.9
Current Changes:				
Quantity	3.5	-	-	+3.5
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-9.2	-	-	-9.2
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-5.7	-	-	-5.7
Total Changes	+113.2	-	-	+113.2
Current Estimate	724.4	-	-	724.4

ACRONYMS: BSO - Budget Submission Office  
 BTR - Budget Transfer Reduction  
 DBOF - Defense Business Operations Fund  
 JPF - Joint Programmable Fuze

b. Previous Change Explanations --

RDT&E

Economic: Revised escalation indices.  
 Quantity: Increased Air Force procurement of 150 additional assets for interim capability.  
 Estimating: Adjusted for Current and Prior Inflation. Funding increased due to inclusion of Air Force funding for follow-on PIP efforts beyond PIP MS I in FY99 (FY00-FY12). Costs decreased due to redefining the

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13b. Cost Variance Analysis (Cont'd):

Air Force PIP in FY93-FY99. Navy funding decreased due to Small Business Innovative Research (SBIR) and revised Navy cost estimate.

c. Current Change Explanations --

	(Dollars in Millions)	
	<u>Base-Year</u>	<u>Then-Year</u>
(1) <u>RDT&amp;E</u>		
Navy Congressional reductions for Defense Business Operations Fund (DBOP) Assessments (Estimating)	-1.2	-1.2
Quantities increased from 533 to 630 to support the required Captive Carriage Reliability Program/Margin Testing and for Integrated System Evaluation on the F-16 to support LRIP. (Quantity)	+3.5	+4.1
Revised estimate due to change in unit cost (Estimating)	-8.0	-8.8
 RDT&E Subtotal	<u>-5.7</u>	<u>-5.9</u>

14. Program Acquisition Unit Cost (PAUC) History (Then-Year Dollars in Millions):

Not required for Pre-Milestone II programs in accordance with Section 2433, Title 10, USC.

15. Contract Information (Then-Year Dollars in Millions):

a. RDT&E --	Initial Contract Price		
<u>JDAM:</u>	<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>
Martin Marietta Corp, Orlando, FL	\$13.8	\$0.0	0
F08626-94-C-0002, CPFF			
Award: April 11, 1994			
Definitized: April 11, 1994			
Current Contract Price			
<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>	
\$31.3	\$0.0	0	
Estimated Price At Completion			
<u>Contractor</u>	<u>Program Manager</u>		
\$31.3	\$31.3		
Cost Variance Schedule Variance			
Previous Cumulative Variances	\$0.0	\$0.0	
Cumulative Variances To Date (09/18/95)	\$0.0	\$0.0	
Net Change	\$0.0	\$0.0	

Explanation of Change: None.

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15. Contract Information (Cont'd):

Note: The Air Force awarded the contract for the first 18 months effort to Martin Marietta on 11 April 1994. The contract was modified on 20 February 1995 to convert the Engineering and Manufacturing Development (EMD) Phase I Cost Plus Award Fee (CPAF) to a Cost Plus Fixed Fee (CPFF).

The Source Document for this contract is the Contractor's Internal Performance System.

Contract cost performance information is, because of the competitive nature of Phase I, SOURCE SELECTION SENSITIVE. This information is provided to the Air Force Program Executive Office for Conventional Strike (AFPEO/TS) and will be available on request. After the downselect and MS II (October 1995) we will provide cost performance information.

JDAM has an Average Unit Procurement Price Requirement (AUPPR) as part of the technical specification. Martin Marietta has proposed an aggressive unit procurement price requirement and is devoting a substantial portion of the first 18 months effort to doing what is necessary to meet the requirement.

The major development challenge will be keeping the JDAM test program and aircraft Operational Flight Program (OFF) development in harmony. A schedule problem in the OFF development process, which the respective aircraft program offices manage, could have a major impact on the JDAM program's cost performance.

<u>JDAM:</u>			<u>Initial Contract Price</u>		
	<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>		
McDonnell Douglas Corp, St Louis, MO	\$35.0	\$0.0	0		
F08626-94-C-0003, CPFF					
Award: April 11, 1994					
Definitized: April 11, 1994					
 <u>Current Contract Price</u>			 <u>Estimated Price At Completion</u>		
	<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>	<u>Contractor</u>	<u>Program Manager</u>
	\$44.9	\$0.0	0	\$44.9	\$44.9
			<u>Cost Variance</u>	<u>Schedule Variance</u>	
Previous Cumulative Variances			\$0.0	\$0.0	
Cumulative Variances To Date (09/13/95)			\$0.0	\$0.0	
Net Change			\$0.0	\$0.0	

Explanation of Change: None.

Note: The Air Force awarded the contract for the first 18 months effort to McDonnell Douglas on 11 April 1994. The contract was

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15. Contract Information (Cont'd):

modified on 20 February 1995 to convert the Engineering and Manufacturing Development (EMD) Phase I CPAF to a CPFF.

The Source Document for this contract is the Contractor's Internal Performance System.

Contract cost performance information is, because of the competitive nature of Phase I, SOURCE SELECTION SENSITIVE. This information is provided to the Air Force Program Executive Office for Conventional Strike (AFPEO/TS) and will be available on request. After the downselect and MS II (October 1995) we will provide cost performance information.

JDAM has an AUPPR as part of the technical specification. McDonnell Douglas has proposed a conservative unit procurement price requirement and is devoting a substantial portion of the first 18 months effort to aggressively reduce their AUPPR.

The major development challenge will be keeping the JDAM test program and aircraft OFF development in harmony. A schedule problem in the OFF development process, which the respective aircraft program offices manage, could have a major impact on the JDAM program's cost performance.

16. Program Funding Summary (Current Estimate in Millions of Dollars):

a. Program Status --

- (1) Percent Program Completed: 15.0% (3 yrs/20 yrs)
- (2) Percent Program Cost Appropriated: 23.6% (\$203.6 / \$863.6)

b. Appropriation Summary (Then-Year Dollars in Millions)

<u>Appropriation</u>	<u>Prior Years</u> (FY93-95)	<u>Budget Year</u> (FY96)	<u>Budget Year</u> (FY97)	<u>Balance To Complete</u> (FY98-2012)	<u>Total</u>
RDT&E	203.6	126.1	120.5	413.4	863.6
Procurement	-	-	-	-	-
MILCON	-	-	-	-	-
O&M	-	-	-	-	-
<b>Total</b>	<b>203.6</b>	<b>126.1</b>	<b>120.5</b>	<b>413.4</b>	<b>863.6</b>

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16c. Program Funding Summary (Cont'd):

c. Annual Summary --

Fiscal Year	Qty	Flyaway FY93 Dollars		Total Base Year\$	Total Then-Year \$			Escl Rate (%)
		Nonrec	Rec		Program	Obligated	Expended	

Appropriation: 1319 Research, Development, Test + Eval, Navy

1993				22.6	23.0	22.9	22.0	2.7
1994				7.6	7.9	7.9	7.9	2.0
1995				22.2	23.8	22.6	8.1	2.7
1996				30.8	33.9			3.0
1997				30.5	34.6			3.0
1998				9.9	11.6			3.0
1999				6.1	7.3			3.0
2000				7.3	9.0			3.0
2001				11.7	15.0			3.0
Subtot	114			148.7	166.1	53.4	38.0	
Navy	114			148.7	166.1	53.4	38.0	

Funding reflects the FY96 PB dated 6 February 1995. Funding changed due to program adjustments and Congressional reductions. Although the Navy Program Element (PE) includes monies for the Joint Programmable Fuze (JPF), JPF funding is not included in this Navy Funding Summary. JPF is not part of the JDAM program. Quantities were reduced from 117 previously reported in the December 1994 SAR to 114 in this report due to misclassification of three test assets previously reported.

Expenditures and Obligations reflect program office records as of 19 September 1995.

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16c. Program Funding Summary (Cont'd):

Fiscal Year	Qty	Flyaway FY93 Dollars		Total Base Year\$	Total Then-Year \$			Excl Rate (%)
		Nonrec	Rec		Program	Obligated	Ex-pended	

Appropriation: 3600 Research, Development, Test + Eval, AF

1993				21.0	21.4	21.4	20.8	2.7
1994				59.3	61.9	61.7	53.4	2.0
1995				61.1	65.6	58.2	27.5	2.7
1996				83.4	92.2			3.0
1997				75.5	85.9			3.0
1998				40.4	47.3			3.0
1999				25.8	31.2			3.0
2000				4.2	5.2			3.0
2001				3.8	4.9			3.0
2002				46.6	61.4			3.0
2003				55.6	75.5			3.0
2004				39.3	55.0			3.0
2005				27.8	40.0			3.0
2006				13.5	20.0			3.0
2007				3.9	6.0			3.0
2008				3.8	6.0			3.0
2009				3.7	6.0			3.0
2010				2.4	4.0			3.0

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16c. Program Funding Summary (Cont'd):

Fiscal Year	Qty	Flyaway FY93 Dollars		Total Base Year\$	Total Then-Year \$			Excl Rate (%)
		Nonrec	Rec		Program	Obligated	Ex-pended	

Appropriation: 3600 Research, Development, Test + Eval, AF (Cont'd)

2011				2.3	4.0			3.0
2012				2.3	4.0			3.0
Subtot	516			575.7	697.5	141.3	101.7	
USAF	516			575.7	697.5	141.3	101.7	
Grand Total	630			724.4	863.6	194.7	139.7	

Funding reflects the FY96 PB dated 6 February 1995. Quantities increased to support the required Captive Carriage Reliability Program/Margin Testing and for an Integrated System Evaluation (ISE) on the F-16 to support the Low Rate Initial Production (LRIP) review.

Expenditures and Obligations reflect program office records as of 19 September 1995.

17. Production Rate Data:

a. Deliveries (Plan/Actual) -- None.

Delivery units are SOURCE SELECTION SENSITIVE because of the competitive nature of Phase I. This information will be available to the Air Force Program Executive Office for Conventional Strike (AFPEO/TS) on request. Deliveries will be reported in the SAR after downselect and Milestone II (11 October 1995).

b. Approved Design-to-Cost Objective --  
N/A for Pre-Milestone II programs.

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18. Operating and Support Costs:

Not applicable for Pre-Milestone II programs.

AF-9 JDAM

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SELECTED ACQUISITION REPORT (RCS:DD-COMP(Q&A) 823)  
PROGRAM: JDAM

AS OF DATE: December 31, 1995

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1. Designation and Nomenclature (Preferred Name):  
Joint Direct Attack Munition (JDAM)

2. DoD Component: USAF

Joint Participants:  
USAF, Navy

3. Responsible Office and Telephone Number:

ASC OL/YU	GM-15 OSCAR L. SOLER
Joint Direct Attack Munition	Assigned: January 2, 1996
102 West D Ave Suite 168	AV 872-3526 COMM 904-882-3526
Eglin AFB, FL 32542-6807	

4. Program Elements/Procurement Line Items:

RDT&E:  
PE 0604618F (Shared) JDAM and PIP  
PE 0604618N (Shared) JDAM and PIP

PROCUREMENT:  
APPN 3020 ICN JDAM00 (Air Force)  
APPN 1507 ICN 0550 (Navy)

Air Force and Navy RDT&E funding includes the Product Improvement Program (PIP).

SAF/PAS

96-045 - 1

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AND SECURITY REVIEW (OASD-PA)  
DEPARTMENT OF DEFENSE

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4. Program Elements/Procurement Line Items (Cont'd):

Procurement includes 0207583F (3020) and Appropriation 1507N, ICN 0550. Air Force and Navy Procurement funding does not include PIP funding. Navy Procurement funding includes BLU-109 but not Joint Programmable Fuze.

5. Related Programs:

Joint Programmable Fuze (JPF), Joint Stand-Off Weapon (JSOW), Joint Air-to-Surface Standoff Missile (JASSM), Wind Corrected Munitions Dispenser (WCMD), DSU-33 (Air Force Only), B-1B, B-2, FA-18C/D, F-22A, F-16C/D, F-15E, B-52H, F-117A, F-14A/B/D, FA-18E/F, P-3, S-3, and AV-8B.

6. Mission and Description:

The Air Force and Navy do not intend for the Joint Direct Attack Munition (JDAM) to replace any existing weapon system. Operation DESERT STORM confirmed the need for a more accurate weapon delivery capability in adverse weather conditions and from medium/high altitudes. Failure to satisfy this requirement will allow the enemy to continue to take advantage of the sanctuary of weather and/or prevent United States air power from prosecuting a conflict on its terms. The JDAM is an Air Force and Navy munitions program to correct these shortfalls, with the Air Force as the Executive Service. JDAM will upgrade the existing general purpose bombs (MK-84, BLU-109/B, and MK-83/BLU-110) by integrating them with a tail guidance kit consisting of an Inertial Navigation System (INS) aided by a Global Positioning System (GPS). JDAM will provide an accurate (13 meters) adverse weather capability. The primary platforms for the JDAM development are the B-1B, B-2, B-52H, FA-18C/D and the F-22A (for the MK-83/BLU-110 only). The services will certify other aircraft (e.g. F-16C/D, F-14D, F-15E, FA-18E/F, S-3, P-3, AV-8B) to deliver JDAM when funding becomes available. The JDAM Product Improvement Program (PIP) will field improvements to the JDAM system.

7. Program Highlights:

a. Significant Historical Developments --

The Joint Requirements Oversight Council (JROC) approved the Mission Need Statement (TAF-401-91) on 5 March 1992. A Milestone (MS) 0 Defense Acquisition Board (DAB) met on 8 June 1992 and directed planning for the basic Joint Direct Attack Munition (JDAM) program for a MS I/II DAB review and directed JDAM 3 planning for MS I. A modified MS I DAB review was successfully completed 1 October 1993. JDAM 3 was redesignated as a Product Improvement Program (PIP) in November 1993 to concurrently conduct risk reduction efforts toward providing a precision capability to the basic JDAM. The MS I Acquisition Decision Memorandum (ADM) was signed 1 December 1993.

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7a. Program Highlights (Cont'd):

The JDAM Engineering and Manufacturing Development (EMD) Phase I contracts were awarded 11 April 1994 to Martin Marietta and McDonnell Douglas.

JDAM initiated the Exploitation of Differential GPS Guidance Enhancement (EDGE) program in June 1994 to demonstrate the potential of wide area differential Global Positioning System (GPS) as a way to improve JDAM's accuracy. The demonstration program was successful.

The Federal Acquisition Streamlining Act (FASTA) of October 1994 designated the JDAM program as a Defense Acquisition Pilot Program. DUSD(AR) selected the JDAM program to implement pay-for-performance as a pilot project in accordance with FASTA.

In July 1995, USD(A&T) approved an acceleration of the JDAM Baseline program.

USD(A&T) signed the Milestone I JDAM Acquisition Program Baseline (APB) and Acquisition Strategy Report (ASR) on 11 July 1995.

The Joint Operational Requirements Document (ORD) was updated and signed on 23 August 1995 and the Joint Requirements Oversight Council (JROC) validated the Key Performance Parameters (KPP) on 30 August 1995.

Milestone II approval was provided at the Defense Acquisition Board (DAB) Readiness Review on 6 September 1995 --JDAM's Single Acquisition Management Plan (SAMP) was adopted. The Milestone II Acquisition Decision Memorandum (ADM) was signed on 20 September 1995.

Milestone I for the JDAM Product Improvement Program (PIP) slipped more than six months, from April 1998 to September 1999, due to the revised schedule in the Acquisition Program Baseline (APB) approved by USD(A&T) on 20 September 1995.

b. Significant Developments Since Last Report --

The Acquisition Decision Memorandum (ADM) signed 20 September 1995 allowed the Air Force and Navy to buy the maximum number of kits supported by the authorized and appropriated budget.

On 11 October 1995, an Engineering and Manufacturing Development (EMD) Phase II contract option was awarded to McDonnell Douglas. The Average Unit Procurement Price (AUPP) objective for 40,000 units proposed by the contractor was \$13,847 (FY93\$), substantially lower than the \$40,000 (FY91\$) or \$42,240 (FY93\$) cost goal in the Joint

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7b. Program Highlights (Cont'd):

Operational Requirements Document (ORD). The program is proceeding well.

This will be our final report on the Martin Marietta and McDonnell Douglas JDAM Engineering and Manufacturing Development (EMD) Phase I contracts since they are more than 90 percent complete.

Program funding for adapting terminal seeker technologies was deleted from the Product Improvement Program (PIP) during the FY97 budget cycle. Adapting seekers for terminal guidance is the only known technical approach for achieving 3 meter Circular Error Probability (CEP). The PIP Milestone I scheduled in the Acquisition Program Baseline (APB) for September 1999 was to approve further seeker development. The programmatic change in PIP funding will necessarily delay or entirely defer this milestone.

Engineering and Manufacturing Development (EMD) testing for baseline JDAM is on track. The contractor has started delivering JDAM Separation Test Vehicles which the Air Force and Navy are using to conduct ground, captive, and separation testing on the B-1B, B-2, and FA-18C/D. The contractor has also delivered Weapons Simulators to the B-2, B-1B, and F-16C/D. These are currently being integrated into the aircraft Software Integration Laboratories.

The program is expected to satisfy all mission requirements.

c. Changes Since As Of Date -- None.

8. Threshold Breaches:

There is a schedule and performance breach to the approved Defense Acquisition Executive (DAE) Acquisition Program Baseline (APB) dated 20 September 1995, but no Nunn-McCurdy unit cost breaches.

The JDAM Product Improvement Program (PIP) funding for adapting terminal seekers was deleted during the FY97 budget cycle. While baseline improvements to the Global Positioning System (GPS) receiver, target location errors and guidance system will improve JDAM accuracy, terminal seekers are the only known technical approach to achieving a 3 meter Circular Error Probability (CEP). A 3 meter CEP is a Key Performance Parameter (KPP) for the PIP. This programmatic change in PIP funding will necessarily delay or defer entirely the Milestone I date of September 1999. The PIP Milestone I date is an Acquisition Program Baseline (APB) milestone.

A program deviation report was submitted to AFPEO/WP February 1996. Resolution of the PIP 3 meter Key Performance Parameter (KPP) will be pursued through the joint requirements process and a baseline change

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8. Threshold Breaches (Cont'd):

request will be submitted when the process is complete.

9. Schedule:

a. Milestones --	Planning Estimate	Approved Program;DE	Current Estimate
Milestone 0	JUN 92	JUN 92	JUN 92
Milestone I	OCT 93	OCT 93	OCT 93
Dem/Val Contract Award	APR 94	APR 94	APR 94
Critical Design Review Complete	AUG 95	AUG 95	AUG 95
Production Readiness Review #1	SEP 95	N/A	N/A (Ch-1)
Milestone II	OCT 95	SEP 95	SEP 95
Exercise EMD Contract Option	OCT 95	OCT 95	OCT 95
DT&E/TECHEVAL			
Start (Flight Tests)	OCT 95	OCT 95	DEC 95 (Ch-2)
Complete (2000 lb Kit)	FEB 98	DEC 97	OCT 97 (Ch-2)
Complete (1000 lb Kit)	JUL 98	N/A	JUL 98 (Ch-3)
Complete (1000 lb Kit) - Weapon Only	N/A	FEB 98	FEB 98 (Ch-4)
Operational Assessment			
Start	MAY 96	OCT 95	OCT 95
Complete	APR 97	MAR 97	MAR 97 (Ch-5)
First Guided Flight	JUN 96	N/A	N/A (Ch-1)
IOT&E/OPEVAL			
IOT&E/OPEVAL (Dedicated)			
Start	APR 97	SEP 97	SEP 97 (Ch-6)
Complete (2000 lb Kit)	FEB 99	DEC 97	DEC 97 (Ch-2)
OT&E/OPEVAL			
Complete (1000 lb Kit/F-22)	SEP 01	MAY 01	MAY 01 (Ch-7)
Production Readiness Review #2	JUL 97	N/A	N/A (Ch-1)
Exercise LRIP-1 Option	OCT 97	N/A	OCT 97 (Ch-1)
Exercise Lot 1 Option	N/A	APR 97	APR 97 (Ch-2)
Organizational Organic Support Capability	APR 98	N/A	APR 98 (Ch-8)
LRIP-2 Contract Award	OCT 98	N/A	OCT 98 (Ch-1)
Exercise Lot 2 Option (FRP)	N/A	APR 98	APR 98 (Ch-2)
LRIP-1 Production First Delivery	JAN 99	N/A	JAN 99 (Ch-1)
Lot 1 Production First Delivery	N/A	APR 98	MAY 98 (Ch-2)
AUR Depot Support Capability	APR 99	N/A	JAN 99 (Ch-9)
Milestone III	JUL 99	N/A	JUL 99 (Ch-1)
Milestone III (2000 Lb)/LRIP (1000 Lb)	N/A	APR 98	APR 98 (Ch-2)
Required Assets Availability (AF)	N/A	MAR 99	MAR 99 (Ch-11)
Initial Operational Capability (FA-18)	SEP 99	SEP 99	SEP 99 (Ch-13)
Full Rate Production Contract Award	OCT 99	N/A	OCT 99 (Ch-14)

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9a. Schedule (Cont'd):

Milestones (Cont'd) --	Planning Estimate	Approved Program;DE	Current Estimate
Milestone III (1000 Lb on F-22)	N/A	SEP 01	SEP 01 (Ch-2)
Component Depot Support Capability	APR 00	N/A	APR 00 (Ch-9)
Milestone I JDAM PIP	N/A	SEP 99	N/A (Ch-15)

ACRONYMS: AUR - All Up Round  
 LRIP - Low Rate Initial Production  
 RAA - Required Assets Availability

b. Previous Change Explanations --

Required Assets Availability (RAA) and Milestone I JDAM PIP milestones were added and are considered to be significant milestones by the program office.

Milestone II date changed from October 1995 to September 1995 to reflect the actual date of the Milestone II Program Review.

Milestone I - JDAM PIP slipped by more than six months from April 1998 to September 1999 due to the revised schedule approved by USD(A&T) on 20 September 1995.

c. Current Change Explanations --

(Ch-1) The following milestones were deleted in the Milestone II Acquisition Program Baseline (APB) dated 20 September 1995 and will not be carried forward as part of the Development Estimate. They are reflected here for transitional purposes only and will not be shown in future SARs.

- Production Readiness Review #1, First Guided Flight, Production Readiness Review #2, Exercise LRIP-1 Option, LRIP-2 Contract Award, LRIP-1 Production First Delivery, and Milestone III were deleted.

(Ch-2) The following milestones and dates were changed/added to reflect the approved accelerated JDAM program and the approved Acquisition Program Baseline (APB) dated 20 September 1995 that supports the Milestone II Defense Acquisition Board (DAB).

- DT&E/TECHEVAL Start (Flight Tests) changed from October 1995 to December 1995. DT&E/TECHEVAL started in October 1995 and flight tests started in December 1995. DT&E/TECHEVAL Complete (2000 lb Kit) changed from May 1998 to October 1997. IOT&E/OPEVAL Complete (2000 lb Kit) changed from February 1999 to December 1997. Exercise Lot 1

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9c. Schedule (Cont'd):

Option, Exercise Lot 2 Option (FRP), Lot 1 Production First Delivery, Milestone III (2000 Lb)/LRIP (1000 Lb), and Milestone III (1000 Lb on F-22) were added.

(Ch-3) DT&E/TECHEVAL Complete (1000 lb Kit) was deleted because the F-22A was not available to support as a threshold aircraft. This milestone is not included in the Milestone II Acquisition Program Baseline (APB) and will not be carried forward as part of the Development Estimate.

(Ch-4) DT&E/TECHEVAL Complete (1000 lb Kit) - Weapon Only was added to reflect DT&E/TECHEVAL for 1000 lb Kit on F-16C/D.

(Ch-5) Operational Assessment Complete changed from June 1997 to March 1997 to support accelerated Lot 1 Production go-ahead decision.

(Ch-6) IOT&E/OPEVAL Start changed from April 1997 to September 1997 due to a change in the threshold bomber from B-1B to B-52H, and increased combined DT&E/OT&E program.

(Ch-7) OT&E/OPEVAL Complete (1000 lb Kit/F-22) changed from September 2001 to May 2001 to reflect updated schedule from F-22A SPO.

(Ch-8) Organizational Organic Support Capability was deleted because it is not required at the organizational level (O-level) except for assembly and Built-In-Test (BIT)/Reprogramming with Common Munition Built-In-Test and Reprogramming Equipment (CMBRE) or Common Field Memory Reprogramming Equipment (CFMRE). This milestone is not included in the Milestone II Acquisition Program Baseline (APB) and will not be carried forward as part of the Development Estimate.

(Ch-9) The following milestone requirements were deleted due to the 20 year warranty. The 20 year extended maintenance repair warranty begins with Lot 1 and will cover any repairs required. This milestone is not included in the Milestone II Acquisition Program Baseline (APB) and will not be carried forward as part of the Development Estimate.

- AUR Depot Support Capability was deleted.
- Component Depot Support Capability requirement was deleted.

(Ch-10) Required Assets Availability (RAA) was deleted because RAA is only applicable to the Air Force. This milestone is not included in the Milestone II Acquisition Program Baseline (APB) and will not

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9c. Schedule (Cont'd):

be carried forward as part of the Development Estimate.

(Ch-11) Required Assets Availability (AF) was added to reflect the Operational Requirements Document (ORD) and accelerated program.

(Ch-12) Initial Operational Capability (IOC) was deleted because only the Navy has specified an IOC. This milestone is not included in the Milestone II Acquisition Program Baseline (APB) and will not be carried forward as part of the Development Estimate.

(Ch-13) Initial Operational Capability (FA-18) was added to reflect the Operational Requirements Document (ORD).

(Ch-14) Full Rate Production Contract Award was deleted because the current EMD contract has Full Rate Production (Lot 2) as an option. This milestone is not included in the Milestone II Acquisition Program Baseline (APB) and will not be carried forward as part of the Development Estimate.

(Ch-15) Milestone I JDAM PIP was changed from the September 1999 to N/A. The Milestone I JDAM PIP was a decision point for further development of terminal seekers. Terminal seeker development was deleted during the FY97 budget cycle. This is a fact-of-life schedule breach.

d. References --

Planning Estimate:

FY95 President's Budget (PB) dated February 7, 1994.

Approved Program;DE:

Approved Acquisition Program Baseline dated September 20, 1995.

10. Performance Characteristics:

a. Performance --	PE	Approved Program;DE Objective/Threshold	Demonstrated Perf	Current Estimate
Weather Capability Accuracy (CEP) (Meters)	Adverse	Adverse / Adverse	TBD	Adverse
With GPS, Impact Angles > 60 Deg	13	N/A / N/A	TBD	13 (Ch-1) Against Horizontal Targets

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10a. Performance Characteristics (Cont'd):

	PE	Approved Program;DE Objective/Threshold		Demonstrated Perf	Current Estimate	
GPS Available, Impact Angles > 60 Deg	N/A	13	/ 13	TBD	13	(Ch-1)
Inflight Re-targeting Capability (captive carry)	Yes	Yes	/ Yes	TBD	Yes	
Carrier Operability	Yes	Yes	/ Yes	TBD	Yes	
Warhead Compatibility	MK-84, BLU-109, MK-83	MK-82, MK-83	/ BLU-109, MK-84, MK-83 (F-22)	TBD	BLU-109, MK-84, MK-83 (F-22)	(Ch-2)
Aircraft Compatibility						
Bomber	B-1B, B-2	B-1B, B-2	/ B-52H	TBD	B-52H	(Ch-2)
Fighter Attack	F-22, F/A-18C/D	FA-18 C/D (MK-83), F-16 C/D, FA-18 E/F, F-117A, F-15E, P-3, S-3, F-14 A/B/D	/ FA-18C/D, F-22A, AV-8B	TBD	FA-18C/D, F-22A, AV-8B	(Ch-2)
Mission Reliability	N/A	.90	/ .90	TBD	.90	(Ch-3)
JDAM PIP Accuracy (CEP) (Meters)	3	3	/ 3	TBD	8	(Ch-4)
JDAM PIP Weather Capability	N/A	Adverse	/ Adverse	TBD	Adverse	(Ch-5)
JDAM PIP Warhead Compatibility	MK-84, BLU-109	MK-82, MK-83	/ BLU-109, MK-84	TBD	BLU-109, MK-84	

1/ Adverse weather is defined as natural/man-made conditions such as rain, haze, dust, smoke, fog, snow, ice, wind, and/or clouds that preclude the use of current inventory precision guided munitions.

2/ Assumes GPS quality hand-off from aircraft. In addition, the target location error (TLE) portion of the total system error is allocated to be 7.2 meters CEP. If TLE is larger than 7.2 meters

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10a. Performance Characteristics (Cont'd):

CEP, the total system CEP will increase accordingly. For impact angles between 60 degrees and 35 degrees (with GPS available) accuracy degradation up to 19 meters CEP against horizontal targets is an objective.

3/ Inflight programming/targeting will be possible through MIL-STD-1553/1760 data bus interface to the weapon from existing aircraft stores management hardware and modified software.

4/ JDAM will be capable of operation on aircraft carriers to include withstanding 25 aircraft carrier catapult launches and arrested landings, and operating within the carriers electromagnetic environments.

5/ Physical compatibility with the B-1B, B-2, FA-18C/D, AV-8B and B-52H were successfully demonstrated during actual fit test in EMD Phase 1. F-22A physical compatibility was also demonstrated using computerized physical fit analysis during this phase. Integration with the F-15E, F-16C/D, F-117, FA-18E/F, F-14D, S-3, and P-3 will be addressed as follow-on integration efforts. The A-6E aircraft was deleted by Chief of Naval Operations (CNO) Letter, Serial Number N880D5/4UG59112, dated 2 February 1994. The F-111F has been deleted (Reference AF/XOR Message 260111Z January 1994).

6/ F-22 compatibility will be limited to internal carriage of the MK-83/BLU-110 configuration. The AV-8B is an unfunded, non-key performance parameter, threshold aircraft.

7/ Mission reliability commences when the aircrew accepts the loaded aircraft and ends at weapon impact. Mission reliability for the guidance kits does not include reliability for the fuse. Mission reliability, a component of Guidance Kit system reliability, is used because the other component of system reliability (10 year storage reliability) cannot be demonstrated during development and operational testing.

ACRONYMS: CEP - Circular Error Probable  
DEG - Degree  
GPS - Global Positioning System  
MSL - Mean Sea Level  
PIP - Product Improvement Program  
TBD - To Be Determined

b. Previous Change Explanations -- None.

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10c. Performance Characteristics (Cont'd):

c. Current Change Explanations --

(Ch-1) The following performance characteristics were deleted/added from the planning estimate to the development estimate to take into account short duration time-of-flight where JDAM may not acquire Global Positioning System (GPS) satellites even when GPS is available.

- Accuracy (CEP) (Meters) With and Without GPS, Impact Angles > 60 Deg was deleted. This item is shown for transitional purposes only and will be deleted in the next SAR.

- Accuracy (CEP) (Meters) GPS Available, Impact Angles > 60 Deg was added.

(Ch-2) The following performance characteristics were changed to reflect the new Operational Requirements Document (ORD).

- Warhead Compatibility was changed from BLU-109, MK-84, MK-83 (F-22 Only) to BLU-109, MK-84, MK-83 (F-22) because the ORD identified AV-8B as a threshold for MK-83/BLU-110 as well.

- Aircraft Compatibility Bomber was changed from B-1B, B-2 to B-52H to reflect new ORD direction and accelerated program. B-1B and B-2 integration schedules remain unchanged.

- Aircraft Compatibility Fighter Attack was changed from FA-18C/D, F-22 (MK-83 Only) to FA-18C/D, F-22A, AV-8B because the ORD identified AV-8B as a threshold for MK-83/BLU-110 as well.

(Ch-3) Mission Reliability was added. It is a threshold characteristic in the Joint Operational Requirements Document (ORD) and considered a Key Performance Parameter (KPP).

(Ch-4) JDAM PIP Accuracy (CEP) (Meters) was changed from 3 to 8. The PM's current estimate reflects CEP improvements to the baseline JDAM through implementation of the remaining Product Improvement Program developments - improved GPS receiver, reductions in target location error and guidance system improvements. FY97 budget cycle decisions deleted funding for terminal seekers.

(Ch-5) JDAM PIP Weather Capability was added from the planning estimate to the development estimate to clarify JDAM as an adverse weather capable weapon and to maintain that capability when adding Product Improvement Program (PIP).

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10d. Performance Characteristics (Cont'd):

d. References --

Planning Estimate:

JDAM Joint Operational Requirements Document dated May 13, 1993.

Approved Program;DE:

Approved Acquisition Program Baseline dated September 20, 1995.

11. Total Program Cost and Quantity (Current Dollars in Millions):

a. Cost --	Planning Estimate	Approved Program;DE	Current Estimate
Development (RDT&E)	640.5	490.3	486.7
Procurement	0.0	2090.6	1612.1
Hardware			(1323.4)
Tooling and Test Equipment			(1.2)
System Engineering/Program Mgm			(15.5)
Containers			(26.7)
Warranty			(4.7)
Engineering Change Orders			(40.2)
Non-Recurring			(42.9)
Total Flyaway	(0.0)		(1454.6)
Warhead			(49.1)
Product Support Cost			(87.3)
Total Other Wpn Sys	(0.0)		(136.4)
Peculiar Support	(0.0)		(21.1)
Initial Spares	(0.0)		(0.0)
Construction (MILCON)	0.0	0.0	0.0
Ops. and Maint. (O&M)	0.0	0.0	0.0
Total FY 95 Base-Year \$	640.5	2580.9	2098.8
Escalation	41.0	811.4	371.8
Development (RDT&E)	(41.0)	(27.0)	(19.5)
Procurement	(0.0)	(784.4)	(352.3)
Construction (MILCON)	(0.0)	(0.0)	(0.0)
Ops. and Maint. (O&M)	(0.0)	(0.0)	(0.0)
Total Then-Year \$	681.5	3392.3	2470.6

NOTE: The Planning Estimate has been escalated from BY93 to BY95 using a factor of 1.048 based on Office of the Secretary of Defense (OSD) RDT&E (3600) rates dated January 1995. This change was required for consistency with the Milestone II Acquisition Program Baseline (APB).

NOTE: This baseline does not include funding for the Joint Programmable Fuze (\$5.7M TY\$ for RDT&E) (\$87.0M TY\$ for

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11a. Total Program Cost and Quantity (Cont'd):  
Procurement).

This Acquisition Program Baseline (APB) includes JDAM PEs 0604618F and 0604618N for Research, Development, Test and Evaluation (RDT&E), and 0207583F (3020) and Appropriation 1507N, ICN 0550, for Procurement.

Air Force and Navy RDT&E funding includes the Product Improvement Program (PIP). Air Force and Navy Procurement funding does not include PIP funding. Navy Procurement funding includes BLU-109 but not Joint Programmable Fuze.

JOINT DIRECT ATTACK MUN

b. Quantity --	Planning Estimate	Approved Program;DE	Current Estimate
Development (RDT&E)	378	630	630
Procurement	0	87496	87496
Total	378	88126	88126

Note: Excludes 194 RDTE prototypes from the SAR Baseline and 81 from the Current Estimate that are not considered fully configured.

The total number of non-fully configured prototypes for the current estimate decreased from 126 to 81 units for two reasons. First, the Joint Program Office (JPO) refined asset requirements with all platforms that would fully support either Martin Marietta or McDonnell Douglas, depending on downselect. This caused an overall decrease from 126 to 95 units. Second, McDonnell Douglas won the downselect which effected another decrease from 95 to 81 units based on their design's physical similarity to a MK-84 tail kit.

NOTE: The Low Rate Initial Production (LRIP) quantities approved in the Acquisition Decision Memorandum (ADM) at Milestone II were 425 (1st year) units. Subsequent FY97 budget cycle decisions approved a buy-to-budget approach for determining annual quantities. With the lower than expected unit costs, LRIP quantities will be 937.

c. Foreign Military Sales/International Cooperative Programs --  
To be determined.

d. Nuclear Costs -- None.

e. References --

Planning Estimate:  
FY95 President's Budget (PB) dated February 7, 1994.

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11e. Total Program Cost and Quantity (Cont'd):

Approved Program;DE:

Approved Acquisition Program Baseline dated September 20, 1995.

12. Unit Cost Summary:

	Current Estimate (DEC 95 SAR)	UCR Baseline (SEP 95 APB)	Percent Change
a. Total Program			
(1) Cost (BY95\$)	2098.8	2714.4	
(2) Quantity	88126	88126	
(3) Unit Cost	0.024	0.031	-22.68
b. Procurement			
(1) Cost (BY95\$)	1612.1	2090.6	
(2) Quantity	87496	87496	
(3) Unit Cost	0.018	0.024	-22.89

13. Cost Variance Analysis:

a. Summary (Current (Then-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Planning Estimate	681.5	0.0	0.0	681.5
Previous Changes:				
Economic	-3.1	-	-	-3.1
Quantity	+17.1	-	-	+17.1
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	+168.1	-	-	+168.1
Other	-	-	-	-
Support	-	-	-	-
Subtotal	+182.1	-	-	+182.1
Current Changes:				
Economic	-6.0	-128.0	-	-134.0
Quantity	-	-	-	-
Schedule	-	-8.3	-	-8.3
Engineering	-	-	-	-
Estimating	-351.4	-743.2	-	-1094.6
Other	-	-	-	-
Support	-	-31.0	-	-31.0
Subtotal	-357.4	-910.5	-	-1267.9
Total Changes	-175.3	-910.5	-	-1085.8
Adjustments	-	+2874.9	-	+2874.9
Current Estimate	506.2	1964.4	-	2470.6

JDAM, December 31, 1995

13a. Cost Variance Analysis (Cont'd):

a. Summary (FY 1995 Constant (Base-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Planning Estimate	640.5	0.0	0.0	640.5
Previous Changes:				
Quantity	+16.0	-	-	+16.0
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	+102.6	-	-	+102.6
Other	-	-	-	-
Support	-	-	-	-
Subtotal	+118.6	-	-	+118.6
Current Changes:				
Quantity	-	-	-	-
Schedule	-	-6.9	-	-6.9
Engineering	-	-	-	-
Estimating	-272.4	-462.3	-	-734.7
Other	-	-	-	-
Support	-	-9.5	-	-9.5
Subtotal	-272.4	-478.7	-	-751.1
Total Changes	-153.8	-478.7	-	-632.5
Adjustments	-	+2090.8	-	+2090.8
Current Estimate	486.7	1612.1	-	2098.8

NOTE: Planning estimate and previous changes for RDT&E have been escalated from BY93 to BY95 using a factor of 1.048 based on Office of the Secretary of Defense (OSD) 3600 rates dated January 1995.

NOTE: Adjustment adds Acquisition Program Baseline (APB) Procurement funding as required after Milestone II approval.

ACRONYMS: BSO - Budget Submission Office  
 BTR - Budget Transfer Reduction  
 DBOF - Defense Business Operations Fund  
 JPF - Joint Programmable Fuze

b. Previous Change Explanations --

JDAM, December 31, 1995

13b. Cost Variance Analysis (Cont'd):

**RD&E**

**Economic:** Revised escalation indices.  
**Quantity:** Increased Air Force procurement of 150 additional assets for interim capability. Quantities increased from 533 to 630 to support the required Captive Carriage Reliability Program/Margin Testing and for Integrated System Evaluation on the F-16C/D to support Low Rate Initial Production (LRIP).  
**Estimating:** Adjusted for Current and Prior Inflation. Funding increased due to inclusion of Air Force funding for follow-on PIP efforts beyond PIP MS I in FY99 (FY00-FY12). Costs decreased due to redefining the Air Force PIP in FY93-FY99. Navy funding decreased due to Small Business Innovative Research (SBIR) and revised Navy cost estimate. Navy Congressional reductions for Defense Business Operations Fund (DBOF) Assessments. Revised estimate due to change in unit cost.

c. Current Change Explanations --

	(Dollars in Millions)	
	Base-Year	Then-Year
(1) <b>RD&amp;E</b>		
Revised escalation indices. (Economic)	N/A	-30.9
Economic adjustment for negative program change. (Economic)	N/A	+24.9
Adjustment for Current and Prior Inflation (Navy). (Estimating)	+0.6	+0.6
Navy funds increased due to additional AV-8B support requirements. (Estimating)	+10.0	+11.0
Revised estimate due to downselect of EMD Phase I contractors. (Estimating)	-2.6	-2.8
Navy funds decreased due to Defense Business Operations Fund (DBOF) and NAVCOMPT adjustments. (Estimating)	-2.8	-3.0
Adjustment for Current and Prior Inflation (Air Force). (Estimating)	+1.6	+1.8
Product Improvement Program (PIP) funding eliminated in FY97 President's Budget. (Estimating)	-230.2	-303.2
Zero Base Transfer from RD&E to production. (Estimating)	-24.5	-27.9

JDAM, December 31, 1995

13c. Cost Variance Analysis (Cont'd):

	(Dollars in Millions)	
	Base-Year	Then-Year
Adjustment to match Air Force Cost Analysis Improvement Group (CAIG). (Estimating)	-5.2	-6.0
Congressional reprogramming/withholding of funds. (Estimating)	-7.9	-8.7
Reduction in FY98 due to JDAM acceleration. (Estimating)	-9.6	-11.2
Reduction due to Small Business Innovative Research (SBIR). (Estimating)	-1.8	-2.0
<b>RDT&amp;E Subtotal</b>	<b>-272.4</b>	<b>-357.4</b>
<b>(2) Procurement</b>		
Revised escalation indices. (Economic)	N/A	-195.3
Economic adjustment for negative program change. (Economic)	N/A	+67.3
Revision of annual procurement buy profile for the Navy. (Schedule)	+0.2	-0.3
Revision of annual procurement buy profile for the Air Force. (Schedule)	-7.1	-8.0
Revised estimate due to decrease in unit cost and buy to budget profile for the Navy. (Estimating)	-113.8	-230.1
Revised estimate due to decrease in non-recurring cost for the Navy. (Estimating)	-15.8	-28.7
Revised estimate due to decrease in unit cost caused by Air Force direction to buy quantity according to the budget profile. (Estimating)	-338.0	-491.2
Revised estimate due to increase in non-recurring cost for the Air Force. (Estimating)	+5.3	+6.8
Revised estimate for peculiar support equipment for the Navy. (Support)	+5.7	+6.9
Reduction in support costs for the Navy. (Support)	-22.0	-43.9
Revised estimate for peculiar support equipment for the Air Force. (Support)	+15.4	+17.7
Reduction in support costs for the Air Force. (Support)	-8.6	-11.7
<b>Procurement Subtotal</b>	<b>-478.7</b>	<b>-910.5</b>

JDAM, December 31, 1995

14. Program Acquisition Unit Cost (PAUC) History (Then-Year Dollars in Millions):

Current SAR Baseline to Current Estimate --

PAUC (Initial Est)	Changes								PAUC (Current Est)
	Econ	Qty	Sch	Eng	Est	Other	Spt	Total	
1.803	-0.002	-1.762	--	--	-0.011	--	--	-1.775	0.028

15. Contract Information (Then-Year Dollars in Millions):

a. RDT&E --			Initial Contract Price		
JDAM:			Target	Ceiling	Qty
Martin Marietta Corp, Orlando, FL			\$13.8	\$0.0	0
F08626-94-C-0002, CPFF					
Award: April 11, 1994					
Definitized: April 11, 1994					
Current Contract Price			Estimated Price At Completion		
Target	Ceiling	Qty	Contractor	Program Manager	
\$30.8	\$0.0	0	\$30.8	\$30.8	
Previous Cumulative Variances			Cost Variance	Schedule Variance	
Cumulative Variances To Date (09/30/95)			\$0.0	\$0.0	
Net Change			\$0.0	\$0.0	

Explanation of Change: None.

NOTE: Contract cost performance information is, because of the competitive nature of Phase I, SOURCE SELECTION SENSITIVE. This information is provided to the Air Force Program Executive Office for Weapons (AFPEO/WP) and will be available on request.

The Air Force awarded the contract for the first 18 months effort to Martin Marietta on 11 April 1994. The contract was modified on 20 February 1995 to convert the Engineering and Manufacturing Development (EMD) Phase I Cost Plus Award Fee (CPAF) to a Cost Plus Fixed Fee (CPFF).

On 11 October 1995, Engineering and Manufacturing Development (EMD) Phase II contract option was awarded to McDonnell Douglas. Upon this award, Martin Marietta discontinued earned value accounting and reporting. Data reflects the last earned value report dated September 1995. During our termination discussions, Martin Marietta

JDAM, December 31, 1995

15. Contract Information (Cont'd):

is estimating zero cost and schedule variance. This will be our final report on the Martin Marietta JDAM EMD Phase I contract since the contract is more than 90 percent complete.

JDAM:			Initial Contract Price		
	Target	Ceiling	Qty		
McDonnell Douglas Corp, St Louis, MO					
F08626-94-C-0003, CPFF	\$35.0	\$0.0	0		
Award: April 11, 1994					
Definitized: April 11, 1994					
Current Contract Price			Estimated Price At Completion		
Target	Ceiling	Qty	Contractor	Program Manager	
\$46.3	\$0.0	0	\$46.3	\$46.3	
			Cost Variance	Schedule Variance	
Previous Cumulative Variances			\$0.0	\$0.0	
Cumulative Variances To Date (10/31/95)			\$0.0	\$0.0	
Net Change			\$0.0	\$0.0	

Explanation of Change: None.

NOTE: Contract cost performance information is, because of the competitive nature of Phase I, SOURCE SELECTION SENSITIVE. This information is provided to the Air Force Program Executive Office for Weapons (AFPEO/WP) and will be available on request.

The Air Force awarded the contract for the first 18 months effort to McDonnell Douglas on 11 April 1994. The contract was modified on 20 February 1995 to convert the Engineering and Manufacturing Development (EMD) Phase I CPAF to a CPFF.

On 11 October 1995, Engineering and Manufacturing Development (EMD) Phase II contract option was awarded to McDonnell Douglas. Data reflects the last earned value report dated October 1995. We project zero cost and schedule variance. This will be our final report on the McDonnell Douglas JDAM EMD Phase I contract since it is more than 90 percent complete.

JDAM:			Initial Contract Price		
	Target	Ceiling	Qty		
McDonnell Douglas Corp, St Louis, MO					
F08626-94-C-0003, CPAF	\$70.5	\$0.0	630		
Award: October 11, 1995					
Definitized: October 11, 1995					

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15. Contract Information (Cont'd):

Current Contract Price			Estimated Price At Completion	
Target	Ceiling	Qty	Contractor	Program Manager
\$70.5	\$0.0	630	\$70.5	\$86.4
			Cost Variance	Schedule Variance
Previous Cumulative Variances			\$0.0	\$0.0
Cumulative Variances To Date (01/31/96)			\$0.0	\$0.0
Net Change			\$0.0	\$0.0

Explanation of Change: None.

The Air Force awarded the Engineering and Manufacturing Development (EMD) Phase II contract option on 11 October 1995 to McDonnell Douglas. This is the first time this contract is reported in the Selected Acquisition Report (SAR). PM's estimate at completion incorporates the cost of efforts not included in the prime contractor's final proposal. These costs were identified by the Source Selection Evaluation Group and were recognized by the Source Selection Authority during source selection.

16. Program Funding Summary (Current Estimate in Millions of Dollars):

a. Program Status --

- (1) Percent Program Completed: 28.6% (4 yrs/14 yrs)
- (2) Percent Program Cost Appropriated: 12.8% (\$316.9 / \$2470.6)

b. Appropriation Summary (Then-Year Dollars in Millions)

Appropriation	Prior Years (FY93-95)	Budget Year (FY96)	Budget Year (FY97)	Balance To Complete (FY98-2006)	Total
RDT&E	203.0	113.9	72.0	117.3	506.2
Procurement	-	-	23.0	1941.4	1964.4
MILCON	-	-	-	-	-
O&M	-	-	-	-	-
Total	203.0	113.9	95.0	2058.7	2470.6

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16c. Program Funding Summary (Cont'd):

c. Annual Summary --

Fiscal Year	Qty	Flyaway FY95 Dollars		Total Base Year\$	Total Then-Year \$			Escl Rate (%)
		Nonrec	Rec		Program	Obligated	Expended	

Appropriation: 1319 Research, Development, Test + Eval, Navy

1993				23.8	23.2	22.9	22.0	2.3
1994				7.9	7.9	7.9	7.9	1.9
1995				22.7	23.0	22.2	16.9	1.9
1996				27.0	28.0	12.5	0.8	2.0
1997				31.6	33.4			2.2
1998				14.9	16.1			2.2
1999				10.7	11.8			2.3
2000				10.1	11.4			2.2
2001				12.3	14.2			2.2
Subtot	114			161.0	169.0	65.5	47.6	

The Joint Programmable Fuze (JPF) funding (\$5.7M TY\$) is not included in this Navy Funding Summary. JPF is not part of the JDAM program but is budgeted in the JDAM Navy RDT&E and Procurement PEs.

Expenditures and Obligations reflect program office records as of 31 January 1996.

Appropriation: 1507 Weapons Procurement, Navy

1998	668	5.5	11.4	32.4	35.9			2.2
1999	900	5.0	15.6	36.4	41.3			2.3

JDAM, December 31, 1995

16c. Program Funding Summary (Cont'd):

Fiscal Year	Qty	Flyaway FY95 Dollars		Total Base Year\$	Total Then-Year \$			Excl Rate (%)
		Nonrec	Rec		Program	Obligated	Expended	

Appropriation: 1507 Weapons Procurement, Navy (Cont'd)

2000	786	3.8	13.8	29.2	33.8			2.2
2001	642	3.7	11.5	23.9	28.3			2.2
2002	1409	3.7	22.9	33.5	40.5			2.2
2003	2335	3.8	36.7	41.8	51.7			2.2
2004	2685	3.8	41.1	46.4	58.7			2.2
2005	6492	4.0	97.6	104.1	134.5			2.2
2006	9579	4.3	141.9	153.3	202.4			2.2
Subtot	25496	37.6	392.5	501.0	627.1			
Navy	25610	37.6	392.5	662.0	796.1	65.5	47.6	

The Joint Programmable Fuze (JPF) funding (\$87.0M TY\$) is not included in this Navy Funding Summary. JPF is not part of the JDAM program but is budgeted in the JDAM Navy RDT&E and Procurement PEs.

Appropriation: 3600 Research, Development, Test + Eval, AF

1993				21.8	21.4	21.4	21.1	2.7
1994				62.1	61.9	61.7	60.6	2.0
1995				64.6	65.6	60.1	43.1	1.9
1996				82.8	85.9	27.7	2.7	2.0
1997				36.4	38.6			2.2

JDAM, December 31, 1995

16c. Program Funding Summary (Cont'd):

Fiscal Year	Qty	Flyaway FY95 Dollars		Total Base Year\$	Total Then-Year \$			Excl Rate (%)
		Nonrec	Rec		Program	Obligated	Ex-pended	

Appropriation: 3600 Research, Development, Test + Eval, AF (Cont'd)

1998				32.0	34.7			2.3
1999				22.2	24.6			2.2
2000				1.3	1.5			2.2
2001				1.0	1.2			2.2
2002				1.5	1.8			2.2
Subtot	516			325.7	337.2	170.9	127.5	

Expenditures and Obligations reflect program office records as of 19 February 1996 for the Air Force.

Appropriation: 3020 Missile Procurement, Air Force

1997	937	0.8	15.8	21.3	23.0			2.2
1998	2696	1.3	46.1	55.7	61.5			2.3
1999	2676	0.4	46.6	55.5	62.7			2.2
2000	6410	1.1	113.3	125.3	144.6			2.2
2001	10202	1.7	183.4	198.8	234.4			2.2
2002	11591		189.1	202.4	243.9			2.2
2003	10665		168.0	177.8	219.0			2.2
2004	10315		158.6	168.0	211.5			2.2

JDAM, December 31, 1995

16c. Program Funding Summary (Cont'd):

Fiscal Year	Qty	Flyaway FY95 Dollars		Total Base Year\$	Total Then-Year \$			Escl Rate (\$)
		Nonrec	Rec		Program	Obligated	Ex-pended	

Appropriation: 3020 Missile Procurement, Air Force (Cont'd)

2005	6508		98.3	106.3	136.7			2.2
Subtot	62000	5.3	1019.2	1111.1	1337.3			
USAF	62516	5.3	1019.2	1436.8	1674.5	170.9	127.5	
Grand Total	88126	42.9	1411.7	2098.8	2470.6	236.4	175.1	

17. Production Rate Data:

a. Deliveries to Date --

	Plan/Actual
RDT&E	36/37
Procurement	0/0

Contractually, 36 Separation Test Vehicles (STVs) were planned to be delivered by 31 December 1995. Engineering and Manufacturing Development (EMD) Phase I planned 10 STVs with 10 delivered. EMD Phase II planned 26 STVs with 27 delivered. In total, 36 STVs were planned with 37 delivered.

b. Approved Design-to-Cost Objective --

	(Average Unit Flyaway Cost)		
	Development Estimate	Current Estimate	Latest Approved Threshold
● Qty 87496 - ● Peak Rate: 1083.0/mo			
FY 95 Base-Year \$	0.024	0.018	0.028
Then Year \$	0.033	0.023	0.038
● Qty 0 (1st three years) - ● Peak Rate: 0.0/mo			
FY 95 Base-Year \$	0.000	0.000	0.000
Then Year \$	0.000	0.000	0.000

The current estimate is based on buy-to-budget profile. The quantity remains at 87,496 units but the peak rate is 1,083 units

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17b. Production Rate Data (Cont'd):  
per month.

18. Operating and Support Costs:

a. Assumptions and Ground Rules --

Operating and Support costs were updated in November 1995 from the Defense Acquisition Board (DAB) position to reflect the increase in Navy quantities from 12,000 to 25,496 units.

The Air Force JDAM Operating and Support (O&S) cost estimate is based on the use of an O&S cost model named the Financial O&S Estimate (FINOSEST) developed by the Air Force Cost Center in Washington, D.C. The model was used for the MS I, MS II, and source selection deliberations to calculate the estimated O&S costs for the JDAM program. FINOSEST calculates the O&S costs based on the association between known variables and the JDAM design (labor rates, failure rates, time to assemble, transportation costs, etc.).

The following are the assumptions that were used in forming the Air Force O&S cost estimate: Total Air Force JDAM inventory of 62,000 units. JDAM will have a 20 year extended repair warranty to cover all repairs. Air Force will have two levels of maintenance; Organizational and Depot Level. The JDAM kit has a 20 year operating life. Air Force will conduct 50 drops a year of JDAM kits. The 50 drops a year will require Telemetry (TM) and Flight Termination Systems (FTS). 1/2% of the total JDAM failures will not be covered by the extended repair warranty. The extended repair warranty does not cover overseas transportation costs. Estimate does not take into account any Defense Business Operations Fund (DBOF) activities.

There is no antecedent system for the Air Force JDAM.

The cost drivers for the Air Force O&S cost estimate were Telemetry and Flight Termination Systems for the 50 yearly drops along with the Range Support costs for the drops.

The Navy O&S costs are based on the NAVAIR O&S cost model.

The following are the assumptions that were used in forming the Navy O&S cost estimate: Utilized Air-4.2.5 Air-Launched Missile Model. 12 carriers deployed per year. 350 JDAMs per carrier. 50 firings per year. 10% container failure rate per year. Contractual support identified for first two years of operations. 20 year operating life.

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18a. Operating and Support Costs (Cont'd):

The cost drivers for the Navy O&S cost estimate were Range Evaluation for practice bomb drops, Sustaining Engineering/Program Management, Transportation, and Organizational Maintenance Handling/Inspection.

There is no antecedent system for the Navy JDAM.

b. Costs -- (FY 1995 Constant (Base-Year) Dollars in Millions)

Cost Element	Total Cost for 87,496 JDAM Units	N/A
Consumable Material	2.7	N/A
TM/FTS	56.3	N/A
Range Support	45.3	N/A
Technical Data Managemen	0.2	N/A
Transportation	6.9	N/A
Non-Warranted Repair Cos	0.1	N/A
Mission Personnel	6.7	N/A
Sustaining Engineering	7.2	N/A
System & Inventory Manag	1.8	N/A
Contractor Support	0.6	N/A
AFMSS	14.4	N/A
Other	5.7	N/A
Total	147.9	N/A

Operating and Support Costs include both Air Force and Navy dollars.

The Other category includes Integrated Logistics Support (ILS) functions such as quality surveillance and Naval Weapon Systems (NWS) handling/processing costs.

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18c. Operating and Support Costs (Cont'd):

c. Contractor Support Costs -- (Current (Then-Year) Dollars in Millions)

Funding	FY1995 & Prior	FY1996	FY1997	Balance To Complete	Total
Contractor Support	---	---	---	0.6	0.6
Total	---	---	---	0.6	0.6

Contractor support costs for the Navy will begin in FY98 and continue for the first two years of operation. The Navy will use the contractor support as "tech rep" support for any Navy unique requirements at the Naval Weapon Stations and aboard the aircraft carriers.

Based on the 20 year extended repair warranty, the Air Force does not have a requirement for contractor support. The 20 year extended maintenance repair warranty begins with Lot 1 and will cover any repairs required.

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18c. Operating and Support Costs (Cont'd):

c. Contractor Support Costs -- (Current (Then-Year) Dollars  
in Millions)

Funding	FY1995 & Prior	FY1996	FY1997	Balance To Complete	Total
Contractor Support	---	---	---	0.6	0.6
Total	---	---	---	0.6	0.6

Contractor support costs for the Navy will begin in FY98 and continue for the first two years of operation. The Navy will use the contractor support as "tech rep" support for any Navy unique requirements at the Naval Weapon Stations and aboard the aircraft carriers.

Based on the 20 year extended repair warranty, the Air Force does not have a requirement for contractor support. The 20 year extended maintenance repair warranty begins with Lot 1 and will cover any repairs required.

AF-15 JDAM

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SELECTED ACQUISITION REPORT (RCS: DD-A&T(Q&A)823)  
PROGRAM: JDAM

AS OF DATE: December 31, 1996

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1. Designation and Nomenclature (Popular Name): Joint Direct Attack Munition (JDAM)

2. DoD Component: USAF

Joint Participants:  
USAF, USN

3. Responsible Office and Telephone Number:

ASC/YU, Bldg 11  
Joint Direct Attack Munition  
102 West D Ave Suite 300  
Eglin AFB, FL 32542-6807

GM-15 OSCAR L. SOLER  
Assigned: January 2, 1996  
DSN 872-3526; COMM 904-882-3526

4. Program Elements/Procurement Line Items:

RDT&E:

PE 0604618F  
PE 0604618N

PROCUREMENT:

APPN 1507 ICN 0550 (Navy)  
APPN 3020 ICN JDAM00 (Air Force)

Air Force and Navy RDT&E funding includes the Product Improvement Program (PIP).

Air Force and Navy Procurement funding does not include PIP funding. Navy Procurement funding includes BLU-109 but not Joint Programmable Fuze.

SAF/PAS

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**5. References:**

**SAR Baseline (Development Estimate):**

DAE Approved Acquisition Program Baseline dated September 20, 1995.

**Approved Program:**

DAE Approved Acquisition Program Baseline (APB) dated September 20, 1995.

**6. Mission and Description:**

Operation DESERT STORM confirmed the need for a more accurate weapon delivery capability in adverse weather conditions from medium/high altitudes. Failure to satisfy this requirement will allow the enemy to continue to take advantage of the sanctuary of weather and/or prevent United States air power from prosecuting a conflict on its own terms. The JDAM is an Air Force and Navy munitions program to correct these shortfalls, with the Air Force as the Executive Service. JDAM will upgrade the existing general purpose bombs (MK-84, BLU-109, and MK-83/BLU-110) by integrating them with a tail guidance kit consisting of an Inertial Navigation System (INS) aided by a Global Positioning System (GPS). JDAM will provide an accurate (13 meters) adverse weather capability. The threshold platforms for the JDAM MK-84 and BLU-109 are the B-52H & FA-18C/D. The threshold platforms for the MK-83/BLU-110 are the F-22A & AV-8B. The services will certify other aircraft (e.g. B-1B, B-2A, F-16C/D, F-14D, F-15E, FA-18E/F, S-3, P-3) to deliver JDAM when funding becomes available. The JDAM Product Improvement Program (PIP) will investigate and develop improvement options for the JDAM system.

**7. Executive Summary:**

On 1 February 1996, the Flight Termination System (FTS) was cancelled. FTS was to be used to destroy JDAMs that would violate range boundaries when dropped during test. This action will save JDAM approximately \$3.9M. Canceling the FTS also eliminated the need for a "C-Band" beacon which saved another \$2M.

In February 1996, JDAM successfully completed the fourth and final B-1B "Vibrations and Acoustics Flights" at Edwards Air Force Base. This concluded the flight test activities on the B-1B until August 1997 when aircraft software is completed.

Alliant Defense Electronics Systems was awarded the contract for the Common Munitions Built-in-Test (BIT) and Reprogramming Equipment (CMBRE) for JDAM in February 1996. Alliant held a Preliminary Design Review (PDR) in May 1996 and a Critical Design Review (CDR) in August 1996.

On 20 May 1996, AF/CC approved JDAM for release to approved countries, as either Foreign Military Sales (FMS) or Direct Commercial Sales (DCS). Also, SAF/IAW provided a "JDAM Foreign Sales Policy Statement." The Defense Security Assistance Agency (DSAA) approved release of Price and Availability Data to the approved countries in July 1996.

The "JDAM Performance Incentives Program" was disapproved by USD(A&T) on 23 May

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**7. Executive Summary (Cont'd):**

1996. JDAM will not expend any further effort in this area until Congressional legislation provides the statutory authority to implement it.

The Cost as An Independent Variable (CAIV) Plan, required by USD(A&T) for all post Milestone II programs, was incorporated into the JDAM Single Acquisition Management Plan (SAMP) in August 1996.

On 4 December 1996, JDAM procurement funds were designated appropriation 3011 (Procurement of Ammunition, AF).

JDAM aircraft integration and flight testing progressed rapidly in 1996. The following safe separation drops were conducted with Separation Test Vehicles (STVs): 22 from the FA-18C/D, 12 from the B-52H, 6 from the B-1B, 14 from the F-16C/D and 2 from the B-2A. JDAM conducted the following captive flights with Guided Test Vehicles (GTVs) in preparation for free flight: 8 on the FA-18C/D, 9 on the F-16C/D and 4 on the B-2A. As of 31 December 1996, 8 free flight GTV drops from the F-16C/D were completed: 6 were 2000# MK-84s and 2 were 2000# BLU-109s.

Program funding for evaluating terminal seeker technologies was deleted from the Product Improvement Program (PIP) during the FY97 budget cycle. The PIP Milestone I, established in the Acquisition Program Baseline (APB) for September 1999, was to approve further seeker development. The change in PIP funding defers this milestone.

**8. Threshold Breaches:**

a. Acquisition Program Baseline (APB):

Item	Breach
Schedule	No
Performance	No
Cost -- RDT&E	No
-- Procurement	No
-- MILCON	No
-- O&M	No
-- Average Procurement Unit Cost (APUC)	(Same as APUC, below)

b. Nunn-McCurdy Unit Cost:

Item	Breach
Program Acquisition Unit Cost	No
Average Procurement Unit Cost	No

9. Schedule:

a. Milestones --

	Development Estimate (SAR)	Approved Program (APB)	Current Estimate	
Milestone 0	JUN 92	JUN 92	JUN 92	
Milestone I	OCT 93	OCT 93	OCT 93	
Dem/Val Contract Award	APR 94	APR 94	APR 94	
Critical Design Review Complete	AUG 95	AUG 95	AUG 95	
Milestone II	SEP 95	SEP 95	SEP 95	
Exercise EMD Contract Option	OCT 95	OCT 95	OCT 95	
DT&E/TECHEVAL				
Start (Flight Tests)	OCT 95	OCT 95	DEC 95	
Complete (2000 lb Kit)	DEC 97	DEC 97	OCT 97	
Complete (1000 lb Kit) - Weapon Only	FEB 98	FEB 98	FEB 98	
Operational Assessment				
Start	OCT 95	OCT 95	OCT 95	
Complete	MAR 97	MAR 97	JAN 97	(Ch-1)
IOT&E/OPEVAL (Dedicated)				
Start	SEP 97	SEP 97	SEP 97	
Complete (2000 lb Kit)	DEC 97	DEC 97	DEC 97	
OT&E/OPEVAL				
Complete (1000 lb Kit/F-22)	MAY 01	MAY 01	MAY 01	
Exercise Lot 1 Option	APR 97	APR 97	APR 97	
Exercise Lot 2 Option (FRP)	APR 98	APR 98	APR 98	
Lot 1 Production First Delivery	APR 98	APR 98	APR 98	(Ch-2)
Milestone III (2000 Lb)/LRIP (1000 Lb)	APR 98	APR 98	APR 98	
Required Assets Availability	N/A	N/A	N/A	
Required Assets Availability (AF)	MAR 99	MAR 99	MAR 99	
Initial Operational Capability	N/A	N/A	N/A	
Initial Operational Capability (FA-18)	SEP 99	SEP 99	SEP 99	
Milestone III (1000 Lb on F-22)	SEP 01	SEP 01	SEP 01	
Milestone I JDAM PIP	SEP 99	SEP 99	N/A	

Milestone I JDAM PIP was previously changed from September 1999 to N/A. The Milestone I JDAM PIP was a decision point for further development of terminal seeker. Terminal seeker development was deleted during the FY97 budget cycle. This was a fact-of-life schedule breach.

1/ The Required Assets Availability Milestone date will be provided once ACC identifies what is required for RAA.

NOTE: LRIP 1 Decision will be based on completion of Group 1 Threshold aircraft for DT&E/IOT&E.

Milestones and dates reflect the JDAM accelerated program.

Lot 1 Decision will be based on sufficient testing on B-52, FA-18, B-2, B-1, and F-16.

ACRONYMS: AUR - All Up Round  
 LRIP - Low Rate Initial Production

9a. Schedule (Cont'd):

RAA - Required Assets Availability

b. Current Change Explanations --

(Ch-1) Operational Assessment Complete changed from March 1997 to January 1997 due to lead time for the approval of the Operational Assessment (OA) report prior to April 1997 LRIP decision.

(Ch-2) Lot 1 Production First Delivery changed from May 1998 to April 1998 because the first delivery is 12 months after Lot 1 contract award which is April 1997.

10. Performance Characteristics:

a. Performance --

	Development <u>Estimate (SAR)</u>	Approved Program (APB) <u>Obj/Threshold</u>	Demon- strated Perf	Current Estimate
	Adverse	Adverse / Adverse	Adverse	Adverse
Weather Capability Accuracy (CEP) (Meters)				
GPS Available,	13	13 / 13	10.4	13
Impact Angles > 60 Deg	Horizon- tal Targets	Horizon-/ tal / tal Targets / Targets		Horizon- tal Targets
Inflight Re-targeting Capability (captive carry)	Yes	Yes / Yes	Captive Flight	Yes
Carrier Operability	Yes	Yes / Yes	Yes	Yes
Warhead Compatibility	MK-82, MK-83	MK-82, / BLU-109, MK-83 / MK-84, / MK-83 / (F-22)	BLU-109, MK-84, MK-83 (F-22)	BLU-109, MK-84, MK-83 (F-22)
Aircraft Compatibility				
Bomber	B-1B, B-2	B-1B, / B-52H B-2 /	Captive Flight	B-52H
Fighter Attack	FA-18 C/D (MK-83), F-16 C/D, FA-18 E/F, F-117A, F-15E, P-3, S-3, F-14 A/B/D	FA-18 / FA-18C/ C/D / D, (MK-83), / F-22A, F-16 / AV-8B C/D, / FA-18 / E/F, / F-117A, / F-15E, / P-3, / S-3, / F-14 / A/B/D /	Captive Flight	FA-18C/ D, F-22A, AV-8B

10a. Performance Characteristics (Cont'd):

	Development Estimate (SAR)	Approved Program (APB) Obj/Threshold	Demon- strated Perf	Current Estimate
Mission Reliability	.90	.90 / .90	TBD	.90
JDAM PIP Accuracy (CEP) (Meters)	3	3 / 3	TBD	8
JDAM PIP Weather Capability	Adverse	Adverse / Adverse	TBD	Adverse
JDAM PIP Warhead Compatibility	MK-82, MK-83	MK-82, / BLU-109, MK-83 / MK-84	TBD	BLU-109, MK-84

1/ Adverse weather is defined as natural/man-made conditions such as rain, haze, dust, smoke, fog, snow, ice, wind, and/or clouds that preclude the use of current inventory precision guided munitions.

2/ Assumes GPS quality hand-off from aircraft. In addition, the target location error (TLE) portion of the total system error is allocated to be 7.2 meters CEP. If TLE is larger than 7.2 meters CEP, the total system CEP will increase accordingly. For impact angles between 60 degrees and 35 degrees (with GPS available) accuracy degradation up to 19 meters CEP against horizontal targets is an objective.

3/ Inflight programming/targeting will be possible through MIL-STD-1553/1760 data bus interface to the weapon from existing aircraft stores management hardware and modified software.

4/ JDAM will be capable of operation on aircraft carriers to include withstanding 25 aircraft carrier catapult launches and arrested landings, and operating within the carriers' electromagnetic environments.

5/ Physical compatibility with the B-1B, B-2, FA-18C/D, AV-8B and B-52H were successfully demonstrated during actual fit test in EMD Phase 1. F-22A physical compatibility was also demonstrated using computerized physical fit analysis during this phase. Integration with the F-15E, F-16C/D, F-117, FA-18E/F, F-14D, S-3, and P-3 will be addressed as follow-on integration efforts. The A-6E aircraft was deleted by Chief of Naval Operations (CNO) Letter, Serial Number N880D5/4UG59112, dated 2 February 1994. The F-111F has been deleted (Reference AF/XOR Message 260111Z January 1994).

6/ F-22 compatibility will be limited to internal carriage of the MK-83/BLU-110 configuration. The AV-8B is an unfunded, non-key performance parameter, threshold aircraft.

7/ Mission reliability commences when the aircrew accepts the loaded aircraft and ends at weapon impact. Mission reliability for the guidance kits does not include reliability for the fuze. Mission reliability, a component of Guidance Kit system reliability, is used because the other component of system reliability (10 year storage reliability) cannot be demonstrated during development and operational testing.

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10a. Performance Characteristics (Cont'd):

ACRONYMS: CEP - Circular Error Probable  
DEG - Degree  
GPS - Global Positioning System  
MSL - Mean Sea Level  
PIP - Product Improvement Program  
TBD - To Be Determined

b. Current Change Explanations -- None.

11. Total Program Cost and Quantity (Dollars in Millions):

a. Cost --	Development Estimate (SAR)	Approved Program (APB)	Current Estimate
Development (RDT&E)	490.3	490.3	445.8
Procurement	2090.6	2090.6	1633.3
Hardware	(1638.9)		(1352.2)
Tooling & Test Equipmen	(7.9)		(0.8)
System Engineering & Pr	(40.5)		(7.9)
Containers	(39.9)		(20.8)
Warranty	(73.3)		(3.4)
Engineering Change Orde	(46.8)		(40.8)
Lot Acceptance Test	(15.8)		(0.0)
Nonrecurring Flyaway	(60.7)		(45.3)
Total Flyaway	(1923.8)		(1471.2)
Warhead	(65.4)		(49.4)
Product Support Cost	(79.8)		(90.4)
Total Other Wpn Sys	(145.2)		(139.8)
Peculiar Support	(21.6)		(22.3)
Initial Spares	(0.0)		(0.0)
Construction (MILCON)	0.0	0.0	0.0
Acquisition O&M	0.0	0.0	0.0
Total FY 95 Base-Year \$	2580.9	2580.9	2079.1
Escalation	811.4	811.4	358.0
Development (RDT&E)	(27.0)	(27.0)	(15.9)
Procurement	(784.4)	(784.4)	(342.1)
Construction (MILCON)	(0.0)	(0.0)	(0.0)
Acquisition O&M	(0.0)	(0.0)	(0.0)
Total Then Year \$	3392.3	3392.3	2437.1

NOTE: This baseline does not include funding for the Joint Programmable Fuze (\$5.3M TY\$ for RDT&E) (\$87.7M TY\$ for Procurement).

Air Force and Navy RDT&E funding includes the Product Improvement Program (PIP). Air Force and Navy Procurement funding does not include PIP funding. Navy Procurement funding includes BLU-109 (2,848 units for \$57.1M TY\$) but not Joint Programmable Fuze.

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**11b. Total Program Cost and Quantity (Cont'd):**

b. Quantity --	Development Estimate (SAR)	Approved Program (APB)	Current Estimate
Development (RDT&E)	630	630	620
Procurement	<u>87496</u>	<u>87496</u>	<u>87496</u>
Total	88126	88126	88116

Note: Excludes 81 RDTE prototypes from the SAR Baseline and 81 from the Current Estimate that are not considered fully configured.

NOTE: The Low Rate Initial Production (LRIP) quantities approved in the Acquisition Decision Memorandum (ADM) at Milestone II were 425 units. Subsequent FY97 budget cycle decisions approved a buy-to-budget approach for determining annual quantities. With the lower than expected unit costs, LRIP quantities will be 937.

c. Foreign Military Sales --  
To be determined.

d. Nuclear Costs --  
None.

**12. Unit Cost Summary:**

	Current Estimate (Dec 96 SAR)	UCR Baseline (SEP 95 APB)	Percent Change
a. Prog. Acq. Unit Cost (PAUC)			
(1) Cost (FY 95 BY\$)	2079.1	2580.9	
(2) Quantity	88116	88126	
(3) Unit Cost	0.024	0.029	-17.24
b. Avg. Proc. Unit Cost (APUC)			
(1) Cost (FY 95 BY\$)	1633.3	2090.6	
(2) Quantity	87496	87496	
(3) Unit Cost	0.019	0.024	-20.83

13. Cost Variance Analysis:

a. Summary (Current (Then-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Development Estimate	517.3	2875.0	-	3392.3
Previous Changes:				
Economic	-9.1	-128.0	-	-137.1
Quantity	+17.1	-	-	+17.1
Schedule	-	-8.3	-	-8.3
Engineering	-	-	-	-
Estimating	-19.1	-743.3	-	-762.4
Other	-	-	-	-
Support	-	-31.0	-	-31.0
Subtotal	-11.1	-910.6	-	-921.7
Current Changes:				
Economic	+1.8	-20.8	-	-19.0
Quantity	-0.3	-	-	-0.3
Schedule	-	+5.9	-	+5.9
Engineering	-19.0	-	-	-19.0
Estimating	-27.0	+19.8	-	-7.2
Other	-	-	-	-
Support	-	+6.1	-	+6.1
Subtotal	-44.5	+11.0	-	-33.5
Total Changes	-55.6	-899.6	-	-955.2
Current Estimate	461.7	1975.4	-	2437.1

Summary (FY 1995 Constant (Base-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Development Estimate	490.3	2090.6	-	2580.9
Previous Changes:				
Quantity	+16.0	-	-	+16.0
Schedule	-	-6.9	-	-6.9
Engineering	-	-	-	-
Estimating	-19.6	-462.1	-	-481.7
Other	-	-	-	-
Support	-	-9.5	-	-9.5
Subtotal	-3.6	-478.5	-	-482.1
Current Changes:				
Economic	-	-	-	-
Quantity	-0.3	-	-	-0.3
Schedule	-	-	-	-
Engineering	-16.5	-	-	-16.5
Estimating	-24.1	+16.4	-	-7.7
Other	-	-	-	-
Support	-	+4.8	-	+4.8
Subtotal	-40.9	+21.2	-	-19.7
Total Changes	-44.5	-457.3	-	-501.8
Current Estimate	445.8	1633.3	-	2079.1

NOTE: Difference between Planning Estimate (PE) and Development Estimate (DE)

13a. Cost Variance Analysis (Cont'd):  
has been accounted for in previous estimating changes.

b. Current Change Explanations --

		(Dollars in Millions)	
		<u>Base-Year</u>	<u>Then-Year</u>
(1)	<u>RDT&amp;E</u>		
	Revised escalation indices. (Economic)	N/A	-0.8
	Economic adjustment for negative program change. (Economic)	N/A	+2.6
	Air Force quantity decrease from 516 to 506 units. (Quantity)	-0.3	-0.3
	Product Improvement Program (PIP) funding eliminated. (Air Force) (Engineering)	-16.5	-19.0
	Reduction due to Small Business Innovative Research (SBIR) (NAVY). (Estimating)	-1.4	-1.4
	Navy funds decreased due to identified savings. (Estimating)	-3.6	-3.9
	Navy funds decreased due to Defense Business Operations Fund (DBOF) and Navy Comptroller adjustments. (Estimating)	-2.1	-2.8
	Revised estimate due to changes in estimating methodology. (Navy) (Estimating)	+0.2	+0.2
	Adjustment for Current and Prior Inflation. (Estimating)	+0.3	+0.3
	Air Force funds identified as excess. (Air Force) (Estimating)	-14.2	-15.9
	Air Force Materiel Command (AFMC) Zero Base Transfer (ZBT). (Air Force) (Estimating)	-0.2	-0.2
	Reduction in RDT&E funds due to inflation (Air Force). (Estimating)	-0.2	-0.2
	Congressional General Reductions. (Air Force) (Estimating)	-2.8	-3.0
	Reduction due to Small Business Innovative Research (SBIR). (Air Force) (Estimating)	-0.8	-0.8
	Revised estimate due to changes in estimating methodology. (Air Force) (Estimating)	+0.7	+0.7
	RDT&E Subtotal	<u>-40.9</u>	<u>-44.5</u>
(2)	<u>Procurement</u>		
	Revised escalation indices. (Economic)	N/A	-20.8
	Revision of annual procurement buy profile for the Navy. (Schedule)	N/A	+3.9
	Stretch out of annual procurement buy profile for the Air Force by one year. (Schedule)	N/A	+2.0

13b. Cost Variance Analysis (Cont'd):

b. Current Change Explanations --

	(Dollars in Millions)	
	<u>Base-Year</u>	<u>Then-Year</u>
Revised estimate due to change in estimating methodology. (Navy) (Estimating)	-0.3	-0.2
Revised estimate due to change in buy-to-budget profile. (Navy) (Estimating)	+0.4	+0.7
Adjustment for Current and Prior Inflation. (Estimating)	+0.2	+0.3
Revised estimate due to change in estimating methodology. (Air Force) (Estimating)	N/A	N/A
Revised estimate due to change in buy-to-budget profile. (Air Force) (Estimating)	+15.9	+18.7
Addition of funds for SEEK EAGLE efforts. (Estimating)	+0.2	+0.3
Revised estimate for Peculiar Support for the Navy. (Support)	+1.2	+1.7
Revised estimate for warhead costs for the Navy. (Support)	+0.3	+0.3
Adjustment for Current and Prior Inflation. (Support)	+0.1	+0.1
Revised estimate for Product Support Cost for the Air Force. (Support)	+3.2	+4.0
Procurement Subtotal	<u>+21.2</u>	<u>+11.0</u>

14. Unit Cost and Other History (Then-Year Dollars in Millions):

a. Program Acquisition Unit Cost (PAUC) History

Current SAR Baseline to Current Estimate

PAUC Dev Est	Changes							PAUC Cur Est	
	Econ	Qty	Sch	Eng	Est	Oth	Spt		Total
0.04	--	--	--	--	-0.01	--	--	-0.01	0.03

14b. Unit Cost and Other History (Cont'd):

b. Procurement Unit Cost (PUC) History

Current SAR Baseline to Current Estimate

PUC Dev Est	Changes								PUC Cur Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.03	--	--	--	--	-0.01	--	--	-0.01	0.02

c. Schedule, Cost, and Quantity History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PDE)	Current Estimate
Milestone I	OCT 93	OCT 93	N/A	OCT 93
Milestone II	OCT 95	SEP 95	N/A	SEP 95
Milestone III	JUL 99	APR 98	N/A	APR 98
FUE/IOC	SEP 99	SEP 99	N/A	SEP 99
Total Cost	681.5	3392.3	N/A	2437.1
Total Quantity	378	88126	N/A	88116
Prog Acq Unit Cost	1.8	0.04	N/A	0.03

NOTE: SAR Planning Estimate (PE) total cost and total quantity only reflect RDT&E values.

15. Contract Information (Then-Year Dollars in Millions):

a. RDT&E --

JDAM:  
McDonnell Douglas Corp, St Louis MO  
F08626-94-C-0003, CPAF  
Award: October 11, 1995  
Definitized: October 11, 1995

Target	Initial Contract Price		Qty
	Target	Ceiling	
\$70.5	\$0.0		630

Current Contract Price		
Target	Ceiling	Qty
\$75.2	\$0.0	620

Estimated Price At Completion	
Contractor	Program Manager
\$75.2	\$86.4

	Cost Variance	Schedule Variance
Previous Cumulative Variances	\$0.0	\$0.0
Cumulative Variances To Date (12/31/96)	\$0.0	\$-1.0
Net Change	\$0.0	\$-1.0

Explanation of Change:

The current contract price changed from \$70.5M to \$75.2M to include the following contract modifications: AV-8B Wind Tunnel Test Support, Production Improvement Program (PIP), B-2 Weapon Simulation Support at Northrop, Air Force Mission Support System (AFMSS) Training and 6 Degree-of-Freedom (DOF), Additional Load Trainers, Option for Fifth Joint

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15. Contract Information (Cont'd):

Common Test Set (JCTS), 6 DOF/AV-8B Integration, Built-in-Test (BIT)/Operational Flight Program (OFF) and Provide Disk Drives, Mini MAINS Development, Margin Testing, Deletion of 10 Guided Test Vehicles (GTVs), Additional Support at Northrop, Hardware-in-Loop (HIL) Weapon Simulation (WS) Global Positioning System (GPS) Receiver Software Download Capability, Integrated Telemetry Analysis System (ITAS), and Anti-JAM Support at Johns Hopkins.

The current contract quantity changed from 630 units to 620 units due to the deletion of 10 Air Force GTVs identified for margin testing.

The cumulative unfavorable schedule variance is primarily due to late hardware deliveries to purchase order schedules, specifically: Telemetry PCM Encoders (16), Inertial Measurement Units (IMUs) (45), S-Band Transmitters (26), Tail Actuator System (TAS) (15), Mission Computers (50), and Power Supplies (73). Late procurement accounts for \$826K of the variance. Qualification testing on both the Telemetry Pallet and TAS were behind schedule pending resolution of failure analyses. The Telemetry Pallet Qualification testing was completed in mid December. The majority of the TAS Qualification Testing is projected to be complete in January 1997 with a final stiffness test to be completed in March 1997.

Variances do not impact the program manager's estimate at completion.

Contract Comments:

Program manager's estimate at completion incorporates the cost of efforts not included in the prime contractor's final proposal. These costs were identified by the Source Selection Evaluation Group and were recognized by the Source Selection Authority during source selection.

Cost and Schedule variances are based on Contract Performance Report (CPR) dated 31 December 1996.

16. Program Funding Summary (Current Estimate in Millions of Dollars):

a. Appropriation Summary (Then-Year Dollars in Millions)

<u>Appropriation</u>	<u>Prior Years</u> (FY93-97)	<u>Budget Year</u> (FY98)	<u>Budget Year</u> (FY99)	<u>Balance To Complete</u> (FY00-07)	<u>Total</u>
RDT&E	376.3	31.6	24.2	29.6	461.7
Procurement	23.0	96.3	103.2	1752.9	1975.4
MILCON	-	-	-	-	-
O&M	-	-	-	-	-
Total	399.3	127.9	127.4	1782.5	2437.1

b. Annual Summary -- JDAM

Appropriation: 1319 Research, Development, Test + Eval, Navy

<u>Fiscal Year</u>	<u>Qty</u>	<u>Flyaway FY95 Dollars Nonrec</u>	<u>Flyaway FY95 Dollars Rec</u>	<u>Total Program Base-Year \$</u>	<u>Total Program Then-Year \$</u>
1993				23.8	23.2
1994				7.9	7.9
1995				22.8	23.1
1996				25.4	26.3
1997				30.3	32.0
1998				11.1	12.0
1999				10.6	11.7
2000				10.0	11.2
2001				12.3	14.1
Subtotal	114			154.2	161.5

The Joint Programmable Fuze (JPF) funding (\$5.3M TY\$) is not included in this Navy Funding Summary. JPF is not part of the JDAM program but is budgeted in the JDAM Navy RDT&E and Procurement PEs.

Appropriation: 3600 Research, Development, Test + Eval, AF

<u>Fiscal Year</u>	<u>Qty</u>	<u>Flyaway FY95 Dollars Nonrec</u>	<u>Flyaway FY95 Dollars Rec</u>	<u>Total Program Base-Year \$</u>	<u>Total Program Then-Year \$</u>
1993				21.9	21.5
1994				62.1	61.9
1995				61.9	62.9
1996				77.7	80.5
1997				35.0	37.0
1998				18.1	19.6

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16b. Program Funding Summary (Cont'd):

Appropriation: 3600 Research, Development, Test + Eval, AF

Fiscal Year	Qty	Flyaway FY95 Dollars Nonrec	Flyaway FY95 Dollars Rec	Total Program Base-Year \$	Total Program Then-Year \$
1999				11.3	12.5
2000				1.2	1.4
2001				1.0	1.2
2002				1.4	1.7
Subtotal	506			291.6	300.2

Appropriation: 1507 Weapons Procurement, Navy

Fiscal Year	Qty	Flyaway FY95 Dollars Nonrec	Flyaway FY95 Dollars Rec	Total Program Base-Year \$	Total Program Then-Year \$
1998	668	4.7	11.5	31.7	35.0
1999	898	4.8	15.7	36.4	41.0
2000	785	3.5	13.9	29.1	33.5
2001	641	3.6	11.6	23.9	28.1
2002	809	3.5	13.2	23.4	28.2
2003	2712	3.6	42.7	47.8	59.0
2004	2685	3.8	41.1	46.5	58.8
2005	5201	3.9	78.0	84.1	109.2
2006	6269	4.2	92.5	102.7	136.8
2007	4828	4.2	71.0	77.1	105.4
Subtotal	25496	39.8	391.2	502.7	635.0

The Joint Programmable Fuze (JPF) funding (\$87.7M TY\$) is not included in this Navy Funding Summary. JPF is not part of the JDAM program but is budgeted in the JDAM Navy RDT&E and Procurement PEs. Navy Procurement funding includes BLU-109 (2,848 units for \$57.1M TY\$).

Appropriation: 3020 Missile Procurement, Air Force

Fiscal Year	Qty	Flyaway FY95 Dollars Nonrec	Flyaway FY95 Dollars Rec	Total Program Base-Year \$	Total Program Then-Year \$
1997	937	0.8	16.0	21.6	23.0
1998	2673	1.3	46.7	56.4	61.3
1999	2620	0.5	46.4	56.1	62.2
2000	6325	1.1	114.0	126.5	143.2
2001	10122	1.8	185.6	201.6	233.1
2002	10617		176.1	189.3	223.8
2003	10592		169.8	180.0	218.0
2004	10315		160.9	170.9	212.4
2005	7799		119.2	128.2	163.4

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16b. Program Funding Summary (Cont'd):

Appropriation: 3020 Missile Procurement, Air Force

Fiscal Year	Qty	Flyaway FY95 Dollars Nonrec	Flyaway FY95 Dollars Rec	Total Program Base-Year \$	Total Program Then-Year \$
Subtotal	62000	5.5	1034.7	1130.6	1340.4

Note 1: JDAM procurement funds have been designated 3011 (Procurement of Ammunition, AF). However, the SAR software does not include this new Appropriation, therefore FY97-05 procurement was left in Appropriation 3020 (Missile Procurement, AF) in order to make valid comparisons with the Dec 95 SAR.

Note 2: FY98 procurement funding of \$61.3M includes \$0.3M SEEK EAGLE funds that are not included in the APB cost.

Service	Qty	Flyaway Dollars Nonrec	Flyaway Dollars Rec	Total Program Base-Year \$	Total Program Then-Year \$
Navy	25610	39.8	391.2	656.9	796.5
USAF	62506	5.5	1034.7	1422.2	1640.6
Grand Total	88116	45.3	1425.9	2079.1	2437.1

17. Delivery/Expenditure Information:

a. Deliveries To Date	Plan	Actual
RDT&E	68	68
Procurement	0	0

Percent Total Program Quantities Delivered: 0.1%

b. Total Expenditures To Date (In Millions of Dollars): \$ 246.5

Percent Total Program Expended: 10.1%

Contractually, 68 Guided Test Vehicles (GTVs) were planned to be delivered by 31 December 1996. Engineering and Manufacturing Development (EMD) Phase II planned 40 MK-84 GTVs and 28 BLU-109 GTVs to be delivered. In total, 68 GTVs were planned and delivered.

Expenditures reflect program office records as of 31 December 1996.



# Defense Acquisition Management Information Retrieval (DAMIR)



## Current Status Report (DAES & Web Services)

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

### **JDAM**

As of December 25, 1997

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## Program Information

### Designation And Nomenclature (Popular Name)

Joint Direct Attack Munition (JDAM)

### DoD Component

Air Force

### Joint Participants

USAF; Navy

### General Information

ACAT	IC	Status	Active
FCB	Force Application	PNO	503
DAES Status	Full	DAES Group	B
SAR Status	Full	Lead OSD Organization	PSA/AW
Commodity Type	Munitions	Program Type	MDAP

## Responsible Office

### Responsible Office

GM-15 OSCAR L. SOLER ASC/YU, Bldg 11 Joint Direct Attack Munition 102 West D Ave Suite 300 Eglin AFB, FL 32542-6807 <a href="mailto:solero@eglin.af.mil">solero@eglin.af.mil</a>	<b>Phone</b>	904-882-3526
	<b>Fax</b>	--
	<b>DSN Phone</b>	872-3526
	<b>DSN Fax</b>	--
	<b>Date Assigned</b>	January 2, 1996

## References

Approval Date	Name	Phase	Event	Authority	Base Year	Original	Change
10/07/2002	APB Change 1	Production		DAE	1995	No	Yes
03/23/2001	Prod APB	Production	M/S III	DAE	1995	No	No
06/01/2000	APB Change 4	Development		DAE	1995	No	Yes
12/30/1999	Proposed Baseline	Development			1995	No	No
02/22/1999	APB Change 3	Development		DAE	1995	No	Yes
05/11/1998	APB Change 2	Development		DAE	1995	No	Yes
12/19/1997	APB Change 1	Development		DAE	1995	No	Yes
09/20/1995	Dev APB	Development	M/S II	DAE	1995	Yes	No
07/11/1995	Concept Baseline	Concept	M/S I	DAE	1993	No	No

## Mission and Description

Operation DESERT STORM confirmed the need for a more accurate weapon delivery capability in adverse weather conditions from medium/high altitudes. Failure to satisfy this requirement will allow the enemy to continue to take advantage of the sanctuary of weather and/or prevent United States air power from prosecuting a conflict on its own terms. The JDAM is an Air Force and Navy munitions program to correct these shortfalls, with the Air Force as the Executive Service. JDAM will upgrade the existing general purpose bombs (MK-84, BLU-109, and MK-83/BLU-110) by integrating them with a tail guidance kit consisting of an Inertial Navigation System (INS) aided by a Global Positioning System (GPS). JDAM will provide an accurate (13 meters) adverse weather capability. The primary platforms for the JDAM development are the B-1B, B-2A, B-52H, FA-18C/D and the F-22A (for the MK-83/BLU-110 only). The services will certify other aircraft (e.g. F-16C/D, F-14D, F-15E, FA-18E/F, S-3, P-3, AV-8B) to deliver JDAM when funding becomes available. The JDAM Product Improvement Program (PIP) will investigate and develop improvement options for the JDAM system.

Picture Source: None

Text Source: SAR 12/25/1997

## Executive Summary

In January 1997, JDAM completed a first-of-its-kind Integrated Systems Evaluation (ISE). JDAM worked with Air Combat Command (ACC) to employ F-16 FOT&E pilots (422nd Test Squadron at Nellis AFB) to drop 22 weapons in 3 weeks over the Navy's China Lake complex. All 22 drops were successful with the last 6 drops being live warheads. This exercise showed JDAM can be deployed from aircraft using operational pilots and load crews.

JDAM obtained approval for LRIP on 30 April 1997 and exercised the option for Lot 1 with McDonnell Douglas for 2000 lb tail kits. First deliveries of the 937 units start in May 1998.

In June 1997, the B-2 IOT&E culminated in the first ever drop of 16 Precision Guided Munitions on a single pass. The 16 JDAMs were individually targeted against eight targets in two target complexes with one to four JDAMs going against each target. All drops were successful. This completed B-2 testing.

On 4 August 1997, McDonnell Douglas and Boeing merged and the Boeing Company is now the JDAM contractor.

Efforts of the Joint JDAM Government and contractor Integrated Product Team (IPT) to establish early Foreign Military Sales (FMS) resulted in a Request for Information (RFI) from the Government of Israel on 29 August 1997.

The JDAM BLU-109 footprint performance fell short of early predictions which made it unsuitable for the users. The solution was the fabrication of a new strake design which has been flight tested. Preliminary analysis indicates that the new design will likely provide an acceptable footprint.

Lot 1 and Lot 2 procurement buys were changed to all MK-84 variants due to the redesign of the BLU-109.

JDAM has experienced Inertial Measurement Unit (IMU) vibration, fin movement and fin shaft fatigue on the F/A-18C/D inboard stations on low altitude, high speed flights. This is caused by both a weakness in the brake structure that relaxes braking torque and the presence of a large, unexpected bending force component. This will have an impact on the start of dedicated F/A-18C/D operational testing.

Initial MK-83 autopilot analyses revealed some potential stability problems at high angles-of-attack. A change in strake configuration should correct the stability problem. Flight tests are underway.

An Over Target Baseline (OTB) of \$17.6 million was established on the Engineering and Manufacturing Development (EMD) Phase II contract in November 1997. This OTB covers an overrun of the baseline development program.

In December 1997, a contract modification was signed to change the JDAM container vapor barrier bag material and foam dunnage to comply with anti-static requirements and add drain hole screens.

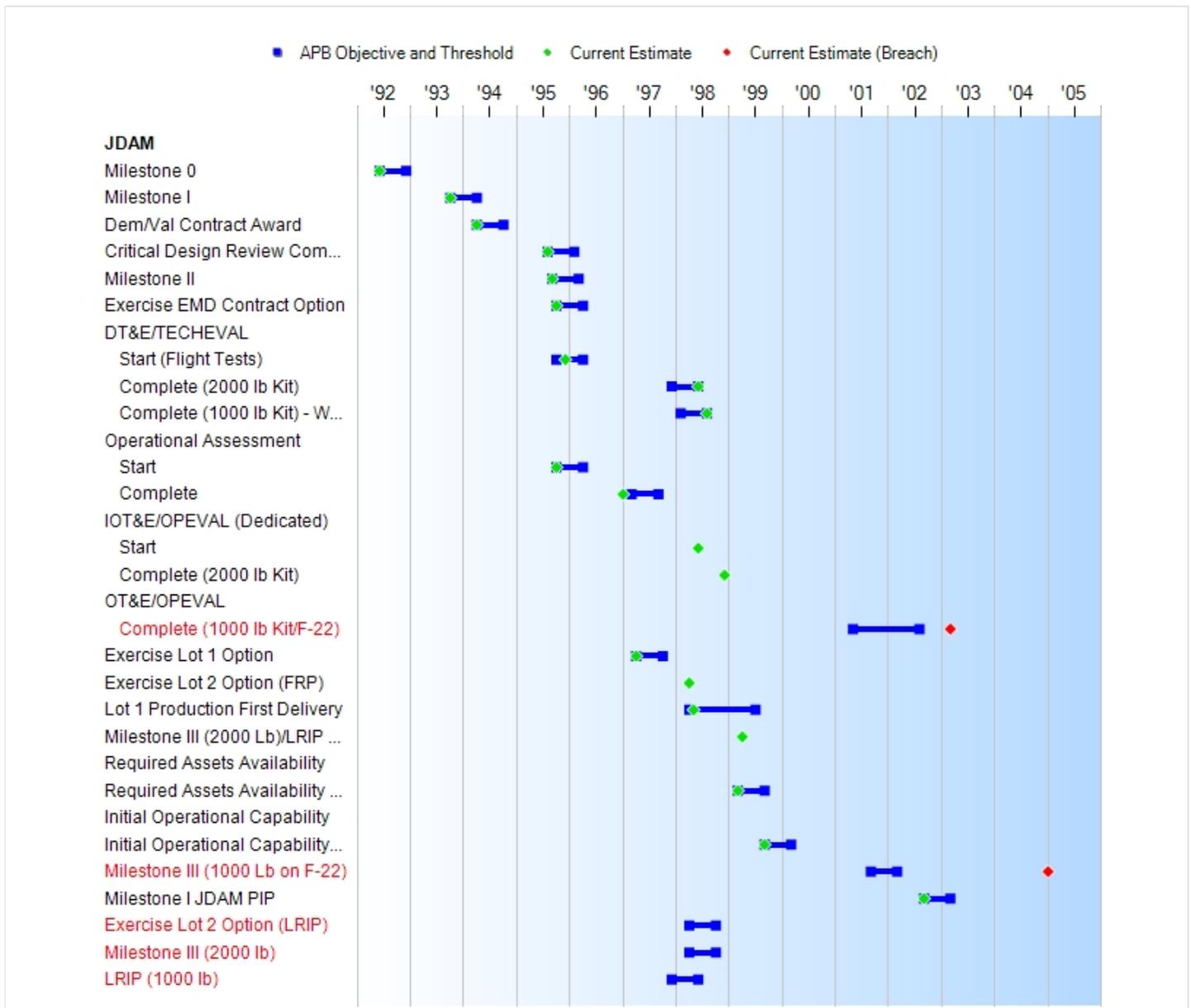
As of 31 December 1997, 133 JDAMs have been delivered for B-2 Early Operational Capability.

## Threshold Breaches

APB Breaches		
<b>Schedule</b>		<input type="checkbox"/>
<b>Performance</b>		<input type="checkbox"/>
<b>Cost</b>	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
<b>Unit Cost</b>	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Nunn-McCurdy Breaches		
<b>Current UCR Baseline</b>		
	PAUC	None
	APUC	None
<b>Original UCR Baseline</b>		
	PAUC	None
	APUC	None

# Schedule



<b>Milestones</b>	<b>Initial Development APB</b>	<b>Current APB Development Objective/Threshold</b>		<b>Current Estimate</b>
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
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
Operational Assessment				
Start	OCT 1995	OCT 1995	APR 1996	OCT 1995
Complete	MAR 1997	MAR 1997	SEP 1997	JAN 1997
IOT&E/OPEVAL (Dedicated)	N/A	N/A	N/A	
Start	N/A	N/A	N/A	JUN 1998
Complete (2000 lb Kit)	N/A	N/A	N/A	DEC 1998
OT&E/OPEVAL	N/A	N/A	N/A	
Complete (1000 lb Kit/F-22)	MAY 2001	MAY 2001	AUG 2002	<b>MAR 2003</b> <sup>1</sup>
Exercise Lot 1 Option	APR 1997	APR 1997	OCT 1997	APR 1997
Exercise Lot 2 Option (FRP)	N/A	N/A	N/A	APR 1998
Lot 1 Production First Delivery	APR 1998	APR 1998	JUL 1999	MAY 1998
Milestone III (2000 Lb)/LRIP (1000 Lb)	N/A	N/A	N/A	APR 1999
Required Assets Availability	N/A	N/A	N/A	N/A
Required Assets Availability (AF)	MAR 1999	MAR 1999	SEP 1999	MAR 1999
Initial Operational Capability	N/A	N/A	N/A	N/A
Initial Operational Capability (FA-18)	SEP 1999	SEP 1999	MAR 2000	SEP 1999
Milestone III (1000 Lb on F-22)	SEP 2001	SEP 2001	MAR 2002	<b>JAN 2005</b> <sup>1</sup>
Milestone I JDAM PIP	SEP 1999	SEP 2002	MAR 2003	SEP 2002
Exercise Lot 2 Option (LRIP)	APR 1998	APR 1998	OCT 1998	<b>N/A</b> <sup>1</sup>
Milestone III (2000 lb)	APR 1998	APR 1998	OCT 1998	<b>N/A</b> <sup>1</sup>
LRIP (1000 lb)	DEC 1997	DEC 1997	JUN 1998	<b>N/A</b> <sup>1</sup>

**<sup>1</sup>APB Breach****Memo**

1/ The Required Assets Availability Milestone date will be provided once ACC identifies what is required for RAA.

NOTE: LRIP 1 Decision will be based on completion of Group 1 Threshold aircraft for DT&E/IOT&E.

Milestones and dates reflect the JDAM accelerated program.

Lot 1 Decision will be based on sufficient testing on B-52, F/A-18C/D, B-2, B-1, and F-16.

ACRONYMS: AUR - All Up Round

LRIP - Low Rate Initial Production

RAA - Required Assets Availability

Current Estimate Source: SAR 12/25/1997  
Initial APB Source - APB dated: 09/20/1995  
APB Source - APB dated: 12/19/1997

## Performance

Characteristics	Initial Development APB	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
Weather Capability	Adverse	Adverse	Adverse	Adverse	Adverse
Accuracy (CEP) (Meters)					
GPS Available, Impact Angles > 60 Deg	13 Horizontal Targets	13 Horizontal Targets	13 Horizontal Targets	9.9	13 Horizontal Targets
Inflight Re-targeting Capability (captive carry)	Yes	Yes	Yes	Yes	Yes
Carrier Operability	Yes	Yes	Yes	Yes	Yes
Warhead Compatibility	MK-82, MK-83	MK-82, MK-83	BLU-109, MK-84, MK-83 (F-22)	BLU-109, MK-84, MK-83 (F-22)	BLU-109, MK-84, MK-83 (F-22)
Aircraft Compatibility					
Bomber	B-1B, B-2	B-1B, B-2	B-52H	Yes	B-52H
Fighter Attack	FA-18 C/D (MK-83), F-16 C/D, FA-18 E/F, F-117A, F-15E, P-3, S-3, F-14 A/B/D	FA-18 C/D (MK-83), F-16 C/D, FA-18 E/F, F-117A, F-15E, P-3, S-3, F-14 A/B/D	FA-18C/D, F-22A, AV-8B	Yes	FA-18C/D, F-22A, AV-8B
Mission Reliability	.90	.90	.90	.95	.90
JDAM PIP Accuracy (CEP) (Meters)	3	3	3	TBD	3
JDAM PIP Weather Capability	Adverse	Adverse	Adverse	TBD	Adverse
JDAM PIP Warhead Compatibility	MK-82, MK-83	MK-82, MK-83	BLU-109, MK-84	TBD	BLU-109, MK-84

### Memo

1/ Adverse weather is defined as natural/man-made conditions such as rain, haze, dust, smoke, fog, snow, ice, wind, and/or clouds that preclude the use of current inventory precision guided munitions.

2/ Assumes GPS quality hand-off from aircraft. In addition, the target location error (TLE) portion of the total system error is allocated to be 7.2 meters CEP. If TLE is larger than 7.2 meters CEP, the total system CEP will increase accordingly. For impact angles between 60 degrees and 35 degrees (with GPS available) accuracy degradation up to 19 meters CEP against horizontal targets is an objective.

3/ Inflight programming/targeting will be possible through MIL-STD-1553/1760 data bus interface to the weapon from existing aircraft stores management hardware and modified software.

4/ JDAM will be capable of operation on aircraft carriers to include withstanding 25 aircraft carrier catapult launches and arrested landings, and operating within the carriers' electromagnetic environments.

5/ Physical compatibility with the B-1B, B-2, FA-18C/D, AV-8B and B-52H were successfully demonstrated during

actual fit test in EMD Phase 1. F-22A physical compatibility was also demonstrated using computerized physical fit analysis during this phase. Integration with the F-15E, F-16C/D, F-117, FA-18E/F, F-14D, S-3, and P-3 will be addressed as follow-on integration efforts. The A-6E aircraft was deleted by Chief of Naval Operations (CNO) Letter, Serial Number N880D5/4UG59112, dated 2 February 1994. The F-111F has been deleted (Reference AF/XOR Message 260111Z January 1994).

6/ F-22 compatibility will be limited to internal carriage of the MK-83/BLU-110 configuration. The AV-8B is a funded, non-key performance parameter, threshold aircraft.

7/ Mission reliability commences when the aircrew accepts the loaded aircraft and ends at weapon impact. Mission reliability for the guidance kits does not include reliability for the fuze. Mission reliability, a component of Guidance Kit system reliability, is used because the other component of system reliability (10 year storage reliability) cannot be demonstrated during development and operational testing.

ACRONYMS: CEP - Circular Error Probable

DEG - Degree

GPS - Global Positioning System

MSL - Mean Sea Level

PIP - Product Improvement Program

TBD - To Be Determined

Current Estimate Source: SAR 12/25/1997

Initial APB Source - APB dated: 09/20/1995

APB Source - APB dated: 12/19/1997

## Track To Budget

### RDT&E

APPN 3600 PE 0604618F (Air Force)

JDAM

APPN 1319 PE 0604618N (Navy)

JDAM

### Procurement

APPN 1507 BA 05 (Navy) ICN 0550

JOINT DIRECT ATTACK MUNITION (JDAM)

APPN 3011 BA 27 (Air Force) ICN 353620

JOINT DIRECT ATTACK MUNITION (JDAM)

### General Memo

Air Force and Navy RDT&E funding includes the Product Improvement Program (PIP).

Air Force and Navy Procurement funding does not include PIP funding. Navy Procurement funding includes BLU-109 but not Joint Programmable Fuze.

Source: SAR 12/25/1997

## Cost and Funding

### Cost Summary

#### Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M			TY \$M			
	Initial Development APB	Current APB Development Objective/Threshold	Current Estimate	Initial Development APB	Current APB Development Objective	Current Estimate	
RDT&E	490.3	490.3	563.8	440.8	517.3	517.3	455.5
Procurement	2090.6	2090.6	2195.1	1689.9	2875.0	2875.0	2000.2
Non Recurring	--	--	--	51.0	--	--	59.6
MILCON	--	--	--	--	--	--	--
Acq O&M	139.5	139.5	153.4	--	0.0	0.0	--
Total	2720.4	2720.4	N/A	2130.7	3392.3	3392.3	2455.7

NOTE: This baseline does not include Navy funding for the Joint Programmable Fuze (JPF) (\$7.1M TY\$ for RDT&E) (\$71.9M TY\$ for Procurement). Navy Procurement funding includes BLU-109 (2,848 units for \$56.2M TY\$).

Air Force and Navy RDT&E funding includes the Product Improvement Program (PIP). Air Force and Navy Procurement funding does not include PIP funding.

This Acquisition Program Baseline (APB) includes JDAM PEs 0604618F and 0604618N for Research, Development, Test and Evaluation (RDT&E), and 0207583F (3011) and Appropriation 1507N, ICN 0550, for Procurement.

Quantity	Initial APB	Current APB	Current Estimate
RDT&E	630	630	620
Procurement	87496	87496	87496
Total	88126	88126	88116

NOTE: The Low Rate Initial Production (LRIP) quantities approved in the Acquisition Decision Memorandum (ADM) at Milestone II were 425 units for Lot 1. Subsequent FY97 budget cycle decisions approved a buy-to-budget approach for determining annual quantities. With the lower than expected unit costs, LRIP quantities are 937 for Lot 1. The concept of adding a second LRIP (Lot 2) was briefed to the WIPT and OIPT in December 1997. This second LRIP will include 3,068 JDAMs.

## Funding Summary

### Appropriation and Quantity Summary

#### DEC 1997 DAES (TY \$M)

Appropriation	Prior	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	To Complete	Total
RDT&E	363.1	32.9	23.7	13.0	16.4	4.0	2.4	0.0	455.5
Procurement	23.0	80.9	91.6	161.6	274.2	244.6	268.4	855.9	2000.2
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
PB1999 Total	386.1	113.8	115.3	174.6	290.6	248.6	270.8	855.9	2455.7
	--	--	--	--	--	--	--	--	--

Quantity	Prior	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	To Complete	Total
Development	0	0	0	0	0	0	0	0	620
Production	937	3068	3046	6346	11297	10973	12671	39158	87496
PB1999 Total	937	3068	3046	6346	11297	10973	12671	39158	88116

## Annual Funding By Appropriation

### Annual Funding TY\$

1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1993	--	--	--	--	--	--	23.2
1994	--	--	--	--	--	--	7.9
1995	--	--	--	--	--	--	23.1
1996	--	--	--	--	--	--	26.1
1997	--	--	--	--	--	--	27.2
1998	--	--	--	--	--	--	11.0
1999	--	--	--	--	--	--	11.5
2000	--	--	--	--	--	--	11.6
2001	--	--	--	--	--	--	15.2
2002	--	--	--	--	--	--	2.4
2003	--	--	--	--	--	--	2.4
<b>Subtotal</b>	<b>114</b>	--	--	--	--	--	<b>161.6</b>

**Annual Funding BY\$****1319 | RDT&E | Research, Development, Test, and Evaluation, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1993	--	--	--	--	--	--	23.8
1994	--	--	--	--	--	--	7.9
1995	--	--	--	--	--	--	22.8
1996	--	--	--	--	--	--	25.3
1997	--	--	--	--	--	--	26.0
1998	--	--	--	--	--	--	10.3
1999	--	--	--	--	--	--	10.6
2000	--	--	--	--	--	--	10.6
2001	--	--	--	--	--	--	13.6
2002	--	--	--	--	--	--	2.1
2003	--	--	--	--	--	--	2.1
<b>Subtotal</b>	<b>114</b>	--	--	--	--	--	<b>155.1</b>

The Joint Programmable Fuze (JPF) funding (\$7.1M TY\$) is not included in this Navy Funding Summary. JPF is not part of the JDAM program but is budgeted in the JDAM Navy RDT&E and Procurement PEs.

## Annual Funding TY\$

## 3600 | RDT&amp;E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1993	--	--	--	--	--	--	21.5
1994	--	--	--	--	--	--	61.9
1995	--	--	--	--	--	--	62.9
1996	--	--	--	--	--	--	76.4
1997	--	--	--	--	--	--	32.9
1998	--	--	--	--	--	--	21.9
1999	--	--	--	--	--	--	12.2
2000	--	--	--	--	--	--	1.4
2001	--	--	--	--	--	--	1.2
2002	--	--	--	--	--	--	1.6
<b>Subtotal</b>	<b>506</b>	--	--	--	--	--	<b>293.9</b>

**Annual Funding BY\$****3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1993	--	--	--	--	--	--	21.9
1994	--	--	--	--	--	--	62.1
1995	--	--	--	--	--	--	61.9
1996	--	--	--	--	--	--	73.7
1997	--	--	--	--	--	--	31.1
1998	--	--	--	--	--	--	20.3
1999	--	--	--	--	--	--	11.1
2000	--	--	--	--	--	--	1.2
2001	--	--	--	--	--	--	1.0
2002	--	--	--	--	--	--	1.4
<b>Subtotal</b>	<b>506</b>	--	--	--	--	--	<b>285.7</b>

## Annual Funding TY\$

## 1507 | Procurement | Weapons Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1998	668	--	--	5.6	--	--	26.0
1999	898	--	--	6.4	--	--	38.4
2000	785	--	--	4.9	--	--	33.6
2001	641	--	--	5.2	--	--	28.2
2002	809	--	--	5.1	--	--	28.3
2003	2622	--	--	5.8	--	--	58.4
2004	2685	--	--	3.9	--	--	65.9
2005	4928	--	--	4.6	--	--	111.6
2006	6269	--	--	5.7	--	--	136.8
2007	5191	--	--	6.6	--	--	113.7
<b>Subtotal</b>	<b>25496</b>	--	--	<b>53.8</b>	--	--	<b>640.9</b>

**Annual Funding BY\$**  
**1507 | Procurement | Weapons Procurement, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1998	668	--	--	5.2	--	--	24.1
1999	898	--	--	5.8	--	--	34.9
2000	785	--	--	4.4	--	--	30.1
2001	641	--	--	4.6	--	--	24.8
2002	809	--	--	4.4	--	--	24.4
2003	2622	--	--	4.9	--	--	49.3
2004	2685	--	--	3.2	--	--	54.4
2005	4928	--	--	3.7	--	--	90.2
2006	6269	--	--	4.5	--	--	108.2
2007	5191	--	--	5.1	--	--	88.0
<b>Subtotal</b>	<b>25496</b>	--	--	<b>45.8</b>	--	--	<b>528.4</b>

The Joint Programmable Fuze (JPF) funding (\$71.9M TY\$) is not included in this Navy Funding Summary. JPF is not part of the JDAM program but is budgeted in the JDAM Navy RDT&E and Procurement PEs. Navy Procurement funding includes BLU-109 (2,848 units for \$56.2M TY\$).

**Cost Quantity Information****1507 | Procurement | Weapons Procurement, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M</b>
1998	668	11.7
1999	898	16.1
2000	785	14.4
2001	641	11.9
2002	809	13.7
2003	2622	42.9
2004	2685	42.9
2005	4928	77.5
2006	6269	97.3
2007	5191	80.6
<b>Subtotal</b>	<b>25496</b>	<b>409.0</b>

## Annual Funding TY\$

## 3011 | Procurement | Procurement of Ammunition, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1997	937	--	--	0.9	--	--	23.0
1998	2400	--	--	1.3	--	--	54.9
1999	2148	--	--	0.4	--	--	53.2
2000	5561	--	--	1.0	--	--	128.0
2001	10656	--	--	2.2	--	--	246.0
2002	10164	--	--	--	--	--	216.3
2003	10049	--	--	--	--	--	210.0
2004	10315	--	--	--	--	--	215.2
2005	8072	--	--	--	--	--	170.9
2006	1698	--	--	--	--	--	41.8
<b>Subtotal</b>	<b>62000</b>	--	--	<b>5.8</b>	--	--	<b>1359.3</b>

**Annual Funding BY\$**  
**3011 | Procurement | Procurement of Ammunition, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1997	937	--	--	0.8	--	--	21.6
1998	2400	--	--	1.2	--	--	50.6
1999	2148	--	--	0.4	--	--	48.3
2000	5561	--	--	0.9	--	--	114.3
2001	10656	--	--	1.9	--	--	215.6
2002	10164	--	--	--	--	--	186.0
2003	10049	--	--	--	--	--	176.9
2004	10315	--	--	--	--	--	177.4
2005	8072	--	--	--	--	--	137.8
2006	1698	--	--	--	--	--	33.0
<b>Subtotal</b>	<b>62000</b>	--	--	<b>5.2</b>	--	--	<b>1161.5</b>

Note: FY98 procurement funding of \$54.9M includes \$0.3 SEEK EAGLE funds that are not included in the APB cost.

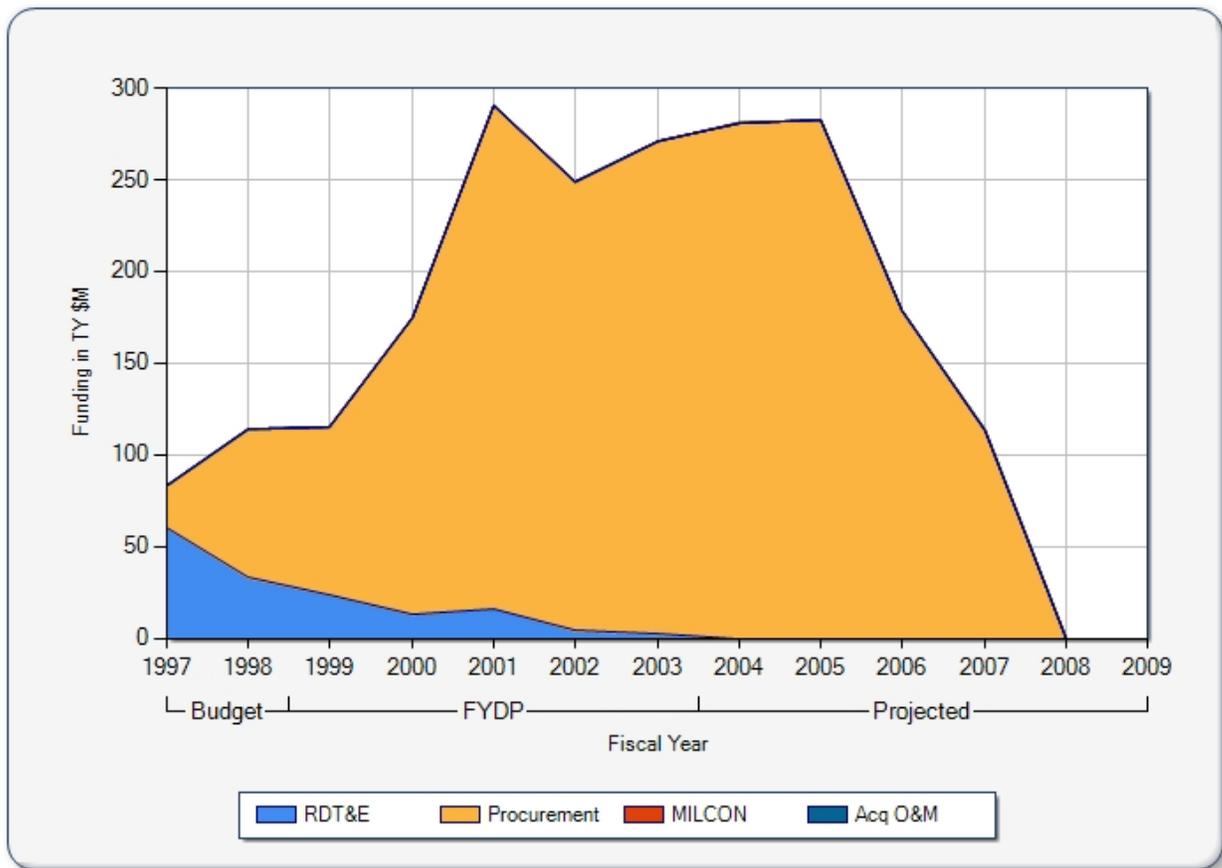
**Cost Quantity Information****3011 | Procurement | Procurement of Ammunition, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M</b>
1997	937	16.0
1998	2400	42.1
1999	2148	38.4
2000	5561	101.6
2001	10656	198.0
2002	10164	171.3
2003	10049	164.3
2004	10315	164.8
2005	8072	126.8
2006	1698	26.3
<b>Subtotal</b>	<b>62000</b>	<b>1049.6</b>

Current Estimate Source: SAR 12/25/1997

### Acquisition Funding Projection

Acquisition Funding Projection



### Low Rate Initial Production

None

### Foreign Military Sales

To be determined.

## **Nuclear Cost**

None.

**Unit Cost****Unit Cost Report**

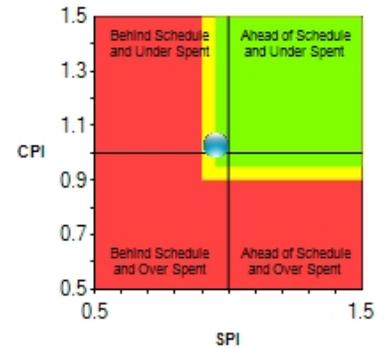
<b>Unit Cost</b>	<b>BY1995 \$M</b>		
	<b>Current UCR Baseline (DEC 1997 APB)</b>	<b>Current Estimate (DEC 1997 SAR)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	2720.4	2130.7	
Quantity	88126	88116	
Unit Cost	0.031	0.024	-22.58
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	2090.6	1689.9	
Quantity	87496	87496	
Unit Cost	0.024	0.019	-20.83

<b>Unit Cost</b>	<b>BY1995 \$M</b>		
	<b>Original UCR Baseline (SEP 1995 APB)</b>	<b>Current Estimate (DEC 1997 SAR)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	2720.4	2130.7	
Quantity	88126	88116	
Unit Cost	0.031	0.024	-22.58
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	2090.6	1689.9	
Quantity	87496	87496	
Unit Cost	0.024	0.019	-20.83

### Contracts

#### Joint Direct Attack Mun - Boeing

Program Name JDAM  
 Program Phase Development  
 Contract Number F08626-94-C-0003/2  
 Contract Type CPAF  
 Change Order Number  
 Contractor Division  
 Contractor Location St Charles , MO 63301



#### Contract Deliveries

Total Quantity	Plan Quantity	Delivered Quantity	
620	368	267	
Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
79.3	-9.1	86.3	

#### Contract Schedule Data

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
10/11/1995	10/1/1995			2/1/1999	2/1/1999
Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)	
9/30/1997	CPR		61.5	59.0	
ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)		
57.8	0.7	70.2	79.3		
Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)		
83.9	85.0	85.0	88.4		

#### Contract Variance Data (\$M)

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
+1.2	+2.0%	-2.5	-4.1%

#### Over Target Baseline

Auth. Date:	Cost Adjustment	Schedule Adjustment
8/1/1997	0.9	0.0

**Contract Comments**

None

None

**Joint Direct Attack Mun - Boeing**

Program Name JDAM  
 Program Phase Production  
 Contract Number F08626-94-C-0003/3  
 Contract Type FFP  
 Change Order Number  
 Contractor Division  
 Contractor Location St Charles , MO 63301

**Contract Deliveries**

Total Quantity	Plan Quantity	Delivered Quantity
937	0	0

Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
		19.4	

**Contract Schedule Data**

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
4/30/1997	4/1/1997			4/1/1999	4/1/1999

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)

**Contract Variance Data (\$M)**

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
+		+	+

**Contract Comments**

None

None



**Deliveries and Expenditures**

<b>Deliveries To Date</b>	<b>Plan</b>	<b>Actual</b>	<b>Total Quantity</b>	<b>Percent Delivered</b>
Development	502	375	620	60.48%
Production	0	0	87496	0.00%
<b>Total Program Quantities Delivered</b>	<b>502</b>	<b>375</b>	<b>88116</b>	<b>0.43%</b>

**Expenditures and Appropriations (TY \$M)**

Total Acquisition Cost	2455.7	Years Appropriated	6
Expenditures To Date	324.4	Percent Years Appropriated	40.00%
Percent Expended	13.21%	Appropriated to Date	499.9
Total Funding Years	15	Percent Appropriated	20.36%

## Operating and Support Cost

Costs	BY1995 \$M			TY \$M			
	Initial APB	Current APB Objective/Threshold	Current Estimate	Initial APB	Current APB Objective	Current Estimate	
Total Acquisition	2720.4	2720.4	N/A	2130.7	3392.3	3392.3	2455.7
O&S	--	--	--	--	--	--	--
Total Life Cycle	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Current Estimate Total Acquisition Cost Source: SAR 12/25/1997

Current Estimate O&S Cost Source: SAR 12/25/1997

Initial APB Source - APB dated: 09/20/1995

Current APB Source - APB dated: 12/19/1997

## Assessments

No DAES Assessments are available

## LCS

No LCS Data exists for JDAM

-



# Defense Acquisition Management Information Retrieval (DAMIR)



## Current Status Report (DAES & Web Services)

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

### **JDAM**

As of December 25, 1998

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## Program Information

### Designation And Nomenclature (Popular Name)

Joint Direct Attack Munition (JDAM)

### DoD Component

Air Force

### Joint Participants

USAF; Navy

### General Information

ACAT	IC	Status	Active
FCB	Force Application	PNO	503
DAES Status	Full	DAES Group	B
SAR Status	Full	Lead OSD Organization	PSA/AW
Commodity Type	Munitions	Program Type	MDAP

## Responsible Office

### Responsible Office

GM-15 OSCAR L. SOLER AAC/YU, Bldg 11 Joint Direct Attack Munition 102 West D Ave Suite 300 Eglin AFB, FL 32542-6807 <a href="mailto:solero@eglin.af.mil">solero@eglin.af.mil</a>	<b>Phone</b> 904-882-3526 <b>Fax</b> -- <b>DSN Phone</b> 872-3526 <b>DSN Fax</b> -- <b>Date Assigned</b> January 2, 1996
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## References

Approval Date	Name	Phase	Event	Authority	Base Year	Original	Change
10/07/2002	APB Change 1	Production		DAE	1995	No	Yes
03/23/2001	Prod APB	Production	M/S III	DAE	1995	No	No
06/01/2000	APB Change 4	Development		DAE	1995	No	Yes
12/30/1999	Proposed Baseline	Development			1995	No	No
02/22/1999	APB Change 3	Development		DAE	1995	No	Yes
05/11/1998	APB Change 2	Development		DAE	1995	No	Yes
12/19/1997	APB Change 1	Development		DAE	1995	No	Yes
09/20/1995	Dev APB	Development	M/S II	DAE	1995	Yes	No
07/11/1995	Concept Baseline	Concept	M/S I	DAE	1993	No	No

## Mission and Description

Operation DESERT STORM confirmed the need for a more accurate weapon delivery capability in adverse weather conditions from medium/high altitudes. Failure to satisfy this requirement will allow the enemy to continue to take advantage of the sanctuary of weather and/or prevent United States air power from prosecuting a conflict on its own terms. The JDAM is an Air Force and Navy munitions program to correct these shortfalls, with the Air Force as the Executive Service. JDAM will upgrade the existing general purpose bombs (MK-84, BLU-109, and MK-83/BLU-110) by integrating them with a tail guidance kit consisting of an Inertial Navigation System (INS) aided by a Global Positioning System (GPS). JDAM will provide an accurate (13 meters) adverse weather capability. The primary platforms for the JDAM development are the B-1B, B-2A, B-52H, FA-18C/D and the F-22A (for the MK-83/BLU-110 only). The services will certify other aircraft (e.g. F-16C/D, F-14D, F-15E, FA-18E/F, S-3, P-3, AV-8B, F-117) to deliver JDAM when funding becomes available. The JDAM Product Improvement Program (PIP) will investigate and develop improvement options for the JDAM system.

Picture Source: None

Text Source: SAR 12/25/1998

## Executive Summary

The minutes from the 12 December 1997 JDAM Overarching Integrated Product Team (OIPT) meeting were signed and provided to the program office on 15 January 1998. The OIPT approved changing the Lot 2 Full Rate Production to a Low Rate Initial Production (LRIP) 2 consisting of only MK-84 tail kits. They also decoupled the 1000 lb tailkit from the 2000 lb tailkit and established Milestone (MS) III dates of February 1999 as an objective and June 1999 as the threshold for the 2000 lb program.

The JDAM and its associated support equipment were Y2K certified on 7 May 1998.

The JDAM LRIP 2 contract was exercised on 22 June 1998.

We received the first MK-84 production unit at a formal "JDAM Rollout Ceremony" in St. Louis, MO on 24 June 1998.

We completed DT/OT on the B-1B in July 1998.

On 10 September 1998, Boeing conducted a Critical Design Review (CDR) on the new "Pin Fin Brake" which will extend the JDAM F/A-18 envelope into the low altitude/high speed area of extreme vibration.

We received a Letter of Request (LOR) on 23 November 1998 to provide Israel JDAM tailkits as Foreign Military Sales (FMS).

On 3 December 1998, we presented our approach to the JDAM OIPT for solving the F/A-18 flight restriction, restructuring the program to create a third LRIP lot of 2000 lb kits and moving the 2000 lb MS III threshold date. The OIPT agreed to these recommendations plus delegation of the Lot 3 LRIP decision to the Air Force SAE. The new MS III dates for the 2000 lb JDAM kits are November 1999 as an objective date and May 2000 as the threshold date.

The JDAM Product Improvement Program (PIP) contract was extended on 11 December 1998 to continue the evaluation of guidance technologies and aerodynamic, guidance and control trade studies.

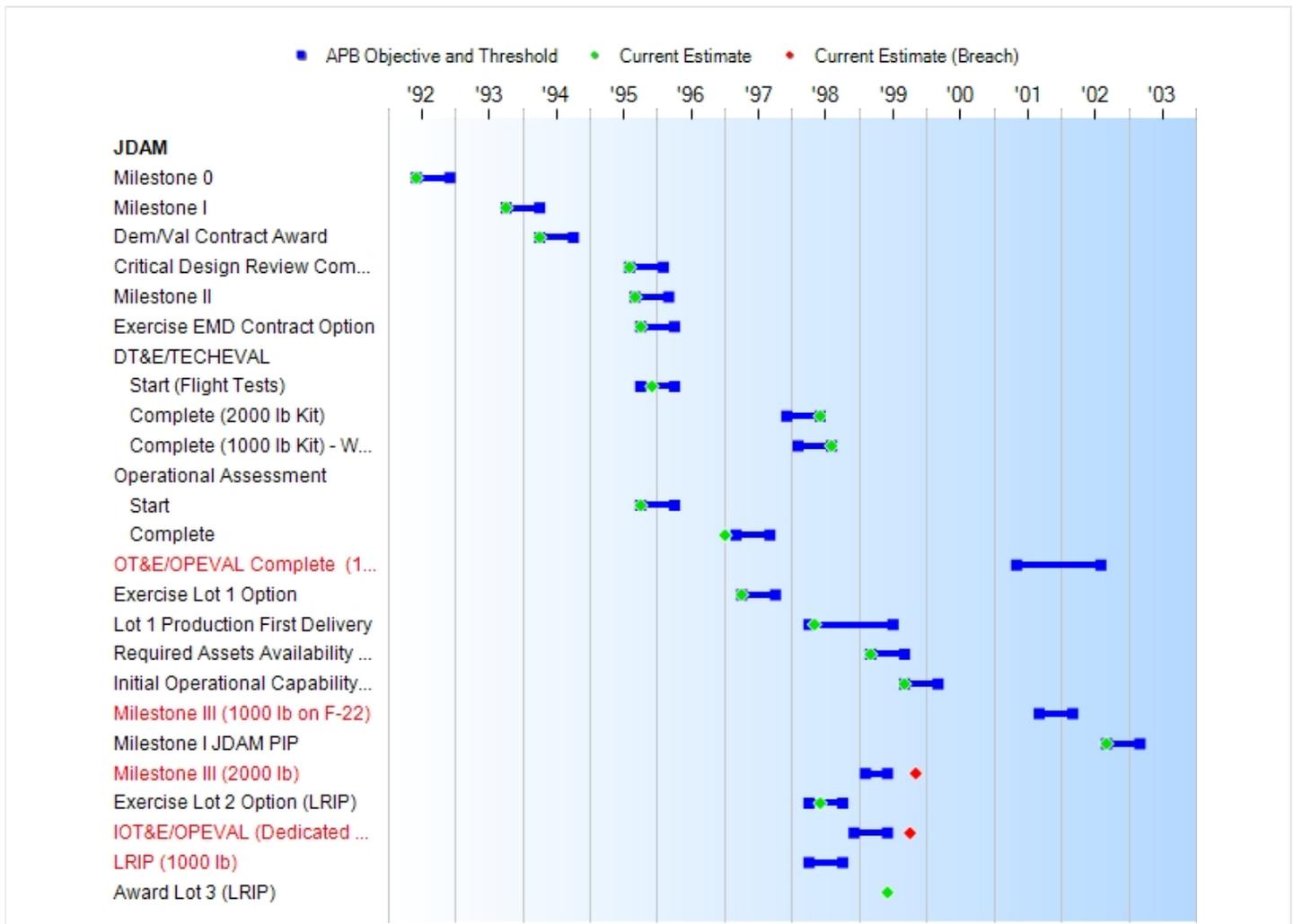
Development program delays with the F-22 program delayed aircraft integration and flight test of the 1000 lb MK-83 variant. We are pursuing restructure options that include delaying the MK-83 operational test until the F-22 is available or accelerating another aircraft integration. Recommendations for USD (A&T) approval will be forwarded in April 1999.

## Threshold Breaches

APB Breaches		
Schedule		<input type="checkbox"/>
Performance		<input type="checkbox"/>
Cost	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
Unit Cost	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Nunn-McCurdy Breaches		
<b>Current UCR Baseline</b>		
	PAUC	None
	APUC	None
<b>Original UCR Baseline</b>		
	PAUC	None
	APUC	None

# Schedule



Milestones	Initial Development APB	Current APB Development 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
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
Operational Assessment				
Start	OCT 1995	OCT 1995	APR 1996	OCT 1995
Complete	MAR 1997	MAR 1997	SEP 1997	JAN 1997
OT&E/OPEVAL Complete (1000 lb Kit/F-22)	MAY 2001	MAY 2001	AUG 2002	<b>TBD</b> <sup>1</sup>
Exercise Lot 1 Option	APR 1997	APR 1997	OCT 1997	APR 1997
Lot 1 Production First Delivery	APR 1998	APR 1998	JUL 1999	MAY 1998
Required Assets Availability (AF)	MAR 1999	MAR 1999	SEP 1999	MAR 1999
Initial Operational Capability (FA-18)	SEP 1999	SEP 1999	MAR 2000	SEP 1999
Milestone III (1000 lb on F-22)	SEP 2001	SEP 2001	MAR 2002	<b>TBD</b> <sup>1</sup>
Milestone I JDAM PIP	SEP 1999	SEP 2002	MAR 2003	SEP 2002
Milestone III (2000 lb)	APR 1998	FEB 1999	JUN 1999	<b>NOV 1999</b> <sup>1</sup>
Exercise Lot 2 Option (LRIP)	APR 1998	APR 1998	OCT 1998	JUN 1998
IOT&E/OPEVAL (Dedicated 2000 lb Kit) Complete	N/A	DEC 1998	JUN 1999	<b>OCT 1999</b> <sup>1</sup>
LRIP (1000 lb)	DEC 1997	APR 1998	OCT 1998	<b>TBD</b> <sup>1</sup>
Award Lot 3 (LRIP)	N/A	N/A	N/A	JUN 1999

**<sup>1</sup>APB Breach****Memo**

1/ The Required Assets Availability Milestone date will be provided once ACC identifies what is required for RAA.

NOTE: LRIP 1 Decision will be based on completion of Group 1 Threshold aircraft for DT&E/IOT&E.

Milestones and dates reflect the JDAM accelerated program.

Lot 1 Decision will be based on sufficient testing on B-52, F/A-18C/D, B-2, B-1, and F-16.

ACRONYMS: AUR - All Up Round

LRIP - Low Rate Initial Production

RAA - Required Assets Availability

Current Estimate Source: SAR 12/25/1998

Initial APB Source - APB dated: 09/20/1995

APB Source - APB dated: 05/11/1998

## Performance

Characteristics	Initial Development APB	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
Weather Capability	Adverse	Adverse	Adverse	Adverse	Adverse
Accuracy (CEP) (Meters)					
GPS Available, Impact Angles > 60 Deg	13 Horizontal Targets	13 Horizontal Targets	13 Horizontal Targets	9.7	13 Horizontal Targets
Inflight Re-targeting Capability (captive carry)	Yes	Yes	Yes	Yes	Yes
Carrier Operability	Yes	Yes	Yes	Yes	Yes
Warhead Compatibility	MK-82, MK-83	MK-82, MK-83	BLU-109, MK-84, MK-83 (F-22)	BLU-109, MK-84, MK-83 (F-22)	BLU-109, MK-84, MK-83 (F-22)
Aircraft Compatibility					
Bomber	B-1B, B-2	B-1B, B-2	B-52H	Yes	B-52H
Fighter Attack	FA-18 C/D (MK-83), F-16 C/D, FA-18 E/F, F-117A, F-15E, P-3, S-3, F-14 A/B/D	FA-18 C/D (MK-83), F-16 C/D, FA-18 E/F, F-117A, F-15E, P-3, S-3, F-14 A/B/D	FA-18C/D, F-22A, AV-8B	Yes	FA-18C/D, F-22A, AV-8B
Mission Reliability	.90	.90	.90	.96	.90
JDAM PIP Accuracy (CEP) (Meters)	3	3	3	TBD	3
JDAM PIP Weather Capability	Adverse	Adverse	Adverse	TBD	Adverse
JDAM PIP Warhead Compatibility	MK-82, MK-83	MK-82, MK-83	BLU-109, MK-84	TBD	BLU-109, MK-84

### Memo

1/ Adverse weather is defined as natural/man-made conditions such as rain, haze, dust, smoke, fog, snow, ice, wind, and/or clouds that preclude the use of current inventory precision guided munitions.

2/ Assumes GPS quality hand-off from aircraft. In addition, the target location error (TLE) portion of the total system error is allocated to be 7.2 meters CEP. If TLE is larger than 7.2 meters CEP, the total system CEP will increase accordingly. For impact angles between 60 degrees and 35 degrees (with GPS available) accuracy degradation up to 19 meters CEP against horizontal targets is an objective.

3/ Inflight programming/targeting will be possible through MIL-STD-1553/1760 data bus interface to the weapon from existing aircraft stores management hardware and modified software.

4/ JDAM will be capable of operation on aircraft carriers to include withstanding 25 aircraft carrier catapult launches and arrested landings, and operating within the carriers' electromagnetic environments.

5/ Physical compatibility with the B-1B, B-2, FA-18C/D, AV-8B and B-52H were successfully demonstrated during

actual fit test in EMD Phase 1. F-22A physical compatibility was also demonstrated using computerized physical fit analysis during this phase. Integration with the F-15E, F-16C/D, F-117, FA-18E/F, F-14D, S-3, and P-3 will be addressed as follow-on integration efforts. The A-6E aircraft was deleted by Chief of Naval Operations (CNO) Letter, Serial Number N880D5/4UG59112, dated 2 February 1994. The F-111F has been deleted (Reference AF/XOR Message 260111Z January 1994).

6/ F-22 compatibility will be limited to internal carriage of the MK-83/BLU-110 configuration. The AV-8B is a funded, non-key performance parameter, threshold aircraft.

7/ Mission reliability commences when the aircrew accepts the loaded aircraft and ends at weapon impact. Mission reliability for the guidance kits does not include reliability for the fuze. Mission reliability, a component of Guidance Kit system reliability, is used because the other component of system reliability (10 year storage reliability) cannot be demonstrated during development and operational testing.

ACRONYMS: CEP - Circular Error Probable

DEG - Degree

GPS - Global Positioning System

MSL - Mean Sea Level

PIP - Product Improvement Program

TBD - To Be Determined

Current Estimate Source: SAR 12/25/1998  
Initial APB Source - APB dated: 09/20/1995  
APB Source - APB dated: 05/11/1998

## Track To Budget

### RDT&E

APPN 3600 PE 0604618F (Air Force)

JDAM

APPN 1319 PE 0604618N (Navy)

JDAM

### Procurement

APPN 1507 BA 05 (Navy) ICN 0550

JOINT DIRECT ATTACK MUNITION (JDAM)

APPN 3011 BA 27 (Air Force) ICN 353620

JOINT DIRECT ATTACK MUNITION (JDAM)

### General Memo

Air Force and Navy RDT&E funding includes the Product Improvement Program (PIP).

Air Force and Navy Procurement funding does not include PIP funding. Navy Procurement funding includes BLU-109 but not Joint Programmable Fuze.

Source: SAR 12/25/1998

## Cost and Funding

### Cost Summary

#### Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	Initial Development APB	Current APB Development Objective/Threshold	Current Estimate	Current Estimate	Initial Development APB	Current APB Development Objective	Current Estimate
RDT&E	490.3	490.3	563.8	567.4 <sup>1</sup>	517.3	517.3	597.2
Procurement	2090.6	2090.6	2195.1	1712.4	2875.0	2875.0	1993.7
Non Recurring	--	--	--	67.1	--	--	77.0
MILCON	--	--	--	--	--	--	--
Acq O&M	139.5	--	--	--	0.0	--	--
<b>Total</b>	<b>2720.4</b>	<b>2580.9</b>	<b>N/A</b>	<b>2279.8</b>	<b>3392.3</b>	<b>3392.3</b>	<b>2590.9</b>

#### <sup>1</sup> APB Breach

NOTE: This baseline does not include Navy funding for the Joint Programmable Fuze (JPF) (\$6.5M TY\$ for RDT&E) (\$72.5M TY\$ for Procurement). Navy Procurement funding includes BLU-109 (2,848 units for \$52.5M TY\$).

Air Force and Navy RDT&E funding includes the Product Improvement Program (PIP). Air Force and Navy Procurement funding does not include PIP funding.

This Acquisition Program Baseline (APB) includes JDAM PEs 0604618F and 0604618N for Research, Development, Test and Evaluation (RDT&E), and 0207583F (3011) and Appropriation 1507N, ICN 0550, for Procurement.

Quantity	Initial APB	Current APB	Current Estimate
RDT&E	630	630	620
Procurement	87496	87496	87496
<b>Total</b>	<b>88126</b>	<b>88126</b>	<b>88116</b>

NOTE: The Low Rate Initial Production (LRIP) quantities approved in the Acquisition Decision Memorandum (ADM) at Milestone II were 425 units for Lot 1. Subsequent FY97 budget cycle decisions approved a buy-to-budget approach for determining annual quantities. With the lower than expected unit costs, LRIP quantities were 937 for Lot 1. A second LRIP lot (Lot 2) was approved in December 1997. Lot 2 quantities were 2,202 tailkits. In December 1998, the OIPT approved a third LRIP lot (Lot 3). Planned Lot 3 quantities are 2,527 tailkits.

## Funding Summary

### Appropriation and Quantity Summary

#### DEC 1998 DAES (TY \$M)

Appropriation	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
RDT&E	394.5	22.9	13.1	27.6	40.8	34.5	38.3	25.5	0.0	597.2
Procurement	85.1	81.4	158.8	268.6	239.4	262.9	270.1	228.0	399.4	1993.7
MILCON	0.0	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	0.0
PB2000 Total	479.6	104.3	171.9	296.2	280.2	297.4	308.4	253.5	399.4	2590.9
PB1999 Total	499.9	115.3	174.6	290.6	248.6	270.8	281.1	282.5	292.3	2455.7
Delta	-20.3	-11.0	-2.7	5.6	31.6	26.6	27.3	-29.0	107.1	135.2

Quantity	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	620
Production	3139	2527	6195	11045	10717	12425	12379	10248	18821	87496
PB2000 Total	3139	2527	6195	11045	10717	12425	12379	10248	18821	88116
PB1999 Total	4005	3046	6346	11297	10973	12671	13000	13000	13158	88116
Delta	-866	-519	-151	-252	-256	-246	-621	-2752	5663	0

## Annual Funding By Appropriation

### Annual Funding TY\$

#### 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1993	--	--	--	--	--	--	23.2
1994	--	--	--	--	--	--	7.9
1995	--	--	--	--	--	--	23.1
1996	--	--	--	--	--	--	26.1
1997	--	--	--	--	--	--	22.8
1998	--	--	--	--	--	--	15.0
1999	--	--	--	--	--	--	11.0
2000	--	--	--	--	--	--	11.7
2001	--	--	--	--	--	--	26.4
2002	--	--	--	--	--	--	39.2
2003	--	--	--	--	--	--	34.5
2004	--	--	--	--	--	--	38.3
2005	--	--	--	--	--	--	25.5
<b>Subtotal</b>	<b>114</b>	--	--	--	--	--	<b>304.7</b>

**Annual Funding BY\$****1319 | RDT&E | Research, Development, Test, and Evaluation, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1993	--	--	--	--	--	--	23.8
1994	--	--	--	--	--	--	7.9
1995	--	--	--	--	--	--	22.8
1996	--	--	--	--	--	--	25.3
1997	--	--	--	--	--	--	21.9
1998	--	--	--	--	--	--	14.3
1999	--	--	--	--	--	--	10.3
2000	--	--	--	--	--	--	10.8
2001	--	--	--	--	--	--	24.1
2002	--	--	--	--	--	--	35.2
2003	--	--	--	--	--	--	30.4
2004	--	--	--	--	--	--	33.0
2005	--	--	--	--	--	--	21.5
<b>Subtotal</b>	<b>114</b>	--	--	--	--	--	<b>281.3</b>

The Joint Programmable Fuze (JPF) funding (\$6.5M TY\$) is not included in this Navy Funding Summary. JPF is not part of the JDAM program but is budgeted in the JDAM Navy RDT&E and Procurement PEs.

## Annual Funding TY\$

## 3600 | RDT&amp;E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1993	--	--	--	--	--	--	21.5
1994	--	--	--	--	--	--	61.9
1995	--	--	--	--	--	--	62.9
1996	--	--	--	--	--	--	76.4
1997	--	--	--	--	--	--	32.7
1998	--	--	--	--	--	--	21.0
1999	--	--	--	--	--	--	11.9
2000	--	--	--	--	--	--	1.4
2001	--	--	--	--	--	--	1.2
2002	--	--	--	--	--	--	1.6
<b>Subtotal</b>	<b>506</b>	--	--	--	--	--	<b>292.5</b>

**Annual Funding BY\$****3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1993	--	--	--	--	--	--	21.9
1994	--	--	--	--	--	--	62.1
1995	--	--	--	--	--	--	62.0
1996	--	--	--	--	--	--	74.0
1997	--	--	--	--	--	--	31.2
1998	--	--	--	--	--	--	19.9
1999	--	--	--	--	--	--	11.2
2000	--	--	--	--	--	--	1.3
2001	--	--	--	--	--	--	1.1
2002	--	--	--	--	--	--	1.4
<b>Subtotal</b>	<b>506</b>	--	--	--	--	--	<b>286.1</b>

## Annual Funding TY\$

## 1507 | Procurement | Weapons Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1998	547	--	--	9.1	--	--	22.9
1999	745	--	--	6.8	--	--	35.4
2000	785	--	--	5.3	--	--	33.2
2001	641	--	--	5.0	--	--	27.8
2002	809	--	--	5.2	--	--	27.8
2003	2622	--	--	6.7	--	--	57.4
2004	2340	--	--	6.3	--	--	60.0
2005	2400	--	--	5.9	--	--	61.2
2006	8786	--	--	6.7	--	--	181.1
2007	5821	--	--	7.3	--	--	124.8
<b>Subtotal</b>	<b>25496</b>	--	--	<b>64.3</b>	--	--	<b>631.6</b>

**Annual Funding BY\$**  
**1507 | Procurement | Weapons Procurement, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1998	547	--	--	8.5	--	--	21.5
1999	745	--	--	6.3	--	--	32.7
2000	785	--	--	4.8	--	--	30.2
2001	641	--	--	4.5	--	--	24.9
2002	809	--	--	4.6	--	--	24.4
2003	2622	--	--	5.8	--	--	49.4
2004	2340	--	--	5.3	--	--	50.6
2005	2400	--	--	4.9	--	--	50.6
2006	8786	--	--	5.4	--	--	146.6
2007	5821	--	--	5.8	--	--	98.9
<b>Subtotal</b>	<b>25496</b>	--	--	<b>55.9</b>	--	--	<b>529.8</b>

The Joint Programmable Fuze (JPF) funding (\$72.5M TY\$) is not included in this Navy Funding Summary. JPF is not part of the JDAM program but is budgeted in the JDAM Navy RDT&E and Procurement PEs. Navy Procurement funding includes BLU-109 (2,848 units for \$52.5M TY\$).

**Cost Quantity Information****1507 | Procurement | Weapons Procurement, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M</b>
1998	547	9.3
1999	745	13.6
2000	785	14.6
2001	641	12.2
2002	809	13.6
2003	2622	42.8
2004	2340	37.3
2005	2400	37.8
2006	8786	136.6
2007	5821	90.7
<b>Subtotal</b>	<b>25496</b>	<b>408.5</b>

**Annual Funding TY\$**  
**3011 | Procurement | Procurement of Ammunition, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway TY \$M</b>	<b>Non End Item Recurring Flyaway TY \$M</b>	<b>Non Recurring Flyaway TY \$M</b>	<b>Total Flyaway TY \$M</b>	<b>Total Support TY \$M</b>	<b>Total Program TY \$M</b>
1997	937	--	--	0.8	--	--	23.0
1998	1655	--	--	0.9	--	--	39.2
1999	1782	--	--	0.3	--	--	46.0
2000	5410	--	--	1.1	--	--	125.6
2001	10404	--	--	2.1	--	--	240.8
2002	9908	--	--	1.8	--	--	211.6
2003	9803	--	--	1.7	--	--	205.5
2004	10039	--	--	1.8	--	--	210.1
2005	7848	--	--	1.5	--	--	166.8
2006	4214	--	--	0.7	--	--	93.5
<b>Subtotal</b>	<b>62000</b>	--	--	<b>12.7</b>	--	--	<b>1362.1</b>

**Annual Funding BY\$**  
**3011 | Procurement | Procurement of Ammunition, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1997	937	--	--	0.8	--	--	21.8
1998	1655	--	--	0.8	--	--	36.7
1999	1782	--	--	0.3	--	--	42.5
2000	5410	--	--	1.0	--	--	114.1
2001	10404	--	--	1.9	--	--	215.0
2002	9908	--	--	1.6	--	--	185.6
2003	9803	--	--	1.5	--	--	176.7
2004	10039	--	--	1.5	--	--	177.0
2005	7848	--	--	1.2	--	--	137.6
2006	4214	--	--	0.6	--	--	75.6
<b>Subtotal</b>	<b>62000</b>	--	--	<b>11.2</b>	--	--	<b>1182.6</b>

Note: FY98 procurement funding of \$39.2M includes \$0.3 SEEK EAGLE funds that are not included in the APB cost.

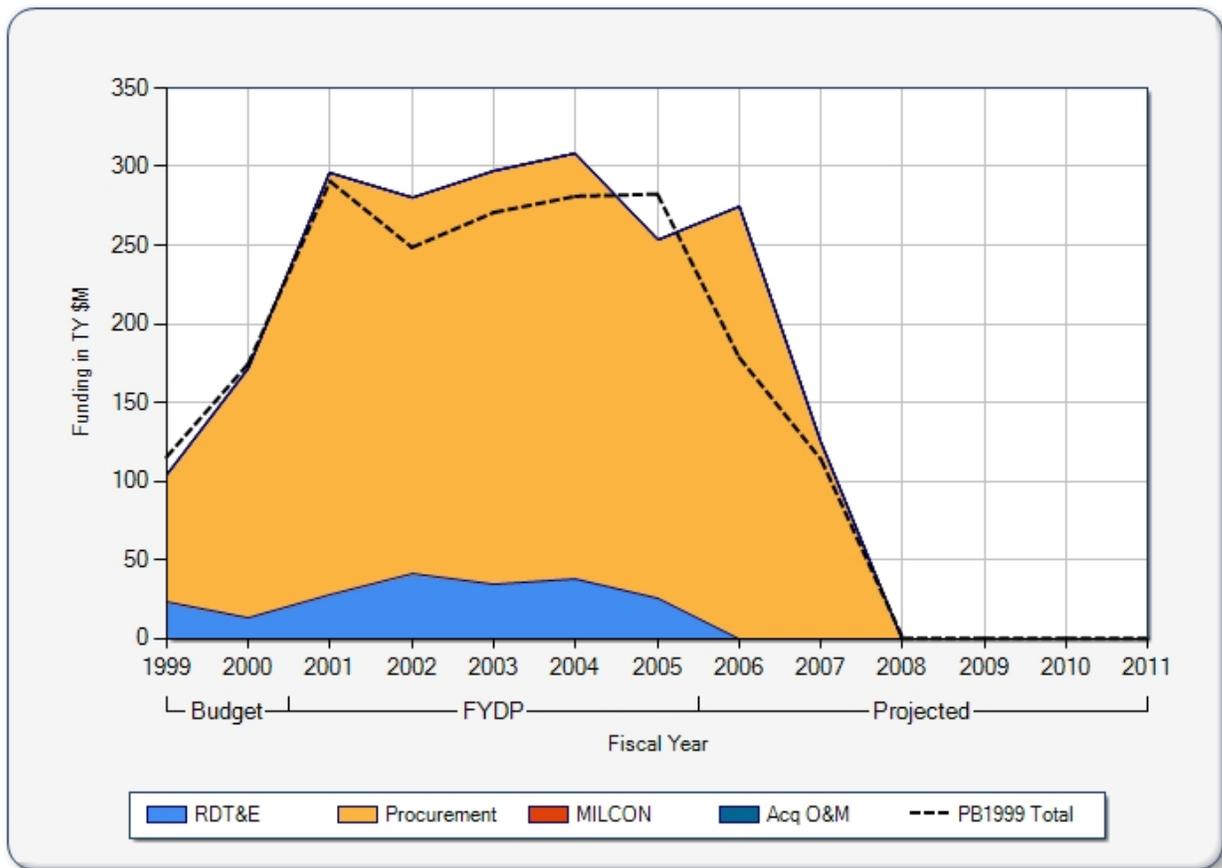
**Cost Quantity Information****3011 | Procurement | Procurement of Ammunition, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M</b>
1997	937	15.7
1998	1655	28.9
1999	1782	32.4
2000	5410	100.7
2001	10404	197.2
2002	9908	166.4
2003	9803	159.7
2004	10039	159.9
2005	7848	123.4
2006	4214	65.5
<b>Subtotal</b>	<b>62000</b>	<b>1049.8</b>

Current Estimate Source: SAR 12/25/1998

### Acquisition Funding Projection

Acquisition Funding Projection



### Low Rate Initial Production

None

## **Foreign Military Sales**

The JDAM program office received a Letter of Request (LOR) on 23 November 1998 to provide Israel JDAM tailkits as Foreign Military Sales (FMS). The Israeli Air Force (IAF) issued the LOR for a quantity of 700 JDAM tailkits and would like to proceed in order to tie in with our Lot 3 award projected for June of this year. The JDAM Milestone II Acquisition Decision Memorandum (ADM) encourages early foreign sales. The JDAM FMS team has been working closely with SAF/IAM to get the Letter of Offer and Acceptance (LOA) to the IAF by 30 April 1999, subject to the approval of the OIPT leader.

## **Nuclear Cost**

None.

**Unit Cost****Unit Cost Report**

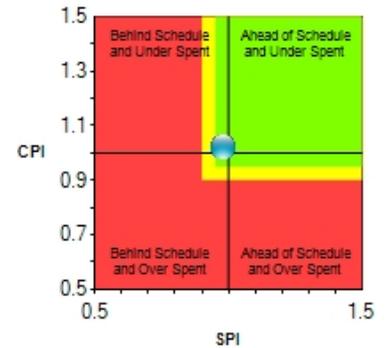
<b>Unit Cost</b>	<b>BY1995 \$M</b>		
	<b>Current UCR Baseline (MAY 1998 APB)</b>	<b>Current Estimate (DEC 1998 SAR)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	2580.9	2279.8	
Quantity	88126	88116	
Unit Cost	0.029	0.026	-10.34
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	2090.6	1712.4	
Quantity	87496	87496	
Unit Cost	0.024	0.020	-16.67

<b>Unit Cost</b>	<b>BY1995 \$M</b>		
	<b>Original UCR Baseline (SEP 1995 APB)</b>	<b>Current Estimate (DEC 1998 SAR)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	2720.4	2279.8	
Quantity	88126	88116	
Unit Cost	0.031	0.026	-16.13
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	2090.6	1712.4	
Quantity	87496	87496	
Unit Cost	0.024	0.020	-16.67

### Contracts

#### Joint Direct Attack Mun - Boeing

Program Name JDAM  
 Program Phase Development  
 Contract Number F08626-94-C-0003/2  
 Contract Type CPAF  
 Change Order Number  
 Contractor Division  
 Contractor Location St Charles , MO 63301



#### Contract Deliveries

Total Quantity	Plan Quantity	Delivered Quantity	
620	572	559	
Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
96.7	-17.6	104.0	

#### Contract Schedule Data

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
10/11/1995	10/1/1995			7/1/1999	7/1/1999

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)
10/22/1998	CPR		84.0	82.9

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)
81.4	2.9	79.1	96.7

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)
96.7	96.7		

#### Contract Variance Data (\$M)

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
+1.5	+1.8%	-1.1	-1.3%

#### Over Target Baseline

Auth. Date:	Cost Adjustment	Schedule Adjustment
8/1/1997	-0.1	4.2

**Contract Comments**

None

None

**Joint Direct Attack Mun - Boeing**

Program Name JDAM  
 Program Phase Production  
 Contract Number F08626-94-C-0003/3  
 Contract Type FFP  
 Change Order Number  
 Contractor Division  
 Contractor Location St Charles , MO 63301

**Contract Deliveries**

Total Quantity	Plan Quantity	Delivered Quantity
3139	228	236

Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
		62.0	

**Contract Schedule Data**

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
4/30/1997	4/1/1997			7/1/1999	7/1/1999

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)

**Contract Variance Data (\$M)**

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
+		+	+

**Contract Comments**

None

None



**Deliveries and Expenditures**

<b>Deliveries To Date</b>	<b>Plan</b>	<b>Actual</b>	<b>Total Quantity</b>	<b>Percent Delivered</b>
Development	583	559	620	90.16%
Production	296	442	87496	0.51%
<b>Total Program Quantities Delivered</b>	<b>879</b>	<b>1001</b>	<b>88116</b>	<b>1.14%</b>

**Expenditures and Appropriations (TY \$M)**

Total Acquisition Cost	2590.9	Years Appropriated	7
Expenditures To Date	391.9	Percent Years Appropriated	46.67%
Percent Expended	15.13%	Appropriated to Date	583.9
Total Funding Years	15	Percent Appropriated	22.54%

## Operating and Support Cost

Costs	BY1995 \$M			TY \$M			
	Initial APB	Current APB Objective/Threshold	Current Estimate	Initial APB	Current APB Objective	Current Estimate	
Total Acquisition	2720.4	2580.9	N/A	2279.8	3392.3	3392.3	2590.9
O&S	--	--	--	--	--	--	--
Total Life Cycle	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Current Estimate Total Acquisition Cost Source: SAR 12/25/1998

Current Estimate O&S Cost Source: SAR 12/25/1998

Initial APB Source - APB dated: 09/20/1995

Current APB Source - APB dated: 05/11/1998

## Assessments

No DAES Assessments are available

## LCS

No LCS Data exists for JDAM

-



# Defense Acquisition Management Information Retrieval (DAMIR)



## Current Status Report (DAES & Web Services)

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



### **JDAM**

As of December 25, 1999

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## Program Information

### Designation And Nomenclature (Popular Name)

Joint Direct Attack Munition (JDAM)

### DoD Component

Air Force

### Joint Participants

USAF; Navy

### General Information

ACAT	IC	Status	Active
FCB	Force Application	PNO	503
DAES Status	Full	DAES Group	B
SAR Status	Full	Lead OSD Organization	PSA/AW
Commodity Type	Munitions	Program Type	MDAP

## Responsible Office

### Responsible Office

GM-15 OSCAR L. SOLER AAC/YU, Bldg 11 Joint Direct Attack Munition 102 West D Ave Suite 300 Eglin AFB, FL 32542-6807 <a href="mailto:solero@eglin.af.mil">solero@eglin.af.mil</a>	<b>Phone</b>	904-882-3526
	<b>Fax</b>	--
	<b>DSN Phone</b>	872-3526
	<b>DSN Fax</b>	--
	<b>Date Assigned</b>	January 2, 1996

## References

Approval Date	Name	Phase	Event	Authority	Base Year	Original	Change
10/07/2002	APB Change 1	Production		DAE	1995	No	Yes
03/23/2001	Prod APB	Production	M/S III	DAE	1995	No	No
06/01/2000	APB Change 4	Development		DAE	1995	No	Yes
12/30/1999	Proposed Baseline	Development			1995	No	No
02/22/1999	APB Change 3	Development		DAE	1995	No	Yes
05/11/1998	APB Change 2	Development		DAE	1995	No	Yes
12/19/1997	APB Change 1	Development		DAE	1995	No	Yes
09/20/1995	Dev APB	Development	M/S II	DAE	1995	Yes	No
07/11/1995	Concept Baseline	Concept	M/S I	DAE	1993	No	No

## Mission and Description

Operation DESERT STORM confirmed the need for, and Operation ALLIED FORCE confirmed the utility of a more accurate weapon delivery capability in adverse weather conditions from medium/high altitudes. Failure to satisfy this requirement will allow the enemy to continue to take advantage of the sanctuary of weather and/or prevent United States air power from prosecuting a conflict on its own terms. The JDAM is a joint Air Force and Navy munitions program to correct these shortfalls, with the Air Force as the Executive Service. JDAM will upgrade the existing inventory of general purpose bombs (MK-84, BLU-109, and MK-83/BLU-110) by integrating them with a tail guidance kit consisting of a Global Positioning System aided Inertial Navigation System (INS/GPS). JDAM will provide an accurate (13 meters) adverse weather capability. The primary platforms for the JDAM development are the B-1B, B-2A, B-52H, FA-18C/D and the F-22A (for the MK-83/BLU-110 only). The services will certify other aircraft (e.g. F-16C/D, F-14D, F-15E, FA-18E/F, S-3, P-3, AV-8B, F-117) to deliver JDAM when funding becomes available. The JDAM Product Improvement Program (PIP) will investigate and develop improvement options for the JDAM system.

Picture Source: SAR 12/25/1999

Text Source: SAR 12/25/1999

## Executive Summary

On February 22, 1999, we received USD(A&AT) approval for adding a third Low Rate Initial Production (LRIP) lot for 2,527 units of MK-84 variant JDAMs, adjusting the IOT&E/OPEVAL objective date from December 1998 to October 1999 and adjusting the Milestone III objective date from February 1999 to November 1999.

Lot 1 Acceptance Test (LAT) was completed on the B-1B in March 1999.

On April 2, 1999, JDAM production schedule was accelerated from 200 to 300 units per month. Lot 2 was later accelerated to 450 per month. Lot 2A was exercised to meet the urgent warfighter requirements for Operation Allied Force. This action was in response to the Vice Chairman of the Joint Chiefs of Staff and per direction of the AFPEO for Weapons.

Lot 1 production delivery of 937 units was completed on April 15, 1999 and Lot 2 delivery of 2,202 units was completed on December 16, 1999.

The minutes from the June 10, 1999 JDAM Overarching Integrated Product Team (OIPT) approved award of Lot 4 as a fourth LRIP which would exceed the 10% rule and require notification to Congress.

On June 22, 1999, the AFPEO/WP provided authorization to procure additional quantities to fill the production gap created from acceleration of Lots 1, 2 and 2A. Lot 3, consisting of 1,308 units, was awarded on June 24, 1999.

On June 24, 1999, the Secretary of Defense delegated to the USD(A&T) authority and responsibility for JDAM Contract Terms and Conditions. The USD(A&T) then authorized the continuation of the JDAM Federal Acquisition Regulation/Defense Federal Acquisition Regulation Supplement (FAR/DFARS) Acquisition Reform Waivers.

The Milestone III JDAM Cost Analysis Requirements Description (CARD) was provided to the Air Force and Office of the Secretary of Defense (OSD) Cost Analysis Improvement Group (CAIG) on June 24, 1999 for their Independent Cost Estimate.

The JDAM Joint System Program Office was recognized for its contributions at the Operation Allied Force Appreciation Day held at Andrews Air Force Base on September 15, 1999.

Lot 3A, consisting of 861 units, was awarded on November 9, 1999. This lot was awarded to maintain an efficient production rate until the Lot 4 contract award.

On December 1, 1999, both the United States House of Representatives and the Senate were informed that JDAM would exceed the Congressional notification threshold for LRIP when it procured the fourth LRIP Lot.

Development Test of F-16C/D for MK-84 and BLU-109 JDAM variants was completed on December 21, 1999.

**Threshold Breaches****APB Breaches**

<b>Schedule</b>		<input type="checkbox"/>
<b>Performance</b>		<input type="checkbox"/>
<b>Cost</b>	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
<b>Unit Cost</b>	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

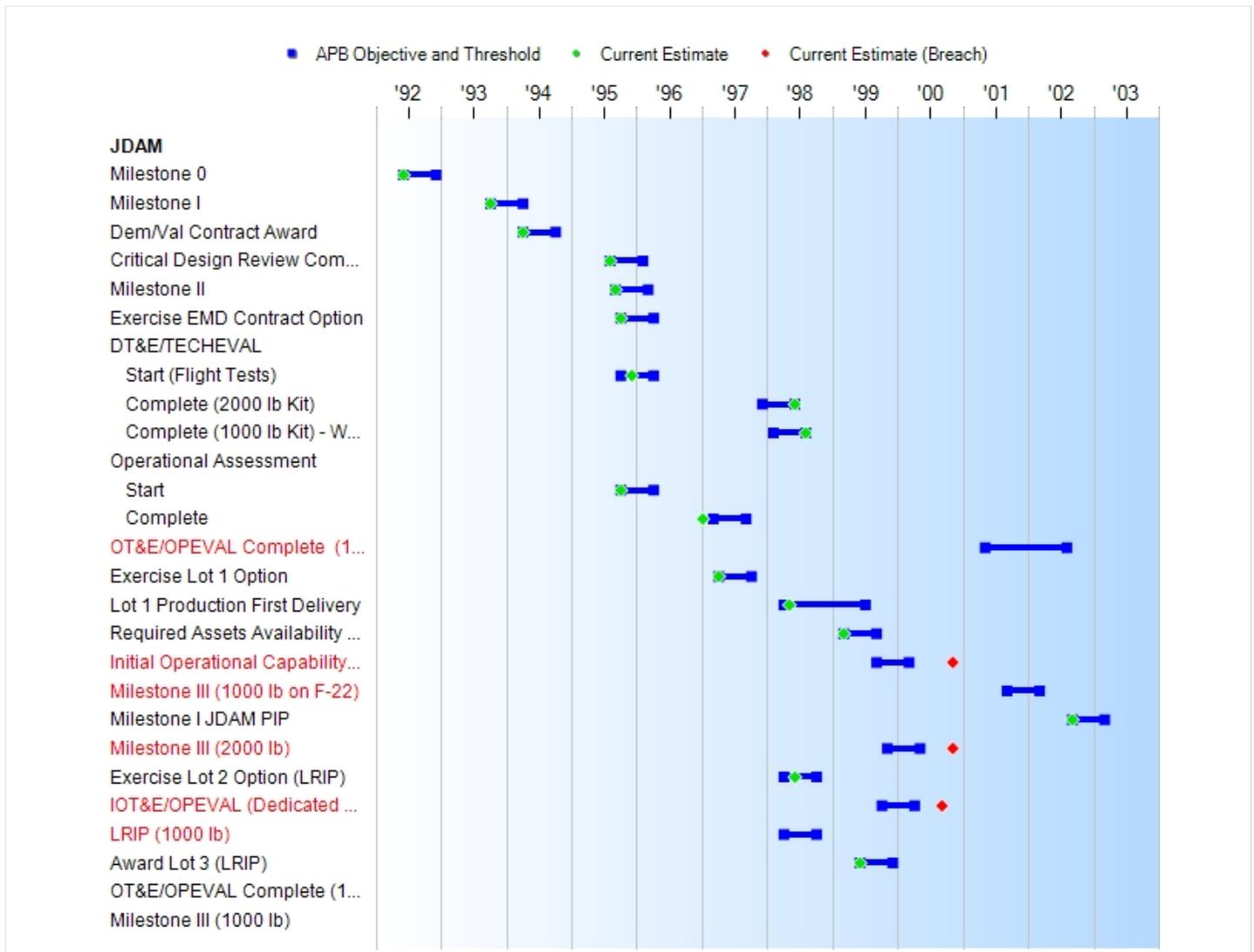
**Nunn-McCurdy Breaches****Current UCR Baseline**

PAUC	None
APUC	None

**Original UCR Baseline**

PAUC	None
APUC	None

### Schedule



<b>Milestones</b>	<b>Initial Development APB</b>	<b>Current APB Development Objective/Threshold</b>		<b>Current Estimate</b>
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
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
Operational Assessment				
Start	OCT 1995	OCT 1995	APR 1996	OCT 1995
Complete	MAR 1997	MAR 1997	SEP 1997	JAN 1997
OT&E/OPEVAL Complete (1000 lb Kit/F-22)	MAY 2001	MAY 2001	AUG 2002	<b>TBD<sup>1</sup></b>
Exercise Lot 1 Option	APR 1997	APR 1997	OCT 1997	APR 1997
Lot 1 Production First Delivery	APR 1998	APR 1998	JUL 1999	MAY 1998
Required Assets Availability (AF)	MAR 1999	MAR 1999	SEP 1999	MAR 1999
Initial Operational Capability (FA-18)	SEP 1999	SEP 1999	MAR 2000	<b>NOV 2000<sup>1</sup></b>
Milestone III (1000 lb on F-22)	SEP 2001	SEP 2001	MAR 2002	<b>TBD<sup>1</sup></b>
Milestone I JDAM PIP	SEP 1999	SEP 2002	MAR 2003	SEP 2002
Milestone III (2000 lb)	APR 1998	NOV 1999	MAY 2000	<b>NOV 2000<sup>1</sup></b>
Exercise Lot 2 Option (LRIP)	APR 1998	APR 1998	OCT 1998	JUN 1998
IOT&E/OPEVAL (Dedicated 2000 lb Kit) Complete	N/A	OCT 1999	APR 2000	<b>SEP 2000<sup>1</sup></b>
LRIP (1000 lb)	DEC 1997	APR 1998	OCT 1998	<b>TBD<sup>1</sup></b>
Award Lot 3 (LRIP)	N/A	JUN 1999	DEC 1999	JUN 1999
OT&E/OPEVAL Complete (1000 lb Kit)	N/A	N/A	N/A	TBD
Milestone III (1000 lb)	N/A	N/A	N/A	TBD

**<sup>1</sup>APB Breach****Memo**

Notes:

(1) The Required Assets Availability (RAA) Milestone date will be provided once ACC identifies what is required for RAA.

(2) LRIP 1 Decision was based on completion of Group 1 Threshold aircraft for DT&E/IOT&E.

Milestones and dates reflect the JDAM accelerated program.

Lot 1 Decision was based on sufficient testing on B-52H, F/A-18C/D, B-2A, B-1B, and F-16C/D.

ACRONYMS: AUR - All Up Round

LRIP - Low Rate Initial Production

RAA - Required Assets Availability

Current Estimate Source: SAR 12/25/1999  
Initial APB Source - APB dated: 09/20/1995  
APB Source - APB dated: 02/22/1999

## Performance

Characteristics	Initial Development APB	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
Weather Capability	Adverse	Adverse	Adverse	Adverse	Adverse
Accuracy (CEP) (Meters)					
GPS Available, Impact Angles > 60 Deg	13 Horizontal Targets	13 Horizontal Targets	13 Horizontal Targets	9.5	13 Horizontal Targets
Inflight Re-targeting Capability (captive carry)	Yes	Yes	Yes	Yes	Yes
Carrier Operability	Yes	Yes	Yes	Yes	Yes
Warhead Compatibility	MK-82, MK-83	MK-82, MK-83	BLU-109, MK-84, MK-83 (F-22)	BLU-109, MK-84, MK-83 (F-22)	BLU-109, MK-84, MK-83 (F-22)
Aircraft Compatibility					
Bomber	B-1B, B-2	B-1B, B-2	B-52H	Yes	B-52H
Fighter Attack	FA-18 C/D (MK-83), F-16 C/D, FA-18 E/F, F-117A, F-15E, P-3, S-3, F-14 A/B/D	FA-18 C/D (MK-83), F-16 C/D, FA-18 E/F, F-117A, F-15E, P-3, S-3, F-14 A/B/D	FA-18C/D, F-22A, AV-8B	Yes	FA-18C/D, F-22A, AV-8B
Mission Reliability	.90	.90	.90	.913	.90
JDAM PIP Accuracy (CEP) (Meters)	3	3	3	TBD	3
JDAM PIP Weather Capability	Adverse	Adverse	Adverse	TBD	Adverse
JDAM PIP Warhead Compatibility	MK-82, MK-83	MK-82, MK-83	BLU-109, MK-84	TBD	BLU-109, MK-84

### Memo

#### Notes:

(1) Adverse weather is defined as natural/man-made conditions such as rain, haze, dust, smoke, fog, snow, ice, wind, and/or clouds that preclude the use of current inventory precision guided munitions.

(2) Assumes GPS quality hand-off from aircraft. In addition, the target location error (TLE) portion of the total system error is allocated to be 7.2 meters CEP. If TLE is larger than 7.2 meters CEP, the total system CEP will increase accordingly. For impact angles between 60 degrees and 35 degrees (with GPS available) accuracy degradation up to 19 meters CEP against horizontal targets is an objective.

(3) Inflight programming/targeting will be possible through MIL-STD-1553/1760 data bus interface to the weapon from existing aircraft stores management hardware and modified software.

(4) JDAM will be capable of operation on aircraft carriers to include withstanding 25 aircraft carrier catapult launches and arrested landings, and operating within the carriers' electromagnetic environments.

(5) Physical compatibility with the B-1B, B-2, FA-18C/D, AV-8B and B-52H were successfully demonstrated during actual fit test in EMD Phase 1. F-22A physical compatibility was also demonstrated using computerized physical fit analysis during this phase. Integration with the F-15E, F-16C/D, F-117, FA-18E/F, F-14D, S-3, and P-3 will be addressed as follow-on integration efforts. The A-6E aircraft was deleted by Chief of Naval Operations (CNO) Letter, Serial Number N880D5/4UG59112, dated 2 February 1994. The F-111F has been deleted (Reference AF/XOR Message 260111Z January 1994).

(6) F-22 compatibility will be limited to internal carriage of the MK-83/BLU-110 configuration. The AV-8B is a funded, non-key performance parameter, threshold aircraft.

(7) Mission reliability commences when the aircrew accepts the loaded aircraft and ends at weapon impact. Mission reliability for the guidance kits does not include reliability for the fuze. Mission reliability, a component of Guidance Kit system reliability, is used because the other component of system reliability (10 year storage reliability) cannot be demonstrated during development and operational testing.

ACRONYMS: CEP - Circular Error Probable

DEG - Degree

GPS - Global Positioning System

MSL - Mean Sea Level

PIP - Product Improvement Program

TBD - To Be Determined

Current Estimate Source: SAR 12/25/1999

Initial APB Source - APB dated: 09/20/1995

APB Source - APB dated: 02/22/1999

## Track To Budget

### RDT&E

APPN 3600 PE 0604618F (Air Force)

JDAM

APPN 1319 PE 0604618N (Navy)

JDAM

### Procurement

APPN 1507 BA 05 (Navy) ICN 0550

JOINT DIRECT ATTACK MUNITION (JDAM)

APPN 3011 BA 27 (Air Force) ICN 353620

JOINT DIRECT ATTACK MUNITION (JDAM)

### General Memo

Air Force and Navy RDT&E funding includes the Product Improvement Program (PIP).

Air Force and Navy Procurement funding does not include PIP funding. Navy Procurement funding includes BLU-109 warheads but not Joint Programmable Fuze (JPF).

Source: SAR 12/25/1999

## Cost and Funding

### Cost Summary

#### Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M			TY \$M		
	Initial Development APB	Current APB Development Objective/Threshold	Current Estimate	Initial Development APB	Current APB Development Objective	Current Estimate
RDT&E	490.3	490.3	563.8	517.3	517.3	589.2
Procurement	2090.6	2090.6	2195.1	2875.0	2875.0	2037.2
Non Recurring	--	--	--	--	--	84.9
MILCON	--	--	--	--	--	--
Acq O&M	139.5	139.5	153.4	0.0	0.0	--
Total	2720.4	2720.4	N/A	3392.3	3392.3	2626.4

NOTE: This baseline does not include Navy funding for the Joint Programmable Fuze (JPF) (\$5.7M TY\$ for RDT&E) (\$51.6M TY\$ for Procurement). Navy Procurement funding includes BLU-109 (2,609 units for \$35.2M TY\$).

Air Force and Navy RDT&E funding includes the Product Improvement Program (PIP). Air Force and Navy Procurement funding does not include PIP funding.

The RDT&E cost increase is due to Navy funding for the Product Improvement Program (PIP). The decision to fully fund the PIP program was made during the PB00 budget cycle.

Tooling & Test Equipment and System Engineering/Program Management have been zeroed in the current estimate due to the structure of the JDAM contract. Contractually, JDAM has CLINs for hardware, containers and warranty. Tooling & Test Equipment and System Engineering/Program Management costs are included as part of the hardware costs.

This Acquisition Program Baseline (APB) includes JDAM PEs 0604618F and 0604618N for Research, Development, Test and Evaluation (RDT&E), and 0207583F (3011) and Appropriation 1507N, ICN 0550, for Procurement.

Quantity	Initial APB	Current APB	Current Estimate
RDT&E	630	630	620
Procurement	87496	87496	87496
Total	88126	88126	88116

NOTE: The Low Rate Initial Production (LRIP) quantities approved in the Acquisition Decision Memorandum (ADM) at Milestone II were 425 units for Lot 1. Subsequent FY97 budget cycle decisions approved a buy-to-budget approach for determining annual quantities. With the lower than expected unit costs, LRIP quantities were 937 for Lot 1. A second LRIP lot (Lot 2) was approved in December 1997 for 2,202 tailkits. In December 1998, the OIPT approved LRIP Lot 2A. Lot 2A quantities were 2,527 tailkits. On June 22, 1999, the AFPEO/WP provided authorization to procure additional quantities to fill the production gap created from acceleration of Lots 1, 2 and 2A. Lot 3 was awarded on June 24, 1999 for 1,308 tailkits and Lot 3A was awarded on November 9, 1999 for 861 tailkits. Planned Lot 4 quantities are 8,163 tailkits.

## Funding Summary

### Appropriation and Quantity Summary

#### DEC 1999 DAES (TY \$M)

Appropriation	Prior	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
RDT&E	415.5	18.0	27.4	40.4	33.0	34.2	20.7	0.0	589.2
Procurement	198.4	266.8	242.8	209.0	241.0	250.9	252.2	376.1	2037.2
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
PB2001 Total	613.9	284.8	270.2	249.4	274.0	285.1	272.9	376.1	2626.4
PB2000 Total	583.9	171.9	296.2	280.2	297.4	308.4	253.5	399.4	2590.9
Delta	30.0	112.9	-26.0	-30.8	-23.4	-23.3	19.4	-23.3	35.5

Quantity	Prior	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
Development	0	0	0	0	0	0	0	0	620
Production	7835	10022	9770	9276	10951	11428	11392	16822	87496
PB2001 Total	7835	10022	9770	9276	10951	11428	11392	16822	88116
PB2000 Total	5666	6195	11045	10717	12425	12379	10248	18821	88116
Delta	2169	3827	-1275	-1441	-1474	-951	1144	-1999	0

## Annual Funding By Appropriation

### Annual Funding TY\$

#### 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1993	--	--	--	--	--	--	23.2
1994	--	--	--	--	--	--	7.9
1995	--	--	--	--	--	--	23.1
1996	--	--	--	--	--	--	26.1
1997	--	--	--	--	--	--	22.8
1998	--	--	--	--	--	--	13.2
1999	--	--	--	--	--	--	11.2
2000	--	--	--	--	--	--	11.7
2001	--	--	--	--	--	--	26.2
2002	--	--	--	--	--	--	38.8
2003	--	--	--	--	--	--	33.0
2004	--	--	--	--	--	--	34.2
2005	--	--	--	--	--	--	20.7
<b>Subtotal</b>	<b>114</b>	--	--	--	--	--	<b>292.1</b>

**Annual Funding BY\$****1319 | RDT&E | Research, Development, Test, and Evaluation, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1993	--	--	--	--	--	--	23.8
1994	--	--	--	--	--	--	7.9
1995	--	--	--	--	--	--	22.8
1996	--	--	--	--	--	--	25.3
1997	--	--	--	--	--	--	21.9
1998	--	--	--	--	--	--	12.6
1999	--	--	--	--	--	--	10.6
2000	--	--	--	--	--	--	10.9
2001	--	--	--	--	--	--	24.0
2002	--	--	--	--	--	--	35.0
2003	--	--	--	--	--	--	29.3
2004	--	--	--	--	--	--	29.8
2005	--	--	--	--	--	--	17.7
<b>Subtotal</b>	<b>114</b>	--	--	--	--	--	<b>271.6</b>

The Joint Programmable Fuze (JPF) funding (\$5.7M TY\$) is not included in this Navy Funding Summary. JPF is not part of the JDAM program but is budgeted in the JDAM Navy RDT&E and Procurement PEs.

## Annual Funding TY\$

## 3600 | RDT&amp;E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1993	--	--	--	--	--	--	21.5
1994	--	--	--	--	--	--	61.9
1995	--	--	--	--	--	--	62.9
1996	--	--	--	--	--	--	76.4
1997	--	--	--	--	--	--	32.7
1998	--	--	--	--	--	--	21.1
1999	--	--	--	--	--	--	11.5
2000	--	--	--	--	--	--	6.3
2001	--	--	--	--	--	--	1.2
2002	--	--	--	--	--	--	1.6
<b>Subtotal</b>	<b>506</b>	--	--	--	--	--	<b>297.1</b>

**Annual Funding BY\$****3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1993	--	--	--	--	--	--	21.9
1994	--	--	--	--	--	--	62.1
1995	--	--	--	--	--	--	62.0
1996	--	--	--	--	--	--	74.0
1997	--	--	--	--	--	--	31.2
1998	--	--	--	--	--	--	20.0
1999	--	--	--	--	--	--	10.8
2000	--	--	--	--	--	--	5.9
2001	--	--	--	--	--	--	1.1
2002	--	--	--	--	--	--	1.4
<b>Subtotal</b>	<b>506</b>	--	--	--	--	--	<b>290.4</b>

## Annual Funding TY\$

## 1507 | Procurement | Weapons Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1998	547	--	--	7.7	--	--	21.0
1999	745	--	--	7.6	--	--	35.7
2000	1864	--	--	8.8	--	--	77.1
2001	672	--	--	6.3	--	--	22.9
2002	782	--	--	6.4	--	--	23.0
2003	2331	--	--	6.9	--	--	54.6
2004	2628	--	--	6.8	--	--	60.0
2005	2674	--	--	6.6	--	--	61.2
2006	5955	--	--	6.7	--	--	129.4
2007	7298	--	--	8.5	--	--	161.8
<b>Subtotal</b>	<b>25496</b>	--	--	<b>72.3</b>	--	--	<b>646.7</b>

**Annual Funding BY\$**  
**1507 | Procurement | Weapons Procurement, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1998	547	--	--	7.2	--	--	19.7
1999	745	--	--	7.1	--	--	33.2
2000	1864	--	--	8.1	--	--	70.6
2001	672	--	--	5.7	--	--	20.6
2002	782	--	--	5.7	--	--	20.4
2003	2331	--	--	6.0	--	--	47.4
2004	2628	--	--	5.8	--	--	51.1
2005	2674	--	--	5.5	--	--	51.1
2006	5955	--	--	5.5	--	--	105.9
2007	7298	--	--	6.8	--	--	129.9
<b>Subtotal</b>	<b>25496</b>	--	--	<b>63.4</b>	--	--	<b>549.9</b>

The Joint Programmable Fuze (JPF) funding (\$51.6M TY\$) is not included in this Navy Funding Summary. JPF is not part of the JDAM program but is budgeted in the JDAM Navy RDT&E and Procurement PEs. Navy Procurement funding includes BLU-109 (2,609 units for \$35.2M TY\$). Navy Procurement funding is actually provided under Appropriation 1508 - Procurement of Ammunition, Navy/Marine Corps, but software limitations preclude the SAR from correctly reflecting this fact.

**Cost Quantity Information****1507 | Procurement | Weapons Procurement, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M</b>
1998	547	9.3
1999	745	14.0
2000	1864	37.0
2001	672	13.4
2002	782	13.9
2003	2331	40.5
2004	2628	44.5
2005	2674	44.8
2006	5955	99.0
2007	7298	121.3
<b>Subtotal</b>	<b>25496</b>	<b>437.7</b>

## Annual Funding TY\$

## 3011 | Procurement | Procurement of Ammunition, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1997	937	--	--	1.0	--	--	23.0
1998	1828	--	--	0.9	--	--	39.2
1999	3778	--	--	0.6	--	--	79.5
2000	8158	--	--	1.5	--	--	189.7
2001	9098	--	--	1.9	--	--	219.9
2002	8494	--	--	1.5	--	--	186.0
2003	8620	--	--	1.5	--	--	186.4
2004	8800	--	--	1.5	--	--	190.9
2005	8718	--	--	1.6	--	--	191.0
2006	3569	--	--	0.6	--	--	84.9
<b>Subtotal</b>	<b>62000</b>	--	--	<b>12.6</b>	--	--	<b>1390.5</b>

**Annual Funding BY\$**  
**3011 | Procurement | Procurement of Ammunition, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1997	937	--	--	0.9	--	--	21.8
1998	1828	--	--	0.8	--	--	36.8
1999	3778	--	--	0.6	--	--	73.7
2000	8158	--	--	1.4	--	--	173.6
2001	9098	--	--	1.7	--	--	197.9
2002	8494	--	--	1.3	--	--	164.6
2003	8620	--	--	1.3	--	--	161.9
2004	8800	--	--	1.3	--	--	162.6
2005	8718	--	--	1.3	--	--	159.4
2006	3569	--	--	0.5	--	--	69.5
<b>Subtotal</b>	<b>62000</b>	--	--	<b>11.1</b>	--	--	<b>1221.8</b>

Note: FY98 procurement funding of \$39.2M includes \$0.3 SEEK EAGLE funds that are not included in the APB cost.

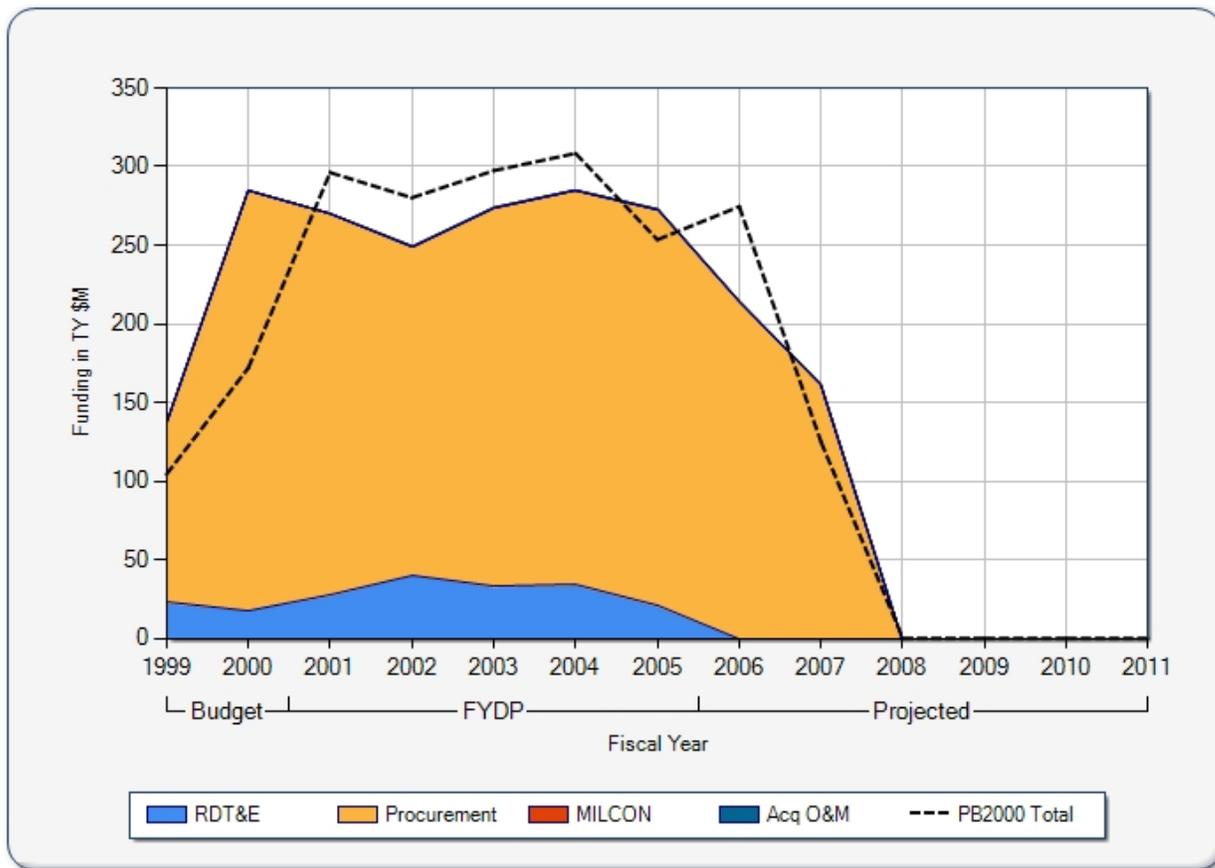
**Cost Quantity Information****3011 | Procurement | Procurement of Ammunition, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M</b>
1997	937	15.7
1998	1828	31.3
1999	3778	66.9
2000	8158	157.9
2001	9098	179.6
2002	8494	147.5
2003	8620	146.7
2004	8800	147.3
2005	8718	144.1
2006	3569	58.6
<b>Subtotal</b>	<b>62000</b>	<b>1095.6</b>

Current Estimate Source: SAR 12/25/1999

## Acquisition Funding Projection

Acquisition Funding Projection



## Low Rate Initial Production

None

## Foreign Military Sales

The JDAM Foreign Military Sales (FMS) team has been working very closely with SAF/IAM to get the Letter of Offer and Acceptance (LOA) to the Israeli Air Force (IAF). The LOA was projected to be released by April 30, 1999. Several issues impacted the release of the LOA to the IAF -- a strike by the Ministry of Defense of Israel, the Kosovo conflict, and most recently, requirements changes to the Letter of Request (LOR) by the IAF. All of these issues have been resolved and the LOA was officially released to the IAF in February 2000.

## **Nuclear Cost**

None.

**Unit Cost****Unit Cost Report**

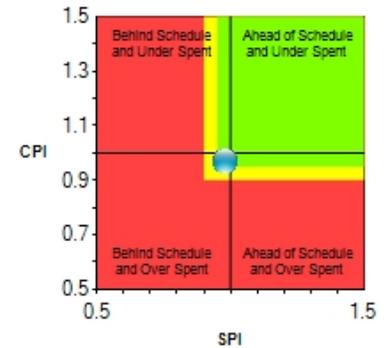
<b>Unit Cost</b>	<b>BY1995 \$M</b>		
	<b>Current UCR Baseline (FEB 1999 APB)</b>	<b>Current Estimate (DEC 1999 SAR)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	2720.4	2333.7	
Quantity	88126	88116	
Unit Cost	0.031	0.026	-16.13
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	2090.6	1771.7	
Quantity	87496	87496	
Unit Cost	0.024	0.020	-16.67

<b>Unit Cost</b>	<b>BY1995 \$M</b>		
	<b>Original UCR Baseline (SEP 1995 APB)</b>	<b>Current Estimate (DEC 1999 SAR)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	2720.4	2333.7	
Quantity	88126	88116	
Unit Cost	0.031	0.026	-16.13
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	2090.6	1771.7	
Quantity	87496	87496	
Unit Cost	0.024	0.020	-16.67

### Contracts

#### Joint Direct Attack Mun - Boeing

Program Name JDAM  
 Program Phase Development  
 Contract Number F08626-94-C-0003/2  
 Contract Type CPAF  
 Change Order Number  
 Contractor Division  
 Contractor Location St Charles , MO 63301



#### Contract Deliveries

Total Quantity	Plan Quantity	Delivered Quantity	
620	620	595	
Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
101.8	-19.6	109.3	

#### Contract Schedule Data

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
10/11/1995	10/1/1995			11/1/1999	11/1/1999

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)
10/21/1999	CPR		92.8	91.4

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)
95.0	2.1	82.2	101.8

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)
101.8	101.8		

#### Contract Variance Data (\$M)

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
-3.6	-3.9%	-1.4	-1.5%

#### Over Target Baseline

Auth. Date:	Cost Adjustment	Schedule Adjustment
8/1/1997	-0.1	4.2

**Contract Comments**

None

None

**Joint Direct Attack Mun - Boeing**

Program Name JDAM  
 Program Phase Production  
 Contract Number F08626-94-C-0003/3  
 Contract Type FFP  
 Change Order Number  
 Contractor Division  
 Contractor Location St Charles , MO 63301

**Contract Deliveries**

Total Quantity	Plan Quantity	Delivered Quantity
6974	2707	2430

Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
		135.2	

**Contract Schedule Data**

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
4/30/1997	4/1/1997			7/1/1999	7/1/1999

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)

**Contract Variance Data (\$M)**

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
+		+	+

**Contract Comments**

None

None



**Deliveries and Expenditures**

<b>Deliveries To Date</b>	<b>Plan</b>	<b>Actual</b>	<b>Total Quantity</b>	<b>Percent Delivered</b>
Development	620	596	620	96.13%
Production	3139	3179	87496	3.63%
<b>Total Program Quantities Delivered</b>	<b>3759</b>	<b>3775</b>	<b>88116</b>	<b>4.28%</b>

**Expenditures and Appropriations (TY \$M)**

Total Acquisition Cost	2626.4	Years Appropriated	8
Expenditures To Date	485.9	Percent Years Appropriated	53.33%
Percent Expended	18.50%	Appropriated to Date	898.7
Total Funding Years	15	Percent Appropriated	34.22%

## Operating and Support Cost

Costs	BY1995 \$M			TY \$M			
	Initial APB	Current APB Objective/Threshold	Current Estimate	Initial APB	Current APB Objective	Current Estimate	
Total Acquisition	2720.4	2720.4	N/A	2333.7	3392.3	3392.3	2626.4
O&S	--	--	--	--	--	--	--
Total Life Cycle	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Current Estimate Total Acquisition Cost Source: SAR 12/25/1999

Current Estimate O&S Cost Source: SAR 12/25/1999

Initial APB Source - APB dated: 09/20/1995

Current APB Source - APB dated: 02/22/1999

## Assessments

No DAES Assessments are available

## LCS

No LCS Data exists for JDAM

-



# Defense Acquisition Management Information Retrieval (DAMIR)



## Current Status Report (DAES & Web Services)

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



### **JDAM**

As of December 25, 2001

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## Program Information

### Designation And Nomenclature (Popular Name)

Joint Direct Attack Munition (JDAM)

### DoD Component

Air Force

### Joint Participants

USAF; Navy

### General Information

ACAT	IC	Status	Active
FCB	Force Application	PNO	503
DAES Status	Full	DAES Group	B
SAR Status	Full	Lead OSD Organization	PSA/AW
Commodity Type	Munitions	Program Type	MDAP

## Responsible Office

### Responsible Office

GM-15 W. Michael Hatcher AAC/YU, Bldg 11 Joint Direct Attack Munition JPO 102 West D Ave Suite 300 Eglin AFB, FL 32542-6807 <a href="mailto:mike.hatcher@eglin.af.mil">mike.hatcher@eglin.af.mil</a>	<b>Phone</b>	904-882-3525 ext. 3005
	<b>Fax</b>	--
	<b>DSN Phone</b>	872-3525 ext. 3005
	<b>DSN Fax</b>	--
	<b>Date Assigned</b>	June 5, 2000

### Program Manager's Point Of Contact (POC)

GS-13 Gila Harold AAC/YU Joint Direct Attack Munition Joint Program Office 102 W D Ave Suite 300 Eglin AFB, FL 32542-6807 <a href="mailto:gila.harold@eglin.af.mil">gila.harold@eglin.af.mil</a>	<b>Phone</b>	904-882-4261 ext. 3175
	<b>Fax</b>	--
	<b>DSN Phone</b>	872-4261 ext. 3175
	<b>DSN Fax</b>	872-9473
	<b>Date Assigned</b>	

### Program Executive Officer (PEO)

SES Judy Stokley Air Force Program Executive Officer for Weapons 1050 Air Force Pentagon Washington, DC 20330-1050	<b>Phone</b>	703-588-1260
	<b>Fax</b>	--
	<b>DSN Phone</b>	425-1260
	<b>DSN Fax</b>	--
	<b>Date Assigned</b>	

## References

Approval Date	Name	Phase	Event	Authority	Base Year	Original	Change
10/07/2002	APB Change 1	Production		DAE	1995	No	Yes
03/23/2001	Prod APB	Production	M/S III	DAE	1995	No	No
06/01/2000	APB Change 4	Development		DAE	1995	No	Yes
12/30/1999	Proposed Baseline	Development			1995	No	No
02/22/1999	APB Change 3	Development		DAE	1995	No	Yes
05/11/1998	APB Change 2	Development		DAE	1995	No	Yes
12/19/1997	APB Change 1	Development		DAE	1995	No	Yes
09/20/1995	Dev APB	Development	M/S II	DAE	1995	Yes	No
07/11/1995	Concept Baseline	Concept	M/S I	DAE	1993	No	No

## Mission and Description

Operation DESERT STORM confirmed the need for, and Operation ALLIED FORCE confirmed the utility of a more accurate weapon delivery capability in adverse weather conditions from medium/high altitudes. Failure to satisfy this requirement would allow the enemy to continue to take advantage of the sanctuary of weather and/or prevent United States air power from prosecuting a conflict on its own terms. The JDAM is a joint Air Force and Navy munitions program to correct these shortfalls, with the Air Force as the Executive Service. JDAM will upgrade the existing inventory of general purpose bombs (MK-84, BLU-109, MK-83/BLU-110 and MK-82/BLU-111) by integrating them with a guidance kit consisting of a Global Position System aided Inertial Navigation System (INS/GPS). JDAM will provide an accurate (13 meters) adverse weather capability. JDAM threshold aircraft are B-52H, F-22, AV-8B and F/A-18C/D. JDAM objective aircraft are B-2, B-1B, F-16, F-15E, and other aircraft. Selective Availability Anti-Spoofing Module (SAASM) integration effort will begin in 2003. An effort to develop and integrate anti-jam capabilities into the JDAM receiver will also begin in 2003. The Precision JDAM program will develop improvements for the JDAM system yielding 3 meter accuracy.

Picture Source: SAR 12/25/2001

Text Source: SAR 12/25/2001

## Executive Summary

### Baseline Transition

This SAR is Phase I of a baseline transition (Dev Est to Prod Est).

### JDAM 2000 lb/1000 lb Variants

JDAM development was a two-phased Engineering and Manufacturing Development (EMD) effort. Phase I emphasized competitive design and manufacturing processes and was completed in October 1995. Phase II emphasized full scale hardware build and flight test to verify system performance and supported OT&E. Phase II ended December 2000.

JDAM Low Rate Initial Production (LRIP) began in April 1997.

The US Navy Operational Test Force completed F/A-18 pin-lock flight testing in August 2000.

On November 2, 2000, the JDAM Joint Program Office received the General Bernard A. Schriever Award recognizing the program office as the "Best PEO Program in the Air Force for 1999."

The JDAM program received approval for Full Rate Production at the Milestone III Defense Acquisition Board (DAB) Review on March 12, 2001. This was officially documented in the Acquisition Decision Memorandum signed by USD (AT&L) on March 23, 2001. The first Full Rate Production lot was awarded on March 29, 2001.

Boeing manufactured the 10,000th JDAM tail kit on May 15, 2001.

On May 17, 2001, Initial Operational Capability (IOC) was declared on the F/A-18C/D for the JDAM MK-84 and BLU-109 variants.

On October 11, 2001, the Principal Deputy Assistant Secretary (Acquisition and Management) approved initial production for the MK-83 JDAM program. On October 26, 2001, a contract was awarded for the initial buy of MK-83 JDAMs for the US Navy.

In October 2001, the F-14B successfully completed operational testing with MK-84 JDAMs.

### JDAM MK-82 (500 lb) Variant

Congress approved a reprogramming action for development of the MK-82 JDAM on July 31, 2000. On September 8, 2000, the program office received approval for MK-82 JDAM development from the Assistant Secretary of the Air Force (Acquisition), and a contract was awarded September 22, 2000.

A successful System Requirements Review was held for the MK-82 JDAM development program in January 2001.

The Critical Design Review (CDR) for the MK-82 JDAM variant was successfully completed in December 2001.

### Precision JDAM

In August 2001, Navy N78 directed development of a Precision JDAM, with an Initial Operational Capability (IOC) of mid FY2006.

### Defense Emergency Response Funds (DERF)

The first increment of emergency funds were received on September 29, 2001 in support of Enduring Freedom. An Undefined Contract Action (UCA) was awarded on October 5, 2001 to accelerate the JDAM Lot 5 deliveries and put in place a production capacity of 1200/month.

In December 2001, we received additional funds and awarded a contract to accelerate Lot 5 deliveries to 1500/month and purchased additional tail kits to fill the production gap caused by acceleration. A facilitization contract providing the capability to continue acceleration to 3000/month was also awarded.

#### Foreign Military Sales (FMS)

The Government of Israel signed a Letter of Offer and Acceptance (LOA) to purchase JDAMs on February 9, 2000.

On May 31, 2000, a contract was awarded to the Boeing Company to integrate MK-84 JDAM variant onto the Israeli Air Force's Peace Marble II and III aircraft.

A contract was awarded to procure 432 JDAMs for the Government of Israel on September 29, 2000.

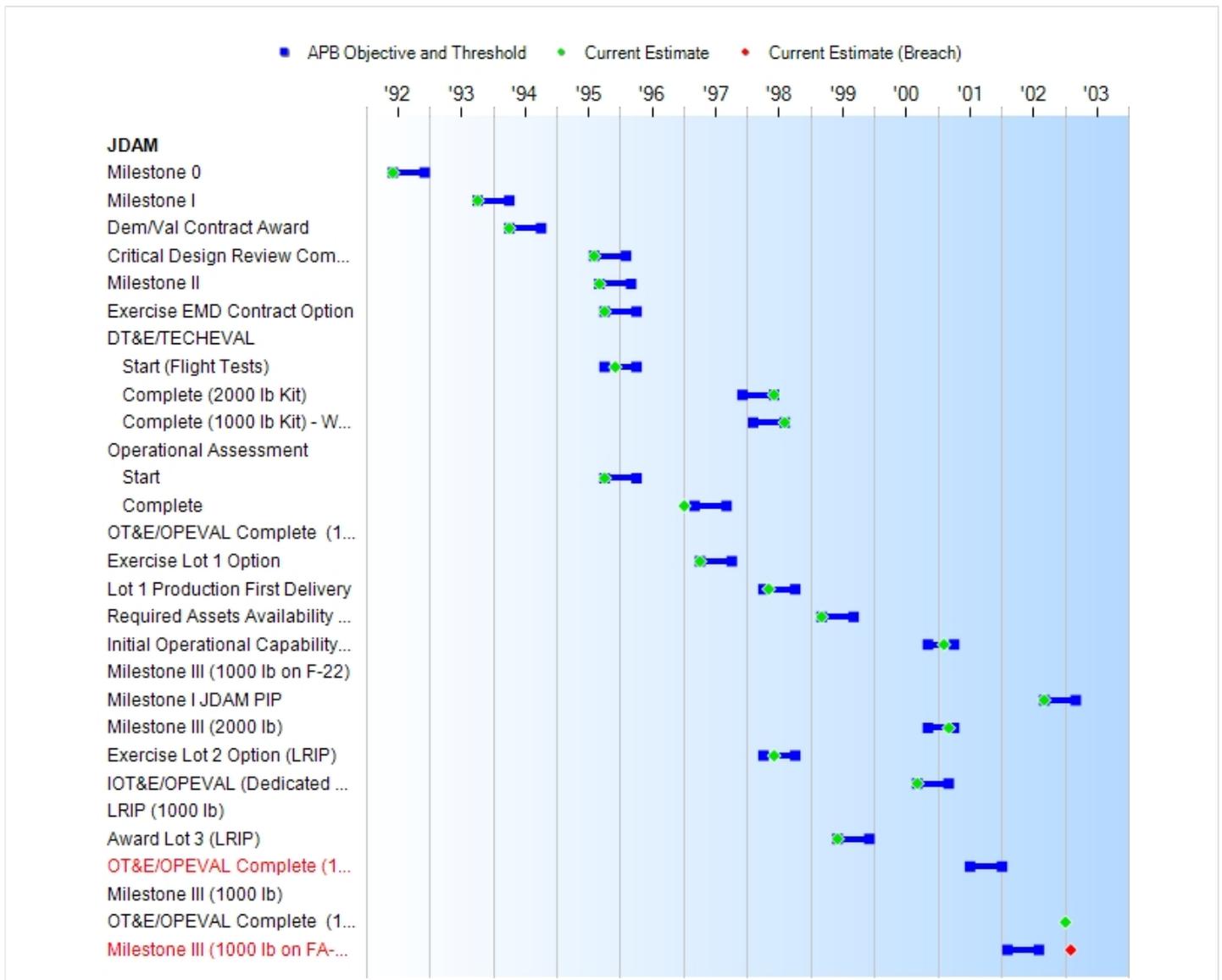
A contract for the first phase of JDAM integration on the new Israeli Peace Marble V aircraft was awarded on May 18, 2001.

**Threshold Breaches**

APB Breaches		
<b>Schedule</b>		<input type="checkbox"/>
<b>Performance</b>		<input type="checkbox"/>
<b>Cost</b>	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
<b>Unit Cost</b>	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Nunn-McCurdy Breaches		
<b>Current UCR Baseline</b>		
	PAUC	None
	APUC	None
<b>Original UCR Baseline</b>		
	PAUC	None
	APUC	None

### Schedule



<b>Milestones</b>	<b>Initial Production APB</b>	<b>Current APB Production Objective/Threshold</b>		<b>Current Estimate</b>
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
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
Operational Assessment				
Start	OCT 1995	OCT 1995	APR 1996	OCT 1995
Complete	MAR 1997	MAR 1997	SEP 1997	JAN 1997
OT&E/OPEVAL Complete (1000 lb Kit/F-22)	N/A	N/A	N/A	N/A
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
Required Assets Availability (AF)	MAR 1999	MAR 1999	SEP 1999	MAR 1999
Initial Operational Capability (FA-18)	NOV 2000	NOV 2000	APR 2001	FEB 2001
Milestone III (1000 lb on F-22)	N/A	N/A	N/A	N/A
Milestone I JDAM PIP	SEP 2002	SEP 2002	MAR 2003	SEP 2002
Milestone III (2000 lb)	NOV 2000	NOV 2000	APR 2001	MAR 2001
Exercise Lot 2 Option (LRIP)	APR 1998	APR 1998	OCT 1998	JUN 1998
IOT&E/OPEVAL (Dedicated 2000 lb Kit) Complete	SEP 2000	SEP 2000	MAR 2001	SEP 2000
LRIP (1000 lb)	N/A	N/A	N/A	N/A
Award Lot 3 (LRIP)	JUN 1999	JUN 1999	DEC 1999	JUN 1999
OT&E/OPEVAL Complete (1000 lb Kit)	JUL 2001	JUL 2001	JAN 2002	N/A
Milestone III (1000 lb)	N/A	N/A	N/A	N/A
OT&E/OPEVAL Complete (1000 lb Kit/FA-18C/D)	N/A	N/A	N/A	JAN 2003
Milestone III (1000 lb on FA-18C/D)	FEB 2002	FEB 2002	AUG 2002	<b>FEB 2003</b> <sup>1</sup>

**'APB Breach****Memo**

Notes:

Lot 1 Decision was based on sufficient testing on B-52H, F/A-18C/D, B-2A, B-1B, and F-16C/D.

ACRONYMS: AUR - All Up Round

LRIP - Low Rate Initial Production

RAA - Required Assets Availability

Current Estimate Source: SAR 12/25/2001  
Initial APB Source - APB dated: 03/23/2001  
APB Source - APB dated: 03/23/2001

## Performance

Characteristics	Initial Production APB	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Weather Capability	Adverse	Adverse	Adverse	Adverse	Adverse
Accuracy (CEP) (Meters)					
GPS Available, Impact Angles > 60 Deg	13 Horizontal Targets	13 Horizontal Targets	13	8.0	13 Horizontal Targets
Inflight Re-targeting Capability (captive carry)	Yes	Yes	Yes	Yes	Yes
Carrier Operability	Yes	Yes	Yes	Yes	Yes
Warhead Compatibility	MK-82/BLU-111, MK-83, Improved 1000-lb, BLU-113/116/117	MK-82/BLU-111, MK-83, Improved 1000-lb, BLU-113/116/117	BLU-109, MK-84, MK-83 (F-22)	BLU-109, MK-84, MK-83 (F-22)	BLU-109, MK-84, MK-83 (F-22)
Aircraft Compatibility					
Bomber	B-1B, B-2	B-1B, B-2	B-52H	Yes	B-52H
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	FA-18C/D, F-22A, AV-8B
Mission Reliability	.90	.90	.90	.942	.90
JDAM PIP Accuracy (CEP) (Meters)	3	3	3	TBD	3
JDAM PIP Weather Capability	Adverse	Adverse	Adverse	TBD	Adverse
JDAM PIP Warhead Compatibility	MK-82, MK-83	MK-82, MK-83	BLU-109, MK-84	TBD	BLU-109, MK-84
Interoperability	Satisfy 100% of critical IERs	Satisfy 100% of critical IERs	Satisfy 100% of critical IERs	N/A	N/A <sup>1</sup>

### <sup>1</sup>APB Breach

## Memo

Notes:

(1) Adverse weather is defined as natural/man-made conditions such as rain, haze, dust, smoke, fog, snow, ice, wind, and/or clouds that preclude the use of current inventory precision guided munitions.

(2) Assumes GPS quality hand-off from aircraft. In addition, the target location error (TLE) portion of the total system error is allocated to be 7.2 meters CEP. If TLE is larger than 7.2 meters CEP, the total system CEP will increase accordingly. For impact angles between 60 degrees and 35 degrees (with GPS available) accuracy degradation up to 19 meters CEP against horizontal targets is an objective.

(3) Inflight programming/targeting will be possible through MIL-STD-1553/1760 data bus interface to the weapon from existing aircraft stores management hardware and modified software.

(4) JDAM will be capable of operation on aircraft carriers to include withstanding 25 aircraft carrier catapult launches and arrested landings, and operating within the carriers' electromagnetic environments.

(5) Physical compatibility with the B-1B, B-2, FA-18C/D, AV-8B and B-52H were successfully demonstrated during actual fit test in EMD Phase 1. F-22A physical compatibility was also demonstrated using computerized physical fit analysis during this phase. Integration with the F-15E, F-16C/D, F-117, FA-18E/F, F-14D, S-3, and P-3 will be addressed as follow-on integration efforts. The A-6E aircraft was deleted by Chief of Naval Operations (CNO) Letter, Serial Number N880D5/4UG59112, dated 2 February 1994. The F-111F has been deleted (Reference AF/XOR Message 260111Z January 1994).

(6) F-22 compatibility will be limited to internal carriage of the MK-83/BLU-110 configuration. The AV-8B is a funded, non-key performance parameter, threshold aircraft.

(7) Mission reliability commences when the aircrew accepts the loaded aircraft and ends at weapon impact. Mission reliability for the guidance kits does not include reliability for the fuze.

ACRONYMS: CEP - Circular Error Probable

DEG - Degree

GPS - Global Positioning System

MSL - Mean Sea Level

PIP - Product Improvement Program

TBD - To Be Determined

Change Explanations:

Demonstrated Performance for Accuracy (CEP) changed from 9.5 meters to 8.0 meters. Previous value was based on development test and operational test missions. We now have lot acceptance test results that represent JDAM production assets.

Demonstrated Performance for Mission Reliability changed from .913 to .942. This is based on Free Flight and Captive Carriage Reliabilities.

Current Estimate Source: SAR 12/25/2001

Initial APB Source - APB dated: 03/23/2001

APB Source - APB dated: 03/23/2001

## Track To Budget

### RDT&E

APPN 3600 PE 0604618F (Air Force)

JDAM

APPN 1319 PE 0604618N (Navy)

JDAM

### Procurement

APPN 1507 BA 05 (Navy) ICN 0550

JOINT DIRECT ATTACK MUNITION (JDAM)

APPN 3011 BA 27 (Air Force) ICN 353620

JOINT DIRECT ATTACK MUNITION (JDAM)

### General Memo

Air Force and Navy RDT&E funding includes the Product Improvement Program (PIP).

Air Force and Navy Procurement funding does not include PIP funding. Navy Procurement funding includes BLU-109 warheads but not Joint Programmable Fuze (JPF).

Source: SAR 12/25/2001

## Cost and Funding

### Cost Summary

#### Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	Initial Production APB	Current APB Production Objective/Threshold	Current Estimate	Current Estimate	Initial Production APB	Current APB Production Objective	Current Estimate
RDT&E	490.3	490.3	563.8	694.0 <sup>1</sup>	517.3	517.3	740.1
Procurement	1810.0	1810.0	1991.0	2696.7 <sup>1</sup>	2089.4	2089.4	3125.3
Non Recurring	--	--	--	82.2	--	--	94.4
MILCON	--	--	--	--	--	--	--
Acq O&M	--	--	--	--	--	--	--
Total	2300.3	2300.3	N/A	3390.7	2606.7	2606.7	3865.4

#### <sup>1</sup> APB Breach

This baseline does not include AF and Navy funding for the Joint Programmable Fuze (JPF). Navy Procurement funding includes BLU-109 warhead costs.

Air Force and Navy RDT&E funding includes the Product Improvement Program (PIP). Air Force and Navy Procurement funding does not include PIP funding.

The RDT&E cost increase is due to Navy funding for the Precision JDAM program. The decision to fully fund the program was made during the PB00 budget cycle.

Tooling & Test Equipment, systems engineering and program management, containers and warranty are now included as part of the hardware costs.

Defense Emergency Response Funds (DERF) received in FY2001 and FY2002 are not included.

Quantity	Initial APB	Current APB	Current Estimate
RDT&E	630	630	778
Procurement	88435	88435	135971
Total	89065	89065	136749

NOTE: The Low Rate Initial Production (LRIP) quantities approved in the Acquisition Decision Memorandum (ADM) at Milestone II were 425 units for Lot 1. Subsequent FY97 budget cycle decisions approved a buy-to-budget approach for determining annual quantities. With the lower than expected unit costs, LRIP quantities were 937 for Lot 1. A second LRIP lot (Lot 2) was approved in December 1997 for 2,202 tailkits. In December 1998, LRIP Lot 2A was approved. Lot 2A quantities were 2,527 tailkits. On June 22, 1999, the AFPEO/WP provided authorization to procure additional quantities to fill the production gap created from acceleration of Lots 1, 2 and 2A. Lot 3 was awarded on June 24, 1999 for 1,308 tailkits and Lot 3A was awarded on November 9, 1999 for 861 tailkits. On December 2, 1999, written notification was sent to the four Congressional Defense committees notifying them of the Air Force's intent to exceed the ten percent limit on LRIP with award of Lot 4. This LRIP was required to replenish weapons inventories depleted during Operation Allied Force. During the week of February 14, 2000, the plan was briefed to professional staff members of the House Armed Services Committee, the Defense Subcommittee of the House Appropriations Committee, and the Defense Subcommittee of the Senate Appropriations Committee. All of the staff members concurred with the plan to award LRIP Lot 4 as briefed. Additionally, the professional staff of the Senate Armed Services Committee reviewed and concurred with the Air Force request. Lot 4 was awarded on February 24, 2000 for 8,163 tailkits.

Additional RDT&E quantities are for the MK-82 flight test program which begins in February 2002.

Additional procurement quantities are a result of AF and Navy funding added in FY2003-2007.

Quantities procured with Defense Emergency Response Funds received in FY2001 and FY2002 are not included.

## Funding Summary

### Appropriation and Quantity Summary

#### DEC 2001 DAES (TY \$M)

Appropriation	Prior	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	To Complete	Total
RDT&E	491.5	71.3	65.5	70.8	33.8	7.2	0.0	0.0	740.1
Procurement	692.2	223.8	588.9	400.1	431.7	460.6	328.0	0.0	3125.3
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
PB2003 Total	1183.7	295.1	654.4	470.9	465.5	467.8	328.0	0.0	3865.4
PB2001 Total	1168.9	249.4	274.0	285.1	272.9	214.3	161.8	0.0	2626.4
Delta	14.8	45.7	380.4	185.8	192.6	253.5	166.2	0.0	1239.0

Quantity	Prior	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	To Complete	Total
Development	0	0	0	0	0	0	0	0	778
Production	28705	10087	27797	18497	18645	19314	12926	0	135971
PB2003 Total	28705	10087	27797	18497	18645	19314	12926	0	136749
PB2001 Total	27627	9276	10951	11428	11392	9524	7298	0	88116
Delta	1078	811	16846	7069	7253	9790	5628	0	48633

## Annual Funding By Appropriation

### Annual Funding TY\$

#### 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1993	--	--	--	--	--	--	23.2
1994	--	--	--	--	--	--	7.9
1995	--	--	--	--	--	--	23.1
1996	--	--	--	--	--	--	26.1
1997	--	--	--	--	--	--	22.7
1998	--	--	--	--	--	--	13.0
1999	--	--	--	--	--	--	9.7
2000	--	--	--	--	--	--	10.8
2001	--	--	--	--	--	--	27.8
2002	--	--	--	--	--	--	55.8
2003	--	--	--	--	--	--	48.9
2004	--	--	--	--	--	--	36.0
2005	--	--	--	--	--	--	33.8
2006	--	--	--	--	--	--	7.2
<b>Subtotal</b>	<b>114</b>	--	--	--	--	--	<b>346.0</b>

**Annual Funding BY\$****1319 | RDT&E | Research, Development, Test, and Evaluation, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1993	--	--	--	--	--	--	23.7
1994	--	--	--	--	--	--	7.9
1995	--	--	--	--	--	--	22.8
1996	--	--	--	--	--	--	25.3
1997	--	--	--	--	--	--	21.7
1998	--	--	--	--	--	--	12.3
1999	--	--	--	--	--	--	9.1
2000	--	--	--	--	--	--	10.0
2001	--	--	--	--	--	--	25.3
2002	--	--	--	--	--	--	49.9
2003	--	--	--	--	--	--	43.1
2004	--	--	--	--	--	--	31.2
2005	--	--	--	--	--	--	28.8
2006	--	--	--	--	--	--	6.0
<b>Subtotal</b>	<b>114</b>	--	--	--	--	--	<b>317.1</b>

JPF is not part of the JDAM program but is budgeted in the JDAM Navy RDT&E and Procurement PEs.

JPF funding: FY94 \$0.5M; FY95 \$1.0M; FY96 \$1.5M; FY97 \$2.8M; FY98 \$0.3M; FY99 \$0.1M

## Annual Funding TY\$

## 3600 | RDT&amp;E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
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	--	--	--	--	--	--	10.7
2002	--	--	--	--	--	--	15.5
2003	--	--	--	--	--	--	16.6
2004	--	--	--	--	--	--	34.8
<b>Subtotal</b>	<b>664</b>	--	--	--	--	--	<b>394.1</b>

**Annual Funding BY\$****3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1993	--	--	--	--	--	--	21.9
1994	--	--	--	--	--	--	62.1
1995	--	--	--	--	--	--	62.0
1996	--	--	--	--	--	--	74.0
1997	--	--	--	--	--	--	31.2
1998	--	--	--	--	--	--	20.0
1999	--	--	--	--	--	--	26.9
2000	--	--	--	--	--	--	10.4
2001	--	--	--	--	--	--	9.7
2002	--	--	--	--	--	--	13.9
2003	--	--	--	--	--	--	14.6
2004	--	--	--	--	--	--	30.2
<b>Subtotal</b>	<b>664</b>	--	--	--	--	--	<b>376.9</b>

Excludes \$4.0M in FY00 and \$12.3M in FY02 for fuze development efforts.

## Annual Funding TY\$

## 1507 | Procurement | Weapons Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1998	547	--	--	8.0	--	--	21.0
1999	745	--	--	7.6	--	--	35.8
2000	916	--	--	3.1	--	--	35.1
2001	2325	--	--	6.9	--	--	65.9
2002	1603	--	--	4.1	--	--	37.8
2003	9880	--	--	9.5	--	--	210.0
2004	7626	--	--	8.5	--	--	164.5
2005	5964	--	--	7.4	--	--	138.9
2006	7230	--	--	8.7	--	--	172.6
2007	6456	--	--	9.6	--	--	161.4
<b>Subtotal</b>	<b>43292</b>	--	--	<b>73.4</b>	--	--	<b>1043.0</b>

**Annual Funding BY\$**  
**1507 | Procurement | Weapons Procurement, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1998	547	--	--	7.5	--	--	19.7
1999	745	--	--	7.0	--	--	33.1
2000	916	--	--	2.8	--	--	32.0
2001	2325	--	--	6.2	--	--	59.3
2002	1603	--	--	3.6	--	--	33.5
2003	9880	--	--	8.3	--	--	183.2
2004	7626	--	--	7.3	--	--	141.1
2005	5964	--	--	6.2	--	--	116.9
2006	7230	--	--	7.2	--	--	142.5
2007	6456	--	--	7.8	--	--	130.8
<b>Subtotal</b>	<b>43292</b>	--	--	<b>63.9</b>	--	--	<b>892.1</b>

Joint Programmable Fuze (JPF) funding is not included. JPF is not part of the JDAM program but is budgeted in the JDAM Navy RDT&E and Procurement PEs. Navy Procurement funding includes BLU-109 warhead costs.

JPF funding: FY98 \$1.7M; FY99 \$1.8M; FY00 \$1.0M; FY01 \$3.2M; FY02 \$3.0M; FY03 \$16.0M; FY04 \$12.6M; FY05 \$10.0M; FY06 \$13.6; FY07 \$14.3

Navy Procurement funding is actually provided under Appropriation 1508 - Procurement of Ammunition, Navy/Marine Corps, but software limitations preclude the SAR from correctly reflecting this fact.

**Cost Quantity Information****1507 | Procurement | Weapons Procurement, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M</b>
1998	547	9.3
1999	745	13.5
2000	916	17.6
2001	2325	45.2
2002	1603	28.9
2003	9880	173.7
2004	7626	132.8
2005	5964	109.6
2006	7230	134.2
2007	6456	122.3
<b>Subtotal</b>	<b>43292</b>	<b>787.1</b>

## Annual Funding TY\$

## 3011 | Procurement | Procurement of Ammunition, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1997	937	--	--	0.8	--	--	23.0
1998	1828	--	--	0.9	--	--	39.2
1999	3778	--	--	1.5	--	--	79.5
2000	8725	--	--	1.4	--	--	189.2
2001	8904	--	--	2.1	--	--	203.5
2002	8484	--	--	1.7	--	--	186.0
2003	17917	--	--	3.6	--	--	378.9
2004	10871	--	--	2.1	--	--	235.6
2005	12681	--	--	2.7	--	--	292.8
2006	12084	--	--	2.7	--	--	288.0
2007	6470	--	--	1.5	--	--	166.6
<b>Subtotal</b>	<b>92679</b>	--	--	<b>21.0</b>	--	--	<b>2082.3</b>

**Annual Funding BY\$**  
**3011 | Procurement | Procurement of Ammunition, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1997	937	--	--	0.8	--	--	21.8
1998	1828	--	--	0.8	--	--	36.7
1999	3778	--	--	1.4	--	--	73.4
2000	8725	--	--	1.3	--	--	172.6
2001	8904	--	--	1.9	--	--	183.2
2002	8484	--	--	1.5	--	--	164.9
2003	17917	--	--	3.1	--	--	330.6
2004	10871	--	--	1.8	--	--	202.1
2005	12681	--	--	2.3	--	--	246.5
2006	12084	--	--	2.2	--	--	237.8
2007	6470	--	--	1.2	--	--	135.0
<b>Subtotal</b>	<b>92679</b>	--	--	<b>18.3</b>	--	--	<b>1804.6</b>

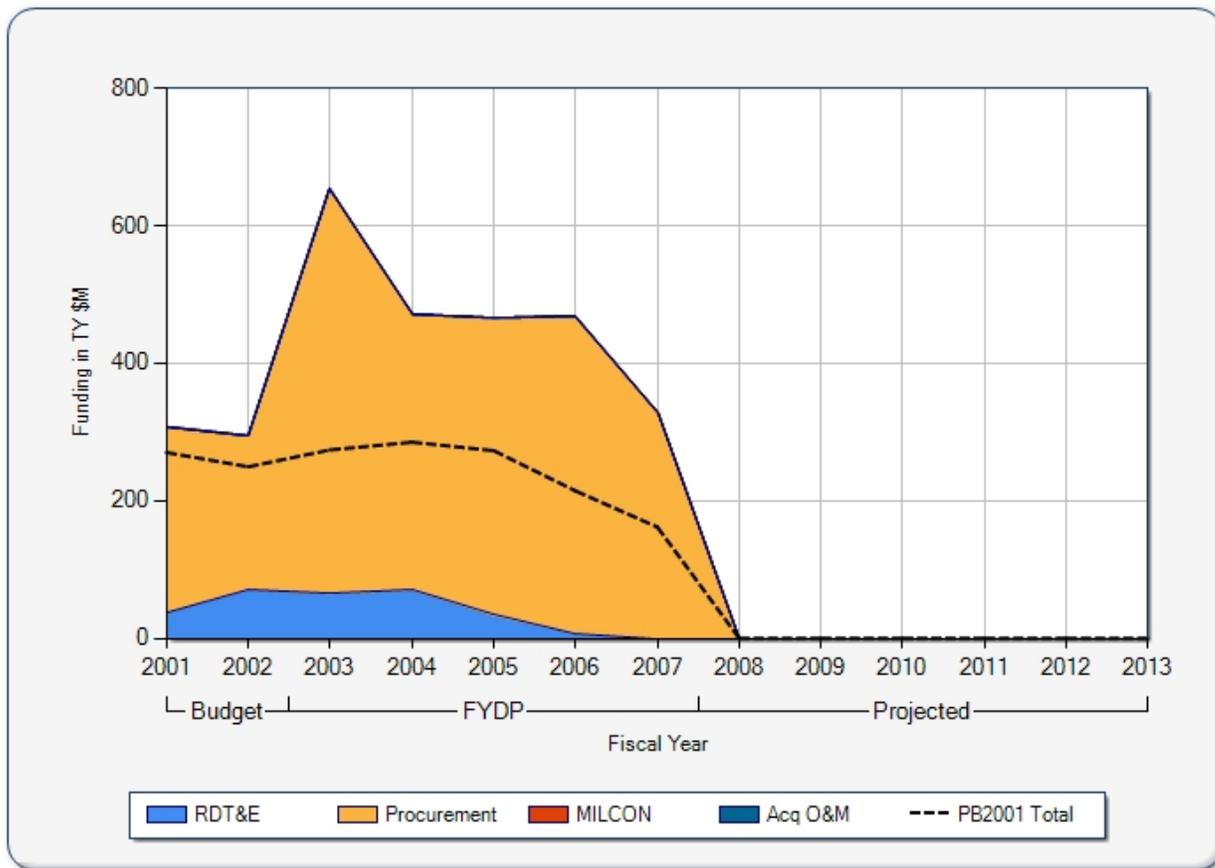
**Cost Quantity Information****3011 | Procurement | Procurement of Ammunition, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M</b>
1997	937	16.3
1998	1828	31.5
1999	3778	67.2
2000	8725	164.7
2001	8904	173.2
2002	8484	152.4
2003	17917	315.2
2004	10871	189.6
2005	12681	233.5
2006	12084	224.6
2007	6470	123.1
<b>Subtotal</b>	<b>92679</b>	<b>1691.3</b>

Current Estimate Source: SAR 12/25/2001

## Acquisition Funding Projection

Acquisition Funding Projection



## Low Rate Initial Production

None

## Foreign Military Sales

Israel (IS-D-YEQ) Case signed February 9, 2000, \$29.997M

Purpose: Procure 432 JDAMs and support (Lot 4 contract)

## **Nuclear Cost**

None.

**Unit Cost****Unit Cost Report**

<b>Unit Cost</b>	<b>BY1995 \$M</b>		
	<b>Current UCR Baseline (MAR 2001 APB)</b>	<b>Current Estimate (DEC 2001 SAR)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	2300.3	3390.7	
Quantity	89065	136749	
Unit Cost	0.026	0.025	-3.85
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	1810.0	2696.7	
Quantity	88435	135971	
Unit Cost	0.020	0.020	+0.00

<b>Unit Cost</b>	<b>BY1995 \$M</b>		
	<b>Original UCR Baseline (SEP 1995 APB)</b>	<b>Current Estimate (DEC 2001 SAR)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	2720.4	3390.7	
Quantity	88126	136749	
Unit Cost	0.031	0.025	-19.35
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	2090.6	2696.7	
Quantity	87496	135971	
Unit Cost	0.024	0.020	-16.67

## Contracts

### Joint Direct Attack Mun - Boeing

Program Name JDAM  
 Program Phase Production  
 Contract Number F08626-94-C-0003  
 Contract Type FFP  
 Change Order Number  
 Contractor Division 2600 N 3rd Street  
 Contractor Location St Charles , MO 63301

### Contract Deliveries

Total Quantity	Plan Quantity	Delivered Quantity
7835	7835	7835

Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
		151.9	

### Contract Schedule Data

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
4/30/1997	4/1/1997				

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)
-------------	-----------------	--------------------------	------------	------------

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)
------------	-------------------	----------------------	----------------------

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)
------------------------	-----------------------------	--------------------------	---------------------------

### Contract Variance Data (\$M)

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
+		+	+

### Contract Comments

The previously reported contract F08626-94-C-0003 for EMD Phase II is more than 90% complete. Cost reporting has been suspended.

Cost performance data is not required for Firm Fixed Price (FFP) contracts.

The target price and quantity includes Low Rate Initial Production (LRIP)1, LRIP 2, LRIP 2a, LRIP 3 and LRIP 3A.

Deliveries are complete on this contract.

None



**JDAM Lots 5 & 6 - Boeing**

Program Name JDAM  
 Program Phase Production  
 Contract Number F08635-01-C-0027/1  
 Contract Type FFP  
 Change Order Number  
 Contractor Division  
 Contractor Location St. Louis , MO 63166-0516

**Contract Deliveries**

Total Quantity	Plan Quantity	Delivered Quantity
8163	5250	5430

Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
		171.6	

**Contract Schedule Data**

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
	2/1/2000				

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)

**Contract Variance Data (\$M)**

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
+		+	+

**Contract Comments**

Cost performance data is not required for Firm Fixed Price (FFP) contracts.<br><br>The target price and quantity includes Low Rate Initial Production (LRIP) 4.

None

**Joint Direct Attack Mun - Boeing**

Program Name JDAM  
 Program Phase Production  
 Contract Number F08635-01-C-0027/2  
 Contract Type FFP  
 Change Order Number  
 Contractor Division  
 Contractor Location St Louis , MO 63166-0516

**Contract Deliveries**

Total Quantity	Plan Quantity	Delivered Quantity
----------------	---------------	--------------------

12638

Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
-----------------------	--------------------------------	--------------------	---------------------

288.1

**Contract Schedule Data**

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
---------------------	------------	----------------------	----------------------	--------------------	----------------

3/29/2001 3/1/2001

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)
-------------	-----------------	--------------------------	------------	------------

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)
------------	-------------------	----------------------	----------------------

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)
------------------------	-----------------------------	--------------------------	---------------------------

**Contract Variance Data (\$M)**

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent

+

+

+

+

**Contract Comments**

The target price and quantity includes Production Lot 5.

None



**Deliveries and Expenditures**

<b>Deliveries To Date</b>	<b>Plan</b>	<b>Actual</b>	<b>Total Quantity</b>	<b>Percent Delivered</b>
Development	778	620	778	79.69%
Production	15085	15265	135971	11.23%
<b>Total Program Quantities Delivered</b>	<b>15863</b>	<b>15885</b>	<b>136749</b>	<b>11.62%</b>

<b>Expenditures and Appropriations (TY \$M)</b>			
Total Acquisition Cost	3865.4	Years Appropriated	10
Expenditures To Date	832.9	Percent Years Appropriated	66.67%
Percent Expended	21.55%	Appropriated to Date	1478.8
Total Funding Years	15	Percent Appropriated	38.26%

### Operating and Support Cost

Costs	BY1995 \$M				TY \$M		
	Initial APB	Current APB Objective/Threshold		Current Estimate	Initial APB	Current APB Objective	Current Estimate
Total Acquisition	2300.3	2300.3	N/A	3390.7	2606.7	2606.7	3865.4
O&S	--	--	--	232.6	--	--	421.3
Total Life Cycle	N/A	N/A	N/A	3623.3	N/A	N/A	4286.7

Current Estimate Total Acquisition Cost Source: SAR 12/25/2001

Current Estimate O&S Cost Source: SAR 12/25/2001

Initial APB Source - APB dated: 03/23/2001

Current APB Source - APB dated: 03/23/2001

### Assessments

#### Assessments for the Dec 2001 Review

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
<b>Performance</b>												
APB	G	NR	NR	G	NR							
Contracts	NR											
<b>Test</b>												
APB	G	NR	NR	G	NR							
Contracts	NR											
<b>Logistics</b>												
APB	G	NR	NR	G	NR							
Contracts	NR											
<b>Cost</b>												
APB	G	NR	NR	G	NR							
Contracts	NR											
<b>Funding</b>												
APB	G	NR	NR	G	NR							
Contracts	NR											
<b>Schedule</b>												
APB	G	NR	NR	G	NR							
Contracts	NR											
<b>Contracts</b>												
APB	G	NR	NR	G	NR							
Contracts	NR											

		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
<b>Production</b>	APB	G	NR	NR	G	NR							
	Contracts	NR											
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
<b>Management</b>	APB	G	NR	NR	G	NR							
	Contracts	NR											
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
<b>Interoperability</b>	APB	NR											
	Contracts	NR											

**Explanations**

**Performance** No explanation provided.

**Test** No explanation provided.

**Logistics** No explanation provided.

**Cost** No explanation provided.

**Funding** No explanation provided.

**Schedule** No explanation provided.

**Contracts** No explanation provided.

**Production** No explanation provided.

**Management** No explanation provided.

**Interoperability** No explanation provided.

**OSD Assessments**

**Performance**

OT&E

Y

(U) Results from 1000# developmental testing are promising. 6 of 6 weapons impacted within requirements parameters. One weapon failed to fuze.

(U) Deficiencies remain from the 2000# IOT&E/OPEVAL that affect operational

employment, including the FMU-152 Joint Programmable Fuze (JPF) compatibility, container reliability, system reliability, and the Tactical Aircraft Mission Planning System planning time. System reliability and mission planning will be evaluated during 1000# operational testing (OT). FMU-152 and redesigned containers will not be available during 1000# OT on the F-18C/D, but are planned to be addressed in future operational testing.

## Test

### OT&E

G

(U) 1. Milestone III for 2000-pound JDAM was Mar 01. Unresolved and unsatisfactory issues from the Multi-Service Operational Test & Evaluation (MOT&E) requiring Follow-on Operational Test and Evaluation include the FMU-152 Joint Programmable Fuze compatibility, container reliability, system reliability, and Tactical Aircraft Mission Planning System.

(U) 2. 1000-pound JDAM development test has been completed, operational test in planning.

(U) 3. 500-pound JDAM operational test in planning.

### SSE/DT&E

G

(U) No change in rating from last quarter. No issues.

(U) TEMP: The TEMP for the MK-83/84 1000#/2000# variant, approved March 9, 2001, is current. The TEMP for the MK-82 500# variant is in work and expected to be submitted for approval by December 2001.

## Logistics

### L&MR

G

(U) No logistics issues.

### OT&E

G

(U) No logistics issues at this time.

## Cost

### AR&A/AM

G

(U) The full-rate production contract option for Lot 5 was awarded in March 2001. The contract is FFP and does not require cost reporting. The CPAF MK-82 EMD contract was definitized in September 2000, and cost performance data reporting began this DAES reporting period. The PM's Estimate at Completion is \$45.1M, and the work is 36% complete. There is a nominal negative -3% (-\$0.5M) schedule variance and a positive 9% (\$1.4M) cost variance.

## Funding

### Comptroller

G

(U) Concur with Program Manager's rating of green.

## Schedule

### OT&E

G

(U) Developmental testing for the 1,000 pound tail kit is complete. Ten tailkits are available to begin operational testing (OT) as soon as planning is completed.

Although previously planned to start in 3QFY02, an early start to operational testing is desired. The additional tailkits required to complete OT will not be available until at least 2QFY02, with additional test instrumentation kits for those weapons available 3QFY02.

## Contracts

DP/DSPS

G

(U) Delivery of 7,835 units (LRIP 1, 2, 2a, 3 and 3a) under the EMD contract has been completed. Boeing continues to be ahead of schedule in deliveries under the LRIP-4 contract with 5,430 of a total of 8,163 units delivered. An undefinitized contract action (UCA) was awarded on 5 October 2001 to accelerate the JDAM lot 5 deliveries (12,204 units). On October 26th, the program office awarded the initial buy of MK-83 JDAMs for the USN. This brings the total quantity for lot 5 to 12,638 units.

(U) The MK-82 development program remains on track. Production representative tail kits equipped to measure captive carriage environments have been delivered to NAS Paxtutent River and Eglin AFB. Captive-carriage flight-testing will start in December on the F/A-18 C/D and the F-16.

(U) Boeing also delivered 456 MK-84 tail kits to the Israeli Air Force (IAF). These are the first FMS deliveries of JDAM. Boeing is 220 ahead of the IAF delivery schedule and has only 16 left to produce on this contract.

## Production

IP

G

(U) Boeing has accelerated Lot 5 delivery schedule to accommodate Department needs. Facillitization funding provided for Honeywell and Eagle Picher to increase capacity. Fuze (JPF, FZU-55 improvement) is providing program challenge. No production issues identified.

## Management

No OSD ratings are available.

## Interoperability

OT&E

(U) No interoperability issues at this time.

NR

PM Sources:

DAES 11/25/2001

OSD Sources:

DAES 12/25/2001

## LCS

No LCS Data exists for JDAM

-



# Defense Acquisition Management Information Retrieval (DAMIR)



## Current Status Report (DAES & Web Services)

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



### **JDAM**

As of December 25, 2002

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## Program Information

### Designation And Nomenclature (Popular Name)

Joint Direct Attack Munition (JDAM)

### DoD Component

Air Force

### Joint Participants

USAF; Navy

### General Information

ACAT	IC	Status	Active
FCB	Force Application	PNO	503
DAES Status	Full	DAES Group	B
SAR Status	Full	Lead OSD Organization	PSA/AW
Commodity Type	Munitions	Program Type	MDAP

## Responsible Office

### Responsible Office

GM-15 Brian S. Rutledge AAC/YU, Bldg 11 Joint Direct Attack Munition JPO 102 West D Ave First Floor Eglin AFB, FL 32542-6807 <a href="mailto:brian.rutledge@eglin.af.mil">brian.rutledge@eglin.af.mil</a>	<b>Phone</b> <b>Fax</b> <b>DSN Phone</b> <b>DSN Fax</b>	850-882-3525 ext. 3311 -- 872-3525 ext. 3311 --
	<b>Date Assigned</b>	December 29, 2002

### Program Manager's Point Of Contact (POC)

GS-13 Gila Harold AAC/YU Joint Direct Attack Munition Joint Program Office 102 W D Ave Suite 300 Eglin AFB, FL 32542-6807 <a href="mailto:gila.harold@eglin.af.mil">gila.harold@eglin.af.mil</a>	<b>Phone</b> <b>Fax</b> <b>DSN Phone</b> <b>DSN Fax</b>	904-882-4261 ext. 3175 -- 872-4261 ext. 3175 872-9473
	<b>Date Assigned</b>	

### Program Executive Officer (PEO)

SES Judy Stokley Air Force Program Executive Officer for Weapons 1050 Air Force Pentagon Washington, DC 20330-1050	<b>Phone</b> <b>Fax</b> <b>DSN Phone</b> <b>DSN Fax</b>	703-588-1260 -- 425-1260 --
	<b>Date Assigned</b>	

## References

Approval Date	Name	Phase	Event	Authority	Base Year	Original	Change
10/07/2002	APB Change 1	Production		DAE	1995	No	Yes
03/23/2001	Prod APB	Production	M/S III	DAE	1995	No	No
06/01/2000	APB Change 4	Development		DAE	1995	No	Yes
12/30/1999	Proposed Baseline	Development			1995	No	No
02/22/1999	APB Change 3	Development		DAE	1995	No	Yes
05/11/1998	APB Change 2	Development		DAE	1995	No	Yes
12/19/1997	APB Change 1	Development		DAE	1995	No	Yes
09/20/1995	Dev APB	Development	M/S II	DAE	1995	Yes	No
07/11/1995	Concept Baseline	Concept	M/S I	DAE	1993	No	No

## Mission and Description

The Joint Direct Attack Munition (JDAM) is a joint Air Force/Navy program with the Air Force as the lead service. Designated ACAT 1C, this program upgrades the existing inventory of general purpose bombs (MK-84, BLU-109, MK-83/BLU-110 and MK-82/BLU-111) by integrating the bombs with a guidance kit consisting of 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-15E, F-16C/D, F-14B, F-14D, F/A-18C/D and F/A-18E/F aircraft. Follow-on integration will be on the F/A-22 and other aircraft. JDAM Low Rate Initial Production (LRIP) began in FY97 and Full Rate Production (MK-82 and BLU-109) began in FY01. A development effort to integrate the JDAM guidance kits on the MK-82 began in September 2000 with production to start in FY03. JDAM GPS Selective Availability Anti-Spoofing Module (SAASM) integration and anti-jam development efforts will begin in FY03. A redesign effort for the Joint Programmable Fuze (JPF) began March 2001 to improve high altitude bomber capability. This fuze is a multi-function unitary fuze developed for JDAM and other conventional inventory weapons.

Picture Source: SAR 12/25/2002

Text Source: SAR 12/25/2002

## Executive Summary

### Baseline Transition

This SAR is Phase II of a baseline transition (Dev Est to Prod Est).

### JDAM 2000 lb/1000 lb Variants

JDAM development was a two-phased Engineering and Manufacturing Development (EMD) effort. Phase I emphasized competitive design and manufacturing processes and was completed in October 1995. Phase II emphasized full scale hardware build and flight test to verify system performance and supported OT&E. Phase II ended December 2000.

JDAM Low Rate Initial Production (LRIP) began in April 1997.

The JDAM program received approval for Full Rate Production at the Milestone III Defense Acquisition Board (DAB) Review on March 12, 2001. This was officially documented in the Acquisition Decision Memorandum signed by USD (AT&L) on March 23, 2001. The first Full Rate Production lot was awarded on March 29, 2001.

On October 11, 2001, the Principal Deputy Assistant Secretary (Acquisition and Management) approved initial production for the MK-83 JDAM program. On October 26, 2001, a contract was awarded for the initial buy of MK-83 JDAMs for the US Navy.

In March 2002, Mk-83s (1000 lb) were delivered to the fleet for operational use by the US Navy and Marines.

### JDAM MK-82 (500 lb) Variant

Congress approved a reprogramming action for development of the MK-82 JDAM on July 31, 2000. On September 8, 2000, the program office received approval for MK-82 JDAM development from the Assistant Secretary of the Air Force (Acquisition), and a contract was awarded September 22, 2000.

Developmental testing on the F-16 aircraft, a Functional Configuration Audit (FCA), and Production Readiness Review (PRR) were successfully completed in December 2002.

Development delays in the BRU-55 carriage program have caused a six month schedule slip to the Mk-82 flight test effort on the FA-18C/D. The B-2 Force Development Evaluation (FDE) flight test program remains on schedule.

Mk-82 tail kits will be procured in the Lot 7 contract award planned for the second quarter FY 2003.

### Operation Enduring Freedom

In support of Operation Enduring Freedom, a contract modification was awarded for 6,374 JDAMs on March 13, 2002.

On September 20, 2002, after receipt of FY02 Supplemental funding, an additional award was made to the Boeing Company for 18,840 tail kits. Based on this award, the production ramp to 2800 tail kits per month will be achieved with the July 2003 deliveries.

Boeing delivered the 30,000th tail kit on November 2, 2002.

### Foreign Military Sales (FMS)

On February 9, 2000, a contract was awarded to the Boeing Company to procure 432 JDAMs with an option for 228 additional JDAMs for the Government of Israel. The option for the additional quantity was exercised on April 5, 2002. An additional buy of 1,000 kits was awarded on September 30, 2002.

JDAM flight tests were completed on June 17, 2002 for the Israeli Air Force's Peace Marble II and III.

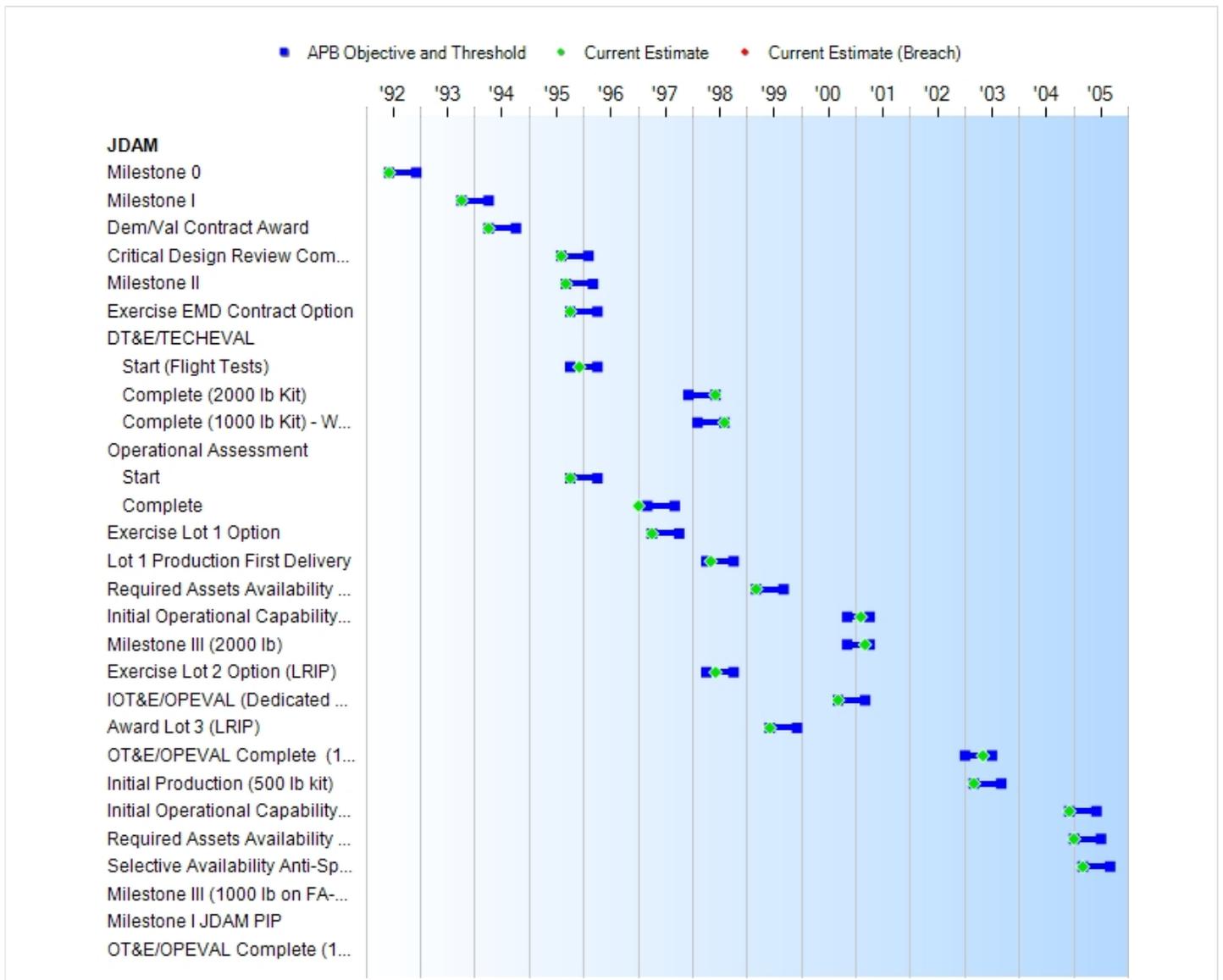
Letters of Offer and Acceptance (LOAs) were signed by the Kingdom of Oman in May 2002, the Republic of Korea in June 2002, the United Arab Emirates in June 2002, and Denmark in June 2002.

## Threshold Breaches

APB Breaches		
Schedule		<input type="checkbox"/>
Performance		<input type="checkbox"/>
Cost	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
Unit Cost	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Nunn-McCurdy Breaches		
<b>Current UCR Baseline</b>		
	PAUC	None
	APUC	None
<b>Original UCR Baseline</b>		
	PAUC	None
	APUC	None

### Schedule



<b>Milestones</b>	<b>Initial Production APB</b>	<b>Current APB Production Objective/Threshold</b>		<b>Current Estimate</b>
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
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
Operational Assessment				
Start	OCT 1995	OCT 1995	APR 1996	OCT 1995
Complete	MAR 1997	MAR 1997	SEP 1997	JAN 1997
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
Required Assets Availability (AF)	MAR 1999	MAR 1999	SEP 1999	MAR 1999
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
Exercise Lot 2 Option (LRIP)	APR 1998	APR 1998	OCT 1998	JUN 1998
IOT&E/OPEVAL (Dedicated 2000 lb Kit) Complete	SEP 2000	SEP 2000	MAR 2001	SEP 2000
Award Lot 3 (LRIP)	JUN 1999	JUN 1999	DEC 1999	JUN 1999
OT&E/OPEVAL Complete (1000 lb Kit/FA-18C/D)	N/A	JAN 2003	JUL 2003	MAY 2003
Initial Production (500 lb kit)	N/A	MAR 2003	SEP 2003	MAR 2003
Initial Operational Capability (IOC) (500 lb kit on FA-18C/D)	N/A	DEC 2004	JUN 2005	DEC 2004
Required Assets Availability (RAA) (500 lb on B-2)	N/A	JAN 2005	JUL 2005	JAN 2005
Selective Availability Anti-Spoofing Module (SAASM)/GPS Anti-Jam Production Award	N/A	MAR 2005	SEP 2005	MAR 2005
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)	JUL 2001	N/A	N/A	N/A

**Memo**

ACRONYMS: AUR - All Up Round

LRIP - Low Rate Initial Production

RAA - Required Assets Availability

Current Estimate Source: SAR 12/25/2002  
Initial APB Source - APB dated: 03/23/2001

APB Source - APB dated: 10/07/2002

## Performance

Characteristics	Initial Production APB	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Weather Capability	Adverse	Adverse	Adverse	Adverse	Adverse
Accuracy (CEP) (Meters)					
GPS Available, Impact Angles > 60 Deg	13 Horizontal Targets	5 Horizontal targets	13	7.68	13 Horizontal Targets
Inflight Re-targeting Capability (captive carry)	Yes	Yes	Yes	Yes	Yes
Carrier Operability	Yes	Yes	Yes	Yes	Yes
Warhead Compatibility	MK-82/BLU-111, MK-83, Improved 1000-lb, BLU-113/116/117	MK-82/BLU-111, MK-83, Improved 1000-lb, BLU-113/116/117	BLU-109, MK-84, MK-83 (F-22)	BLU-109, MK-84, MK-83 (F-22)	BLU-109, MK-84, MK-83 (F-22)
Aircraft Compatibility					
Bomber	B-1B, B-2	B-1B, B-2	B-52H	Yes	B-52H
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	FA-18C/D, F-22A, AV-8B
Mission Reliability	.90	.90	.90	.947	.90
JDAM PIP Accuracy (CEP) (Meters)	3	N/A	N/A	N/A	N/A <sup>1</sup>
JDAM PIP Weather Capability	Adverse	N/A	N/A	N/A	N/A <sup>1</sup>
JDAM PIP Warhead Compatibility	MK-82, MK-83	N/A	N/A	N/A	N/A <sup>1</sup>
Interoperability	Satisfy 100% of critical IERs	Satisfy 100% of critical IERs	Satisfy 100% of critical IERs	Satisfied	Satisfied

### <sup>1</sup>APB Breach

#### Memo

Notes:

(1) Adverse weather is defined as natural/man-made conditions such as rain, haze, dust, smoke, fog, snow, ice, wind, and/or clouds that preclude the use of current inventory precision guided munitions.

(2) Assumes GPS quality hand-off from aircraft. In addition, the target location error (TLE) portion of the total system error is allocated to be 7.2 meters CEP. If TLE is larger than 7.2 meters CEP, the total system CEP will increase accordingly. For impact angles between 60 degrees and 35 degrees (with GPS available) accuracy degradation up to 19 meters CEP against horizontal targets is an objective.

(3) Inflight programming/targeting will be possible through MIL-STD-1553/1760 data bus interface to the weapon from existing aircraft stores management hardware and modified software.

(4) JDAM will be capable of operation on aircraft carriers to include withstanding 25 aircraft carrier catapult launches and arrested landings, and operating within the carriers' electromagnetic environments.

(5) Physical compatibility with the B-1B, B-2, F/A-18C/D, AV-8B and B-52H were successfully demonstrated during actual fit test in EMD Phase 1. F/A-22A physical compatibility was also demonstrated using computerized physical fit analysis during this phase. During EMD Phase II, we successfully completed full JDAM integration on: B-1B, B-2, F/A-18C/D, and B-52H. Post EMD, follow-on integration has been completed on: F-14B, F-14D, F-15E, F-16C/D, and F/A-18E/F. Follow-on integration efforts are planned for: F-35, A-10, and UCAV. The A-6E aircraft was deleted by Chief of Naval Operations (CNO) Letter, Serial Number N880D5/4UG59112, dated 2 February 1994. The F-111F has been deleted (Reference AF/XOR Message 260111Z January 1994).

(6) F-22 compatibility will be limited to internal carriage of the MK-83/BLU-110 configuration. The AV-8B is a funded, non-key performance parameter, threshold aircraft.

(7) Mission reliability commences when the aircrew accepts the loaded aircraft and ends at weapon impact. Mission reliability for the guidance kits does not include reliability for the fuze.

ACRONYMS: CEP - Circular Error Probable

DEG - Degree

GPS - Global Positioning System

MSL - Mean Sea Level

PIP - Product Improvement Program

TBD - To Be Determined

Current Estimate Source: SAR 12/25/2002

Initial APB Source - APB dated: 03/23/2001

APB Source - APB dated: 10/07/2002

## Track To Budget

### RDT&E

APPN 3600	PE 0604618F	(Air Force)	(Shared)
	JDAM		
APPN 1319	PE 0604618N	(Navy)	(Shared)
	JDAM		

### Procurement

APPN 1507	BA 05	(Navy)	ICN 0550
	JOINT DIRECT ATTACK MUNITION (JDAM)		
APPN 3011	BA 27	(Air Force)	ICN 353620
	JOINT DIRECT ATTACK MUNITION (JDAM)		

### General Memo

Air Force RDT&E funding includes the Product Improvement Program (PIP). The Navy RDT&E Dollars do not include PIP or Hornet Autonomous Real Time Targeting (HART) funding.

Navy Procurement funding includes BLU-109 warheads but not Joint Programmable Fuze (JPF).

Source: SAR 12/25/2002

## Cost and Funding

### Cost Summary

#### Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M			TY \$M		
	Initial Production APB	Current APB Production Objective/Threshold	Current Estimate	Initial Production APB	Current APB Production Objective	Current Estimate
RDT&E	490.3	575.1	661.4	517.3	604.3	598.6
Procurement	1810.0	4307.5	4738.3	2089.4	5026.5	5156.8
Non Recurring	--	--	--	--	--	132.5
MILCON	--	--	--	--	--	--
Acq O&M	--	--	--	--	--	--
<b>Total</b>	<b>2300.3</b>	<b>4882.6</b>	<b>N/A</b>	<b>5035.0</b>	<b>2606.7</b>	<b>5630.8</b>

This baseline does not include AF and Navy funding for the Joint Programmable Fuze (JPF). Navy Procurement funding includes BLU-109 warhead costs.

Air Force RDT&E funding includes the Product Improvement Program (PIP). Navy RDT&E dollars exclude PIP and Hornet Autonomous Real Time Targeting (HART) funds. Air Force procurement funding does not include PIP funding.

Defense Emergency Response Funds (DERF) received in FY2001 and FY2002 are not included.

Quantity	Initial APB	Current APB	Current Estimate
RDT&E	630	778	778
Procurement	88435	221091	226177
Total	89065	221869	226955

NOTE: The Low Rate Initial Production (LRIP) quantities approved in the Acquisition Decision Memorandum (ADM) at Milestone II were 425 units for Lot 1. Subsequent FY97 budget cycle decisions approved a buy-to-budget approach for determining annual quantities. With the lower than expected unit costs, LRIP quantities were 937 for Lot 1. A second LRIP lot (Lot 2) was approved in December 1997 for 2,202 tailkits. In December 1998, LRIP Lot 2A was approved. Lot 2A quantities were 2,527 tailkits. On June 22, 1999, the AFPEO/WP provided authorization to procure additional quantities to fill the production gap created from acceleration of Lots 1, 2 and 2A. Lot 3 was awarded on June 24, 1999, for 1,308 tailkits and Lot 3A was awarded on November 9, 1999, for 861 tailkits. On December 2, 1999, written notification was sent to the four Congressional Defense committees notifying them of the Air Force's intent to exceed the ten percent limit on LRIP with award of Lot 4. This LRIP was required to replenish weapons inventories depleted during Operation Allied Force. During the week of February 14, 2000, the plan was briefed to professional staff members of the House Armed Services Committee, the Defense Subcommittee of the House Appropriations Committee, and the Defense Subcommittee of the Senate Appropriations Committee. All of the staff members concurred with the plan to award LRIP Lot 4 as briefed. Additionally, the professional staff of the Senate Armed Services Committee reviewed and concurred with the Air Force request. Lot 4 was awarded on February 24, 2000, for 8,163 tailkits.

Quantities procured with Defense Emergency Response Funds received in FY2001 and FY2002 are not included.

## Funding Summary

### Appropriation and Quantity Summary

#### DEC 2002 DAES (TY \$M)

Appropriation	Prior	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	To Complete	Total
RDT&E	524.7	36.6	35.4	1.2	0.7	0.0	0.0	0.0	0.0	598.6
Procurement	1294.6	738.8	689.8	775.4	644.0	505.7	254.7	253.8	0.0	5156.8
MILCON	0.0	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	0.0
PB2004 Total	1819.3	775.4	725.2	776.6	644.7	505.7	254.7	253.8	0.0	5755.4
PB2003 Total	1478.8	654.4	470.9	465.5	467.8	328.0	0.0	0.0	0.0	3865.4
Delta	340.5	121.0	254.3	311.1	176.9	177.7	254.7	253.8	0.0	1890.0

Quantity	Prior	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	778
Production	57648	35153	32570	34151	27419	20555	9529	9152	0	226177
PB2004 Total	57648	35153	32570	34151	27419	20555	9529	9152	0	226955
PB2003 Total	38792	27797	18497	18645	19314	12926	0	0	0	136749
Delta	18856	7356	14073	15506	8105	7629	9529	9152	0	90206

## Annual Funding By Appropriation

### Annual Funding TY\$

#### 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
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	--	--	--	--	--	--	33.4
2003	--	--	--	--	--	--	20.4
2004	--	--	--	--	--	--	1.3
2005	--	--	--	--	--	--	1.2
2006	--	--	--	--	--	--	0.7
<b>Subtotal</b>	<b>114</b>	--	--	--	--	--	<b>206.4</b>

## Annual Funding BY\$

## 1319 | RDT&amp;E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1995 \$M	Non End Item Recurring Flyaway BY 1995 \$M	Non Recurring Flyaway BY 1995 \$M	Total Flyaway BY 1995 \$M	Total Support BY 1995 \$M	Total Program BY 1995 \$M
1993	--	--	--	--	--	--	23.7
1994	--	--	--	--	--	--	7.8
1995	--	--	--	--	--	--	22.7
1996	--	--	--	--	--	--	24.6
1997	--	--	--	--	--	--	21.1
1998	--	--	--	--	--	--	11.0
1999	--	--	--	--	--	--	5.7
2000	--	--	--	--	--	--	6.7
2001	--	--	--	--	--	--	21.0
2002	--	--	--	--	--	--	30.2
2003	--	--	--	--	--	--	18.2
2004	--	--	--	--	--	--	1.1
2005	--	--	--	--	--	--	1.0
2006	--	--	--	--	--	--	0.6
<b>Subtotal</b>	<b>114</b>	--	--	--	--	--	<b>195.4</b>

## Annual Funding TY\$

## 3600 | RDT&amp;E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
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	--	--	--	--	--	--	10.7
2002	--	--	--	--	--	--	14.7
2003	--	--	--	--	--	--	16.2
2004	--	--	--	--	--	--	34.1
<b>Subtotal</b>	<b>664</b>	--	--	--	--	--	<b>392.2</b>

**Annual Funding BY\$****3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1993	--	--	--	--	--	--	21.9
1994	--	--	--	--	--	--	62.1
1995	--	--	--	--	--	--	62.0
1996	--	--	--	--	--	--	74.0
1997	--	--	--	--	--	--	31.2
1998	--	--	--	--	--	--	20.0
1999	--	--	--	--	--	--	26.9
2000	--	--	--	--	--	--	10.5
2001	--	--	--	--	--	--	9.8
2002	--	--	--	--	--	--	13.3
2003	--	--	--	--	--	--	14.5
2004	--	--	--	--	--	--	30.0
<b>Subtotal</b>	<b>664</b>	--	--	--	--	--	<b>376.2</b>

## Annual Funding TY\$

## 1507 | Procurement | Weapons Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1998	547	--	--	8.0	--	--	21.0
1999	745	--	--	7.6	--	--	35.8
2000	916	--	--	3.1	--	--	35.0
2001	2325	--	--	6.7	--	--	65.6
2002	14551	--	--	8.3	--	--	301.8
2003	12280	--	--	12.8	--	--	261.7
2004	12326	--	--	10.7	--	--	262.1
2005	11014	--	--	10.5	--	--	252.1
2006	5380	--	--	7.8	--	--	130.0
2007	5166	--	--	7.0	--	--	128.4
2008	4536	--	--	8.2	--	--	118.9
2009	4380	--	--	8.1	--	--	119.0
<b>Subtotal</b>	<b>74166</b>	--	--	<b>98.8</b>	--	--	<b>1731.4</b>

**Annual Funding BY\$**  
**1507 | Procurement | Weapons Procurement, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1998	547	--	--	7.5	--	--	19.7
1999	745	--	--	7.0	--	--	33.1
2000	916	--	--	2.8	--	--	32.1
2001	2325	--	--	6.1	--	--	59.5
2002	14551	--	--	7.4	--	--	270.4
2003	12280	--	--	11.3	--	--	231.4
2004	12326	--	--	9.3	--	--	228.1
2005	11014	--	--	9.0	--	--	216.0
2006	5380	--	--	6.6	--	--	109.5
2007	5166	--	--	5.8	--	--	106.3
2008	4536	--	--	6.7	--	--	96.7
2009	4380	--	--	6.5	--	--	95.0
<b>Subtotal</b>	<b>74166</b>	--	--	<b>86.0</b>	--	--	<b>1497.8</b>

Navy Procurement funding is actually provided under Appropriation 1508 - Procurement of Ammunition, Navy/Marine Corps, but software limitations preclude the SAR from correctly reflecting this fact.

Defense Emergency Response Funds (DERF) are not included in the funds or quantities listed. In support of Operation Enduring Freedom, the Navy received a total of \$162.5M in DERF funds for procurement of 7,890 JDAM tailkits.

**Cost Quantity Information****1507 | Procurement | Weapons Procurement, Navy**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M</b>
1998	547	9.4
1999	745	13.5
2000	916	17.7
2001	2325	45.5
2002	14551	262.0
2003	12280	218.7
2004	12326	217.7
2005	11014	205.9
2006	5380	101.7
2007	5166	99.9
2008	4536	89.3
2009	4380	87.9
<b>Subtotal</b>	<b>74166</b>	<b>1369.2</b>

## Annual Funding TY\$

## 3011 | Procurement | Procurement of Ammunition, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1997	937	--	--	0.7	--	--	23.0
1998	1828	--	--	0.9	--	--	39.2
1999	3778	--	--	1.6	--	--	79.5
2000	8725	--	--	1.4	--	--	189.2
2001	8904	--	--	2.2	--	--	203.5
2002	14392	--	--	2.8	--	--	301.0
2003	22873	--	--	4.5	--	--	477.1
2004	20244	--	--	4.0	--	--	427.7
2005	23137	--	--	4.9	--	--	523.3
2006	22039	--	--	4.9	--	--	514.0
2007	15389	--	--	3.5	--	--	377.3
2008	4993	--	--	1.2	--	--	135.8
2009	4772	--	--	1.1	--	--	134.8
<b>Subtotal</b>	<b>152011</b>	--	--	<b>33.7</b>	--	--	<b>3425.4</b>

**Annual Funding BY\$****3011 | Procurement | Procurement of Ammunition, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1997	937	--	--	0.7	--	--	21.8
1998	1828	--	--	0.8	--	--	36.7
1999	3778	--	--	1.5	--	--	73.6
2000	8725	--	--	1.3	--	--	173.3
2001	8904	--	--	2.0	--	--	184.7
2002	14392	--	--	2.5	--	--	269.7
2003	22873	--	--	4.0	--	--	421.8
2004	20244	--	--	3.5	--	--	372.2
2005	23137	--	--	4.2	--	--	448.4
2006	22039	--	--	4.1	--	--	433.0
2007	15389	--	--	2.9	--	--	312.3
2008	4993	--	--	1.0	--	--	110.4
2009	4772	--	--	0.9	--	--	107.7
<b>Subtotal</b>	<b>152011</b>	--	--	<b>29.4</b>	--	--	<b>2965.6</b>

Defense Emergency Response Funds (DERF) are not included in the funds or quantities listed. In support of Operation Enduring Freedom, the AF received a total of \$253.3M in DERF funds for delivery acceleration, facilitization for a production capacity of 3000 tailkits per month, and procurement of 6,348 JDAM tailkits.

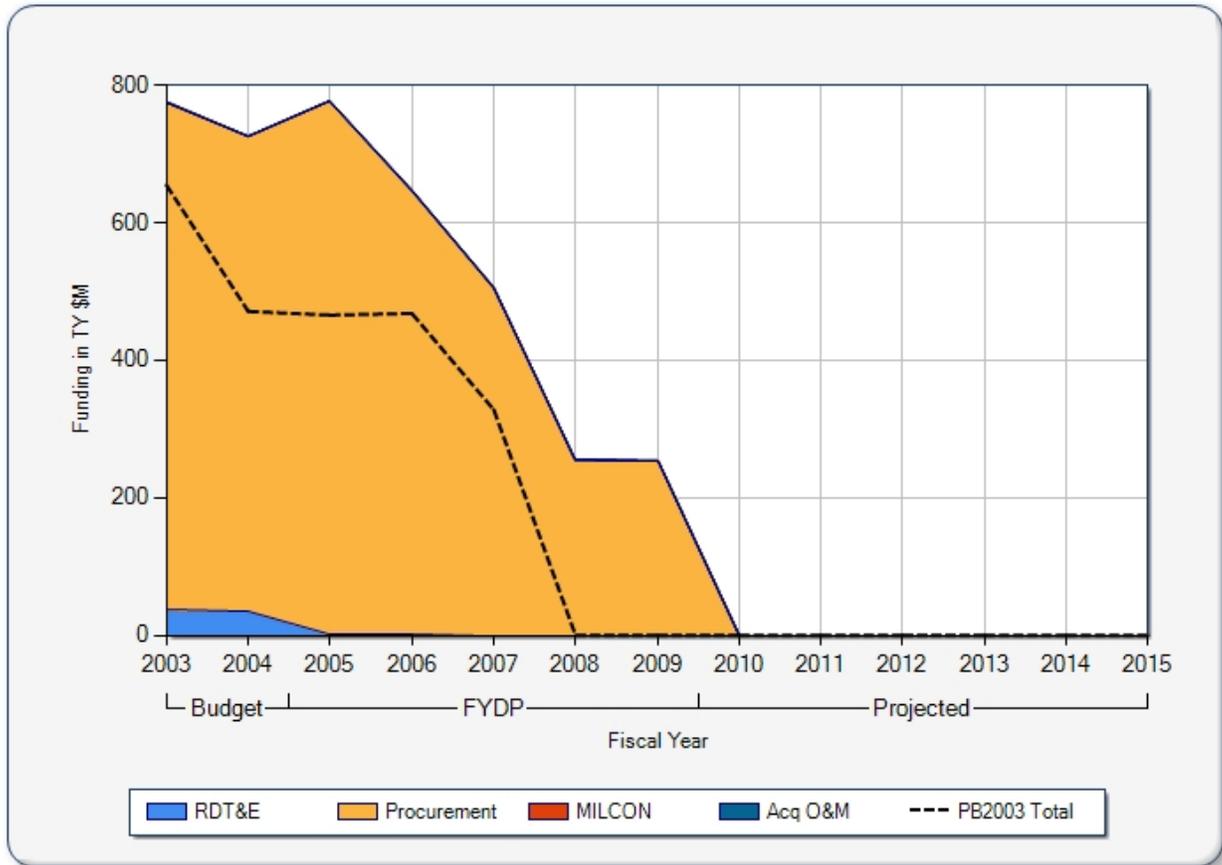
**Cost Quantity Information****3011 | Procurement | Procurement of Ammunition, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M</b>
1997	937	16.3
1998	1828	31.6
1999	3778	67.3
2000	8725	164.9
2001	8904	172.4
2002	14392	256.4
2003	22873	406.7
2004	20244	357.9
2005	23137	432.9
2006	22039	417.4
2007	15389	298.0
2008	4993	98.6
2009	4772	96.2
<b>Subtotal</b>	<b>152011</b>	<b>2816.6</b>

Current Estimate Source: SAR 12/25/2002

## Acquisition Funding Projection

Acquisition Funding Projection



## Low Rate Initial Production

None

## Foreign Military Sales

Israel (IS-D-YEQ) Case signed February 9, 2000, \$35.2M

Purpose: Procure 432 JDAMs and support

Israel (IS-D-YET) Case signed September 9, 2002, \$25M

Purpose: Procure 1000 JDAMs

Kingdom of Oman (MU-D-YEI) Case signed May 2, 2002, \$7.9M.

Purpose: Procure 80 JDAMs and support

Republic of Korea (KS-D-SIR) Case signed June 12, 2002, \$2.1M.

Purpose: Procure 14 JDAMs and support

Denmark (DE-D-QBF) Case signed June 28, 2002, \$1.7M.

Purpose: Integration support

Denmark (DE-D-YME) Case signed December 20, 2002, \$14.2M

Purpose: Procure 245 JDAMs and support.

United Arab Emirates (AE-D-SAA) Case signed August 8, 2000, \$2.5M.

Purpose: Procure JDAM test assets and support

United Arab Emirates (AE-D-YAB) Case signed August 20, 2002, \$6.9M.

Purpose: Procure 200 JDAMs and support

## Nuclear Cost

None.

**Unit Cost****Unit Cost Report**

<b>Unit Cost</b>	<b>BY1995 \$M</b>		
	<b>Current UCR Baseline (OCT 2002 APB)</b>	<b>Current Estimate (DEC 2002 SAR)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	4882.6	5035.0	
Quantity	221869	226955	
Unit Cost	0.022	0.022	+0.00
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	4307.5	4463.4	
Quantity	221091	226177	
Unit Cost	0.019	0.020	+5.26

<b>Unit Cost</b>	<b>BY1995 \$M</b>		
	<b>Original UCR Baseline (SEP 1995 APB)</b>	<b>Current Estimate (DEC 2002 SAR)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	2720.4	5035.0	
Quantity	88126	226955	
Unit Cost	0.031	0.022	-29.03
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	2090.6	4463.4	
Quantity	87496	226177	
Unit Cost	0.024	0.020	-16.67

## Contracts

### Joint Direct Attack Mun - Boeing

Program Name JDAM  
 Program Phase Production  
 Contract Number F08635-00-C-0032  
 Contract Type FFP  
 Change Order Number  
 Contractor Division PO BOX 516  
 Contractor Location ST LOUIS , MO 63166-0516

### Contract Deliveries

Total Quantity	Plan Quantity	Delivered Quantity
8163	8163	8163

Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
		172.0	

### Contract Schedule Data

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
2/24/2000	2/1/2000				

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)
-------------	-----------------	--------------------------	------------	------------

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)
------------	-------------------	----------------------	----------------------

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)
------------------------	-----------------------------	--------------------------	---------------------------

### Contract Variance Data (\$M)

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
+		+	+

### Contract Comments

Cost performance data is not required for Firm Fixed Price (FFP) contracts.

The target price and quantity includes Low Rate Initial Production (LRIP) 4.

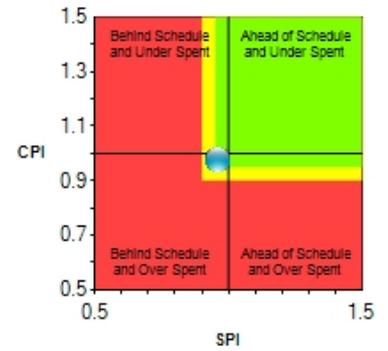
Deliveries are as of 30 Apr 02.

Contract deliveries are complete; therefore, this contract will not be reported in subsequent DAES submissions.

None

**JDAM-MK-82 - Boeing**

Program Name JDAM  
 Program Phase  
 Contract Number F08635-00-C-0101  
 Contract Type CPAF  
 Change Order Number  
 Contractor Division PO BOX 516  
 Contractor Location ST LOUIS , MO 63166-0516



**Contract Deliveries**

Total Quantity	Plan Quantity	Delivered Quantity
158	86	86

Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
		51.4	

**Contract Schedule Data**

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
9/22/2000	9/1/2000	Dec 01			

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)
9/30/2002	Other		38.2	37.0

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)
38.2			

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)

**Contract Variance Data (\$M)**

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
-1.2	-3.2%	-1.2	-3.1%

**Contract Comments**

None

None

**JDAM Lots 5 & 6 - Boeing**

Program Name JDAM  
 Program Phase Production  
 Contract Number F08635-01-C-0027/1  
 Contract Type FFP  
 Change Order Number  
 Contractor Division  
 Contractor Location St. Louis , MO 63166-0516

**Contract Deliveries**

Total Quantity	Plan Quantity	Delivered Quantity
8163	8163	8163

Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
		172.0	

**Contract Schedule Data**

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
	2/1/2000				

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)

**Contract Variance Data (\$M)**

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
+		+	+

**Contract Comments**

Cost performance data is not required for Firm Fixed Price (FFP) contracts.<br><br>The target price and quantity includes Low Rate Initial Production (LRIP) 4.<br><br>Deliveries are as of 30 Apr 02.<br><br>Contract deliveries are complete; therefore, this contract will not be reported in subsequent DAES submissions.

None

**Joint Direct Attack Mun - Boeing**

Program Name JDAM  
 Program Phase Production  
 Contract Number F08635-01-C-0027/2  
 Contract Type FFP  
 Change Order Number  
 Contractor Division  
 Contractor Location St Louis , MO 63166-0516

**Contract Deliveries**

Total Quantity	Plan Quantity	Delivered Quantity
55888	12739	13266

Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
		1263.3	

**Contract Schedule Data**

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
3/29/2001	3/1/2001				

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)

**Contract Variance Data (\$M)**

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
+		+	+

**Contract Comments**

Cost performance data is not required for Firm Fixed Price (FFP) contracts. The target price and quantity includes Production Lots 5, 5a, 5b, 6, 6a, 6b, and 6c. Deliveries are as of 31 Oct 02

None



**Deliveries and Expenditures**

<b>Deliveries To Date</b>	<b>Plan</b>	<b>Actual</b>	<b>Total Quantity</b>	<b>Percent Delivered</b>
Development	778	742	778	95.37%
Production	226177	32079	226177	14.18%
<b>Total Program Quantities Delivered</b>	<b>226955</b>	<b>32821</b>	<b>226955</b>	<b>14.46%</b>

**Expenditures and Appropriations (TY \$M)**

Total Acquisition Cost	5755.4	Years Appropriated	11
Expenditures To Date	1217.9	Percent Years Appropriated	64.71%
Percent Expended	21.16%	Appropriated to Date	2594.7
Total Funding Years	17	Percent Appropriated	45.08%

### Operating and Support Cost

Costs	BY1995 \$M				TY \$M		
	Initial APB	Current APB Objective/Threshold		Current Estimate	Initial APB	Current APB Objective	Current Estimate
Total Acquisition	2300.3	4882.6	N/A	5035.0	2606.7	5630.8	5755.4
O&S	--	--	--	232.6	--	--	421.3
Total Life Cycle	N/A	N/A	N/A	5267.6	N/A	N/A	6176.7

Current Estimate Total Acquisition Cost Source: SAR 12/25/2002

Current Estimate O&S Cost Source: SAR 12/25/2002

Initial APB Source - APB dated: 03/23/2001

Current APB Source - APB dated: 10/07/2002

### Assessments

#### Assessments for the Dec 2002 Review

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
<b>Performance</b>												
APB	G	NR	NR	G	NR							
Contracts	NR											
<b>Test</b>												
APB	G	NR	NR	G	NR							
Contracts	NR											
<b>Logistics</b>												
APB	G	NR	NR	G	NR							
Contracts	NR											
<b>Cost</b>												
APB	G	NR	NR	G	NR							
Contracts	NR											
<b>Funding</b>												
APB	G	NR	NR	G	NR							
Contracts	NR											
<b>Schedule</b>												
APB	G	NR	NR	G	NR							
Contracts	NR											
<b>Contracts</b>												
APB	G	NR	NR	G	NR							
Contracts	NR											

		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
<b>Production</b>	APB	G	NR	NR	G	NR							
	Contracts	NR											
<b>Management</b>	APB	G	NR	NR	G	NR							
	Contracts	NR											
<b>Interoperability</b>	APB	NR											
	Contracts	NR											

**Explanations**

**Performance** No explanation provided.

**Test** No explanation provided.

**Logistics** No explanation provided.

**Cost** No explanation provided.

**Funding** No explanation provided.

**Schedule** No explanation provided.

**Contracts** No explanation provided.

**Production** No explanation provided.

**Management** No explanation provided.

**Interoperability** No explanation provided.

**OSD Assessments**

**Performance**

PSA/AW (U) Concur with program assessment.

G

OT&E (U) Deficiencies remain from the 2000-pound IOT&E/OPEVAL that affect

Y

operational employment, including FMU-152 Joint Programmable Fuze (JPF) compatibility, container reliability, system reliability, and Tactical Aircraft Mission Planning System planning time. System reliability and mission planning will be evaluated during 1000-pound operational testing (OT). FMU-152 and redesigned containers will not be available during 1000-pound OT on the F-18C/D, but are planned to be addressed in future operational testing.

(U) Initial results from 1000-pound Quick Reaction Assessment (QRA) are comparable to 2000-pound results. MOT&E results continue this trend.

(U) Developmental tests of the 500-pound variant continue. Results, thus far, indicate that all but one release hit within requirement document parameters.

## Test

OT&amp;E

GA

(U) 1000-pound JDAM development test is complete. A Quick Reaction Assessment (QRA) was accomplished in Dec 01- Feb 02. MOT&E began in Jul 02.

(U) The 500-pound variant TEMP is in draft. An update to the ORD is necessary to support the 500-pound variant.

SSE/DT&amp;E

Y

(U) DS/DT&E rating downgraded to Yellow to reflect the need to finalize and approve the TEMP for the MK-82 500# JDAM. Developmental testing is in progress without being covered by an approved TEMP. Current developmental testing is following the testing template used for the MK-83 1000# JDAM, described in the current MK-83/84 1000#/2000# TEMP. Developmental testing on the F-16C/D is complete and is in progress on the F/A-18C/D, the Navy's threshold aircraft. The delay in finalizing the MK-82 500# JDAM TEMP has been caused by issues integrating the test schedule for the B-2, the Air Force's threshold aircraft, with the development of the B-2 Smart Bomb Rack Assembly.

(U) TEMP: The TEMP for the MK-83/84 1000#/2000# variant, approved March 9, 2001, is current. The TEMP for the MK-82 500# variant is in work with several issues to be resolved before a final TEMP is submitted for coordination and approval. ECD: First Quarter CY03.

## Logistics

L&amp;MR

G

(U) No logistics issues.

OT&amp;E

GA

(U) Although improvements were demonstrated during IOT&E of the 2,000-pound variant, deficiencies remain. The redesign of the container, as well as system reliability, continue to be tracked and will be evaluated through FOT&E and lot acceptance tests.

## Cost

AR&amp;A/AM

G

(U) The program office advised that it is providing Monthly Activity Report data only, per SAF/AQ memorandum, subject: Tailored DAES Reporting, dated 19 Oct 95. Under the circumstances, it is difficult to assess cost. The program manager rates all

nine performance characteristics, including cost, as green. The full-rate production contract option for Lot 5 was awarded in March 2001. The contract is FFP and does not require cost reporting. On the CPAF MK-82 EMD contract (Target Price - \$51.4M; BCWP - \$37.0M), the program office reported a Cost Variance of -1.2 (-3%) and a Schedule Variance of -1.2 (-3%); however, a number of the EVM data fields were again left blank.

## Funding

Comptroller

G

(U) Concur with Program Manager's rating of green.

## Schedule

PSA/AW

G

(U) Concur with program assessment.

(U) 03 production ramp up continues with program having achieved 2,000 units/month production capacity in Oct.

(U) There is a schedule issue with Navy test range availability which is causing a slip of 2-3 months to complete F/A-18 flight testing. The JPO is working with the Navy to seek a higher priority for JDAM testing.

OT&E

G

(U) JDAM 1,000-pound variant MOT&E began in Jul 02. Test events are slated to resume in mid-Dec.

(U) To address unresolved and unsatisfactory issues from the 2,000-pound MOT&E, a dedicated FMU-152 Joint Programmable Fuze/JDAM FOT&E is planned for 3,4QFY03.

(U) Developmental tests of the 500-pound variant have begun. Operational tests are planned with the F/A-18 3,4QFY03 and with the B-2 in 2-4QFY04.

## Contracts

DP/DSPS

G

(U) JDAM reports an OSD-approved tailored DAES per SAF/AQ memo dated October 95. The tailored DAES consists of information from the Monthly Activity Report (MAR), the APB (section 5), the unit cost report (section 6.2) and cost and schedule variances (elements of section 7).

(U) From October 02 MAR: Issue: The Navy's test range priority is causing slip of 2-3 months in completing F/A-18 flight test. As a result, there is a potential overrun of \$2M RDT&E on the Mk-82 500 lb development contract. JDAM JPO can fund within JDAM RDT&E budget with no impact to B-2 integration. Further delay will drive additional RDT&E concern. JPO working with Boeing to minimize overrun and with the Navy to get higher priority on range.

(U) Successfully completed MK-82 testing on F-16 on 29 October 02.

(U) Awarded Mk-82 JDAM/B2 integration contract for \$2.9M on 22 Oct 02.

**Production**

IP (U) No production issues identified.

G

**Management**

PSA/AW (U) Concur with program assessment.

G

(U) There is a potential cost overrun of \$2M RDT&E on the MK82 500lb development contract due to Navy range priorities and subsequent delay in completing F/A-18 flight test. To date, JDAM JPO can still fund within the JDAM RDT&E budget with no impact to B-2 integration.

(U) Continuing ramp-up production schedule to meet increased warfighter demand.

**Interoperability**

OT&E (U) An F-18C/D peculiar anomaly for manually entered weapon retargeting in-flight was noted during the QRA. A workaround procedure is in place until a permanent software fix can be accomplished.

GA

(U) No known issues exist with the 500-pound variant.

**PM Sources:**

DAES 11/25/2002

**OSD Sources:**

DAES 12/25/2002

**LCS**

No LCS Data exists for JDAM

-



# Defense Acquisition Management Information Retrieval (DAMIR)



## Current Status Report (DAES & Web Services)

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



### **JDAM**

As of December 25, 2003

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## Program Information

### Designation And Nomenclature (Popular Name)

Joint Direct Attack Munition (JDAM)

### DoD Component

Air Force

### Joint Participants

USAF; Navy

### General Information

ACAT	IC	Status	Active
FCB	Force Application	PNO	503
DAES Status	Full	DAES Group	B
SAR Status	Full	Lead OSD Organization	PSA/AW
Commodity Type	Munitions	Program Type	MDAP

## Responsible Office

### Responsible Office

Col James R. McClendon	<b>Phone</b>	882-732-1225 ext. 3
AAC/YU Direct Attack	<b>Fax</b>	850-882-0657
System Program Office - JDAM	<b>DSN Phone</b>	872-7321 ext. 2253
102 W D Ave 1st Floor	<b>DSN Fax</b>	--
Eglin AFB, FL 32542-6807		
<a href="mailto:james.mcclendon@eglin.af.mil">james.mcclendon@eglin.af.mil</a>	<b>Date Assigned</b>	December 1, 2003

### Program Manager's Point Of Contact (POC)

GS-13 Gila Harold	<b>Phone</b>	850-882-4261 ext. 3175
AAC/YU Joint Direct Attack Munition	<b>Fax</b>	--
Joint Program Office	<b>DSN Phone</b>	872-4261 ext. 3175
102 W D Ave 1st Floor	<b>DSN Fax</b>	872-9473
Eglin AFB, FL 32542-6807		
<a href="mailto:gila.harold@eglin.af.mil">gila.harold@eglin.af.mil</a>	<b>Date Assigned</b>	

### Program Executive Officer (PEO)

MajGen Robert W. Chedister	<b>Phone</b>	850-882-5422
Air Armament Center	<b>Fax</b>	--
101 West D Ave.	<b>DSN Phone</b>	872-5422
Eglin AFB, FL 32542	<b>DSN Fax</b>	--
<a href="mailto:robert.chedister@eglin.af.mil">robert.chedister@eglin.af.mil</a>	<b>Date Assigned</b>	

## References

Approval Date	Name	Phase	Event	Authority	Base Year	Original	Change
10/07/2002	APB Change 1	Production		DAE	1995	No	Yes
03/23/2001	Prod APB	Production	M/S III	DAE	1995	No	No
06/01/2000	APB Change 4	Development		DAE	1995	No	Yes
12/30/1999	Proposed Baseline	Development			1995	No	No
02/22/1999	APB Change 3	Development		DAE	1995	No	Yes
05/11/1998	APB Change 2	Development		DAE	1995	No	Yes
12/19/1997	APB Change 1	Development		DAE	1995	No	Yes
09/20/1995	Dev APB	Development	M/S II	DAE	1995	Yes	No
07/11/1995	Concept Baseline	Concept	M/S I	DAE	1993	No	No

## Mission and Description

The Joint Direct Attack Munition (JDAM) is a joint Air Force/Navy program with the Air Force as the lead service. Designated Acquisition Category (ACAT) 1C, this program upgrades the existing inventory of general purpose bombs (MK-84, BLU-109, MK-83/BLU-110 and MK-82/BLU-111) by integrating the bombs with a guidance kit consisting of a Global Positioning System aided Inertial Navigation System (GPS/INS). JDAM provides an accurate, adverse weather capability against mobile hard, mobile soft, fixed hard, fixed soft, and maritime targets. JDAM is integrated with the B-52H, B-2A, B-1B, F-15E, F-16C/D, F-14B/D, and F/A-18C/D/E/F aircraft. Follow-on integration will be on the F/A-22, F-117A, A/OA-10, F-35, X-45 Joint Unmanned Combat Air System (JUCAS), AV-8B, MQ-9 (Predator), P-3 and S-3 aircraft.

Picture Source: SAR 12/25/2003

Text Source: SAR 12/25/2003

## Executive Summary

The Lot 7 JDAM production award was completed in March 2003 for 2000 lb and 1000 lb tail kits. The 500 lb (MK-82) tail kits were included as an option in this contract. The option was exercised in July 2003.

The MK-82/B-2 development flight test program was successfully completed in 2003. The capstone event was an 80 weapon ripple off the B-2. The B-2 operational test and evaluation flight test program remains on schedule and will commence mid March 2004. Development delays in the Navy BRU-55 carriage program, as well as range and test aircraft availability, have caused an eleven month schedule slip from June 2003 to May 2004 for the MK-82 (500 lb) flight test effort on the FA-18C/D.

The Operational Test and Evaluation/Operational Evaluation (OT&E/OPEVAL) final report for the 1000 lb variant on the FA-18C/D was completed in July 2003 with the release of the Multi-service Operational Test and Evaluation (MOT&E) report. The 1000 lb variant was determined to be operationally effective and suitable.

The production ramp to 3000 tail kits per month was achieved by July 2003. Boeing has delivered over 66,000 tail kits as of December 31, 2003.

The JDAM program awarded a two-year \$35M development contract to Boeing in February 2003 for Selective Availability Anti-Spoofing Module (SAASM) Global Positioning System (GPS) and anti-jam capabilities. Production Lot 9 (FY05) and subsequent lots will be GPS SAASM equipped. The production mix of the anti-jam variant to be procured in FY05 - FY09 lot buys is yet to be determined.

Foreign Military Sales (FMS) deliveries include tail kits for the Government of Israel. Deliveries are projected to be completed by May 2004.

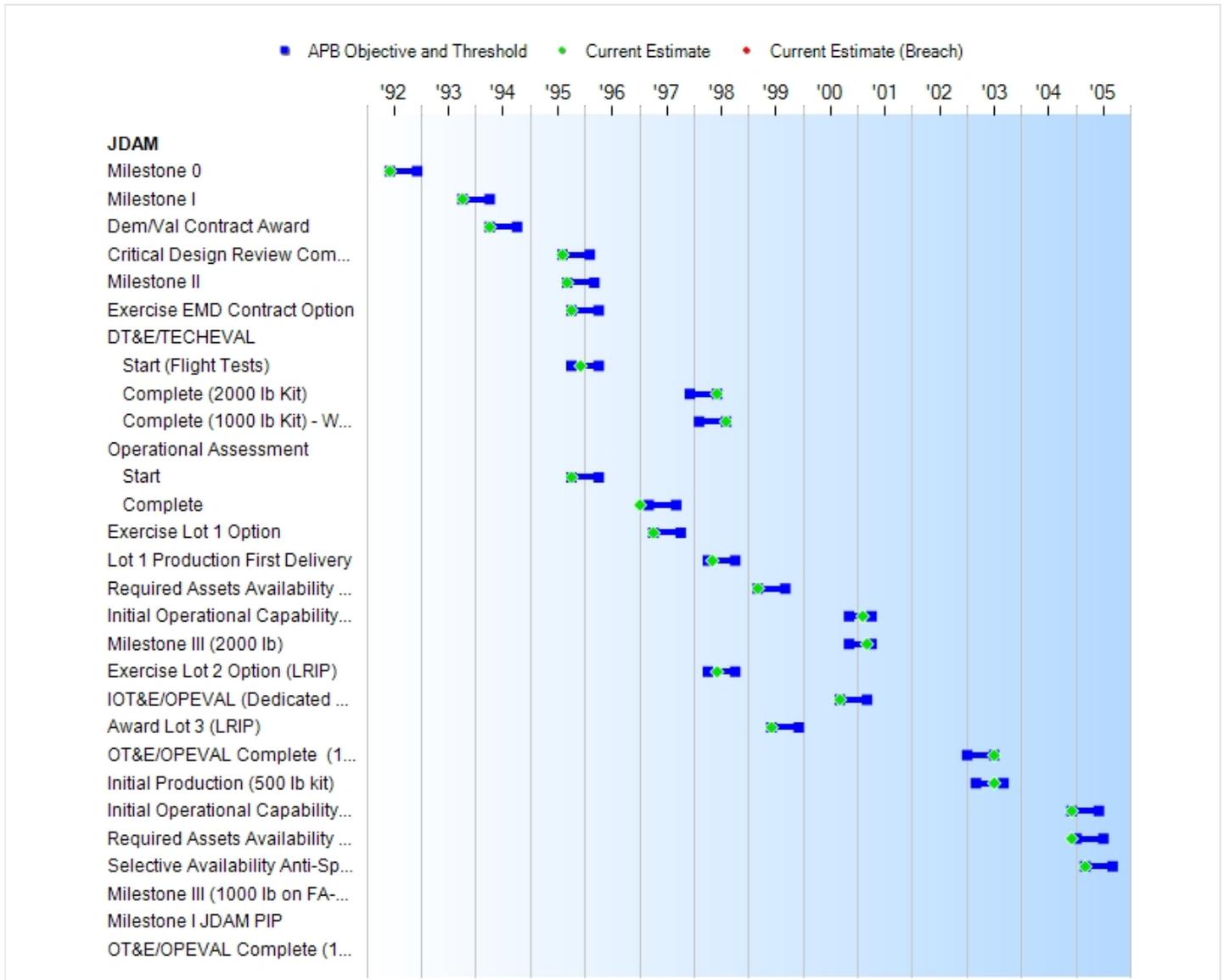
Israeli Peace Marble V, F-15I, and F-15AUP aircraft integration is in progress.

**Threshold Breaches**

APB Breaches		
<b>Schedule</b>		<input type="checkbox"/>
<b>Performance</b>		<input type="checkbox"/>
<b>Cost</b>	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
<b>Unit Cost</b>	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Nunn-McCurdy Breaches		
<b>Current UCR Baseline</b>		
	PAUC	None
	APUC	None
<b>Original UCR Baseline</b>		
	PAUC	None
	APUC	None

# Schedule



<b>Milestones</b>	<b>Initial Production APB</b>	<b>Current APB Production Objective/Threshold</b>		<b>Current Estimate</b>
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
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
Operational Assessment				
Start	OCT 1995	OCT 1995	APR 1996	OCT 1995
Complete	MAR 1997	MAR 1997	SEP 1997	JAN 1997
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
Required Assets Availability (AF)	MAR 1999	MAR 1999	SEP 1999	MAR 1999
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
Exercise Lot 2 Option (LRIP)	APR 1998	APR 1998	OCT 1998	JUN 1998
IOT&E/OPEVAL (Dedicated 2000 lb Kit) Complete	SEP 2000	SEP 2000	MAR 2001	SEP 2000
Award Lot 3 (LRIP)	JUN 1999	JUN 1999	DEC 1999	JUN 1999
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
Initial Operational Capability (IOC) (500 lb kit on FA-18C/D)	N/A	DEC 2004	JUN 2005	DEC 2004
Required Assets Availability (RAA) (500 lb on B-2)	N/A	JAN 2005	JUL 2005	DEC 2004
Selective Availability Anti-Spoofing Module (SAASM)/GPS Anti-Jam Production Award	N/A	MAR 2005	SEP 2005	MAR 2005
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)	JUL 2001	N/A	N/A	N/A

**Memo**

## ACRONYMS:

AUR - All Up Round

Dem/Val - Demonstration/Validation

DT&amp;E - Developmental Test and Evaluation

EMD - Engineering, Manufacturing and Development

GPS - Global Positioning System

IOT&E - Initial Operational Test and Evaluation

LRIP - Low Rate Initial Production

OPEVAL - Operational Evaluation

OT&E - Operational Test and Evaluation

PIP - Production Improvement Program

Tech Eval - Technical Evaluation

Current Estimate Source: SAR 12/25/2003

Initial APB Source - APB dated: 03/23/2001

APB Source - APB dated: 10/07/2002

## Performance

Characteristics	Initial Production APB	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Weather Capability	Adverse	Adverse	Adverse	Adverse	Adverse
Accuracy (CEP) (Meters)					
GPS Available, Impact Angles > 60 Deg	13 Horizontal Targets	5 Horizontal targets	13	7.60	13 Horizontal Targets
Inflight Re-targeting Capability (captive carry)	Yes	Yes	Yes	Yes	Yes
Carrier Operability	Yes	Yes	Yes	Yes	Yes
Warhead Compatibility	MK-82/BLU-111, MK-83, Improved 1000-lb, BLU-113/116/117	MK-82/BLU-111, MK-83, Improved 1000-lb, 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
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	FA-18C/D, F-22A, AV-8B
Mission Reliability	.90	.90	.90	.943	.90
JDAM PIP Accuracy (CEP) (Meters)	3	N/A	N/A	N/A	N/A <sup>1</sup>
JDAM PIP Weather Capability	Adverse	N/A	N/A	N/A	N/A <sup>1</sup>
JDAM PIP Warhead Compatibility	MK-82, MK-83	N/A	N/A	N/A	N/A <sup>1</sup>
Interoperability	Satisfy 100% of critical IERs	Satisfy 100% of critical IERs	Satisfy 100% of critical IERs	Satisfied	Satisfied

### <sup>1</sup>APB Breach

#### Memo

##### ACRONYMS:

CEP - Circular Error Probable

DEG - Degree

GPS - Global Positioning System

OPEVAL - Operational Evaluation

OT&E - Operational Test and Evaluation

PIP - Product Improvement Program

## Notes:

- (1) Adverse weather is defined as natural/man-made conditions such as rain, haze, dust, smoke, fog, snow, ice, wind, and/or clouds that preclude the use of current inventory precision guided munitions.
- (2) Assumes GPS quality hand-off from aircraft. In addition, the target location error (TLE) portion of the total system error is allocated to be 7.2 meters CEP. If TLE is larger than 7.2 meters CEP, the total system CEP will increase accordingly. For impact angles between 60 degrees and 35 degrees (with GPS available) accuracy degradation up to 19 meters CEP against horizontal targets is an objective.
- (3) Inflight programming/targeting will be possible through MIL-STD-1553/1760 data bus interface to the weapon from existing aircraft stores management hardware and modified software.
- (4) JDAM will be capable of operation on aircraft carriers to include withstanding 25 aircraft carrier catapult launches and arrested landings, and operating within the carriers' electromagnetic environments.
- (5) Physical compatibility with the B-1B, B-2, F/A-18C/D, AV-8B and B-52H were successfully demonstrated during actual fit test in EMD Phase 1. F/A-22A physical compatibility was also demonstrated using computerized physical fit analysis during this phase. During EMD Phase II, we successfully completed full JDAM integration on: B-1B, B-2, F/A-18C/D, and B-52H. Post EMD, follow-on integration has been completed on: F-14B/D, F-15E, F-16C/D, and F/A-18C/D/E/F aircraft. Follow-on integration with F/A-22, F-117A, A/OA-10, F-35, X-45 Joint Unmanned Combat Air System (JUCAS), AV-8B, MQ-9 (Predator), P-3 and S-3 aircraft is in process. The A-6E aircraft was deleted by Chief of Naval Operations (CNO) Letter, Serial Number N880D5/4UG59112, dated February 2, 1994. The F-111F has been deleted (Reference AF/XOR Message 260111Z January 1994).
- (6) The AV-8B is a funded, non-key performance parameter, threshold aircraft.
- (7) Mission reliability commences when the aircrew accepts the loaded aircraft and ends at weapon impact. Mission reliability for the guidance kits does not include reliability for the fuze.

Current Estimate Source: SAR 12/25/2003  
Initial APB Source - APB dated: 03/23/2001  
APB Source - APB dated: 10/07/2002

## Track To Budget

### RDT&E

	PE 0604618F	(Shared)
JDAM		
	PE 0604618N	(Shared)
JDAM		

### Procurement

APPN 1507	BA 05	(Navy)	ICN 014800
	JDAM		
APPN 1507	BA 05	(Navy)	ICN 0550
	JDAM		
APPN 3011	BA 27	(Air Force)	ICN 353620
	JDAM		

### General Memo

Air Force RDT&E JDAM funding includes the Product Improvement Program (PIP). Air Force RDT&E funding excludes the Joint Programmable Fuze dollars. The Navy RDT&E Dollars do not include PIP or Hornet Autonomous Real Time Targeting (HART) funding.

Air Force procurement funding does not include PIP funding. Navy Procurement funding includes BLU-109 warheads but not Joint Programmable Fuze (JPF).

Source: SAR 12/25/2003

## Cost and Funding

### Cost Summary

#### Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M			TY \$M			
	Initial Production APB	Current APB Production Objective/Threshold	Current Estimate	Initial Production APB	Current APB Production Objective	Current Estimate	
RDT&E	490.3	575.1	661.4	517.3	604.3	596.3	
Procurement	1810.0	4307.5	4738.3	2089.4	5026.5	5153.6	
MILCON	--	--	--	--	--	--	
Acq O&M	--	--	--	--	--	--	
Total	2300.3	4882.6	N/A	5030.2	2606.7	5630.8	5749.9

Current Change Explanations --

Revised PM's current estimate for Procurement funds from \$4463.5K to \$4460.7K in BY95\$ and from \$5156.7K to \$5153.6K in TY\$ to reflect reduced FY04 funds released.

RDT&E Funds:

AF and Navy funding does not include funds for fuze development. AF development dollars do include PIP funding.

Navy funding does not include PIP or Hornet Autonomous Real Time Targeting (HART) funding.

Procurement Funds:

Navy Procurement funding does not include the Joint Programmable Fuze (JPF) funding.

Navy Procurement funding includes costs for BLU-109 warheads.

Defense Emergency Response Funds (DERF) received in FY01 and FY02 are not included.

Quantity	Initial APB	Current APB	Current Estimate
RDT&E	630	778	778
Procurement	88435	221091	226644
Total	89065	221869	227422

## Funding Summary

There is no Funding Data available for the date/submission selected for the current program.

## Annual Funding By Appropriation

None

Current Estimate Source: DAES 12/25/2003

## Acquisition Funding Projection

There is no Funding Data available for the date/submission selected for the current program.

## Low Rate Initial Production

None

## Foreign Military Sales

Israel (IS-D-YEQ) Case signed February 9, 2000, \$34.1M

Purpose: Procure 660 JDAMs and support.

Israel (IS-D-YET) Case signed September 9, 2002, \$22.1M

Purpose: Procure 1000 JDAMs.

Israel (IS-D-QCI) Case signed July 28, 2003, \$13.2M

Purpose: Integration support.

Kingdom of Oman (MU-D-YEI) Case signed May 2, 2002, \$6.3M

Purpose: Procure 80 JDAMs and support.

Republic of Korea (KS-D-SIR) Case signed June 12, 2002, \$2.1M

Purpose: Procure 14 JDAMs and support.

Denmark (DE-D-QBF) Case signed June 28, 2002, \$1.9M

Purpose: Integration support.

Denmark (DE-D-YME) Case signed December 20, 2002, \$14.1M

Purpose: Procure 274 JDAMs and support.

United Arab Emirates (AE-D-SAA) Case signed June 15, 2002, \$2.3M.

Purpose: Procure JDAM test assets and support.

United Arab Emirates (AE-D-YAB) Case signed August 20, 2002, \$6.9M.

Purpose: Procure 200 JDAMs and support

Chile (CI-D-SGB) Case signed November 14, 2003, \$2.0M

Purpose: Integration support.

Poland (PL-D-SAC) Case signed April 18, 2003, \$15.7M

Purpose: Procure 270 JDAMs and support.

## **Nuclear Cost**

None.

**Unit Cost****Unit Cost Report**

<b>Unit Cost</b>	<b>BY1995 \$M</b>		
	<b>Current UCR Baseline (OCT 2002 APB)</b>	<b>Current Estimate (DEC 2003 DAES)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	4882.6	5030.2	
Quantity	221869	227422	
Unit Cost	0.022	0.022	+0.00
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	4307.5	4460.7	
Quantity	221091	226644	
Unit Cost	0.019	0.020	+5.26

<b>Unit Cost</b>	<b>BY1995 \$M</b>		
	<b>Original UCR Baseline (SEP 1995 APB)</b>	<b>Current Estimate (DEC 2003 DAES)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	2720.4	5030.2	
Quantity	88126	227422	
Unit Cost	0.031	0.022	-29.03
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	2090.6	4460.7	
Quantity	87496	226644	
Unit Cost	0.024	0.020	-16.67

Total program dollars and procurement dollars are in BY95\$.

## Contracts

### Joint Direct Attack Mun - Boeing

Program Name JDAM  
 Program Phase Production  
 Contract Number F08635-01-C-0027  
 Contract Type FFP  
 Change Order Number  
 Contractor Division PO Box 516  
 Contractor Location St Louis , MO 63166-0516

### Contract Deliveries

Total Quantity	Plan Quantity	Delivered Quantity
55888	19555	19871

Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
		1266.5	

### Contract Schedule Data

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
3/29/2001	3/1/2001				

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)
-------------	-----------------	--------------------------	------------	------------

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)
------------	-------------------	----------------------	----------------------

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)
------------------------	-----------------------------	--------------------------	---------------------------

### Contract Variance Data (\$M)

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
+		+	+

### Contract Comments

Cost performance data is not required for Firm Fixed Price (FFP) contracts.

The target price and quantity includes Production Lots 5, 5a, 5b, 6, 6a, 6b, and 6c. Includes additional quantities procured with Defense Emergency Response Funds (DERF). Contract also includes acceleration and facilitization costs in support of Operation Enduring Freedom.

Deliveries are as of 31 Jan 03.

The previously reported Mk-82 Development contract, F08626-00-C-0101 is over 90 percent complete and will no

longer be reported.

None

**Joint Direct Attack Mun - Boeing**

Program Name JDAM  
 Program Phase Production  
 Contract Number F08635-01-C-0027/2  
 Contract Type FFP  
 Change Order Number  
 Contractor Division  
 Contractor Location St Louis , MO 63166-0516

**Contract Deliveries**

Total Quantity	Plan Quantity	Delivered Quantity
55888	19555	19871

Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
		1266.5	

**Contract Schedule Data**

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
3/29/2001	3/1/2001				

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)

**Contract Variance Data (\$M)**

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
+		+	+

**Contract Comments**

Cost performance data is not required for Firm Fixed Price (FFP) contracts.<br><br>The target price and quantity includes Production Lots 5, 5a, 5b, 6, 6a, 6b, and 6c.&nbsp;   Includes additional quantities procured with Defense Emergency Response Funds (DERF).&nbsp;   Contract also includes acceleration and facilitization costs in support of Operation Enduring Freedom. <br><br>Deliveries are as of 31 Jan 03.<br><br>The previously reported Mk-82 Development contract, F08626-00-C-0101 is over 90 percent complete and will no longer be reported.

None



**Deliveries and Expenditures**

<b>Deliveries To Date</b>	<b>Plan</b>	<b>Actual</b>	<b>Total Quantity</b>	<b>Percent Delivered</b>
Development	778	778	778	100.00%
Production	66099	66464	226644	29.33%
<b>Total Program Quantities Delivered</b>	<b>66877</b>	<b>67242</b>	<b>227422</b>	<b>29.57%</b>

**Expenditures and Appropriations (TY \$M)**

Total Acquisition Cost	5749.9	Years Appropriated	1
Expenditures To Date	1644.8	Percent Years Appropriated	--
Percent Expended	28.61%	Appropriated to Date	0.0
Total Funding Years	0	Percent Appropriated	0.00%

### Operating and Support Cost

Costs	BY1995 \$M				TY \$M		
	Initial APB	Current APB Objective/Threshold		Current Estimate	Initial APB	Current APB Objective	Current Estimate
Total Acquisition	2300.3	4882.6	N/A	5030.2	2606.7	5630.8	5749.9
O&S	--	--	--	232.6	--	--	421.3
Total Life Cycle	N/A	N/A	N/A	5262.8	N/A	N/A	6171.2

Current Estimate Total Acquisition Cost Source: DAES 12/25/2003

Current Estimate O&S Cost Source: SAR 12/25/2003

Initial APB Source - APB dated: 03/23/2001

Current APB Source - APB dated: 10/07/2002

### Assessments

#### Assessments for the Oct 2003 Review

<b>Performance</b>		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
	APB	NR	NR	G	NR								
	Contracts	NR											
<b>Test</b>		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
	APB	NR	NR	G	NR								
	Contracts	NR											
<b>Logistics</b>		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
	APB	NR	NR	G	NR								
	Contracts	NR											
<b>Cost</b>		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
	APB	NR	NR	G	NR								
	Contracts	NR											
<b>Funding</b>		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
	APB	NR	NR	G	NR								
	Contracts	NR											
<b>Schedule</b>		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
	APB	NR	NR	G	NR								
	Contracts	NR											
<b>Contracts</b>		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
	APB	NR	NR	G	NR								
	Contracts	NR											

<b>Production</b>		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
APB		NR	NR	G	NR								
Contracts		NR											
<b>Management</b>		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
APB		NR	NR	G	NR								
Contracts		NR											
<b>Interoperability</b>		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
APB		NR											
Contracts		NR											

**Explanations**

**Performance** No explanation provided.

**Test** No explanation provided.

**Logistics** No explanation provided.

**Cost** No explanation provided.

**Funding** No explanation provided.

**Schedule** No explanation provided.

**Contracts** No explanation provided.

**Production** No explanation provided.

**Management** No explanation provided.

**Interoperability** No explanation provided.

**OSD Assessments**

**Performance**  
No OSD ratings are available.

**Test**  
No OSD ratings are available.

**Logistics**

No OSD ratings are available.

**Cost**

No OSD ratings are available.

**Funding**

No OSD ratings are available.

**Schedule**

No OSD ratings are available.

**Contracts**

No OSD ratings are available.

**Production**

No OSD ratings are available.

**Management**

No OSD ratings are available.

**Interoperability**

No OSD ratings are available.

**LCS**

No LCS Data exists for JDAM

-



# Defense Acquisition Management Information Retrieval (DAMIR)



## Current Status Report (DAES & Web Services)

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



### **JDAM**

As of December 25, 2005

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## Program Information

### Designation And Nomenclature (Popular Name)

Joint Direct Attack Munition (JDAM)

### DoD Component

Air Force

### Joint Participants

Navy

### General Information

ACAT	IC	Status	Active
FCB	Force Application	PNO	503
DAES Status	Full	DAES Group	B
SAR Status	Full	Lead OSD Organization	PSA/AW
Commodity Type	Munitions	Program Type	MDAP

## Responsible Office

### Responsible Office

MS. Lynda Rutledge	<b>Phone</b>	850-882-3525 ext. 3311
AGMSW/DASG (JDAM)	<b>Fax</b>	850-882-0657
110 Wacissa Rd, Suite 1, Bldg 614	<b>DSN Phone</b>	872-3525 ext. 3311
Eglin AFB, FL 32542-6807	<b>DSN Fax</b>	--
<a href="mailto:lynda.rutledge@eglin.af.mil">lynda.rutledge@eglin.af.mil</a>	<b>Date Assigned</b>	August 15, 2005

### Program Manager's Point Of Contact (POC)

GS-13 Jennifer Denega	<b>Phone</b>	850-882-4261 ext. 3175
AGMSW Direct Attack Systems Group	<b>Fax</b>	--
Joint Program Office - JDAM	<b>DSN Phone</b>	872-4261 ext. 3175
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Eglin AFB, FL 32542-6807	<b>Date Assigned</b>	
<a href="mailto:jennifer.denega@eglin.af.mil">jennifer.denega@eglin.af.mil</a>		

### Program Executive Officer (PEO)

MajGen Robert W. Chedister	<b>Phone</b>	850-882-5422
Air Armament Center	<b>Fax</b>	--
101 West D Ave.	<b>DSN Phone</b>	872-5422
Eglin AFB, FL 32542	<b>DSN Fax</b>	--
<a href="mailto:robert.chedister@eglin.af.mil">robert.chedister@eglin.af.mil</a>	<b>Date Assigned</b>	

## References

Approval Date	Name	Phase	Event	Authority	Base Year	Original	Change
10/07/2002	APB Change 1	Production		DAE	1995	No	Yes
03/23/2001	Prod APB	Production	M/S III	DAE	1995	No	No
06/01/2000	APB Change 4	Development		DAE	1995	No	Yes
12/30/1999	Proposed Baseline	Development			1995	No	No
02/22/1999	APB Change 3	Development		DAE	1995	No	Yes
05/11/1998	APB Change 2	Development		DAE	1995	No	Yes
12/19/1997	APB Change 1	Development		DAE	1995	No	Yes
09/20/1995	Dev APB	Development	M/S II	DAE	1995	Yes	No
07/11/1995	Concept Baseline	Concept	M/S I	DAE	1993	No	No

## Mission and Description

The Joint Direct Attack Munition (JDAM) is a joint Air Force/Navy program with the Air Force as the lead service. This program upgrades the existing inventory of general purpose bombs (Mk-84, BLU-109, Mk-83/BLU-110 and Mk-82/BLU-111) by integrating the bombs with a guidance kit consisting of a Global Positioning System aided Inertial Navigation System (GPS/INS). JDAM provides an accurate, adverse weather capability against mobile hard, mobile soft, fixed hard, fixed soft and maritime targets. JDAM is integrated with the B-52H, B-2A, B-1B, F-15E, F-16C/D, F-22A, F-14B/D, F/A-18A+/C/D/E/F, and AV-8B aircraft. Follow-on integrations with the, F-117A, A/OA-10, MQ-9 (Predator), and F-35 are in progress. Integration efforts with the P-3 and S-3 aircraft are currently unplanned.

Picture Source: SAR 12/25/2005

Text Source: SAR 12/25/2005

## Executive Summary

The Joint Direct Attack Munition (JDAM) program completed the Selective Availability Anti-Spoofing Module/Anti-jam (SAASM/AJ) development effort in March 2005, with the final Award Fee approved in September 2005. The government awarded the Lot 9 JDAM production contract for 30,068 tailkits in March 2005. All Lot 9 and future tailkits will be SAASM compliant. 9,000 tailkits in the Lot 9 buy will have AJ capability, and the user will determine future AJ quantities.

The F-16 Block 30 completed a Quick Reaction Capability (QRC) to integrate GBU-38s (Mk-82 JDAM) with the pylon integrated dispenser system-universal (PIDS-U) in November 2005. Air Combat Command/Directorate of Requirements authorized fielding of GBU-38 on F-16 Block 50 in May 2005. The Navy declared Initial Operational Capability (IOC) for the AV-8B with GBU-32 (Mk-83 JDAM) in March 2005 and with the GBU-38 in November 2005. The F-14D released a GBU-38 in operational use for the first time in October 2005. The B-1B successfully completed flight testing for GBU-38 integration achieving a limited certification for a load-out of 15 GBU-38s. Required Assets Available (RAA) occurred December 2005 following B-1B Force Development Evaluation. The B-2 declared RAA with the GBU-38 in March 2005 upon completion of an aircraft modification.

The F-22A and JDAM programs agreed to take the GBU-32 (Mk-83 JDAM) back into the wind tunnel and modify the GBU-32 Operation Flight Program (OFP) with improved algorithms for rate capture and autopilot at transonic release conditions (contract was awarded March 2005). F-22A agreed to fund this effort, however this funding does not include additional Developmental Testing (DT) funding and support costs. Boeing conducted the wind tunnel testing at the Calspan wind tunnel facility in September 2005 and will complete an OFP change in FY06 in time for F-22A envelope expansion (Spiral 2) testing. The first Follow-On Operational Test and Evaluation (FOT&E) flight for F-22A with GBU-32 was successfully conducted in May 2005. Weapon System Evaluation Program (WSEP) conducted an ACC requested investigative firing of the GBU-32 from the F-22A in the supersonic region in October 2005, releasing 22 weapons. IOC for subsonic and limited supersonic capability was achieved in December 2005.

## FMS

JDAM is sold via Foreign Military Sales (FMS) to the following countries: Israel, Denmark, Chile, Netherlands, Portugal, Belgium, Turkey, Greece, Japan, Korea, Chile, Oman, Poland and United Arab Emirates. The European Participating Air Forces are interoperable with the U.S. Air Force.

## Software

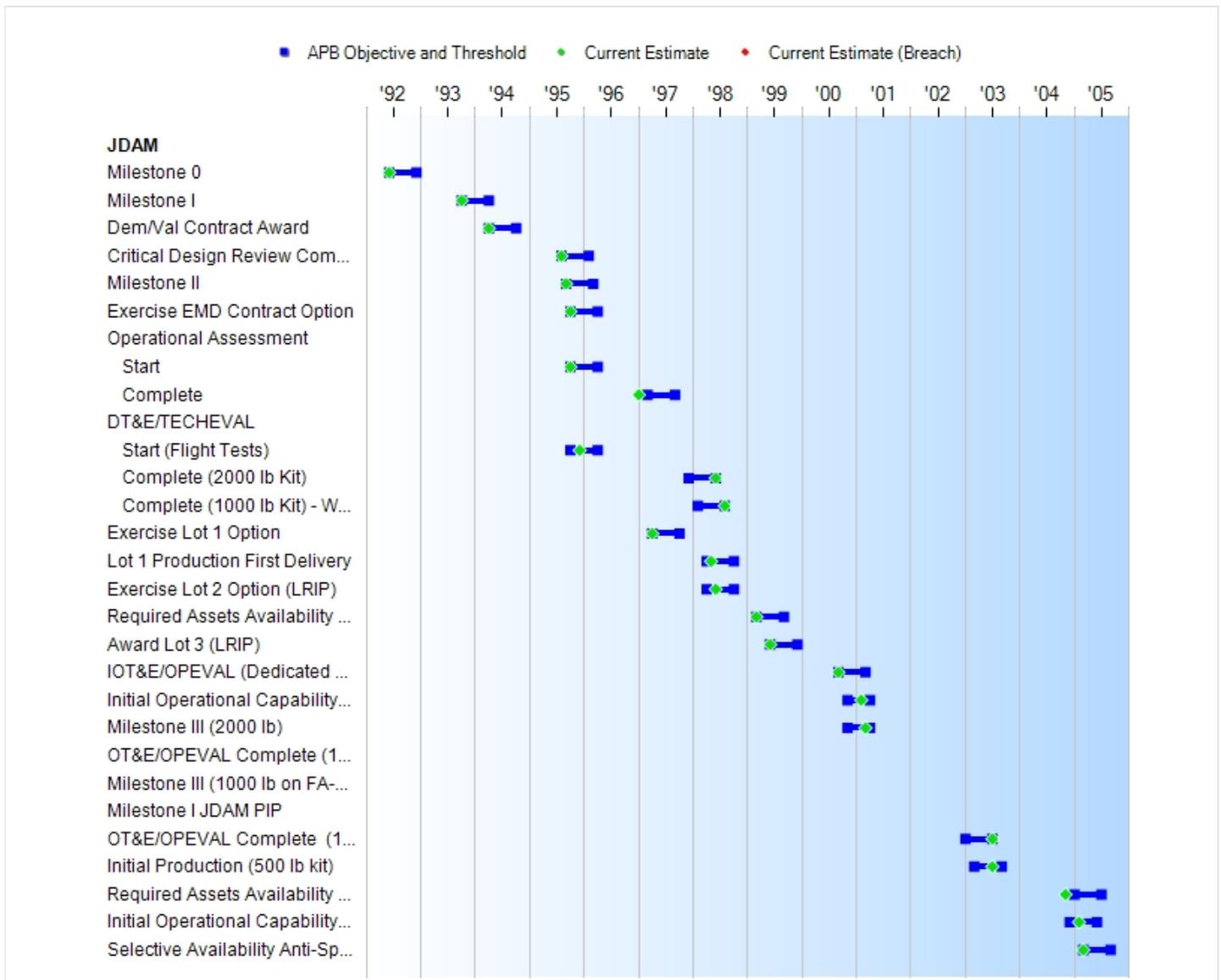
There are no significant software related issues with this program at this time.

## Threshold Breaches

APB Breaches		
Schedule		<input type="checkbox"/>
Performance		<input type="checkbox"/>
Cost	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
Unit Cost	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Nunn-McCurdy Breaches		
<b>Current UCR Baseline</b>		
	PAUC	None
	APUC	None
<b>Original UCR Baseline</b>		
	PAUC	None
	APUC	None

### Schedule



<b>Milestones</b>	<b>Initial Production APB</b>	<b>Current APB Production Objective/Threshold</b>		<b>Current Estimate</b>
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

### Acronyms

AUR - All Up Round  
 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 - Production Improvement Program  
TECHEVAL - Technical Evaluation

**Memo**

None

Current Estimate Source: SAR 12/25/2005  
Initial APB Source - APB dated: 03/23/2001  
APB Source - APB dated: 10/07/2002

## Performance

Characteristics	Initial Production APB	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Weather Capability	Adverse	Adverse	Adverse	Adverse	Adverse
Accuracy (CEP) (Meters)					
GPS Available, Impact Angles > 60 Deg	13 Horizontal Targets	5 Horizontal targets	13	4.4	6.2 Horizontal Targets
Inflight Re-targeting Capability (captive carry)	Yes	Yes	Yes	Yes	Yes
Carrier Operability	Yes	Yes	Yes	Yes	Yes
Warhead Compatibility	MK-82/BLU-111, MK-83, Improved 1000-lb, BLU-113/116/117	MK-82/BLU-111, MK-83, Improved 1000-lb, BLU-113/116/117	BLU-109, MK-84, MK-83 (F-22)	BLU-109, MK-84, MK-83 (F-22A) MK-82	BLU-109, MK-84, MK-83 (F-22A) MK-82
Aircraft Compatibility					
Bomber	B-1B, B-2	B-1B, B-2	B-52H	Yes	B-52H
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	FA-18C/D, F-22A, AV-8B
Mission Reliability	.90	.90	.90	.946	.90
JDAM PIP Accuracy (CEP) (Meters)	3	N/A	N/A	N/A	N/A <sup>1</sup>
JDAM PIP Weather Capability	Adverse	N/A	N/A	N/A	N/A <sup>1</sup>
JDAM PIP Warhead Compatibility	MK-82, MK-83	N/A	N/A	N/A	N/A <sup>1</sup>
Interoperability	Satisfy 100% of critical IERs	Satisfy 100% of critical IERs	Satisfy 100% of critical IERs	Satisfied	Satisfied

### <sup>1</sup>APB Breach

### Acronyms

CEP - Circular Error Probable

DEG - Degree

GPS - Global Positioning System

IER - Information Exchange Requirement

PIP - Product Improvement Program

### Memo

Notes:

(1) Adverse weather is defined as natural/man-made conditions such as rain, haze, dust, smoke, fog, snow, ice, wind, and/or clouds that preclude the use of current inventory precision guided munitions.

(2) Assumes GPS quality hand-off from aircraft. In addition, the Target Location Error (TLE) portion of the total system

error is allocated to be 7.2 meters CEP. If TLE is larger than 7.2 meters CEP, the total system CEP will increase accordingly. For impact angles between 60 degrees and 35 degrees (with GPS available) accuracy degradation up to 19 meters CEP against horizontal targets is an objective.

(3) Inflight programming/targeting will be possible through MIL-STD-1553/1760 (Military Standard 1553/1760 for data bus interface to the weapon from existing aircraft stores management hardware and modified software).

(4) JDAM will be capable of operation on aircraft carriers to include withstanding 25 aircraft carrier catapult launches and arrested landings and operating within the carriers' electromagnetic environments.

(5) Physical compatibility with the B-1B, B-2, F/A-18A+/C/D, AV-8B and B-52H were successfully demonstrated during actual fit test in Engineering Manufacturing and Development (EMD) Phase 1. F-22A physical compatibility was also demonstrated using computerized physical fit analysis during this phase. During EMD Phase II, we successfully completed full JDAM integration on: B-1B, B-2, F/A-18A+/C/D, and B-52H. Post EMD, follow-on integration has been completed on: F-14B/D, F-15E, F-16C/D, F-22A, F/A-18A+/C/D/E/F, and AV8-B aircraft. Follow-on integrations with the F-117A, A/OA-10, MQ-9 (Predator), and F-35 are in progress. Integration efforts with the P-3 and S-3 aircraft are currently unplanned.

(6) Mission reliability commences when the aircrew accepts the loaded aircraft and ends at weapon impact. Mission reliability for the guidance kits does not include reliability for the fuze.

(7) The production Acquisition Program Baseline (APB), updated March 23, 2001 for Milestone III (MSIII), changed the Mk-83 (1,000 lb) Operational Test and Evaluation (OT&E) aircraft from the F-22A to the F/A-18C/D because the F-22A was not available in time to support the Mk-83 OT&E and MS III schedules. Based on the successful completion of the Mk-83 Operational Evaluation (OPEVAL) on the F/A-18 C/D in March 2003, full-rate production was authorized in the third quarter FY03. This production decision is supported by the JDAM Mk-83 Multi-Service Operational Test and Evaluation (MOT&E) Final report, issued in July 2003, which concluded that the Mk-83 is operationally effective and suitable. The JDAM Program Office's position is that the Mk-83 MOT&E conducted with the F/A-18 as the OT&E aircraft completed the Mk-83 OT. The F-22A completed Mk-83 integration and IOC was declared on 15 December 2005.

Current Estimate Source: SAR 12/25/2005  
Initial APB Source - APB dated: 03/23/2001  
APB Source - APB dated: 10/07/2002

## Track To Budget

### RDT&E

APPN 3600 PE 0604618F (Air Force) Project 3890

JDAM

APPN 1319 PE 0604618N (Navy) Project 2137 (Sunk)

JDAM

### Procurement

APPN 1508 BA 01 (Navy) ICN 0148

JDAM

APPN 1508 BA 01 (Navy) ICN 014800

JDAM

APPN 3011 BA 01 (Air Force) ICN 353620

JDAM

### General Memo

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

Source: SAR 12/25/2005

## Cost and Funding

### Cost Summary

#### Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M			TY \$M		
	Initial Production APB	Current APB Production Objective/Threshold	Current Estimate	Initial Production APB	Current APB Production Objective	Current Estimate
RDT&E	490.3	575.1	661.4	517.3	604.3	602.2
Procurement	1810.0	4307.5	4738.3	2089.4	5026.5	4534.8
Non Recurring	--	--	--	--	--	0.0
MILCON	--	--	--	--	--	--
Acq O&M	--	--	--	--	--	--
<b>Total</b>	<b>2300.3</b>	<b>4882.6</b>	<b>N/A</b>	<b>2606.7</b>	<b>5630.8</b>	<b>5137.0</b>

Quantity	Initial APB	Current APB	Current Estimate
RDT&E	630	778	804
Procurement	88435	221091	199190
<b>Total</b>	<b>89065</b>	<b>221869</b>	<b>199994</b>

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 FY97 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.

## Funding Summary

### Appropriation and Quantity Summary

#### DEC 2005 DAES (TY \$M)

Appropriation	Prior	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	To Complete	Total
RDT&E	586.7	0.0	15.5	0.0	0.0	0.0	0.0	0.0	602.2
Procurement	3365.4	301.8	259.0	153.1	149.2	150.6	155.7	0.0	4534.8
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
PB2007 Total	3952.1	301.8	274.5	153.1	149.2	150.6	155.7	0.0	5137.0
PB2006 Total	3955.2	305.9	314.2	259.7	309.7	182.2	151.0	0.0	5477.9
Delta	-3.1	-4.1	-39.7	-106.6	-160.5	-31.6	4.7	0.0	-340.9

Quantity	Prior	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	To Complete	Total
Development	0	0	0	0	0	0	0	0	804
Production	156002	11400	10661	5317	5326	5250	5234	0	199190
PB2007 Total	156002	11400	10661	5317	5326	5250	5234	0	199994
PB2006 Total	155691	11400	12353	9718	11257	6213	4883	0	212319
Delta	311	0	-1692	-4401	-5931	-963	351	0	-12325

## Annual Funding By Appropriation

### Annual Funding TY\$

#### 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
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
<b>Subtotal</b>	<b>114</b>	--	--	--	--	--	<b>193.5</b>

## Annual Funding BY\$

## 1319 | RDT&amp;E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1995 \$M	Non End Item Recurring Flyaway BY 1995 \$M	Non Recurring Flyaway BY 1995 \$M	Total Flyaway BY 1995 \$M	Total Support BY 1995 \$M	Total Program BY 1995 \$M
1993	--	--	--	--	--	--	23.7
1994	--	--	--	--	--	--	7.8
1995	--	--	--	--	--	--	22.7
1996	--	--	--	--	--	--	24.6
1997	--	--	--	--	--	--	21.1
1998	--	--	--	--	--	--	11.0
1999	--	--	--	--	--	--	5.7
2000	--	--	--	--	--	--	6.7
2001	--	--	--	--	--	--	21.0
2002	--	--	--	--	--	--	24.6
2003	--	--	--	--	--	--	13.8
2004	--	--	--	--	--	--	1.1
<b>Subtotal</b>	<b>114</b>	--	--	--	--	--	<b>183.8</b>

## Annual Funding TY\$

## 3600 | RDT&amp;E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
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	--	--	--	--	--	--	14.5
2004	--	--	--	--	--	--	36.0
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	15.5
<b>Subtotal</b>	<b>690</b>	--	--	--	--	--	<b>408.7</b>

**Annual Funding BY\$**  
**3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1993	--	--	--	--	--	--	21.9
1994	--	--	--	--	--	--	62.1
1995	--	--	--	--	--	--	62.0
1996	--	--	--	--	--	--	74.0
1997	--	--	--	--	--	--	31.2
1998	--	--	--	--	--	--	20.0
1999	--	--	--	--	--	--	26.9
2000	--	--	--	--	--	--	10.5
2001	--	--	--	--	--	--	8.8
2002	--	--	--	--	--	--	14.9
2003	--	--	--	--	--	--	12.9
2004	--	--	--	--	--	--	31.3
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	12.6
<b>Subtotal</b>	<b>690</b>	--	--	--	--	--	<b>389.1</b>

Air Force RDT&E funding excludes the Joint Programmable Fuze dollars.

## Annual Funding TY\$

## 1508 | Procurement | Procurement of Ammunition, Navy and Marine Corps

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1998	547	--	--	--	--	--	20.9
1999	745	--	--	--	--	--	35.2
2000	916	--	--	--	--	--	35.0
2001	2325	--	--	--	--	--	67.2
2002	14551	--	--	--	--	--	302.3
2003	12280	--	--	--	--	--	250.9
2004	12422	--	--	--	--	--	251.9
2005	6930	--	--	--	--	--	151.2
2006	3400	--	--	--	--	--	81.5
2007	3400	--	--	--	--	--	84.0
2008	1500	--	--	--	--	--	41.5
2009	1500	--	--	--	--	--	43.8
2010	1500	--	--	--	--	--	44.7
2011	1500	--	--	--	--	--	46.4
<b>Subtotal</b>	<b>63516</b>	--	--	--	--	--	<b>1456.5</b>

## Annual Funding BY\$

## 1508 | Procurement | Procurement of Ammunition, Navy and Marine Corps

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1995 \$M	Non End Item Recurring Flyaway BY 1995 \$M	Non Recurring Flyaway BY 1995 \$M	Total Flyaway BY 1995 \$M	Total Support BY 1995 \$M	Total Program BY 1995 \$M
1998	547	--	--	--	--	--	19.6
1999	745	--	--	--	--	--	32.6
2000	916	--	--	--	--	--	32.0
2001	2325	--	--	--	--	--	60.8
2002	14551	--	--	--	--	--	269.4
2003	12280	--	--	--	--	--	221.1
2004	12422	--	--	--	--	--	217.3
2005	6930	--	--	--	--	--	127.1
2006	3400	--	--	--	--	--	67.0
2007	3400	--	--	--	--	--	67.5
2008	1500	--	--	--	--	--	32.7
2009	1500	--	--	--	--	--	33.7
2010	1500	--	--	--	--	--	33.7
2011	1500	--	--	--	--	--	34.3
<b>Subtotal</b>	<b>63516</b>	--	--	--	--	--	<b>1248.8</b>

Defense Emergency Response Funds (DERF) are not included in the funds or quantities listed. In support of Operation Enduring Freedom, the Navy received a total of \$161.1M in DERF funds for procurement of 7,890 JDAM tailkits.

**Cost Quantity Information****1508 | Procurement | Procurement of Ammunition, Navy and Marine Corps**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M</b>
1998	547	9.4
1999	745	13.5
2000	916	17.6
2001	2325	45.4
2002	14551	260.6
2003	12280	213.6
2004	12422	210.2
2005	6930	119.8
2006	3400	58.6
2007	3400	61.8
2008	1500	26.9
2009	1500	27.3
2010	1500	27.5
2011	1500	27.9
<b>Subtotal</b>	<b>63516</b>	<b>1120.1</b>

## Annual Funding TY\$

## 3011 | Procurement | Procurement of Ammunition, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1997	937	--	--	--	--	--	23.0
1998	1828	--	--	--	--	--	39.2
1999	3778	--	--	--	--	--	79.5
2000	8725	--	--	--	--	--	189.2
2001	8904	--	--	--	--	--	203.5
2002	14392	--	--	--	--	--	300.4
2003	23420	--	--	--	--	--	477.1
2004	20476	--	--	--	--	--	424.5
2005	22826	--	--	--	--	--	514.4
2006	8000	--	--	--	--	--	220.3
2007	7261	--	--	--	--	--	175.0
2008	3817	--	--	--	--	--	111.6
2009	3826	--	--	--	--	--	105.4
2010	3750	--	--	--	--	--	105.9
2011	3734	--	--	--	--	--	109.3
<b>Subtotal</b>	<b>135674</b>	--	--	--	--	--	<b>3078.3</b>

**Annual Funding BY\$**  
**3011 | Procurement | Procurement of Ammunition, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1997	937	--	--	--	--	--	21.8
1998	1828	--	--	--	--	--	36.7
1999	3778	--	--	--	--	--	73.5
2000	8725	--	--	--	--	--	173.1
2001	8904	--	--	--	--	--	184.2
2002	14392	--	--	--	--	--	267.7
2003	23420	--	--	--	--	--	420.4
2004	20476	--	--	--	--	--	366.3
2005	22826	--	--	--	--	--	432.3
2006	8000	--	--	--	--	--	181.0
2007	7261	--	--	--	--	--	140.7
2008	3817	--	--	--	--	--	87.8
2009	3826	--	--	--	--	--	81.2
2010	3750	--	--	--	--	--	79.9
2011	3734	--	--	--	--	--	80.7
<b>Subtotal</b>	<b>135674</b>	--	--	--	--	--	<b>2627.3</b>

Defense Emergency Response Funds (DERF) are not included in the funds or quantities listed. In support of Operation Enduring Freedom, the Air Force received a total of \$252.2M in DERF funds for delivery acceleration, facilitation for a production capacity of 3000 tailkits per month, and procurement of 6,348 JDAM tailkits.

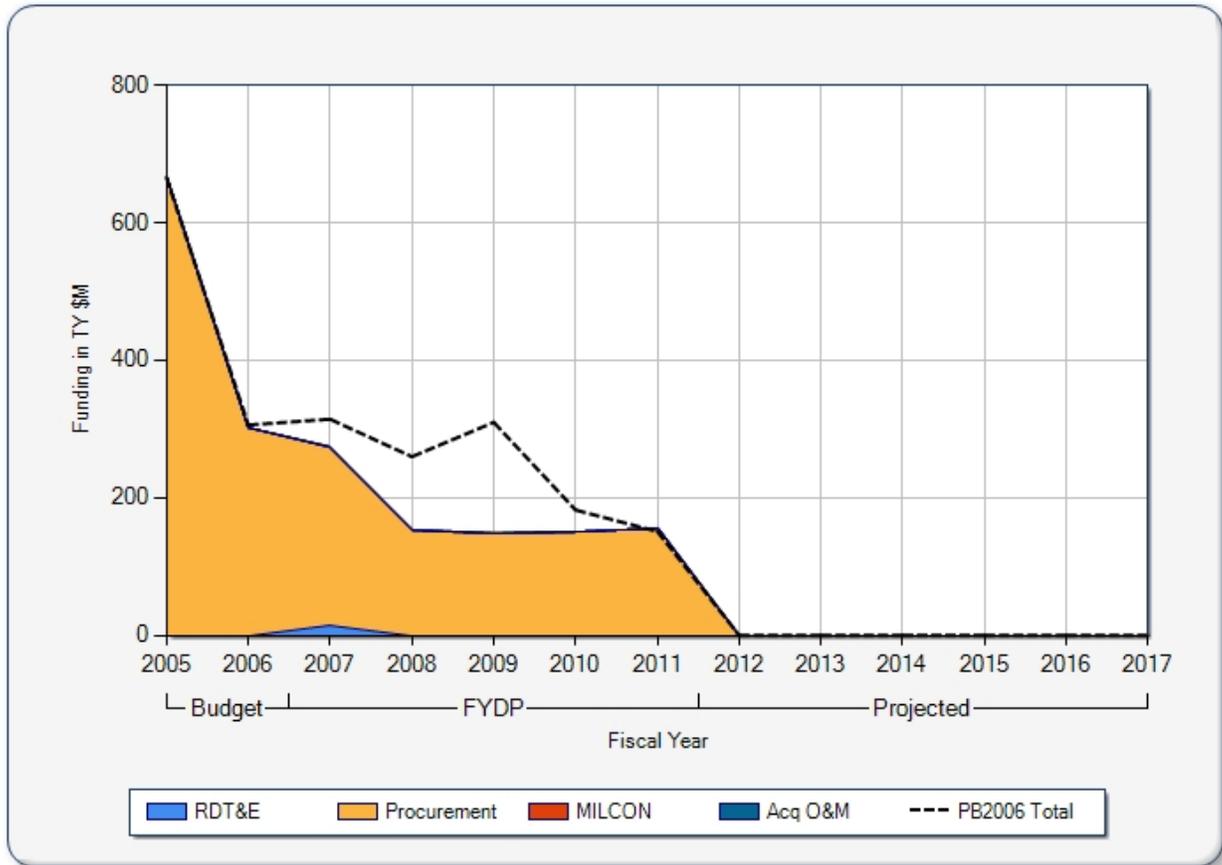
**Cost Quantity Information****3011 | Procurement | Procurement of Ammunition, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M</b>
1997	937	15.7
1998	1828	31.4
1999	3778	67.0
2000	8725	164.8
2001	8904	171.9
2002	14392	254.8
2003	23420	404.0
2004	20476	349.2
2005	22826	413.3
2006	8000	162.8
2007	7261	127.5
2008	3817	76.6
2009	3826	70.1
2010	3750	68.8
2011	3734	69.6
<b>Subtotal</b>	<b>135674</b>	<b>2447.5</b>

Current Estimate Source: SAR 12/25/2005

## Acquisition Funding Projection

Acquisition Funding Projection



## Low Rate Initial Production

None

## Foreign Military Sales

Israel (IS-D-YEQ) Case signed February 9, 2000, \$33.3M

Purpose: Procure 660 JDAMs and Integration

Israel (IS-D-YET) Case signed July 3, 2003, \$21.5M

Purpose: Procure 1,000 JDAMs

Israel (IS-D-YEV) Case signed July 14, 2004, \$17.5M

Purpose: Procure 840 JDAMs and Integration

Israel (IS-D-QCI) Case signed August 16, 2004, \$12.5M

Purpose: F-15 Integration

Denmark (DE-DE-QBF) Case signed June 28, 2002, \$1.6M

Purpose: Integration Support

Denmark (DE-D-YME) Case signed December 20, 2002, \$9.6M

Purpose: Procure 274 JDAMs & Support

Netherlands (NE-D-YMF) Case signed February 23, 2004, \$13.1M

Purpose: Procure 350 JDAMs and support

Netherlands (NE-D-YMG) Case signed March 1, 2005, \$9.2M

Purpose: Procure 360 JDAMS and support

Portugal (PT-D-YAR) Case signed April 15, 2004, \$2.8M

Purpose: Procure 30 JDAMs & support

Republic of Korea (KS-D-SIR) Case signed June 12, 2002, \$2.1M

Purpose: Procure 14 JDAMs

Chile (CI-D-SGB) Case signed February 1, 2002, \$2.3M

Purpose: F-16 Integration & GBU-31 Test Assets

Kingdom of Oman (MU-D-YEI) Case signed May 2, 2002, \$6.6M

Purpose: Procure 80 JDAMs and Integration & Test Vehicles

Kingdom of Oman (MU-D-YBK) Case signed February 15, 2004, \$5M

Purpose: Procure 20 JDAMs

Poland (PL-D-SAC) Case signed April 18, 2003, \$16.7M

Purpose: Procure 270 JDAMs, F-16 Integration and Test Assets

United Arab Emirates (AE-D-SAA) Case signed August 8, 2000, \$2.1M

Purpose: Integration & Test Assets

United Arab Emirates (AE-D-YAB) Case signed August 20, 2002, \$8.9M

Purpose: Procure 200 JDAMs

Japan (JA-D-YZC) Case signed January 25, 2005, \$9.3M

Purpose: Procure 27 JDAMS and F-2 Integration and Test Assets

Turkey (TK-D-NCU) Case signed April 26, 2005, \$3.6M

Purpose: Integration Support

Belgium (BE-D-YME) Case signed December 22, 2004, \$5.2M

Purpose: Procure 200 JDAMs

Australia (AT-D-GAD) Case signed April 5, 2005, \$2M

Purpose: Integration Support on F-111

Australia (AT-D-QBH) Case signed Nov 28, 2000, \$2.2M

Purpose: Procure an undisclosed amount of FMU-152 fuzes

Netherlands (NE-D-YMH) Case signed Oct 7, 2005, \$1.6M

Purpose: To procure 56 BLU-109 JDAMs

Turkey (TK-D-QOP) Case signed Dec 28, 2005, \$7.5M

Purpose: Integration Support on F-16s.

Turkey (TK-D-YAS) Case Signed Dec 28, 2005, \$11.1M

Purpose: To procure 100 MK-84s, 100 BLU-109's and 198 MK-82s

## **Nuclear Cost**

None.

**Unit Cost****Unit Cost Report**

	BY1995 \$M		
<b>Unit Cost</b>	<b>Current UCR Baseline (OCT 2002 APB)</b>	<b>Current Estimate (DEC 2005 SAR)</b>	<b>BY % Change</b>
Program Acquisition Unit Cost (PAUC)			
Cost	4882.6	4449.0	
Quantity	221869	199994	
Unit Cost	0.022	0.022	+0.00
Average Procurement Unit Cost (APUC)			
Cost	4307.5	3876.1	
Quantity	221091	199190	
Unit Cost	0.019	0.019	+0.00

	BY1995 \$M		
<b>Unit Cost</b>	<b>Original UCR Baseline (SEP 1995 APB)</b>	<b>Current Estimate (DEC 2005 SAR)</b>	<b>BY % Change</b>
Program Acquisition Unit Cost (PAUC)			
Cost	2720.4	4449.0	
Quantity	88126	199994	
Unit Cost	0.031	0.022	-29.03
Average Procurement Unit Cost (APUC)			
Cost	2090.6	3876.1	
Quantity	87496	199190	
Unit Cost	0.024	0.019	-20.83

**Contracts**

**General Contract Memo**

Lot 7 contract FO8635-03-C-0055 is complete and no longer reported.

**JDAM Lot 7 FY03 - The Boeing Co**

Program Name JDAM  
 Program Phase Production  
 Contract Number F08635-03-C-0055  
 Contract Type FFP  
 Change Order Number  
 Contractor Division  
 Contractor Location St. Charles , MO 63166-0516

**Contract Deliveries**

Total Quantity	Plan Quantity	Delivered Quantity
35620	35620	35620

Negotiated Cost (\$M)	Authorized Unpriced Work (\$M)	Target Price (\$M)	Ceiling Price (\$M)
		707.8	707.8

**Contract Schedule Data**

Definitization Date	Work Start	Critical Milestone 1	Critical Milestone 2	Sig Eff Completion	Est Completion
3/20/2003	3/20/2003				4/1/2005

Report Date	Source Document	Verification Review Date	BCWS (\$M)	BCWP (\$M)
-------------	-----------------	--------------------------	------------	------------

ACWP (\$M)	Mgt Reserve (\$M)	Cont Budg Base (\$M)	Total All Budg (\$M)
------------	-------------------	----------------------	----------------------

Contr's Est Cost (\$M)	PM's Est Cost Current (\$M)	PM's Est Cost Best (\$M)	PM's Est Cost Worst (\$M)
		707.5	

**Contract Variance Data (\$M)**

Cost Variance		Schedule Variance	
\$	Percent	\$	Percent
+		+	+

**Contract Comments**

None

None

**Appropriation: RDT&E**

<b>Budget Category Name</b>	<b>Contract Name</b>	<b>Contract Number</b>	<b>PMCEPAC Budgeted by PM (\$M)</b>	<b>PMCEPAC Budgeted by Other Sources (\$M)</b>
Completed Contracts			266.4	0.0
Small Active Contracts			69.4	0.0
Non-Contract Cost			251.0	0.0
Management Reserve			0.0	0.0
Future Contracts			0.0	0.0
<b>Total RDT&amp;E</b>			<b>586.8</b>	<b>0.0</b>

**Comments**

None

**Appropriation: Procurement**

<b>Budget Category Name</b>	<b>Contract Name</b>	<b>Contract Number</b>	<b>PMCEPAC Budgeted by PM (\$M)</b>	<b>PMCEPAC Budgeted by Other Sources (\$M)</b>
Completed Contracts			1989.4	0.0
Large Active Contracts		FA8681-04-C-0119	647.0	0.0
		FA8681-05-C-0033	645.8	0.0
Small Active Contracts			28.9	0.0
Non-Contract Cost			171.8	0.0
Management Reserve			0.0	0.0
Future Contracts			1405.7	0.0
<b>Total Procurement</b>			<b>4888.6</b>	<b>0.0</b>

**Comments**

None

**Deliveries and Expenditures**

<b>Deliveries To Date</b>	<b>Plan</b>	<b>Actual</b>	<b>Total Quantity</b>	<b>Percent Delivered</b>
Development	804	804	804	100.00%
Production	134492	136177	199190	68.37%
<b>Total Program Quantities Delivered</b>	<b>135296</b>	<b>136981</b>	<b>199994</b>	<b>68.49%</b>

**Expenditures and Appropriations (TY \$M)**

Total Acquisition Cost	5137.0	Years Appropriated	14
Expenditures To Date	3060.3	Percent Years Appropriated	73.68%
Percent Expended	59.57%	Appropriated to Date	4253.9
Total Funding Years	19	Percent Appropriated	82.81%

### Operating and Support Cost

Costs	BY1995 \$M			TY \$M			
	Initial APB	Current APB Objective/Threshold	Current Estimate	Initial APB	Current APB Objective	Current Estimate	
Total Acquisition	2300.3	4882.6	N/A	4449.0	2606.7	5630.8	5137.0
O&S	--	--	--	232.6	--	--	421.3
Total Life Cycle	N/A	N/A	N/A	4681.6	N/A	N/A	5558.3

Current Estimate Total Acquisition Cost Source: SAR 12/25/2005

Current Estimate O&S Cost Source: SAR 12/25/2005

Initial APB Source - APB dated: 03/23/2001

Current APB Source - APB dated: 10/07/2002

### Assessments

#### Assessments for the Dec 2005 Review

<b>Performance</b>		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
	APB	G	NR	NR	G	NR							
	Contracts	NR											
<b>Test</b>		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
	APB	G	NR	NR	G	NR							
	Contracts	NR											
<b>Logistics</b>		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
	APB	G	NR	NR	G	NR							
	Contracts	NR											
<b>Cost</b>		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
	APB	G	NR	NR	G	NR							
	Contracts	NR											
<b>Funding</b>		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
	APB	G	NR	NR	G	NR							
	Contracts	NR											
<b>Schedule</b>		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
	APB	G	NR	NR	G	NR							
	Contracts	NR											
<b>Contracts</b>		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
	APB	G	NR	NR	G	NR							
	Contracts	NR											

		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
<b>Production</b>	APB	G	NR	NR	G	NR							
	Contracts	NR											
<b>Management</b>	APB	G	NR	NR	G	NR							
	Contracts	NR											
<b>Interoperability</b>	APB	G	NR	NR	G	NR							
	Contracts	NR											

**Explanations**

**Performance** No explanation provided.

**Test** No explanation provided.

**Logistics** No explanation provided.

**Cost** No explanation provided.

**Funding** No explanation provided.

**Schedule** No explanation provided.

**Contracts** No explanation provided.

**Production** No explanation provided.

**Management** No explanation provided.

**Interoperability** No explanation provided.

**OSD Assessments**

**Performance**

PSA/AW

G

(U) Concur with PM rating of Green - no significant performance issues.

(U) F/A-18C/D operational testing of GBU-38s from BRU-55 "smart rack" carriage was suspended due to rack problems that precluded the ability to employ the

weapons. The Navy plans additional testing following root cause analysis and deficiency correction.

**OT&E****G**

(U) JDAM PERFORMANCE IS RATED GREEN; there were no detracting performance issues this quarter.

(U) F/A-22 FOT&E of Mk 83 JDAM (GBU-32) was completed in Oct 2005. In addition to FOT&E efforts, 22 GBU-32 releases were evaluated through Air Combat Command's Air-to-Ground Weapon System Evaluation Program. All weapons functioned normally and achieved target hits.

(U) F/A-18C/D operational testing of GBU-38s from BRU-55 "smart rack" carriage was halted due to rack problems that precluded the ability to employ the weapons. Fault analysis is ongoing, but for the present the BRU-55 is not usable for JDAM employment.

**Test****OT&E****GA**

(U) JDAM TESTING IS RATED GREEN ADVISORY because the final test event of the BRU-55 "smart rack" was unsuccessful. The BRU-55 was unable to demonstrate ripple release; 8 out of 8 weapons failed to release and were "hung."

(U) Due to inability to resolve BRU-55 problems, the Navy intends to close out Mk 82 JDAM MOT&E testing without BRU-55 ripple-8 release. Pending resolution of the BRU-55 problems, Navy may reassess JDAM performance when carried/released from this rack in another test venue. However, the BRU-55 rack is currently unsuitable for JDAM employment.

**SSE/A&S****GA**

(U) DS/SE/AS rating for T&E change from Green to Green (Advisory) due to unsuccessful results on the final operational flight test event on the F/A-18, using the preferred BRU-55 pylon. The planned ripple of eight GBU-38s resulted in eight hung weapons. Navy plans additional testing following root cause analysis and deficiency correction. F/A-18/BRU-55 testing is required to complete the original Multi-service Operational Test and Evaluation. Program continues follow-on integration efforts on various aircraft to include the GBU-32 on the F-22, and the GBU-38 on the B-1B, F-15E, F-14D, AV-8B and F-16.

(U) TEMP: Program has an approved TEMP for the Mk-82, date February 2004, and for the Mk-83/84 JDAM variants, dated March 2001.

**Logistics****L&MR****GA**

(U) OSD rates Green Advisory.

(U) JDAM execution failures continue to exist on the F/A-18A+/C/D BRU-55 with 8 GBU-38's experiencing a hung store configuration during OP Eval. Six of the JDAM's experienced unlocked fins. A root cause analysis is on-going concerning both incidents by the Navy Advanced Weapon Lab and Boeing.

(U) The F-15E experienced intermittent GBU-38 failures in the field. The problem

was discovered as a result of the F-15E's use of the generic "smart/unknown" interface with the GBU-38. F-15SG coordinated and provided an immediate workaround to the field to prevent failures. JDAM is providing correction by modifying JDAM firmware in Lot 9 and beyond deliveries and modifying the OFP in JDAM Block 6 to correct the problem in earlier JDAM lot deliveries."

## Cost

AR&A/AM

G

(U) ARA/AM continues to rate Green. Both DAES reportable contracts are Firm-Fixed Price with no Earned Value Management System data provided. The Program Acquisition Unit Cost (0% change) and the Average Procurement Unit Cost (5.26% change) remain unchanged from the last two DAES reports.

CAIG

G

(U) PA&E rates the JDAM Program as GREEN. There are no outstanding issues.

## Funding

Comptroller

G

(U) Concur with the program manager's rating of green.

AR&A/RA

G

(U) PM rates funding Green. ARA concurs with PM and rates funding green, as there are no known issues that would adversely impact funding. Potential PR-07 change proposals affecting JDAM are discussed separately.

## Schedule

PSA/AW

G

(U) Concur with PM rating of Green.

(U) Boeing continues to deliver assets on schedule.

## Contracts

DPAP

G

(U) CONTINUOUS REPEAT: JDAM reports an OSD-approved tailored DAES per SAF/AQ memo dated October 95. No information or insight into contracts is provided. The report notes that performance and cost ratings are green. All open contracts are firm fixed price. The DAES report is so tailored that no meaningful contractual assessment can be made. None of the program assessment indicators contain any information and it is not clear what value the currently structured DAES report provides to management and why we bother to continue it. However, since there appear to be no contractual issues at this time, DPAP concurs with the green rating for contracts.

## Production

IP

G

(U) No production issues identified.

## Management

PSA/AW

G

(U) Concur with PM rating of Green.

**Interoperability**

PSA/AW (U) No known interoperability issues exist.

**G**

PM Sources:

DAES 11/25/2005

OSD Sources:

DAES 12/25/2005

**LCS**

No LCS Data exists for JDAM

-



# Defense Acquisition Management Information Retrieval (DAMIR)



## Current Status Report (DAES & Web Services)

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

As of June 10, 2009

## Table of Contents



# Defense Acquisition Management Information Retrieval (DAMIR)



## Selected Acquisition Report (SAR)

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



### **JDAM**

As of December 31, 2007

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## Program Information

### Designation And Nomenclature (Popular Name)

Joint Direct Attack Munition (JDAM)

### DoD Component

Air Force

### Joint Participants

Navy

## Responsible Office

### Responsible Office

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<b>DSN Phone</b>	872-3525 ext. 3311
<b>DSN Fax</b>	872-2421
<b>Date Assigned</b>	August 15, 2005

## References

### SAR Baseline (Production Estimate)

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

### Approved APB

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 service. Designated ACAT 1C, this program upgrades the existing inventory of general purpose bombs (Mk-84, BLU-109, Mk-83 and Mk-82) 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-10, AV-8B, F-117A, and F-22A aircraft. Follow-on integrations with the MQ-9 and F-35 are in progress.

## Executive Summary

### Production

In February 2007, Boeing finished Lot 9 deliveries two weeks ahead of schedule, marking 106 consecutive months of on-time JDAM tail kits. Lot 10 deliveries began in February 2007. Production reliability and accuracy is managed through Lot Acceptance Testing (LAT). Lot 10 LAT dropped 32 JDAMs during April 2007 and August 2007. All weapons functioned well within reliability and accuracy thresholds. Lot 11 deliveries will begin in February 2008.

The JDAM Program Office awarded a new basic contract to Boeing on January 10, 2008. This contract includes five options for follow-on JDAM production through FY13 (Lots 12-17).

### Integration and Test

In late July 2007, the JDAM Program Office received a Seek Eagle Request (SER) to integrate GBU-38 tail kits with BLU-126 warheads on the A-10C, B-1B, F-15E and F-16 C/D aircraft. The BLU-126 is a Navy warhead (thermal coated) with 30 lbs of explosives versus the 190 lbs in the MK-82 to minimize collateral damage. Successful testing was completed on the A-10C and F-16C/D in August 2007. The capability was fielded on the F-16 C/D and A-10C in September 2007. The capability with the F-15E was fielded in November 2007 and the B-1B in December 2007.

The B-52 legacy platforms are being upgraded to the Avionics Midlife Improvement (AMI) configuration. Successful testing in January 2007 ensured the B-52 maintained full JDAM capability. The upgrade to all jets should be completed by the third quarter 2008. The F-22A Follow-on Test and Evaluation (FOT&E) was completed in July 2007, resulting in approval to field the F-22A Spiral 2 supersonic capability. Following successful integration and testing, Air Combat Command (ACC) declared Initial Operational Capability (IOC) for JDAMs on the A/AO-10C (GBU-31s and GBU-38s) on August 3, 2007. The first combat employment was on September 13, 2007. Reports from Operation Iraqi Freedom (OIF) were "JDAM worked like a champ!"

The Navy experienced a failure and breakup of a GBU-38 during a multiple drop from an F/A-18E/F release in April 2007, kicking off an extensive investigation to establish the root cause. The JDAM Program Office corrected and validated the interfaces between JDAM, the BRU-55 rack and F/A-18E/F was conducted. Successful testing resulted in the Navy approval for fleet release of GBU-38s from F/A-18C/D aircraft with the BRU-55 on October 26, 2007. This completed the final GBU-38 "Threshold Requirement" for deployment of eight GBU-38s from the F/A-18C/D.

F-15E (Suite 6)/JDAM Universal Armament Interface (UAI) activity continues to progress. Migration to this universal interface allows JDAM integration on any aircraft platform that has implemented the UAI interface without requiring a unique aircraft Operational Flight Program (OFP) modification. The initial draft of the F-15E/JDAM UAI Addendum has been developed and formal F-15E Suite 6/JDAM system integration laboratory (SIL) testing began in August 2007 and is still underway. The first successful UAI launch of a JDAM in the F-15 SIL was conducted in October 2007. Captive carriage and guided release missions will begin in June 2008.

The MQ-9 is the newest platform to integrate JDAM. Investigative testing on the MQ-9 was completed in July and August 2007 to assess the feasibility of using standard bomb fuzing since the MQ-9's airspeed is below normal fuze functioning safety standards. To mitigate the low airspeed, a design solution was developed for the FMU-152 (Joint Programmable Fuze) that will allow the fuze to function safely from the MQ-9. Prototype testing begins in the third quarter of 2008, with projected fielding date in early 2009.

### Development/Urgent Operational Need

The Boeing Corporation had internally funded development of a Laser JDAM (LJDAM) capability during 2004-2006, in which a laser sensor was integrated with a GBU-38 JDAM guidance set to provide laser guidance updates on stationary, relocatable and moving targets. Boeing demonstrated the ability of the LJDAM to engage targets moving up to 45 mph in the fall of 2006. During early February 2007, the Air Force successfully dropped twelve LJDAMs from F-15E and F-16 aircraft in a Moving Target Engagement Demonstration to test LJDAM capabilities against moving targets at higher speeds than were demonstrated by Boeing. In April 2007, the Combat Air Force Requirements Oversight Council (CAFROC) approved the LJDAM Quick Reaction Capability (QRC) AF 1067 Requirements

Document with a Required Asset Available (RAA) date of May 2008 for the first 50 laser guidance sets. The Deputy Air Force Program Executive Officer/Weapons approved the LJDAM Acquisition Strategy on April 30, 2007 and signed an Unusual and Compelling Urgency Sole Source Justification and Authorization for LJDAM acquisition on May 14, 2007. The JDAM Program Office awarded an Unfinalized Contractual Action to Boeing on May 18, 2007 for production qualification and production support of a non-developmental LJDAM capability. In July 2007, ASN(RD&A) signed a Rapid Deployment Capability requirement to procure LJDAMs as the initial phase of the Navy's Direct Attack Moving Target Capability (DAMTC) program, with Initial IOC in October 2008. By December 2007, Boeing had been funded to complete LJDAM production qualification testing for both the Air Force and Navy, as well as produce 400 production laser guidance sets for the Air Force and 200 for the Navy. The program is on track to meet the May 2008 Air Force RAA.

The JDAM Affordable Moving Surface Target Engagement (AMSTE) System Development and Demonstration Request for Proposal was released to Boeing on January 19, 2007 to support a planned Spring 2007 contract award. On April 3, 2007, Directorate of Global Power Programs, Assistant Secretary of the Air Force for Acquisition (SAF/AQP) placed the program on-hold while Pacific Air Forces (PACAF) and ACC revalidated the requirements. The resulting recommendation was for a more net-centric solution and ACC/A8 sent the recommendation to terminate or go ahead to the Chief of Staff, United States Air Force (CSAF). The CSAF directed termination of AMSTE on September 10, 2007 and the Program Office began close-out activities.

#### Foreign Military Sales (FMS)

JDAM is sold via FMS to the following countries: Australia, Belgium, Chile, Denmark, Greece, Israel, Japan, South Korea, Netherlands, Oman, Pakistan, Poland, Portugal, Spain, Turkey, and United Arab Emirates.

#### Block Software

The JDAM Operation Flight Program Block 06 was released to the field in May 2007. Shortly after fielding, a problem was identified that could result in a weapon hang-fire or unguided release depending on which aircraft was involved. Even though the anomaly was a low-probability-of-occurrence, ACC decided to rescind Block 06 software and revert back to Block 05 software, except for the F-22. The decision to retain Block 06 on the F-22 for the GBU-32 was based on the determination that the increased capability delivered in Block 06 outweighed the low probability of a hang-fire associated with the F-22. On August 22, 2007, a Boeing Independent Review Team (IRT) was formed to review JDAM software development and testing plus establish required changes which will be incorporated into the Block 07 release projected for third quarter 2008. There was no operational impact.

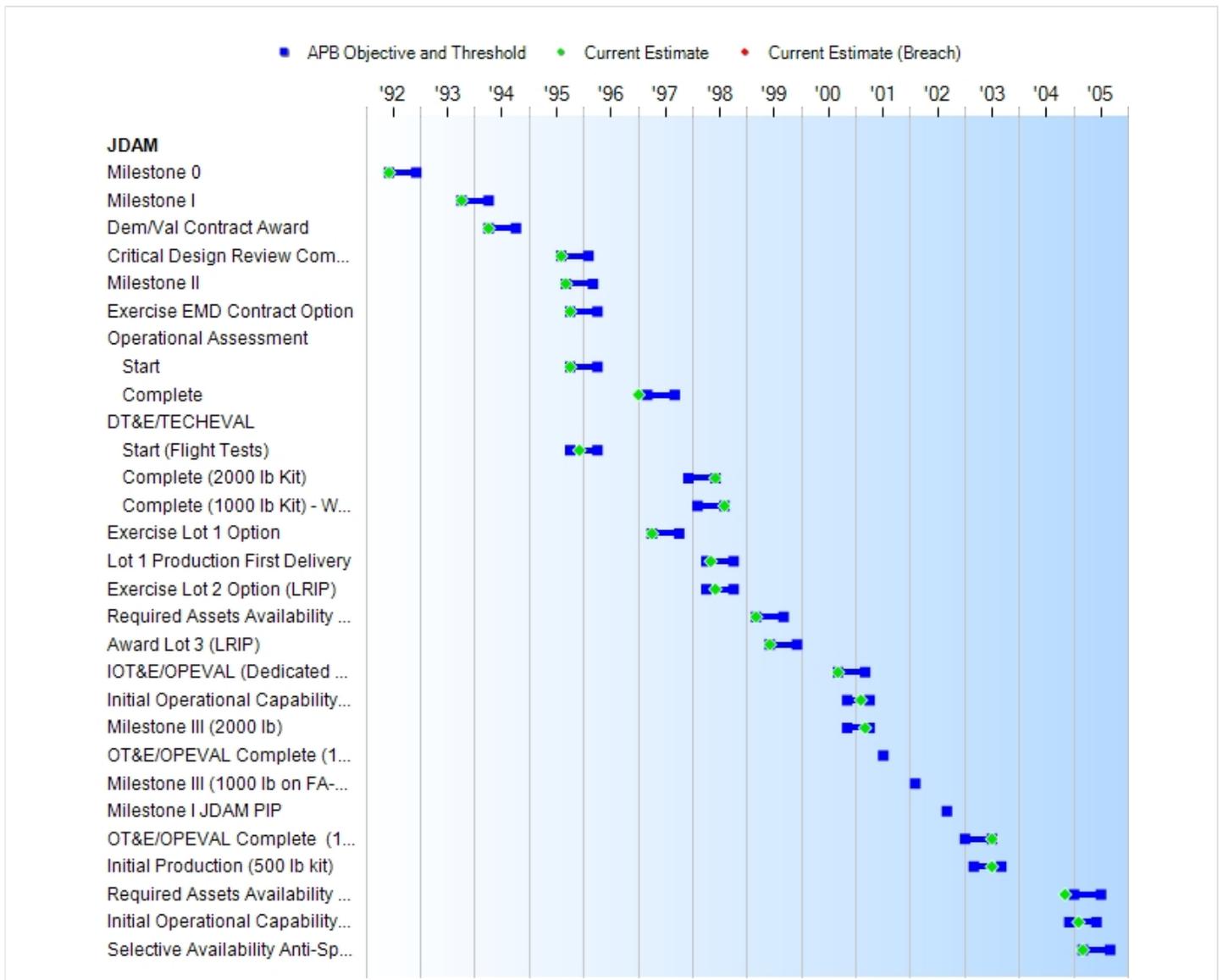
There are no significant software related issues with this program at this time.

**Threshold Breaches**

APB Breaches		
<b>Schedule</b>		<input type="checkbox"/>
<b>Performance</b>		<input type="checkbox"/>
<b>Cost</b>	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
<b>Unit Cost</b>	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Nunn-McCurdy Breaches		
<b>Current UCR Baseline</b>		
	PAUC	None
	APUC	None
<b>Original UCR Baseline</b>		
	PAUC	None
	APUC	None

### Schedule



<b>Milestones</b>	<b>SAR Baseline Prod Est</b>	<b>Current APB Production Objective/Threshold</b>		<b>Current Estimate</b>
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

### Acronyms

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 - Production Improvement Program  
TECHEVAL - Technical Evaluation

**Change Explanations**

None

**Memo**

None

## Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Weather Capability	Adverse	Adverse	Adverse	Adverse	Adverse
Accuracy (CEP) (Meters)				TBD	
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	Yes	Yes	Yes
Carrier Operability	Yes	Yes	Yes	Yes	Yes
Warhead Compatibility	MK-82/BLU- 111, MK-83, Improved 1000-lb, BLU- 113/116/117	MK-82/BLU- 111, MK-83, Improved 1000-lb, 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				TBD	
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	.90	.955	.90
JDAM PIP Accuracy (CEP) (Meters)	3	N/A	N/A	N/A	N/A <sup>1</sup>
JDAM PIP Weather Capability	Adverse	N/A	N/A	N/A	N/A <sup>1</sup>
JDAM PIP Warhead Compatibility	MK-82, MK-83	N/A	N/A	N/A	N/A <sup>1</sup>
Interoperability	N/A	Satisfy 100% of critical IERs	Satisfy 100% of critical IERs	Satisfied	Satisfied

<sup>1</sup>APB Breach

### Acronyms

CEP - Circular Error Probable

DEG - Degree

GPS - Global Positioning System

IER - Information Exchange Requirement

PIP - Product Improvement Program

**Change Explanations**

(Ch-1) The Current Estimate for Accuracy changed from 6.2 to 5.0 based on Lot Acceptance Test results.

(Ch-2) The Demonstrated Performance and Current Estimate for Warhead Compatibility were updated to include the MK-82.

(Ch-3) The Current Estimate for Aircraft Compatibility Bomber was changed to include the B-1B and B-2.

(Ch-4) The Current Estimate for Aircraft Compatibility Fighter Attack was changed to include the F-16C/D, F-117, F/A-18A+/E/F, F-15E and A-10.

(Ch-5) The Demonstrated Performance for Mission Reliability changed from .942 to .955 based on Lot Acceptance Test results.

**Memo**

(1) Adverse weather is defined as natural/man-made conditions such as rain, haze, dust, smoke, fog, snow, ice, wind, and/or clouds that preclude the use of current inventory precision guided munitions.

(2) Assumes GPS quality hand-off from aircraft. In addition, the Target Location Error (TLE) portion of the total system error is allocated to be 7.2 meters CEP. If TLE is larger than 7.2 meters CEP, the total system CEP will increase accordingly. For impact angles between 60 degrees and 35 degrees (with GPS available) accuracy degradation up to 19 meters CEP against horizontal targets is an objective.

(3) Inflight programming/targeting will be possible through MIL-STD-1553/1760 (Military Standard 1553/1760 for data bus interface to the weapon from existing aircraft stores management hardware and modified software).

(4) JDAM will be capable of operation on aircraft carriers to include withstanding 25 aircraft carrier catapult launches and arrested landings and operating within the carriers' electromagnetic environments.

(5) Physical compatibility with the B-1B, B-2, F/A-18A+/C/D, AV-8B and B-52H were successfully demonstrated during actual fit test in Engineering Manufacturing and Development (EMD) Phase 1. F-22A physical compatibility was also demonstrated using computerized physical fit analysis during this phase. During EMD Phase II, we successfully completed full JDAM integration on: B-1B, B-2, F/A-18A+/C/D, and B-52H. Post EMD, follow-on integration has been completed on: F-14B/D, F-15E, F-16C/D, F-22A, F/A-18A+/C/D/E/F, and AV8-B aircraft. Follow-on integrations with the F-117A, A/OA-10, MQ-9 (Predator), and F-35 are in progress. Integration efforts with the P-3 and S-3 aircraft are currently unplanned.

(6) Mission reliability commences when the aircrew accepts the loaded aircraft and ends at weapon impact. Mission reliability for the guidance kits does not include reliability for the fuze.

(7) The production Acquisition Program Baseline (APB), updated March 23, 2001 for Milestone III (MS III), changed the Mk-83 (1,000 lb) Operational Test and Evaluation (OT&E) aircraft from the F-22A to the F/A-18C/D because the F-22A was not available in time to support the Mk-83 OT&E and MS III schedules. Based on the successful completion of the Mk-83 Operational Evaluation (OPEVAL) on the F/A-18 C/D in March 2003, full-rate production was authorized in the third quarter FY03. This production decision is supported by the JDAM Mk-83 Multi-Service Operational Test and Evaluation (MOT&E) Final report, issued in July 2003, which concluded that the Mk-83 is operationally effective and suitable. The JDAM Program Office's position is that the Mk-83 MOT&E conducted with the F/A-18 as the OT&E aircraft completed the Mk-83 OT. The F-22A completed Mk-83 integration and IOC was declared on December 15, 2005.

## Track To Budget

### RDT&E

APPN 3600 BA 05 PE 0604618F (Air Force) Project 3890  
JDAM

APPN 1319 BA 05 PE 0604618N (Navy) Project 2137  
JDAM

### Procurement

APPN 1508 BA 01 PE 0204162N (Navy) ICN 0148  
JDAM

APPN 3011 BA 01 PE 0207583F (Air Force) ICN 353620  
JDAM

### General Memo

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

## Cost and Funding

### Cost Summary

#### Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M			TY \$M		
	SAR Baseline Prod Est	Current APB Production Objective/Threshold	Current Estimate	SAR Baseline Prod Est	Current APB Production Objective	Current Estimate
RDT&E	490.3	575.1	661.4	517.3	604.3	611.0
Procurement	1810.0	4307.5	4738.3	2089.4	5026.5	4649.1
Flyaway	1673.4	--	--	1935.5	--	4268.0
Recurring	1596.9	--	--	1847.3	--	4268.0
Non Recurring	76.5	--	--	88.2	--	0.0
Support	136.6	--	--	153.9	--	381.1
Other Support	136.6	--	--	153.9	--	381.1
Initial Spares	0.0	--	--	0.0	--	0.0
MILCON	--	--	--	--	--	--
Acq O&M	--	--	--	--	--	--
<b>Total</b>	<b>2300.3</b>	<b>4882.6</b>	<b>N/A</b>	<b>4522.1</b>	<b>2606.7</b>	<b>5630.8</b>

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E	630	778	804
Procurement	88435	221091	201189
<b>Total</b>	<b>89065</b>	<b>221869</b>	<b>201993</b>

## Funding Summary

### Appropriation and Quantity Summary

#### FY2009 President's Budget / December 2007 SAR (TY\$ M)

Appropriation	Prior	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	To Complete	Total
RDT&E	611.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	611.0
Procurement	3950.7	150.4	115.0	108.1	109.3	106.9	108.7	0.0	4649.1
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
PB2009 Total	4561.7	150.4	115.0	108.1	109.3	106.9	108.7	0.0	5260.1
PB2008 Total	4535.7	146.4	132.5	133.9	129.5	110.8	112.7	0.0	5301.5
Delta	26.0	4.0	-17.5	-25.8	-20.2	-3.9	-4.0	0.0	-41.4

Quantity	Prior	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	To Complete	Total
Development	0	0	0	0	0	0	0	0	804
Production	178080	5174	3816	3592	3620	3454	3453	0	201189
PB2009 Total	178080	5174	3816	3592	3620	3454	3453	0	201993
PB2008 Total	178322	4962	4676	4600	4234	3509	3447	0	204554
Delta	-242	212	-860	-1008	-614	-55	6	0	-2561

## Annual Funding By Appropriation

### Annual Funding TY\$

#### 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
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
<b>Subtotal</b>	<b>114</b>	--	--	--	--	--	<b>194.3</b>

## Annual Funding BY\$

## 1319 | RDT&amp;E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1995 \$M	Non End Item Recurring Flyaway BY 1995 \$M	Non Recurring Flyaway BY 1995 \$M	Total Flyaway BY 1995 \$M	Total Support BY 1995 \$M	Total Program BY 1995 \$M
1993	--	--	--	--	--	--	23.7
1994	--	--	--	--	--	--	7.8
1995	--	--	--	--	--	--	22.7
1996	--	--	--	--	--	--	24.6
1997	--	--	--	--	--	--	21.1
1998	--	--	--	--	--	--	11.0
1999	--	--	--	--	--	--	5.7
2000	--	--	--	--	--	--	6.7
2001	--	--	--	--	--	--	21.0
2002	--	--	--	--	--	--	24.6
2003	--	--	--	--	--	--	13.8
2004	--	--	--	--	--	--	1.1
2005	--	--	--	--	--	--	0.4
2006	--	--	--	--	--	--	0.2
<b>Subtotal</b>	<b>114</b>	--	--	--	--	--	<b>184.4</b>

## Annual Funding TY\$

## 3600 | RDT&amp;E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
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	--	--	--	--	--	--	21.0
<b>Subtotal</b>	<b>690</b>	--	--	--	--	--	<b>416.7</b>

## Annual Funding BY\$

## 3600 | RDT&amp;E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1995 \$M	Non End Item Recurring Flyaway BY 1995 \$M	Non Recurring Flyaway BY 1995 \$M	Total Flyaway BY 1995 \$M	Total Support BY 1995 \$M	Total Program BY 1995 \$M
1993	--	--	--	--	--	--	21.9
1994	--	--	--	--	--	--	62.1
1995	--	--	--	--	--	--	62.0
1996	--	--	--	--	--	--	74.0
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	--	--	--	--	--	--	16.8
<b>Subtotal</b>	<b>690</b>	--	--	--	--	--	<b>395.5</b>

## Annual Funding TY\$

## 1508 | Procurement | Procurement of Ammunition, Navy and Marine Corps

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
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	1357	30.8	--	--	30.8	7.6	38.4
2009	169	4.1	--	--	4.1	5.2	9.3
2010	--	--	--	--	--	2.0	2.0
<b>Subtotal</b>	<b>58800</b>	<b>1196.4</b>	<b>--</b>	<b>--</b>	<b>1196.4</b>	<b>134.5</b>	<b>1330.9</b>

**Annual Funding BY\$****1508 | Procurement | Procurement of Ammunition, Navy and Marine Corps**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
1998	547	9.4	--	--	9.4	10.2	19.6
1999	745	13.5	--	--	13.5	19.1	32.6
2000	916	17.7	--	--	17.7	14.3	32.0
2001	2325	45.4	--	--	45.4	14.0	59.4
2002	14551	260.4	--	--	260.4	9.0	269.4
2003	12280	213.4	--	--	213.4	7.5	220.9
2004	12422	209.9	--	--	209.9	7.1	217.0
2005	6876	119.3	--	--	119.3	7.2	126.5
2006	3288	59.0	--	--	59.0	7.4	66.4
2007	3324	58.7	--	--	58.7	10.0	68.7
2008	1357	24.0	--	--	24.0	5.9	29.9
2009	169	3.1	--	--	3.1	4.0	7.1
2010	--	--	--	--	--	1.5	1.5
<b>Subtotal</b>	<b>58800</b>	<b>1033.8</b>	<b>--</b>	<b>--</b>	<b>1033.8</b>	<b>117.2</b>	<b>1151.0</b>

## Annual Funding TY\$

## 3011 | Procurement | Procurement of Ammunition, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
1997	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	23.8	224.6
2007	7261	183.5	--	--	183.5	10.6	194.1
2008	3817	90.2	--	--	90.2	21.8	112.0
2009	3647	91.1	--	--	91.1	14.6	105.7
2010	3592	92.0	--	--	92.0	14.1	106.1
2011	3620	95.0	--	--	95.0	14.3	109.3
2012	3454	92.2	--	--	92.2	14.7	106.9
2013	3453	93.9	--	--	93.9	14.8	108.7
<b>Subtotal</b>	<b>142389</b>	<b>3071.6</b>	<b>--</b>	<b>--</b>	<b>3071.6</b>	<b>246.6</b>	<b>3318.2</b>

**Annual Funding BY\$**  
**3011 | Procurement | Procurement of Ammunition, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non End Item Recurring Flyaway BY 1995 \$M</b>	<b>Non Recurring Flyaway BY 1995 \$M</b>	<b>Total Flyaway BY 1995 \$M</b>	<b>Total Support BY 1995 \$M</b>	<b>Total Program BY 1995 \$M</b>
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	19.4	182.9
2007	7261	145.6	--	--	145.6	8.4	154.0
2008	3817	70.2	--	--	70.2	17.0	87.2
2009	3647	69.5	--	--	69.5	11.2	80.7
2010	3592	68.9	--	--	68.9	10.5	79.4
2011	3620	69.7	--	--	69.7	10.5	80.2
2012	3454	66.3	--	--	66.3	10.6	76.9
2013	3453	66.2	--	--	66.2	10.5	76.7
<b>Subtotal</b>	<b>142389</b>	<b>2588.9</b>	<b>--</b>	<b>--</b>	<b>2588.9</b>	<b>202.3</b>	<b>2791.2</b>

## Low Rate Initial Production

	Initial Estimate	Current Estimate
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 FY97 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	Memo
Australia	12/11/2007		2.6	Engineering Support
Australia	4/5/2005		0.3	Integration Support
Australia	11/28/2000		2.2	Fuzes
Belgium	12/22/2004	200	5.1	JDAM Kits
Belgium	2/11/2002		0.8	Fuzes
Chile	2/1/2002		3.6	Integration and Test Assets
Denmark	12/20/2002	274	11.9	JDAM Kits and Support
Greece	11/20/2007	100	23.1	JDAM Kits and Integration Support
Greece	12/13/2005		3.3	Integration Support
Israel	10/2/2007	1000	28.0	JDAM Kits
Israel	9/26/2007	650	18.2	JDAM Kits
Israel	7/13/2007	200	8.7	JDAM Kits
Israel	3/5/2007	500	13.2	JDAM Kits
Israel	7/25/2006		0.1	Engineering Support
Israel	8/16/2004		17.8	F-15 Integration
Israel	7/14/2004	840	18.5	JDAM Kits and Integration
Israel	2/9/2000	660	32.6	JDAM Kits and Integration
Israel	9/10/1999	12	3.2	JDAM Kits and Integration and Test Assets
Japan	12/18/2006	42	1.8	JDAM Kits
Japan	3/27/2006	44	3.6	JDAM Kits
Japan	3/17/2006		0.1	Weapon Familiarization
Japan	1/25/2005	27	8.8	JDAM Kits and Integration and Test Assets
Netherlands	10/7/2005	56	1.7	JDAM Kits
Netherlands	3/1/2005	360	9.2	JDAM Kits and Support
Netherlands	2/23/2004	350	14.3	JDAM Kits and Support
Oman	2/15/2004	20	0.5	JDAM Kits
Oman	5/2/2002	80	5.7	JDAM Kits
Pakistan	9/30/2006	500	23.3	JDAM Kits
Poland	4/18/2003	270	15.9	JDAM Kits, Integration and Test Assets
Portugal	4/15/2004	30	2.1	JDAM Kits and Support
South Korea	6/12/2002	14	2.4	JDAM Kits
Spain	12/14/2006	40	2.5	JDAM Kits
Turkey	5/29/2007		0.4	Fuzes
Turkey	12/28/2005	398	9.9	JDAM Kits
Turkey	12/28/2005		7.4	Integration
Turkey	4/26/2005		4.4	Integration Support
United Arab Emirates	8/20/2002	200	9.0	JDAM Kits
United Arab Emirates	8/8/2000		2.5	Integration and Test Assets

**Nuclear Cost**

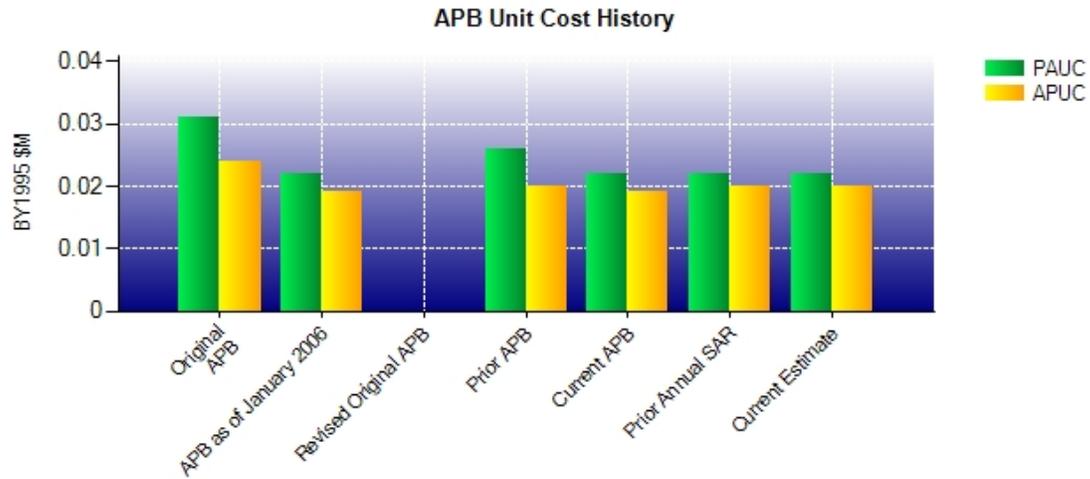
None.

**Unit Cost****Unit Cost Report**

	BY1995 \$M		
<b>Unit Cost</b>	<b>Current UCR Baseline (OCT 2002 APB)</b>	<b>Current Estimate (DEC 2007 SAR)</b>	<b>BY % Change</b>
Program Acquisition Unit Cost (PAUC)			
Cost	4882.6	4522.1	
Quantity	221869	201993	
Unit Cost	0.022	0.022	+0.00
Average Procurement Unit Cost (APUC)			
Cost	4307.5	3942.2	
Quantity	221091	201189	
Unit Cost	0.019	0.020	+5.26

	BY1995 \$M		
<b>Unit Cost</b>	<b>Original UCR Baseline (SEP 1995 APB)</b>	<b>Current Estimate (DEC 2007 SAR)</b>	<b>BY % Change</b>
Program Acquisition Unit Cost (PAUC)			
Cost	2580.9	4522.1	
Quantity	88126	201993	
Unit Cost	0.029	0.022	-24.14
Average Procurement Unit Cost (APUC)			
Cost	2090.6	3942.2	
Quantity	87496	201189	
Unit Cost	0.024	0.020	-16.67

### Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
<b>Original APB</b>	SEP 1995	0.031	0.024	0.038	0.033
<b>APB as of January 2006</b>	OCT 2002	0.022	0.019	0.025	0.023
<b>Revised Original APB</b>	N/A	N/A	N/A	N/A	N/A
<b>Prior APB</b>	MAR 2001	0.026	0.020	0.029	0.024
<b>Current APB</b>	OCT 2002	0.022	0.019	0.025	0.023
<b>Prior Annual SAR</b>	DEC 2006	0.022	0.020	0.026	0.023
<b>Current Estimate</b>	DEC 2007	0.022	0.020	0.026	0.023

### SAR Unit Cost History

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

Initial PAUC Dev Est	Changes								PAUC Prod Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.038	-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 Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.029	0.000	-0.009	0.000	0.000	0.005	0.000	0.001	-0.003	0.026

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

Initial APUC Dev Est	Changes								APUC Prod Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.033	-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 Prod Est	Changes								APUC Current Est
	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/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	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	5260.1
Total Quantity	378	88126	89065	201993
Prog. Acq. Unit Cost (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**

<b>Summary Then Year \$M</b>				
	<b>RDT&amp;E</b>	<b>Proc</b>	<b>MILCON</b>	<b>Total</b>
SAR Baseline (Prod Est)	517.3	2089.4	--	2606.7
Previous Changes				
Economic	+3.5	+68.8	--	+72.3
Quantity	0.0	+1514.9	--	+1514.9
Schedule	0.0	-39.5	--	-39.5
Engineering	+15.5	0.0	--	+15.5
Estimating	+69.1	+827.8	--	+896.9
Other	0.0	0.0	--	0.0
Support	0.0	+234.7	--	+234.7
Subtotal	+88.1	+2606.7	--	+2694.8
Current Changes				
Economic	+0.3	-3.9	--	-3.6
Quantity	--	-62.8	--	-62.8
Schedule	--	+0.9	--	+0.9
Engineering	--	--	--	--
Estimating	+5.3	+30.7	--	+36.0
Other	--	--	--	--
Support	--	-11.9	--	-11.9
Subtotal	+5.6	-47.0	--	-41.4
Total Changes	+93.7	+2559.7	--	+2653.4
CE - Cost Variance	611.0	4649.1	--	5260.1
CE - Cost & Funding	611.0	4649.1	--	5260.1

<b>Summary Base Year 1995 \$M</b>				
	<b>RDT&amp;E</b>	<b>Proc</b>	<b>MILCON</b>	<b>Total</b>
SAR Baseline (Prod Est)	490.3	1810.0	--	2300.3
Previous Changes				
Economic	0.0	0.0	--	0.0
Quantity	0.0	+1271.7	--	+1271.7
Schedule	0.0	0.0	--	0.0
Engineering	+12.5	0.0	--	+12.5
Estimating	+73.2	+700.2	--	+773.4
Other	0.0	0.0	--	0.0
Support	0.0	+191.5	--	+191.5
Subtotal	+85.7	+2163.4	--	+2249.1
Current Changes				
Economic	--	--	--	--
Quantity	--	-46.5	--	-46.5
Schedule	--	0.0	--	0.0
Engineering	--	--	--	--
Estimating	+3.9	+23.8	--	+27.7
Other	--	--	--	--
Support	--	-8.5	--	-8.5
Subtotal	+3.9	-31.2	--	-27.3
Total Changes	+89.6	+2132.2	--	+2221.8
CE - Cost Variance	579.9	3942.2	--	4522.1
CE - Cost & Funding	579.9	3942.2	--	4522.1

Previous Estimate: December 2006

RDT&E	\$M	
	Base Year	Then Year
<b>Current Change Explanations</b>		
Revised escalation indices. (Economic)	N/A	+0.3
Additional Funding received for the JDAM Laser Test Program. (Estimating)	+4.2	+5.6
Adjustment for current and prior escalation. (Estimating)	-0.3	-0.3
RDT&E Subtotal	+3.9	+5.6

Procurement	\$M	
	Base Year	Then Year
<b>Current Change Explanations</b>		
Revised escalation indices. (Economic)	N/A	-3.9
Stretch-out of procurement buy profile (Air Force). (Schedule)	0.0	+0.7
Stretch-out of procurement buy profile (Navy). (Schedule)	0.0	+0.2
Total Quantity variance resulting from a decrease of 500 units from 142889 to 142389 (Air Force). (Subtotal)	-9.2	-13.0
Quantity variance resulting from a decrease of 500 units from 142889 to 142389 (Air Force). (Quantity)	(-9.1)	(-12.9)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-0.1)	(-0.1)
Total Quantity variance resulting from a decrease of 2061 units from 60861 to 58800 (Navy). (Subtotal)	-38.0	-50.7
Quantity variance resulting from a decrease of 2061 units from 60861 to 58800 (Navy). (Quantity)	(-37.4)	(-49.9)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-0.6)	(-0.8)
Increase to support Laser JDAM (AF). (Estimating)	+15.6	+19.8
Adjustment for change in estimating methodology (AF). (Estimating)	+3.2	+4.7
Adjustment for change in estimating methodology (Navy). (Estimating)	+5.5	+6.9
Adjustment for current and prior escalation. (Estimating)	+0.2	+0.2
Adjustment for current and prior escalation. (Support)	+0.1	+0.1
Decrease in Product Support. Funding was redirected in the Department of Navy to fund higher priority programs (Navy). (Support)	-12.8	-17.4
Increase in Product Support (Air Force). (Support)	+4.2	+5.4
Procurement Subtotal	-31.2	-47.0

(QR) Quantity Related

## Contracts

### General Contract Memo

The Lot 9 contract (FA8681-05-C-0033) is complete and therefore no longer reported.

### Appropriation: Procurement

Contract Name	<b>JDAM Lot 10</b>
Contractor	Boeing
Contractor Location	St. Louis , MO 63166
Contract Number, Type	FA8681-06-C-0058, FFP
Award Date	March 03, 2006
Definitization Date	March 03, 2006

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
240.1	240.1	11493	279.6	279.6	11493	279.6	279.6

### Cost And Schedule Variance Explanations

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

### Contract Comments

FA8681-06-C-0058 decreased from \$280.5M to \$279.6M to allow the transfer of High Data Rate Compact Telemetry Units from the JDAM Production Lot 10 contract to the JDAM Aircraft Integration Contract.

**Appropriation: Procurement**

Contract Name **JDAM Lot 11**  
 Contractor Boeing  
 Contractor Location St. Louis , MO 63166  
 Contract Number, Type FA8681-07-C-0002, FFP  
 Award Date November 14, 2006  
 Definitization Date November 14, 2006

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
236.3	236.3	10585	236.3	236.3	10585	236.3	236.3

**Cost And Schedule Variance Explanations**

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

**Contract Comments**

None

## Deliveries and Expenditures

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	804	804	804	100.00%
Production	164540	166139	201189	82.58%
Total Program Quantities Delivered	165344	166943	201993	82.65%

Expenditures and Appropriations (TY \$M)			
Total Acquisition Cost	5260.1	Years Appropriated	16
Expenditures To Date	3960.1	Percent Years Appropriated	76.19%
Percent Expended	75.29%	Appropriated to Date	4712.1
Total Funding Years	21	Percent Appropriated	89.58%

The 2006 SAR included deliveries for Defense Emergency Relief Fund (DERF). DERF is not included in the JDAM Program Element. These quantities were removed for the 2007 SAR.

## 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.

#### Costs BY1995 \$M

Cost Element	JDAM	No Antecedent
	Avg Annual Costs for 88,569 JDAM units	System
Mission Pay & Allowance	0.4	--
Unit Level Consumption	1.9	--
Intermediate Maintenance	0.0	--
Depot Maintenance	0.0	--
Contractor Support	2.0	--
Sustaining Support	0.6	--
Indirect	1.8	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	6.7	--

Total O&S Costs \$M	JDAM	No Antecedent
Base Year	232.6	--
Then Year	421.3	--