Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-437

AB3B NEW BUILD

As of December 31, 2010

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

Program Information

Designation And Nomenclature (Popular Name)

APACHE BLOCK IIIB NEW BUILD

DoD Component

Army

Responsible Office

Responsible Office

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References

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acqusition Program Baseline (APB) dated December 16, 2010.

Approved APB

DAE Approved Acquisition Program Baseline (APB) dated December 16, 2010

Mission and Description

The Apache Block III (AB3) is the heavy attack helicopter of the current and future force. It is a twin engine, four bladed, tandem seat, attack helicopter with 30mm ammunition, 2.75" rockets, laser & Radio Frequency (RF) Hellfire missiles. AB3 is the Army's network-centric, multi-role weapon system within the Future Modular Force (FMF). It will provide the capability to simultaneously conduct (or quickly transition between) close combat, mobile strike, armed reconnaissance, security and vertical maneuver missions across the full spectrum of warfare from Stability And Support Operations (SASO) to Major Combat Operations (MCO) when required in day, night, obscured battlefield and adverse weather conditions. AB3 will enable the Joint Air/Ground Maneuver Team to dominate the battle space by providing air-ground synergy though real time Intelligence, Surveillance and Reconnaissance (ISR) information and responsive precision fires. AB3 will be linked to Joint and Combined Arms Air/Ground Maneuver Teams via Enhanced Digital Communications, Unmanned Aircraft Systems (UAS) Data Link and Joint Networking waveforms.

The AB3 is an Apache Attack Helicopter modified as required to effectively and efficiently integrate the Longbow Apache well into the 21st century, by providing improvements to make it relevant in FMF operations. It provides a significantly enhanced warfighting capability over the AH-64A and AH-64D. It is capable of being employed day or night in adverse weather and obscurants, and can effectively engage and destroy advanced threat weapon systems on the air-land battlefield. Tactically, the AB3 provides significant war fighting advantages over the original AH-64D and multiplies the combat effectiveness of the entire fleet. It will be fully capable of employing the Longbow Fire Control Radar (FCR) mission kit, the Modernized Target Acquisition Designation System/Modernized Pilot Night Vision System (M-TADS/M-PNVS), the Longbow Hellfire missiles, and future improved munitions such as Joint Air-to-Ground Missile (JAGM) in addition to the normal complement of AH-64D munitions.

The AB3 will be fully network-centric capable with current digitized forces and FMF equipped forces. This will enable interoperability with current and future Tactical Operations Center (TOC) and Army Battle Command System forces. In addition, it will reduce the logistics footprint and enhance its deployability, reduce operational and support costs, improve AH-64D model flight performance and provide a means to effectively utilize already funded technology insertions.

AB3 will operate within the future force system-of-systems environment, where maximum combat power is delivered to units only in coherent packages of systems with synergistic interdependence. The FMF concept drives the demand for network centric interdependence and joint integration across the force to new levels. The AB3 meets the challenge of providing and integrating Command and Control (C2); ISR; and communications connectivity for attack/reconnaissance aviation within brigade combat teams, divisions and corps.

Executive Summary

This is the initial Selected Acquisition Report (SAR) submission for the Apache Block III B (AB3B) program.

On June 28, 2006, the Defense Acquisition Executive (DAE) conducted a successful Milestone B (MS B) review of the Apache Block III (AB3) program. As a result, the DAE signed an Acquisition Decision Memorandum (ADM), dated July 10, 2006, approving MS B, authorizing the AB3 program to enter System Development and Demonstration (SDD) and designating it as an Acquisition Category (ACAT) ID program. On July 14, 2006, the Apache Project Manager awarded an SDD contract to the Boeing Company to begin the development effort for AB3. An SDD contract was awarded to the Longbow Limited (LBL) Company on September 29, 2006. This effort will specifically develop the subsystem improvements for the AB3 Fire Control Radar and enable the Level IV Unmanned Aircraft System (UAS) control. A follow-on ADM was approved on March 7, 2007 authorizing a Low Rate Initial Production (LRIP) quantity of 59 aircraft and granting Army authority to procure long-lead items beginning in Fiscal Year (FY) 2009. The Acquisition Program Baseline (APB) milestones established for the Preliminary Design Review and the Critical Design Review were successfully completed on April 19, 2007 and January 30, 2008 respectively. The Limited User Test was successfully executed in November 2009.

The AB3 program was directed to increase total quantity procurement by 56 aircraft through the FY 2011 President's Budget (PB11) at a total additional cost of $2.5 Billion (B). The baseline program was a remanufacture production. These additional aircraft procurements will be New Build aircraft at a unit cost significantly higher than the remanufacture unit cost. The cost for a remanufacture aircraft is only 30 percent of the cost of a New Build aircraft. The addition of the New Build aircraft along with minor fact of life changes to the program since the beginning of Research, Development, Test, and Evaluation caused a Nunn-McCurdy unit cost breach to the Average Procurement Unit Cost (a Base Year 2006 change of +31.2 percent), which was reflected in the Dec 09 SAR. The DAE supported a rapid Nunn-McCurdy process which was completed June 1, 2010 with an ADM certifying the program to move forward to Milestone C (MS C) and separating the baseline program into two Major Defense Acquisition Programs (MDAP) for cost accounting purposes (AB3A Reman and AB3B New Build). As part of the Nunn McCurdy certification and MS C process, the Office of the Secretary of Defense (OSD) Cost Assessment and Program Evaluation (CAPE) produced an Independent Cost Estimate (ICE) for both the AB3A and AB3B programs. The ICE for the AB3B was slightly less than the New Build portion of the December 2009 SAR. The major difference between the ICE for the AB3B and New Build portion of the December 2009 SAR is that the ICE assumes less manhours in the new build process. A successful MS C Defense Acquisition Board (DAB) was completed September 27, 2010. The resultant AB3B ADM directed the Army to fund the AB3B program to the ICE. The AB3 DAB allowed the move into LRIP and advance procurement actions for Full Rate Production (FRP) for the remanufactured aircraft. The new build AB3B aircraft will have advance procurement in FY 2012 and begin production FY 2013, when the AB3 program will be in full rate production. AB3B aircraft will begin delivery in September 2014.

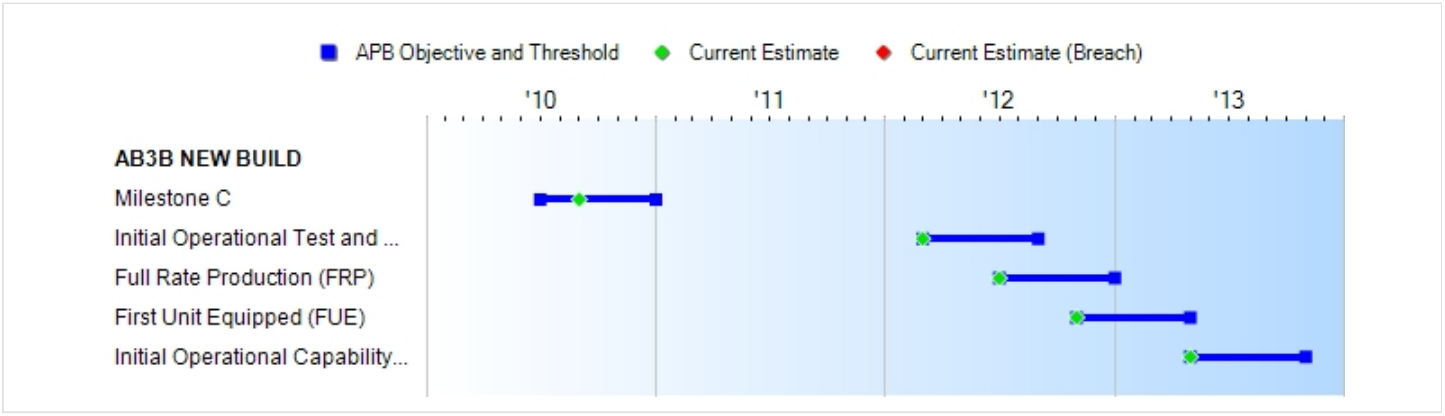
There are no significant software related issues with this program.

Threshold Breaches

APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Schedule



Milestones	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate
Milestone C	JUL 2010	JUL 2010	JAN 2011	SEP 2010
Initial Operational Test and Evaluation (IOT&E)	MAR 2012	MAR 2012	SEP 2012	MAR 2012
Full Rate Production (FRP)	JUL 2012	JUL 2012	JAN 2013	JUL 2012
First Unit Equipped (FUE)	NOV 2012	NOV 2012	MAY 2013	NOV 2012
Initial Operational Capability (IOC)	MAY 2013	MAY 2013	NOV 2013	MAY 2013

Change Explanations

None

Memo

Development for this program was completed under the AB3A Remanufacture program. The Apache Block IIIB New Build entered the Acquisition Management System at Milestone (MS) C per the Nunn-McCurdy Acquisition Decision Memorandum (ADM) dated June 1, 2010.

The Objective and Threshold dates shown are for Initial Operational Test and Evaluation (IOT&E) for the AB3A Remanufacture test events. The AB3B New Build configuration will be scheduled to be tested during the Follow-On Test and Evaluation II phase, which is planned for Fiscal Year 2015.

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Net Ready	Fully support execution of all operational activities.	Fully support execution of all operational activities.	Fully support execution of joint critical operational activities	TBD	Fully support execution of all operational activities.
Performance					
6000 PA, 95F OGE Hover (lbs/payload)	4,100	4,100	3,400	TBD	4,100
Mission Reliability					
MTBF (M) hrs					
Lot 1	22	22	15.3	TBD	22
Lot 4	22	22	17	TBD	22
MR for 3.5 hr. Flight (%)	85	85	80	TBD	85
Survivability					
Safe operation (minutes)	30	30	30	TBD	30
Survive Band IV MANPADS IR Missile Engagement	IAW JROCM 086-10	IAW JROCM 086-10	IAW JROCM 086-10	TBD	IAW JROCM 086-10
Force Protection					
Crewstation armor Survivability (MM)	IAW JROCM 086-10	IAW JROCM 086-10	IAW JROCM 086-10	TBD	IAW JROCM 086-10
Crewstation armor barrier survivability	IAW JROCM 086-10	IAW JROCM 086-10	IAW JROCM 086-10	TBD	IAW JROCM 086-10

Requirements Source:
Capability Production Document (CPD) approved by Joint Requirements Oversight Council Memorandum (JROCM), June 1, 2010.

Acronyms And Abbreviations

% - Percent
F - Fahrenheit
hrs - hours
IAW - In Accordance With
IR - Infrared
JROCM - Joint Requirements Oversight Council Memorandum
lbs - pounds

MANPADS - Man Portable Air Defense Systems
MM - Millimeter
MR - Mission Reliability
MTBF(M) - Mean Time Between Failure (Mission)
OGE - Out of Ground Effect
PA - Pressure Altitude

Change Explanations

None

Memo

Net Ready Key Performance Parameter (KPP) compliance is achieved by meeting the information exchange capabilities required by the Integrated Architectures Operational View -1 (OV-1) and is demonstrated by achieving Joint Interoperability Certification, Army Interoperability Certification, and Department of Defense (DoD) Information Assurance and Accreditation Process (DIACAP) accreditation.

Classified performance parameters can be accessed in JROCM 086-10.

Track To Budget

Procurement			
APPN 2031	BA 01	PE 0210100A	(Army)
	ICN A05133	Apache Longbow Block IIIB New Build	

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	BY2010 $M			BY2010 $M	TY $M		
Appropriation	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Prod Est	Current APB Production Objective	Current Estimate
RDT&E	0.0	0.0	--	0.0	0.0	0.0	0.0
Flyaway	0.0	--	--	0.0	0.0	--	0.0
Recurring	0.0	--	--	0.0	0.0	--	0.0
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	0.0	0.0	--	0.0
Procurement	2307.0	2134.6	2348.1	2156.6	2510.4	2326.2	2352.7
Flyaway	2054.0	--	--	1785.8	2234.1	--	1945.7
Recurring	2054.0	--	--	1785.8	2234.1	--	1945.7
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	253.0	--	--	370.8	276.3	--	407.0
Other Support	253.0	--	--	341.3	276.3	--	374.7
Initial Spares	0.0	--	--	29.5	0.0	--	32.3
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	2307.0	2134.6	N/A	2156.6	2510.4	2326.2	2352.7

Confidence Level. The updated Cost Assessment and Program Evaluation (CAPE) Office estimate to support the Apache Block 3A and 3B Milestone C approval, like all CAPE life-cycle cost estimates, is not consistent with the 80% confidence level specified in the Acquisition Reform Act of 2009. The CAPE estimate is, like all CAPE estimates, built upon a product-oriented work breakdown structure, based on historical actual cost information to the maximum extent possible, and, most importantly, based on conservative assumptions that are consistent with actual demonstrated contractor and government performance for a series of acquisition programs in which the Department has been successful.

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E	0	0	0
Procurement	56	56	57
Total	56	56	57

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2012 President's Budget / December 2010 SAR (TY$ M)

Appropriation	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
RDT&E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Procurement	0.0	0.0	139.8	548.0	1057.7	405.7	201.5	0.0	2352.7
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2012 Total	0.0	0.0	139.8	548.0	1057.7	405.7	201.5	0.0	2352.7
	--	--	--	--	--	--	--	--	--

This is the first Selected Acquisition Report for the Apache Block III New Build (AB3B) aircraft. AB3B aircraft were not identified separately in the President's Budget 2011.

Quantity	Undistributed	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	0	0	1	8	28	13	7	0	57
PB 2012 Total	0	0	0	1	8	28	13	7	0	57
	--	--	--	--	--	--	--	--	--	--

Cost and Funding

Annual Funding By Appropriation

Annual Funding TY$
2031 | Procurement | Aircraft Procurement, Army

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2012	1	139.8	--	--	139.8	--	139.8
2013	8	528.1	--	--	528.1	19.9	548.0
2014	28	797.1	--	--	797.1	260.6	1057.7
2015	13	307.5	--	--	307.5	98.2	405.7
2016	7	173.2	--	--	173.2	28.3	201.5
Subtotal	**57**	**1945.7**	**--**	**--**	**1945.7**	**407.0**	**2352.7**

Annual Funding BY$
2031 | Procurement | Aircraft Procurement, Army

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2010 $M	Non End Item Recurring Flyaway BY 2010 $M	Non Recurring Flyaway BY 2010 $M	Total Flyaway BY 2010 $M	Total Support BY 2010 $M	Total Program BY 2010 $M
2012	1	132.5	--	--	132.5	--	132.5
2013	8	492.2	--	--	492.2	18.5	510.7
2014	28	730.5	--	--	730.5	238.8	969.3
2015	13	277.1	--	--	277.1	88.5	365.6
2016	7	153.5	--	--	153.5	25.0	178.5
Subtotal	**57**	**1785.8**	**--**	**--**	**1785.8**	**370.8**	**2156.6**

Cost Quantity Information
2031 | Procurement | Aircraft Procurement, Army

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 2010 $M
2012	1	33.8
2013	8	242.0
2014	28	825.8
2015	13	507.0
2016	7	177.2
Subtotal	**57**	**1785.8**

Low Rate Initial Production

The Low Rate Initial Production (LRIP) contract phase will only apply to the AB3A program. The AB3B program is not scheduled to begin until after the Full Rate Production decision is made in June 2012.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost $M	Memo
India		22	937.0	Projected Letter of Acceptance (LOA) signature date is 2011.
Saudi Arabia		10	2000.0	Projected LOA signature date is 2011.
Saudi Arabia		12	510.0	Projected LOA signature date is October 2011. Production only.
Saudi Arabia		24	2400.0	Projected LOA signature date is October 2011.
Saudi Arabia		12	1400.0	Projected LOA signature date is 2011. Cost includes support, peculiar ground support equipment, initial spares, contractor logistics support window, Contractor Field Service Representatives (CFSRs), United States Government (USG) tech support, two Longbow Crew Trainers (LCTs), training of pilots, maintainers, etc.
United Arab Emirates		30	925.0	Projected LOA signature date is October 2011.
Taiwan	12/22/2008	31	2030.0	Deliveries of aircraft to begin in Calendar Year (CY) 2012.

Nuclear Cost

There are no Nuclear Cost data to display.

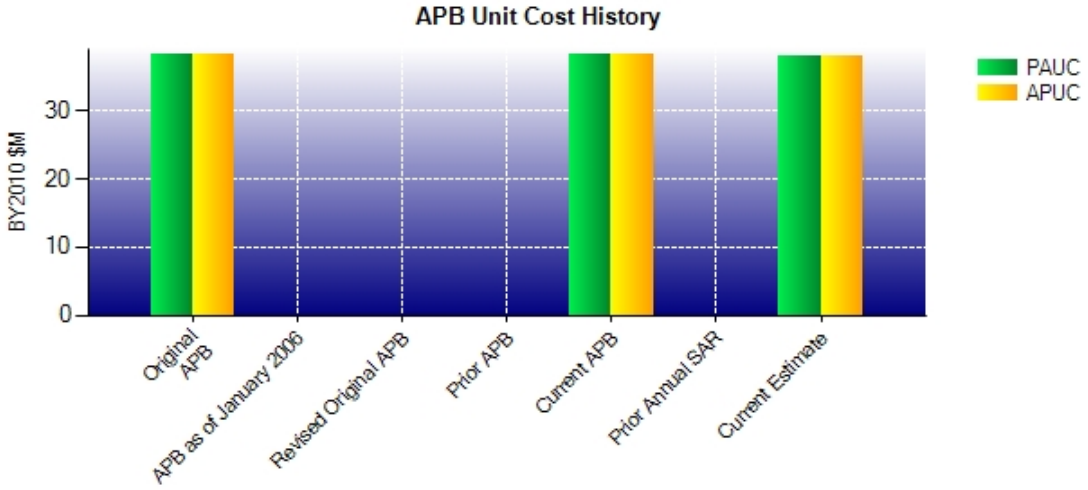
Unit Cost

Unit Cost Report

Unit Cost	BY2010 $M Current UCR Baseline (DEC 2010 APB)	BY2010 $M Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	2134.6	2156.6	
Quantity	56	57	
Unit Cost	38.118	37.835	-0.74
Average Procurement Unit Cost (APUC)			
Cost	2134.6	2156.6	
Quantity	56	57	
Unit Cost	38.118	37.835	-0.74

Unit Cost	BY2010 $M Original UCR Baseline (DEC 2010 APB)	BY2010 $M Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	2134.6	2156.6	
Quantity	56	57	
Unit Cost	38.118	37.835	-0.74
Average Procurement Unit Cost (APUC)			
Cost	2134.6	2156.6	
Quantity	56	57	
Unit Cost	38.118	37.835	-0.74

Unit Cost History



		BY2010 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	DEC 2010	38.118	38.118	41.539	41.539
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	DEC 2010	38.118	38.118	41.539	41.539
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	DEC 2010	37.835	37.835	41.275	41.275

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)

Initial PAUC Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
44.829	0.072	0.085	0.049	0.000	-6.046	0.000	2.286	-3.554	41.275

Current SAR Baseline to Current Estimate (TY $M)

Initial APUC Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
44.829	0.072	0.085	0.049	0.000	-6.046	0.000	2.286	-3.554	41.275

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	N/A	N/A	N/A
Milestone C	N/A	N/A	JUL 2010	SEP 2010
IOC	N/A	N/A	MAY 2013	MAY 2013
Total Cost (TY $M)	N/A	N/A	2326.2	2352.7
Total Quantity	N/A	N/A	56	57
Prog. Acq. Unit Cost (PAUC)	N/A	N/A	41.539	41.275

Cost Variance

Cost Variance Summary

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	--	2510.4	--	2510.4
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	--	+4.1	--	+4.1
Quantity	--	+49.7	--	+49.7
Schedule	--	+2.8	--	+2.8
Engineering	--	--	--	--
Estimating	--	-344.6	--	-344.6
Other	--	--	--	--
Support	--	+130.3	--	+130.3
Subtotal	--	-157.7	--	-157.7
Total Changes	--	-157.7	--	-157.7
CE - Cost Variance	--	2352.7	--	2352.7
CE - Cost & Funding	--	2352.7	--	2352.7

Summary Base Year 2010 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	--	2307.0	--	2307.0
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	--	--	--	--
Quantity	--	+44.0	--	+44.0
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	-312.2	--	-312.2
Other	--	--	--	--
Support	--	+117.8	--	+117.8
Subtotal	--	-150.4	--	-150.4
Total Changes	--	-150.4	--	-150.4
CE - Cost Variance	--	2156.6	--	2156.6
CE - Cost & Funding	--	2156.6	--	2156.6

Previous Estimate:

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+4.1
Quantity variance resulting from an increase of one aircraft from 56 to 57. (Quantity)	+44.0	+49.7
Additional aircraft added in FY 2012 caused schedule shift forward one year. (Schedule)	0.0	+2.8
Adjustment based on Office of Secretary Defense (OSD) Independent Cost Estimate (ICE) assuming less manufacturing labor hours. (Estimating)	-312.2	-344.6
Increase in Other Support was due to refinement of training and peculiar ground support equipment estimates. (Support)	+88.3	+98.0
Increase in Initial Spares was due to refinement of cost estimate. (Support)	+29.5	+32.3
Procurement Subtotal	-150.4	-157.7

Contracts

General Contract Memo
Apache Block III (AB3) New Build Advance procurement contract projected for second quarter Fiscal Year (FY) 2012.

No contracts

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	--	--	0	--
Production	--	--	57	0.00%
Total Program Quantities Delivered	--	--	57	0.00%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	2352.7	Years Appropriated	1
Expenditures To Date	0.0	Percent Years Appropriated	20.00%
Percent Expended	0.00%	Appropriated to Date	0.0
Total Funding Years	5	Percent Appropriated	0.00%

Operating and Support Cost

Assumptions And Ground Rules

Costs BY2010 $M		
Cost Element	**AB3B NEW BUILD**	**No Antecedent**
Unit-Level Manpower	--	--
Unit Operations	--	--
Maintenance	--	--
Sustaining Support	--	--
Continuing System Improvements	--	--
Indirect Support	--	--
Other	--	--
Total Unitized Cost (Base Year 2010 $)	--	--

Total O&S Costs $M	AB3B NEW BUILD	No Antecedent
Base Year	--	--
Then Year	--	--

AB3B Operating and Support Costs are being reported in the AB3A Selected Acquisition Report.