Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-212

V-22

As of December 31, 2011

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

Program Information

Designation And Nomenclature (Popular Name)

V-22 Joint Services Advanced Vertical Lift Aircraft - Osprey (V-22)

DoD Component

Navy

Joint Participants

USMC; USN; USSOCOM; USAF

Responsible Office

Responsible Office

Col Gregory Masiello
Program Executive Office (PMA-275)
Air, Anti-Submarine Warfare, Assault & Special Mission Programs
47123 Buse Road Unit #IPT
Patuxent River, MD 20670-1547
greg.masiello@navy.mil

Phone 301-757-5161
Fax 301-757-7558
DSN Phone 757-5161
DSN Fax 757-7558

Date Assigned August 20, 2009

References

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated September 28, 2005

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated October 31, 2011

Mission and Description

The V-22 Joint Osprey Program is charged by the Department of Defense (DoD) with developing, testing, evaluating, procuring, and fielding a tilt rotor, Vertical/Short Takeoff and Landing (V/STOL) aircraft for Joint Service application. The Navy was designated the Executive Agent with support from the United States Air Force (USAF) in the V-22 Joint Program Office located at the Naval Air Systems Command Headquarters, Naval Air Station Patuxent River, MD. The V-22 Program is designed to provide an aircraft to meet the amphibious/vertical assault needs of the United States Marine Corps (USMC), the strike rescue needs of the Navy, and the special operations needs of the USAF and United States Special Operations Command (USSOCOM). The MV-22 variant is replacing the CH-46E in the Marine Corps and will supplement the H-60 in the Navy. The CV-22 variant provides a new capability and augments the MC-130 in the USAF/USSOCOM inventory for special operations infiltration, exfiltration, and resupply missions. The V-22 is capable of flying over 2,100 nautical miles (NM) with a single refueling, giving the Services the advantage of a V/STOL aircraft able to rapidly self-deploy to any location in the world.

Block Descriptions:
V-22 capability is being increased and fielded over time via a Block upgrade acquisition strategy. MV-22 Block A provides a “Safe and Operational Test and Training Asset” configuration that supports developmental and operational flight tests, as well as fleet training. MV-22 Block B provides for correction of previously identified deficiencies and suitability improvements. MV-22 Block C provides mission enhancements, primarily in the areas of environmental control systems upgrades and mission systems improvements. Block 0/10 is a CV-unique configuration including radar and electronic countermeasures upgrades. Block 20 will provide an enhanced CV-unique configuration with communications and aircraft system performance upgrades.

Executive Summary

The V-22 Osprey continues to meet all Key Performance Parameters and excel operationally as it matures into its lifecycle. East coast transition is complete with six MV-22 operational squadrons and one CV-22 operational squadron established at Marine Corps Air Station New River, NC and Hurlburt Field, FL respectively (the MV-22 variant is replacing the CH-46E in the Marine Corps and will supplement the H-60 in the Navy, and the CV-22 variant provides a new capability and augments the MC-130 in the United States Air Force/United States Special Operations Command inventory). The program continues its expansion on the west coast with five MV squadrons at Marine Corps Air Station Miramar, CA and one CV-22 squadron at Cannon Air Force Base, NM now operational. The two services now have numerous consecutive and highly-successful deployments to their credit, including Operation Iraqi Freedom, Operation Enduring Freedom, operations in South America, operations in Africa, and amphibious operations with Marine Expeditionary Units (MEUs). The fleet exceeded 100,000 flight hours in February 2011 and finished the year at nearly 130,000; 62% of these total hours have been flown in the last three years.

As the platform continues to excel operationally, the program is working aggressively to both improve readiness and reduce operating costs. These efforts are yielding positive results. The program's FY 2011 Cost per Flying Hour (CPFH) continued its positive downward trend, finishing 13% below the actual FY 2010 CPFH. The Mission Capability (MC) rate improved by 19% above the FY 2010 rate. These improvements are being achieved through team execution of a comprehensive plan, which has included reliability and maintainability improvements, maintenance concept changes, standup of additional repair capability, improved repair turnaround times, repair price reductions, and contract strategy changes. The program was presented the Defense Department's 2011 David Packard Excellence in Acquisition Award for its CPFH reduction efforts.

The program has funded the final year of a five year Multi-Year Procurement (MYP) contract, covering FY 2008 - FY 2012. Thirty-four V-22s (28 MV-22/six CV-22) were delivered from the production line during Calendar Year (CY) 2011. Production deliveries continue to be on or ahead of schedule, with underruns being realized from efforts such as the implementation of cost reduction initiatives and strategic business alliances with sub-vendors. The program is preparing for a second MYP contract which, upon approval, will cover aircraft purchases from FY 2013 - FY 2017. Program budgets for these years currently reflect the significant savings of a multi-year contract approach.

Development efforts continue to progress well. MV-22 Block C flight testing at Patuxent River completed in September 2011 with no major issues identified. The first Block C aircraft delivered in January 2012. CV-22 Block 20 flight testing continues at Hurlburt Field, FL, with concentration on Terrain Following and Terrain Avoidance capabilities. The first aircraft with Block 20 capabilities delivered in December 2011 to the Air Force test community. Follow-on test and evaluation for fielded aircraft continues to emphasize increasing component Time on Wing (TOW). In November, the follow-on operational test was completed for the biannual software suite as well as formal test of the Interim Defensive Weapon System and other hardware. The planned software suite brings increased performance via increased gross weight capability in addition to improved handling qualities and enhanced built-in test indications. The productivity of our test program continues to be a challenge, as our primary test asset is several configurations removed from the current production configuration. The program is on track to replace the only fully instrumented V-22 test aircraft, with contract award expected in 2012.

On the international front, the Israeli Air Force conducted several weeks of training and flight evaluation on the MV-22 Osprey, with follow-on information exchanges ongoing. Additionally, Canada requested information for its Fixed-Wing Search and Rescue (FWSAR) requirement. The MV-22 Osprey made its first appearance at the United Arab Emirates (UAE) Dubai Air Show, generating considerable interest and multiple follow-on briefs and demonstrations. Finally, the MV-22 flight clearance was increased to include French National Mistral Class Ships.

Domestically, in support of the US Navy V-22s in the V-22 Acquisition Program of Record, Naval Air Systems Command (NAVAIR) has issued Flight Clearances for MV-22 and CV-22 aircraft to operate on United States Navy Aircraft Carriers.

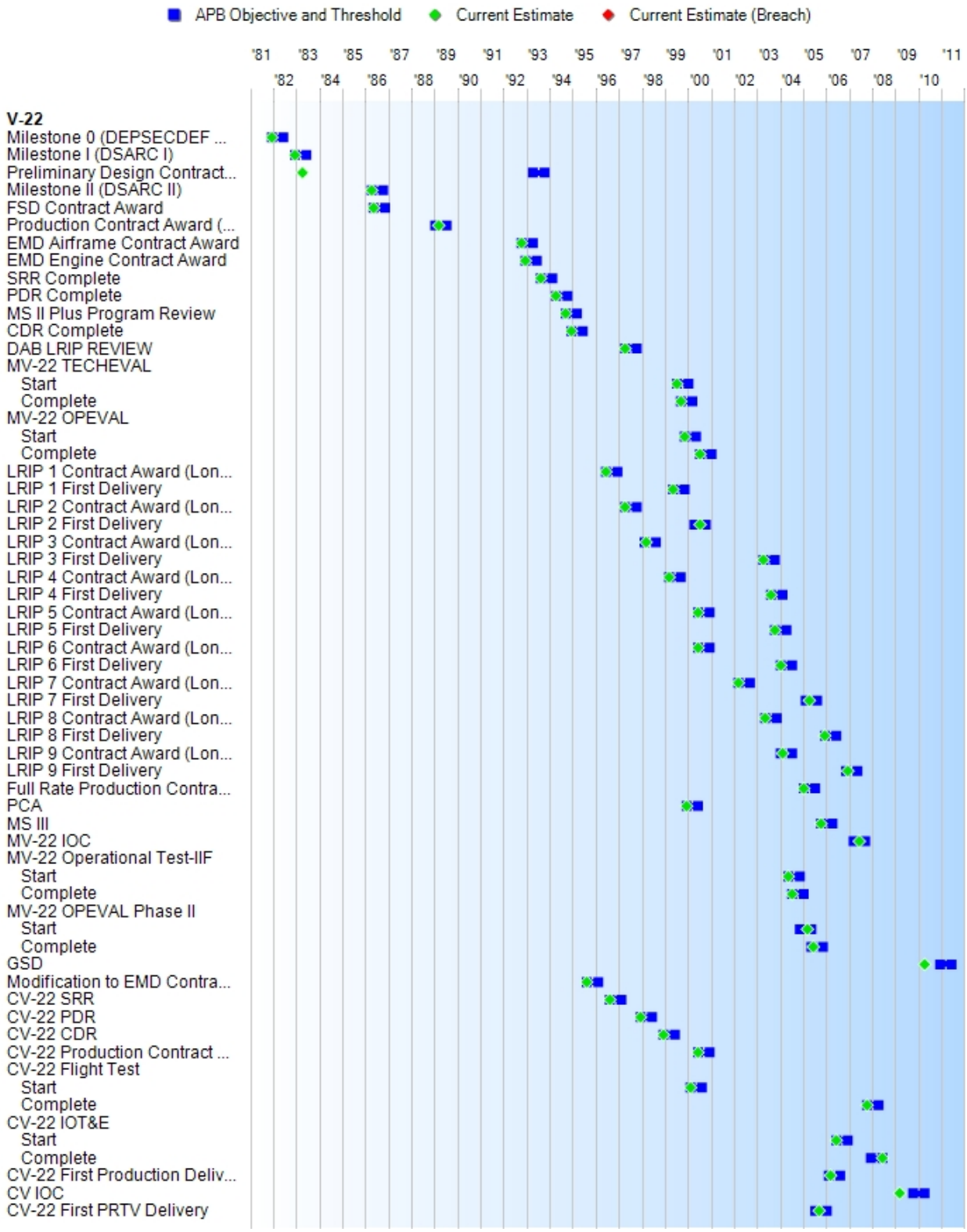
There are no significant software-related issues with this program at this time.

Threshold Breaches

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

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

Schedule


APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'81 '82 '83 '84 '85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11
V-22
Milestone 0 (DEPSECDEF ...
Milestone I (DSARC I)
Preliminary Design Contract...
Milestone II (DSARC II)
FSD Contract Award
Production Contract Award (...
EMD Airframe Contract Award
EMD Engine Contract Award
SRR Complete
PDR Complete
MS II Plus Program Review
CDR Complete
DAB LRIP REVIEW
MV-22 TECHEVAL
Start
Complete
MV-22 OPEVAL
Start
Complete
LRIP 1 Contract Award (Lon...
LRIP 1 First Delivery
LRIP 2 Contract Award (Lon...
LRIP 2 First Delivery
LRIP 3 Contract Award (Lon...
LRIP 3 First Delivery
LRIP 4 Contract Award (Lon...
LRIP 4 First Delivery
LRIP 5 Contract Award (Lon...
LRIP 5 First Delivery
LRIP 6 Contract Award (Lon...
LRIP 6 First Delivery
LRIP 7 Contract Award (Lon...
LRIP 7 First Delivery
LRIP 8 Contract Award (Lon...
LRIP 8 First Delivery
LRIP 9 Contract Award (Lon...
LRIP 9 First Delivery
Full Rate Production Contra...
PCA
MS III
MV-22 IOC
MV-22 Operational Test-IIF
Start
Complete
MV-22 OPEVAL Phase II
Start
Complete
GSD
Modification to EMD Contra...
CV-22 SRR
CV-22 PDR
CV-22 CDR
CV-22 Production Contract ...
CV-22 Flight Test
Start
Complete
CV-22 IOT&E
Start
Complete
CV-22 First Production Deliv...
CV IOC
CV-22 First PRTV Delivery

Milestones	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate
Milestone 0 (DEPSECDEF MEMO)	DEC 1981	DEC 1981	JUN 1982	DEC 1981
Milestone I (DSARC I)	DEC 1982	DEC 1982	JUN 1983	DEC 1982
Preliminary Design Contract Award	APR 1993	APR 1993	OCT 1993	APR 1983
Milestone II (DSARC II)	APR 1986	APR 1986	OCT 1986	APR 1986
FSD Contract Award	MAY 1986	MAY 1986	NOV 1986	MAY 1986
Production Contract Award (Long Lead AAC)	JAN 1989	JAN 1989	JUL 1989	MAR 1989
EMD Airframe Contract Award	OCT 1992	OCT 1992	APR 1993	OCT 1992
EMD Engine Contract Award	DEC 1992	DEC 1992	JUN 1993	DEC 1992
SRR Complete	AUG 1993	AUG 1993	FEB 1994	AUG 1993
PDR Complete	APR 1994	APR 1994	OCT 1994	APR 1994
MS II Plus Program Review	SEP 1994	SEP 1994	MAR 1995	SEP 1994
CDR Complete	DEC 1994	DEC 1994	JUN 1995	DEC 1994
DAB LRIP REVIEW	APR 1997	APR 1997	OCT 1997	APR 1997
MV-22 TECHEVAL				
Start	JUL 1999	JUL 1999	JAN 2000	JUL 1999
Complete	SEP 1999	SEP 1999	MAR 2000	SEP 1999
MV-22 OPEVAL				
Start	NOV 1999	NOV 1999	MAY 2000	NOV 1999
Complete	JUL 2000	JUL 2000	JAN 2001	JUL 2000
LRIP 1 Contract Award (Long lead $)	JUN 1996	JUN 1996	DEC 1996	JUN 1996
LRIP 1 First Delivery	MAY 1999	MAY 1999	NOV 1999	MAY 1999
LRIP 2 Contract Award (Long lead $)	APR 1997	APR 1997	OCT 1997	APR 1997
LRIP 2 First Delivery	APR 2000	APR 2000	OCT 2000	JUL 2000
LRIP 3 Contract Award (Long Lead $)	FEB 1998	FEB 1998	AUG 1998	MAR 1998
LRIP 3 First Delivery	APR 2003	APR 2003	OCT 2003	APR 2003
LRIP 4 Contract Award (Long Lead $)	MAR 1999	MAR 1999	SEP 1999	MAR 1999
LRIP 4 First Delivery	AUG 2003	AUG 2003	FEB 2004	AUG 2003
LRIP 5 Contract Award (Long Lead $)	JUN 2000	JUN 2000	DEC 2000	JUN 2000
LRIP 5 First Delivery	OCT 2003	OCT 2003	APR 2004	OCT 2003
LRIP 6 Contract Award (Long Lead $)	JUN 2000	JUN 2000	DEC 2000	JUN 2000
LRIP 6 First Delivery	JAN 2004	JAN 2004	JUL 2004	JAN 2004
LRIP 7 Contract Award (Long Lead $)	MAR 2002	MAR 2002	SEP 2002	MAR 2002

cont.				
Milestones	**SAR Baseline Prod Est**	**Current APB Production Objective/Threshold**		**Current Estimate**
LRIP 7 First Delivery	FEB 2005	FEB 2005	AUG 2005	APR 2005
LRIP 8 Contract Award (Long Lead $)	MAY 2003	MAY 2003	NOV 2003	MAY 2003
LRIP 8 First Delivery	DEC 2005	DEC 2005	JUN 2006	DEC 2005
LRIP 9 Contract Award (Long Lead $)	JAN 2004	JAN 2004	JUL 2004	FEB 2004
LRIP 9 First Delivery	NOV 2006	NOV 2006	MAY 2007	DEC 2006
Full Rate Production Contract Award (Long lead $)	JAN 2005	JAN 2005	JUL 2005	JAN 2005
PCA	DEC 1999	DEC 1999	JUN 2000	DEC 1999
MS III	OCT 2005	OCT 2005	APR 2006	OCT 2005
MV-22 IOC	MAR 2007	MAR 2007	SEP 2007	JUN 2007
MV-22 Operational Test-IIF				
Start	MAY 2004	MAY 2004	NOV 2004	MAY 2004
Complete	JUL 2004	JUL 2004	JAN 2005	JUL 2004
MV-22 OPEVAL Phase II				
Start	NOV 2004	NOV 2004	MAY 2005	MAR 2005
Complete	MAY 2005	MAY 2005	NOV 2005	JUN 2005
GSD	DEC 2010	DEC 2010	JUN 2011	APR 2010
Modification to EMD Contract to Include CV-22 Efforts	AUG 1995	AUG 1995	FEB 1996	AUG 1995
CV-22 SRR	AUG 1996	AUG 1996	FEB 1997	AUG 1996
CV-22 PDR	DEC 1997	DEC 1997	JUN 1998	DEC 1997
CV-22 CDR	DEC 1998	DEC 1998	JUN 1999	DEC 1998
CV-22 Production Contract Award (Long lead $)	JUN 2000	JUN 2000	DEC 2000	JUN 2000
CV-22 Flight Test				
Start	FEB 2000	FEB 2000	AUG 2000	FEB 2000
Complete	OCT 2007	OCT 2007	APR 2008	OCT 2007
CV-22 IOT&E				
Start	JUN 2006	JUN 2006	DEC 2006	JUN 2006
Complete	DEC 2007	DEC 2007	JUN 2008	JUN 2008
CV-22 First Production Delivery	FEB 2006	FEB 2006	AUG 2006	MAR 2006
CV IOC	OCT 2009	OCT 2009	APR 2010	MAR 2009
CV-22 First PRTV Delivery	JUL 2005	JUL 2005	JAN 2006	SEP 2005

Acronyms And Abbreviations

AAC - Advanced Acquisition Contract
CDR - Critical Design Review
DAB - Defense Acquisition Board
DEPSECDEF - Deputy Secretary of Defense
DSARC - Defense Systems Acquisition Review Council
EMD - Engineering Manufacturing Development

FSD - Full Scale Development
GSD - Government Support Date
IOC - Initial Operational Capability
IOT&E - Initial Operational Test and Evaluation
LRIP - Low Rate Initial Production
MS - Milestone
OPEVAL - Operational Evaluation
PCA - Physical Configuration Audit
PDR - Program Design Review
PRTV - Production Representative Test Vehicle
SRR - System Requirements Review
TECHEVAL - Technical Evaluation

Change Explanations

None

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate	
MV-22						
Interoperability	Satisfy all top level IERs	Satisfy all top level IERs	Satisfy all top level IERS designated as critical	Satisfy all top level IERs designated as critical	Satisfy all top level IERs designated as critical	
Cruise Speed (kts)	270	270	240	255	281	(Ch-1)
Mission Radius (NM)						
Land Trooplift	200X1	200X1	200X1	210x1	218x1	(Ch-1)
Land External	110X1	110X1	50X1	69x1	52x1	(Ch-1)
Sea Trooplift	110X2	110X2	50X2	53x2	98x2	(Ch-1)
Sea External	110X1	110X1	50X1	89x1	112x1	(Ch-1)
Amphibious Pre-Assault/Raid Ops (NM)	200X1	200X1	200X1	230x1	315x1	(Ch-1)
Payload						
Troops	24	24	24	24	24	
External Lift (lbs)	15,000	15,000	10,000	10,000	12,500	(Ch-1)
Aerial Refuel Capable	yes	yes	yes	yes	yes	
Self-Deployment (nm)	2100 w/no refuel	2100 w/no refuel	2100 w/1 refuel	2660 w/1 ariel refuel	2229 w/1 aerial refuel	(Ch-1)
Shipboard Compatible	yes	yes	yes	yes	yes	
V/STOL Capable	yes	yes	yes	yes	yes	
Survivability (mm API @90%vel)	14.5	14.5	12.7	classified	classified	
Reliability						
MFHBF (log)	>=1.2	>=1.2	>=0.9	1.3	>=1.4	(Ch-1)
MFHBA	17 Hrs	17 Hrs	17 Hrs	21.2	28	(Ch-1)
CV-22						
Interoperability	Satisfy all top level IERs	Satisfy all top level IERs	Satisfy all top level IERs designated as critical	Satisfy all top level IERs designated as critical	Satisfy all top level IERs designated as critical	
Cruise Speed (kts)	270	270	230	264	256	(Ch-1)
Mission Radius (nm)	750	750	500	538	558	(Ch-1)
Payload - Troops	24	24	18	18	18	
Aerial Refuel Capable	yes	yes	yes	yes	yes	
Self-Deployment (nm)	2100 w/0 aerial refuel	2100 w/0 aerial refuel	2100 w/1 aerial refuel	2144 w/1 aerial refuel	2144 w/1 aerial refuel	
Shipboard	yes	yes	yes	yes	yes	

Compatible						
Operational Environment	100' TF/TA, Day/Night, VMC/IMC	100' TF/TA, Day/Night, VMC/IMC	300' TF/TA, Day/Night, VMC/IMC	100' TF/TA, Day/Night, VMC/IMC	100' TF/TA, Day/Night, VMC/IMC	
Precision Navigation (diameter @ MAX Combat Radius)	Locate LZ W/IN 1 Rotor	Locate LZ W/IN 1 Rotor	Locate LZ W/IN 2X Rotor	Locate LZ W/IN 2X Rotor	Locate LZ W/IN 2X Rotor	
Operational Enviroment						
DECM	SIRFC w/RF Jamming DIRCM	SIRFC w/RF Jamming DIRCM	SIRFC w/RWR, MW, CMDS	SIRFC w/RF, Jamming DIRCM	SIRFC w/RF, Jamming DIRCM	
MMR (TF/TA)	100 FT	100 FT	300 FT	100FT	100 FT	
Reliability						
MFHBF (LOG)	>=1.2	>=1.2	>=0.9	1.2	>=1.4	(Ch-1)
MFHBA	15 Hrs	15 Hrs	15 Hrs	32	>=25	(Ch-1)

Requirements Source:
Capabilities Production Document (CPD), dated September 1, 2010.

Acronyms And Abbreviations

API - Armor Piercing Incendiary
CMDS - Counter-Measures Dispenser System
DECM - Defensive Electronic Countermeasure
DIRCM - Directed Infrared Countermeasures
Ft - Feet
Hrs - Hours
IERs - Information Exchange Requirements
Kts - Knots
Lbs - Pounds
LZ w/IN - Landing Zone Within
MAX - Maximum
MFHBA - Mean Flight Hours Between Aborts
MFHBF - Mean Flight Hours Between Failures
mm - Millimeter
MMR - Multi-Mode Radar
MW - Missile Warning
NM - Nautical Miles
SIRFC - Suite of Integrated Radio Frequency Countermeasures
TF/TA - Terrain Following/Terrain Avoidance
V/STOL - Vertical/Short Takeoff and Landing
vel - Velocity
VMC/IMC - Visual Meteorological Conditions/Instrument Meteorological Conditions
w/RF - with Radio Frequency
w/RWR - with Radar Warning Receiver

Change Explanations

(Ch-1) The current estimate values have changed based upon the V-22 Block C/20 performance predictions.

•MV-22 Cruise Speed from 260.1 to 281
•MV-22 Land Trooplift from 230.1 to 218x1
•MV-22 Land External from 58.7 to 52x1
•MV-22 Sea Trooplift from 99.8x2 to 98x2
•MV-22 Sea External from 108.7 to 112x1
•MV-22 Amphibious Pre-Assault/Raid Ops from 292.4 to 315x1
•MV-22 Payload External Lift from 10,000 to 12,500 as the duel hook external lift limit has been updated in the current Naval Air Training and Operating Procedures Standardization (NATOPS) manual (A1-V22AB-NFM-000 dated June 2011).
•MV-22 Self-Deployment changed from 2241.7 w/1 aerial refuel to 2229 w/1 aerial refuel
•MV-22 Mean Flight Hours Between Failures (MFHBF) (log) from >=1.1 to >=1.4
•MV-22 Mean Flight Hours Between Aborts (MFHBA) from 17 to 28
•CV-22 Cruise Speed from 234 to 256
•CV-22 Mission Radius from 531 to 558
•CV-22 MFHBF (log) from>=1.0 to >=1.4
•CV-22MFHBA from 16Hrs to >=25

Track To Budget

RDT&E				
APPN 1319	BA 05	PE 0604262N	(Navy)	
	Project 1425	USMC MV-22 Development and Test Activities		
APPN 3600	BA 05	PE 0401318F	(Air Force)	
	Project 654103	USAF CV-22 Development and Test Activities		
APPN 0400	BA 07	PE 1160404BB	(DoD)	
	Project SF200			(Sunk)
	1985 Sunk (funded in prior years only)			
APPN 0400	BA 07	PE 1160421BB	(DoD)	
	Project SF200	Special Operations Command Development and Test Activities		

Procurement				
APPN 1506	BA 01	PE 0206121M	(Navy)	
	ICN 0164	USMC MV-22 Production Aircraft and Support		
	Spares are separately entered.			
APPN 1506	BA 06	PE 0206121M	(Navy)	
	ICN 0605	USMC MV-22 Initial Sparing Requirements	(Shared)	
APPN 3010	BA 06	PE 0401318F	(Air Force)	
	ICN 000999	USAF CV-22 Initial Requirements	(Shared)	(Sunk)
APPN 3010	BA 04	PE 0401318F	(Air Force)	
	ICN V022A0	USAF CV-22 Production Aircraft and Support -		(Sunk)
	Spares are separately entered.			

APPN 0300	BA 02	PE 1160444BB	(DoD)
	ICN 1000CV2200	Special Operations Command Production Aircraft and Support	

MILCON

APPN 1205	BA 01	PE 0204696N	(Navy)
	Project 1205	USMC MV-22 Facilites Support	
APPN 0500	BA 01	PE 1140494BB	(DoD)
	Project 0500	Special Operations Command Facilities Support	

Multiple MILCON projects are associated with each program element and are too numerous to list.

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	BY2005 $M			BY2005 $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	11446.5	11446.5	12591.2	11927.2	9891.7	9891.7	10405.8
Procurement	38562.8	38562.8	42419.1	37947.3	43099.3	43099.3	42970.4
Flyaway	31629.3	--	--	30588.7	35627.8	--	34871.6
Recurring	30407.1	--	--	29151.8	34358.6	--	33345.7
Non Recurring	1222.2	--	--	1436.9	1269.2	--	1525.9
Support	6933.5	--	--	7358.6	7471.5	--	8098.8
Other Support	4954.9	--	--	5485.1	5312.3	--	6061.9
Initial Spares	1978.6	--	--	1873.5	2159.2	--	2036.9
MILCON	241.1	241.1	265.2	107.7	262.4	262.4	118.3
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	50250.4	50250.4	N/A	49982.2	53253.4	53253.4	53494.5

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E	2	2	2
Procurement	456	456	457
Total	458	458	459

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2013 President's Budget / December 2011 SAR (TY$ M)

Appropriation	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
RDT&E	9809.5	108.5	84.2	66.6	76.3	65.8	66.7	128.2	10405.8
Procurement	25186.7	2805.2	2001.7	1881.8	1615.9	1521.3	1494.9	6462.9	42970.4
MILCON	90.6	12.0	0.8	14.9	0.0	0.0	0.0	0.0	118.3
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2013 Total	35086.8	2925.7	2086.7	1963.3	1692.2	1587.1	1561.6	6591.1	53494.5
PB 2012 Total	35069.1	3061.6	2489.8	2271.1	1966.1	1894.6	2104.2	4418.9	53275.4
Delta	17.7	-135.9	-403.1	-307.8	-273.9	-307.5	-542.6	2172.2	219.1

Quantity	Undistributed	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
Development	2	0	0	0	0	0	0	0	0	2
Production	0	252	35	21	21	19	19	18	72	457
PB 2013 Total	2	252	35	21	21	19	19	18	72	459
PB 2012 Total	2	251	36	27	26	23	23	23	48	459
Delta	0	1	-1	-6	-5	-4	-4	-5	24	0

Cost and Funding

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
1982	--	--	--	--	--	--	0.7
1983	--	--	--	--	--	--	34.4
1984	--	--	--	--	--	--	83.1
1985	--	--	--	--	--	--	169.5
1986	--	--	--	--	--	--	525.1
1987	--	--	--	--	--	--	421.7
1988	--	--	--	--	--	--	404.8
1989	--	--	--	--	--	--	269.9
1990	--	--	--	--	--	--	204.2
1991	--	--	--	--	--	--	212.2
1992	--	--	--	--	--	--	758.0
1993	--	--	--	--	--	--	713.3
1994	--	--	--	--	--	--	8.7
1995	--	--	--	--	--	--	451.8
1996	--	--	--	--	--	--	716.4
1997	--	--	--	--	--	--	605.5
1998	--	--	--	--	--	--	487.5
1999	--	--	--	--	--	--	335.8
2000	--	--	--	--	--	--	175.9
2001	--	--	--	--	--	--	217.9
2002	--	--	--	--	--	--	391.6
2003	--	--	--	--	--	--	387.4
2004	--	--	--	--	--	--	357.2
2005	--	--	--	--	--	--	248.2
2006	--	--	--	--	--	--	192.3
2007	--	--	--	--	--	--	251.6
2008	--	--	--	--	--	--	125.2
2009	--	--	--	--	--	--	66.0
2010	--	--	--	--	--	--	78.9
2011	--	--	--	--	--	--	42.7
2012	--	--	--	--	--	--	84.5
2013	--	--	--	--	--	--	54.4
2014	--	--	--	--	--	--	40.3
2015	--	--	--	--	--	--	54.9
2016	--	--	--	--	--	--	51.1
2017	--	--	--	--	--	--	52.2

2018	--	--	--	--	--	--	39.3
2019	--	--	--	--	--	--	27.5
2020	--	--	--	--	--	--	18.0
2021	--	--	--	--	--	--	10.8
2022	--	--	--	--	--	--	6.7
2023	--	--	--	--	--	--	4.6
2024	--	--	--	--	--	--	0.9
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**9382.7**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2005 $M	Non End Item Recurring Flyaway BY 2005 $M	Non Recurring Flyaway BY 2005 $M	Total Flyaway BY 2005 $M	Total Support BY 2005 $M	Total Program BY 2005 $M
1982	--	--	--	--	--	--	1.2
1983	--	--	--	--	--	--	56.7
1984	--	--	--	--	--	--	132.1
1985	--	--	--	--	--	--	261.3
1986	--	--	--	--	--	--	786.9
1987	--	--	--	--	--	--	613.8
1988	--	--	--	--	--	--	570.1
1989	--	--	--	--	--	--	364.7
1990	--	--	--	--	--	--	265.1
1991	--	--	--	--	--	--	266.0
1992	--	--	--	--	--	--	923.2
1993	--	--	--	--	--	--	849.1
1994	--	--	--	--	--	--	10.2
1995	--	--	--	--	--	--	517.9
1996	--	--	--	--	--	--	807.6
1997	--	--	--	--	--	--	674.3
1998	--	--	--	--	--	--	538.5
1999	--	--	--	--	--	--	366.6
2000	--	--	--	--	--	--	189.3
2001	--	--	--	--	--	--	231.3
2002	--	--	--	--	--	--	411.5
2003	--	--	--	--	--	--	401.2
2004	--	--	--	--	--	--	359.9
2005	--	--	--	--	--	--	243.7
2006	--	--	--	--	--	--	183.1
2007	--	--	--	--	--	--	233.8
2008	--	--	--	--	--	--	114.3
2009	--	--	--	--	--	--	59.5
2010	--	--	--	--	--	--	70.0
2011	--	--	--	--	--	--	37.2
2012	--	--	--	--	--	--	72.3
2013	--	--	--	--	--	--	45.8
2014	--	--	--	--	--	--	33.4
2015	--	--	--	--	--	--	44.6
2016	--	--	--	--	--	--	40.8
2017	--	--	--	--	--	--	40.9
2018	--	--	--	--	--	--	30.3
2019	--	--	--	--	--	--	20.8
2020	--	--	--	--	--	--	13.4
2021	--	--	--	--	--	--	7.9
2022	--	--	--	--	--	--	4.8

2023	--	--	--	--	--	--	3.2
2024	--	--	--	--	--	--	0.6
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**10898.9**

FY 1983 dollars reflect $29.9M of Army funds (PE 0604222A). Funding totals include that received for Overseas Contingency Operations (OCO).

Annual Funding TY$
3600 | RDT&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
1985	--	--	--	--	--	--	0.6
1986	--	--	--	--	--	--	2.2
1987	--	--	--	--	--	--	2.9
1988	--	--	--	--	--	--	25.0
1989	--	--	--	--	--	--	3.8
1990	--	--	--	--	--	--	--
1991	--	--	--	--	--	--	--
1992	--	--	--	--	--	--	--
1993	--	--	--	--	--	--	--
1994	--	--	--	--	--	--	--
1995	--	--	--	--	--	--	--
1996	--	--	--	--	--	--	--
1997	--	--	--	--	--	--	--
1998	--	--	--	--	--	--	--
1999	--	--	--	--	--	--	--
2000	--	--	--	--	--	--	--
2001	--	--	--	--	--	--	--
2002	--	--	--	--	--	--	144.2
2003	--	--	--	--	--	--	5.8
2004	--	--	--	--	--	--	49.7
2005	--	--	--	--	--	--	14.1
2006	--	--	--	--	--	--	30.2
2007	--	--	--	--	--	--	12.8
2008	--	--	--	--	--	--	22.0
2009	--	--	--	--	--	--	18.0
2010	--	--	--	--	--	--	15.5
2011	--	--	--	--	--	--	17.7
2012	--	--	--	--	--	--	13.2
2013	--	--	--	--	--	--	28.0
2014	--	--	--	--	--	--	25.4
2015	--	--	--	--	--	--	21.2
2016	--	--	--	--	--	--	14.7
2017	--	--	--	--	--	--	14.5
2018	--	--	--	--	--	--	20.4
Subtotal	**2**	**--**	**--**	**--**	**--**	**--**	**501.9**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2005 $M	Non End Item Recurring Flyaway BY 2005 $M	Non Recurring Flyaway BY 2005 $M	Total Flyaway BY 2005 $M	Total Support BY 2005 $M	Total Program BY 2005 $M
1985	--	--	--	--	--	--	0.9
1986	--	--	--	--	--	--	3.3
1987	--	--	--	--	--	--	4.2
1988	--	--	--	--	--	--	35.0
1989	--	--	--	--	--	--	5.1
1990	--	--	--	--	--	--	--
1991	--	--	--	--	--	--	--
1992	--	--	--	--	--	--	--
1993	--	--	--	--	--	--	--
1994	--	--	--	--	--	--	--
1995	--	--	--	--	--	--	--
1996	--	--	--	--	--	--	--
1997	--	--	--	--	--	--	--
1998	--	--	--	--	--	--	--
1999	--	--	--	--	--	--	--
2000	--	--	--	--	--	--	--
2001	--	--	--	--	--	--	--
2002	--	--	--	--	--	--	151.6
2003	--	--	--	--	--	--	6.0
2004	--	--	--	--	--	--	50.3
2005	--	--	--	--	--	--	13.9
2006	--	--	--	--	--	--	28.9
2007	--	--	--	--	--	--	11.9
2008	--	--	--	--	--	--	20.1
2009	--	--	--	--	--	--	16.2
2010	--	--	--	--	--	--	13.8
2011	--	--	--	--	--	--	15.5
2012	--	--	--	--	--	--	11.3
2013	--	--	--	--	--	--	23.6
2014	--	--	--	--	--	--	21.1
2015	--	--	--	--	--	--	17.3
2016	--	--	--	--	--	--	11.8
2017	--	--	--	--	--	--	11.4
2018	--	--	--	--	--	--	15.8
Subtotal	**2**	**--**	**--**	**--**	**--**	**--**	**489.0**

The FY 2002 Appropriations Act provided funding for two CV Production Representative Test Vehicles.

Annual Funding TY$
0400 | RDT&E | Research, Development, Test, and Evaluation, Defense-Wide

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
1990	--	--	--	--	--	--	36.1
1991	--	--	--	--	--	--	8.0
1992	--	--	--	--	--	--	15.0
1993	--	--	--	--	--	--	--
1994	--	--	--	--	--	--	14.7
1995	--	--	--	--	--	--	--
1996	--	--	--	--	--	--	--
1997	--	--	--	--	--	--	--
1998	--	--	--	--	--	--	--
1999	--	--	--	--	--	--	--
2000	--	--	--	--	--	--	33.5
2001	--	--	--	--	--	--	40.1
2002	--	--	--	--	--	--	104.1
2003	--	--	--	--	--	--	32.2
2004	--	--	--	--	--	--	68.4
2005	--	--	--	--	--	--	53.1
2006	--	--	--	--	--	--	23.7
2007	--	--	--	--	--	--	--
2008	--	--	--	--	--	--	21.9
2009	--	--	--	--	--	--	30.5
2010	--	--	--	--	--	--	12.2
2011	--	--	--	--	--	--	14.0
2012	--	--	--	--	--	--	10.8
2013	--	--	--	--	--	--	1.8
2014	--	--	--	--	--	--	0.9
2015	--	--	--	--	--	--	0.2
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**521.2**

Annual Funding BY$
0400 | RDT&E | Research, Development, Test, and Evaluation, Defense-Wide

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2005 $M	Non End Item Recurring Flyaway BY 2005 $M	Non Recurring Flyaway BY 2005 $M	Total Flyaway BY 2005 $M	Total Support BY 2005 $M	Total Program BY 2005 $M
1990	--	--	--	--	--	--	46.9
1991	--	--	--	--	--	--	10.0
1992	--	--	--	--	--	--	18.2
1993	--	--	--	--	--	--	--
1994	--	--	--	--	--	--	17.2
1995	--	--	--	--	--	--	--
1996	--	--	--	--	--	--	--
1997	--	--	--	--	--	--	--
1998	--	--	--	--	--	--	--
1999	--	--	--	--	--	--	--
2000	--	--	--	--	--	--	36.0
2001	--	--	--	--	--	--	42.5
2002	--	--	--	--	--	--	109.3
2003	--	--	--	--	--	--	33.3
2004	--	--	--	--	--	--	69.1
2005	--	--	--	--	--	--	52.1
2006	--	--	--	--	--	--	22.6
2007	--	--	--	--	--	--	--
2008	--	--	--	--	--	--	20.0
2009	--	--	--	--	--	--	27.5
2010	--	--	--	--	--	--	10.8
2011	--	--	--	--	--	--	12.2
2012	--	--	--	--	--	--	9.2
2013	--	--	--	--	--	--	1.5
2014	--	--	--	--	--	--	0.7
2015	--	--	--	--	--	--	0.2
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**539.3**

Annual Funding TY$
1506 | Procurement | Aircraft 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
1989	--	--	--	--	--	231.4	231.4
1990	--	--	--	--	--	--	--
1991	--	--	--	--	--	--	--
1992	--	--	--	--	--	--	--
1993	--	--	--	--	--	--	--
1994	--	--	--	--	--	--	--
1995	--	--	--	--	--	--	--
1996	--	41.1	--	--	41.1	--	41.1
1997	5	541.8	--	55.7	597.5	111.9	709.4
1998	7	604.9	--	21.9	626.8	81.9	708.7
1999	7	560.6	--	23.4	584.0	99.5	683.5
2000	11	769.9	--	29.3	799.2	188.1	987.3
2001	9	719.7	--	89.7	809.4	200.8	1010.2
2002	9	569.7	--	51.7	621.4	265.4	886.8
2003	11	807.0	--	111.6	918.6	148.5	1067.1
2004	9	662.2	--	44.6	706.8	174.6	881.4
2005	8	605.6	--	111.4	717.0	314.5	1031.5
2006	12	863.7	--	144.3	1008.0	373.7	1381.7
2007	14	1092.1	--	222.8	1314.9	281.9	1596.8
2008	23	1654.6	--	150.2	1804.8	310.1	2114.9
2009	30	1895.6	--	37.8	1933.4	300.5	2233.9
2010	30	1924.6	--	21.4	1946.0	353.4	2299.4
2011	30	1926.2	--	11.0	1937.2	253.7	2190.9
2012	30	1927.7	--	74.6	2002.3	272.1	2274.4
2013	17	1293.6	--	15.8	1309.4	163.9	1473.3
2014	18	1270.7	--	19.7	1290.4	224.8	1515.2
2015	19	1337.8	--	22.3	1360.1	241.1	1601.2
2016	19	1351.2	--	17.5	1368.7	152.6	1521.3
2017	18	1310.1	--	17.4	1327.5	167.4	1494.9
2018	38	3148.3	--	29.9	3178.2	516.3	3694.5
2019	34	2376.1	--	15.4	2391.5	376.9	2768.4
Subtotal	**408**	**29254.8**	**--**	**1339.4**	**30594.2**	**5805.0**	**36399.2**

Annual Funding BY$
1506 | Procurement | Aircraft Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2005 $M	Non End Item Recurring Flyaway BY 2005 $M	Non Recurring Flyaway BY 2005 $M	Total Flyaway BY 2005 $M	Total Support BY 2005 $M	Total Program BY 2005 $M
1989	--	--	--	--	--	299.8	299.8
1990	--	--	--	--	--	--	--
1991	--	--	--	--	--	--	--
1992	--	--	--	--	--	--	--
1993	--	--	--	--	--	--	--
1994	--	--	--	--	--	--	--
1995	--	--	--	--	--	--	--
1996	--	45.8	--	--	45.8	--	45.8
1997	5	598.3	--	61.5	659.8	123.5	783.3
1998	7	660.3	--	23.9	684.2	89.4	773.6
1999	7	604.2	--	25.2	629.4	107.2	736.6
2000	11	818.8	--	31.2	850.0	200.1	1050.1
2001	9	756.4	--	94.3	850.7	211.1	1061.8
2002	9	591.3	--	53.7	645.0	275.4	920.4
2003	11	821.2	--	113.6	934.8	151.1	1085.9
2004	9	656.5	--	44.2	700.7	173.1	873.8
2005	8	584.0	--	107.4	691.4	303.2	994.6
2006	12	810.4	--	135.4	945.8	350.6	1296.4
2007	14	1001.3	--	204.3	1205.6	258.4	1464.0
2008	23	1494.5	--	135.7	1630.2	280.1	1910.3
2009	30	1688.3	--	33.7	1722.0	267.6	1989.6
2010	30	1682.9	--	18.7	1701.6	309.0	2010.6
2011	30	1654.3	--	9.4	1663.7	217.9	1881.6
2012	30	1627.7	--	63.0	1690.7	229.7	1920.4
2013	17	1073.9	--	13.1	1087.0	136.1	1223.1
2014	18	1036.5	--	16.1	1052.6	183.3	1235.9
2015	19	1071.9	--	17.9	1089.8	193.2	1283.0
2016	19	1063.5	--	13.8	1077.3	120.1	1197.4
2017	18	1013.0	--	13.5	1026.5	129.3	1155.8
2018	38	2391.2	--	22.7	2413.9	392.1	2806.0
2019	34	1772.8	--	11.5	1784.3	281.2	2065.5
Subtotal	**408**	**25519.0**	**--**	**1263.8**	**26782.8**	**5282.5**	**32065.3**

Funding totals include that received for Overseas Contingency Operations (OCO).

Cost Quantity Information
1506 | Procurement | Aircraft Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 2005 $M
1989	--	--
1990	--	--
1991	--	--
1992	--	--
1993	--	--
1994	--	--
1995	--	--
1996	--	--
1997	5	589.0
1998	7	649.9
1999	7	612.7
2000	11	801.5
2001	9	756.0
2002	9	628.5
2003	11	817.1
2004	9	660.2
2005	8	569.1
2006	12	800.7
2007	14	886.5
2008	23	1491.7
2009	30	1798.4
2010	30	1679.2
2011	30	1657.9
2012	30	1643.7
2013	17	999.8
2014	18	1119.5
2015	19	1083.1
2016	19	1059.5
2017	18	1000.5
2018	38	2247.7
2019	34	1966.8
Subtotal	**408**	**25519.0**

Annual Funding TY$
3010 | Procurement | Aircraft Procurement, 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
1999	--	--	--	--	--	21.9	21.9
2000	--	--	--	19.5	19.5	21.3	40.8
2001	--	--	--	26.7	26.7	22.6	49.3
2002	--	--	--	--	--	--	--
2003	--	9.8	--	--	9.8	79.1	88.9
2004	2	147.6	--	--	147.6	42.0	189.6
2005	3	209.1	--	7.2	216.3	113.9	330.2
2006	2	136.6	--	18.6	155.2	94.1	249.3
2007	3	219.6	--	9.3	228.9	156.2	385.1
2008	10	659.4	--	7.0	666.4	272.4	938.8
2009	6	352.5	--	16.4	368.9	103.4	472.3
2010	5	314.3	--	18.8	333.1	233.0	566.1
2011	6	392.5	--	8.5	401.0	181.4	582.4
2012	5	325.7	--	5.6	331.3	85.4	416.7
2013	4	280.0	--	3.4	283.4	116.2	399.6
2014	3	200.9	--	2.5	203.4	74.4	277.8
2015	--	--	--	--	--	3.1	3.1
Subtotal	**49**	**3248.0**	**--**	**143.5**	**3391.5**	**1620.4**	**5011.9**

Annual Funding BY$
3010 | Procurement | Aircraft Procurement, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2005 $M	Non End Item Recurring Flyaway BY 2005 $M	Non Recurring Flyaway BY 2005 $M	Total Flyaway BY 2005 $M	Total Support BY 2005 $M	Total Program BY 2005 $M
1999	--	--	--	--	--	23.6	23.6
2000	--	--	--	20.7	20.7	22.6	43.3
2001	--	--	--	28.0	28.0	23.8	51.8
2002	--	--	--	--	--	--	--
2003	--	10.0	--	--	10.0	80.9	90.9
2004	2	147.0	--	--	147.0	41.8	188.8
2005	3	202.3	--	7.0	209.3	110.2	319.5
2006	2	128.7	--	17.5	146.2	88.8	235.0
2007	3	201.6	--	8.5	210.1	143.4	353.5
2008	10	595.7	--	6.3	602.0	246.1	848.1
2009	6	313.0	--	14.6	327.6	91.8	419.4
2010	5	273.7	--	16.4	290.1	202.8	492.9
2011	6	335.9	--	7.3	343.2	155.2	498.4
2012	5	274.0	--	4.7	278.7	71.9	350.6
2013	4	231.6	--	2.8	234.4	96.2	330.6
2014	3	163.3	--	2.0	165.3	60.5	225.8
2015	--	--	--	--	--	2.5	2.5
Subtotal	**49**	**2876.8**	**--**	**135.8**	**3012.6**	**1462.1**	**4474.7**

Funding totals include that received for Overseas Contingency Operations (OCO).

Cost Quantity Information
3010 | Procurement | Aircraft Procurement, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 2005 $M
1999	--	--
2000	--	--
2001	--	--
2002	--	--
2003	--	--
2004	2	142.0
2005	3	206.8
2006	2	130.2
2007	3	185.2
2008	10	584.2
2009	6	337.3
2010	5	274.3
2011	6	336.3
2012	5	268.8
2013	4	236.0
2014	3	175.7
2015	--	--
Subtotal	**49**	**2876.8**

Annual Funding TY$
0300 | Procurement | Procurement, Defense-Wide

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
1999	--	--	--	--	--	4.0	4.0
2000	--	--	--	--	--	2.0	2.0
2001	--	--	--	--	--	6.8	6.8
2002	--	--	--	--	--	15.9	15.9
2003	--	5.0	--	--	5.0	36.9	41.9
2004	--	41.9	--	--	41.9	35.5	77.4
2005	--	54.5	--	0.2	54.7	58.6	113.3
2006	--	40.7	--	1.9	42.6	55.0	97.6
2007	--	113.9	--	--	113.9	79.9	193.8
2008	--	190.5	--	2.3	192.8	125.6	318.4
2009	--	90.2	--	6.7	96.9	29.8	126.7
2010	--	57.1	--	6.2	63.3	35.2	98.5
2011	--	80.2	--	10.0	90.2	29.5	119.7
2012	--	59.2	--	4.3	63.5	50.6	114.1
2013	--	63.0	--	4.7	67.7	61.1	128.8
2014	--	46.7	--	6.7	53.4	35.4	88.8
2015	--	--	--	--	--	11.6	11.6
Subtotal	**--**	**842.9**	**--**	**43.0**	**885.9**	**673.4**	**1559.3**

Annual Funding BY$
0300 | Procurement | Procurement, Defense-Wide

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2005 $M	Non End Item Recurring Flyaway BY 2005 $M	Non Recurring Flyaway BY 2005 $M	Total Flyaway BY 2005 $M	Total Support BY 2005 $M	Total Program BY 2005 $M
1999	--	--	--	--	--	4.3	4.3
2000	--	--	--	--	--	2.1	2.1
2001	--	--	--	--	--	7.2	7.2
2002	--	--	--	--	--	16.5	16.5
2003	--	5.1	--	--	5.1	37.6	42.7
2004	--	41.5	--	--	41.5	35.2	76.7
2005	--	52.5	--	0.2	52.7	56.5	109.2
2006	--	38.2	--	1.8	40.0	51.7	91.7
2007	--	104.8	--	--	104.8	73.5	178.3
2008	--	172.6	--	2.1	174.7	113.8	288.5
2009	--	80.6	--	6.0	86.6	26.7	113.3
2010	--	50.2	--	5.5	55.7	31.0	86.7
2011	--	69.3	--	8.6	77.9	25.5	103.4
2012	--	50.3	--	3.7	54.0	42.9	96.9
2013	--	52.6	--	3.9	56.5	51.0	107.5
2014	--	38.3	--	5.5	43.8	29.1	72.9
2015	--	--	--	--	--	9.4	9.4
Subtotal	**--**	**756.0**	**--**	**37.3**	**793.3**	**614.0**	**1407.3**

Quantities for the CV-22 are shown under appropriation 3010. In accordance with the approved program plan, the Air Force is funding the majority of the procurement cost for the CV-22. United States Special Operations Command (USSOCOM) is funding delta costs above the baseline (MV-22) aircraft for Special Operations Forces (SOF) unique equipment.

Funding totals include that received for Overseas Contingency Operations (OCO).

Cost Quantity Information
0300 | Procurement | Procurement, Defense-Wide

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 2005 $M
1999	--	--
2000	--	--
2001	--	--
2002	--	--
2003	--	--
2004	--	40.0
2005	--	56.4
2006	--	38.2
2007	--	46.2
2008	--	226.7
2009	--	83.9
2010	--	50.2
2011	--	69.4
2012	--	51.6
2013	--	53.2
2014	--	40.2
2015	--	--
Subtotal	**--**	**756.0**

Annual Funding TY$
1205 | MILCON | Military Construction, Navy and Marine Corps

Fiscal Year	Total Program TY $M
2003	0.8
2004	10.9
2005	14.5
2006	22.4
2007	--
2008	--
2009	--
2010	7.2
2011	--
2012	12.0
2013	--
2014	6.1
Subtotal	**73.9**

Annual Funding BY$
1205 | MILCON | Military Construction, Navy and Marine Corps

Fiscal Year	Total Program BY 2005 $M
2003	0.8
2004	10.8
2005	13.9
2006	21.0
2007	--
2008	--
2009	--
2010	6.2
2011	--
2012	10.1
2013	--
2014	4.9
Subtotal	**67.7**

Annual Funding TY$
0500 | MILCON | Military Construction, Defense-Wide

Fiscal Year	Total Program TY $M
2000	0.2
2001	0.3
2002	8.5
2003	1.9
2004	--
2005	--
2006	1.8
2007	1.9
2008	0.7
2009	7.9
2010	11.6
2011	--
2012	--
2013	0.8
2014	8.8
Subtotal	**44.4**

Annual Funding BY$
0500 | MILCON | Military Construction, Defense-Wide

Fiscal Year	Total Program BY 2005 $M
2000	0.2
2001	0.3
2002	8.8
2003	1.9
2004	--
2005	--
2006	1.7
2007	1.7
2008	0.6
2009	7.0
2010	10.0
2011	--
2012	--
2013	0.7
2014	7.1
Subtotal	**40.0**

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	4/25/1997	4/25/2002
Approved Quantity	25	58
Reference	ADM dated April 25, 1997	DAB review on April 25, 2002. USD approved APB which reflects restructured program.
Start Year	1997	1997
End Year	2001	2009

The current total Low Rate Initial Production (LRIP) quantity is more than 10% of the total production quantity due to the Milestone (MS) III slip and program restructure. MS III was achieved on September 28, 2005.

Foreign Military Sales

None

Nuclear Cost

None

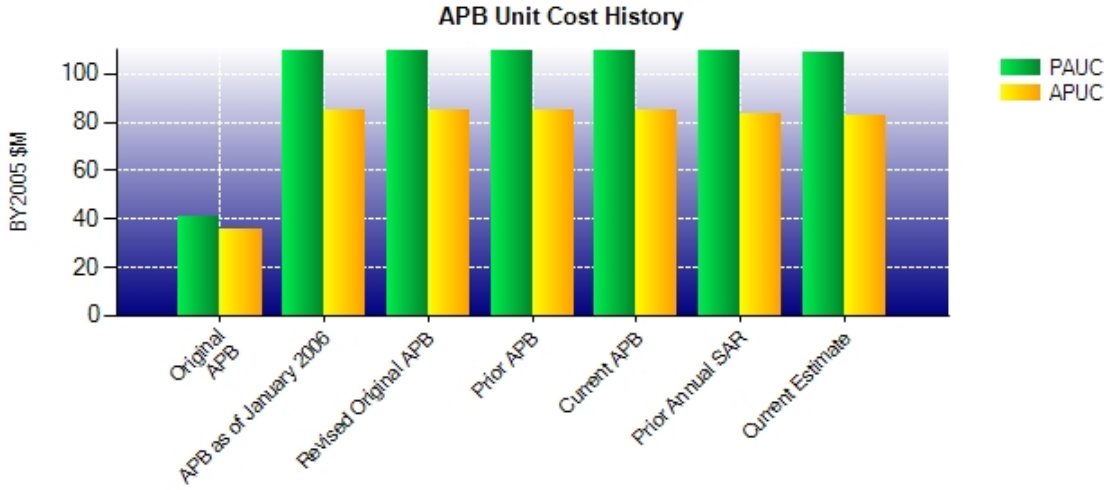
Unit Cost

Unit Cost Report

Unit Cost	BY2005 $M Current UCR Baseline (OCT 2011 APB)	BY2005 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	50250.4	49982.2	
Quantity	458	459	
Unit Cost	109.717	108.894	-0.75
Average Procurement Unit Cost (APUC)			
Cost	38562.8	37947.3	
Quantity	456	457	
Unit Cost	84.568	83.036	-1.81

Unit Cost	BY2005 $M Revised Original UCR Baseline (SEP 2005 APB)	BY2005 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	50250.4	49982.2	
Quantity	458	459	
Unit Cost	109.717	108.894	-0.75
Average Procurement Unit Cost (APUC)			
Cost	38562.8	37947.3	
Quantity	456	457	
Unit Cost	84.568	83.036	-1.81

Unit Cost History



		BY2005 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	FEB 1988	41.101	35.309	34.657	30.541
APB as of January 2006	SEP 2005	109.717	84.568	116.274	94.516
Revised Original APB	SEP 2005	109.717	84.568	116.274	94.516
Prior APB	FEB 2008	109.717	84.568	116.274	94.516
Current APB	OCT 2011	109.717	84.568	116.274	94.516
Prior Annual SAR	DEC 2010	109.386	83.546	116.068	93.596
Current Estimate	DEC 2011	108.894	83.036	116.546	94.027

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	
40.180	-12.793	50.391	-4.762	8.157	30.121	0.000	4.980	76.094	116.274

Current SAR Baseline to Current Estimate (TY $M)

PAUC Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
116.274	-0.791	-0.097	2.390	0.464	-2.877	0.000	1.183	0.272	116.546

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	
36.641	-12.349	47.964	-4.862	5.134	16.986	0.000	5.002	57.875	94.516

Current SAR Baseline to Current Estimate (TY $M)

APUC Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
94.516	-0.818	-0.050	2.400	0.467	-3.676	0.000	1.188	-0.489	94.027

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone I	DEC 1982	DEC 1982	DEC 1982	DEC 1982
Milestone II	MAY 1985	APR 1986	APR 1986	APR 1986
Milestone III	JUL 1989	N/A	OCT 2005	OCT 2005
IOC	DEC 1991	N/A	MAR 2007	JUN 2007
Total Cost (TY $M)	24467.0	29662.3	53253.4	53494.5
Total Quantity	609	919	458	459
Prog. Acq. Unit Cost (PAUC)	40.176	32.277	116.274	116.546

Cost Variance

Cost Variance Summary

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	9891.7	43099.3	262.4	53253.4
Previous Changes				
Economic	+0.9	-734.3	-0.8	-734.2
Quantity	--	+71.8	--	+71.8
Schedule	--	+855.0	--	+855.0
Engineering	--	+213.2	--	+213.2
Estimating	+491.1	-1208.6	-143.3	-860.8
Other	--	--	--	--
Support	--	+477.0	--	+477.0
Subtotal	+492.0	-325.9	-144.1	+22.0
Current Changes				
Economic	+9.9	+360.4	+0.7	+371.0
Quantity	--	--	--	--
Schedule	--	+241.9	--	+241.9
Engineering	--	--	--	--
Estimating	+12.2	-471.4	-0.7	-459.9
Other	--	--	--	--
Support	--	+66.1	--	+66.1
Subtotal	+22.1	+197.0	--	+219.1
Total Changes	+514.1	-128.9	-144.1	+241.1
CE - Cost Variance	10405.8	42970.4	118.3	53494.5
CE - Cost & Funding	10405.8	42970.4	118.3	53494.5

Summary Base Year 2005 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	11446.5	38562.8	241.1	50250.4
Previous Changes				
Economic	--	--	--	--
Quantity	--	+59.1	--	+59.1
Schedule	--	+425.2	--	+425.2
Engineering	--	+157.1	--	+157.1
Estimating	+472.6	-1420.3	-132.8	-1080.5
Other	--	--	--	--
Support	--	+396.8	--	+396.8
Subtotal	+472.6	-382.1	-132.8	-42.3
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	+103.0	--	+103.0
Engineering	--	--	--	--
Estimating	+8.1	-364.7	-0.6	-357.2
Other	--	--	--	--
Support	--	+28.3	--	+28.3
Subtotal	+8.1	-233.4	-0.6	-225.9
Total Changes	+480.7	-615.5	-133.4	-268.2
CE - Cost Variance	11927.2	37947.3	107.7	49982.2
CE - Cost & Funding	11927.2	37947.3	107.7	49982.2

Previous Estimate: December 2010

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+9.9
Adjustment for current and prior escalation. (Estimating)	-2.8	-3.2
Decrease due to revised estimated cost beyond the Future Years Defense Program and Test Aircraft sustainment support. (Navy) (Estimating)	-16.5	-20.2
Increase due to revised estimate for follow-on test and evaluation. (Air Force) (Estimating)	+25.3	+33.1
Increase due to revised estimate for follow-on test and evaluation. (DoD) (Estimating)	+2.1	+2.5
RDT&E Subtotal	+8.1	+22.1

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+360.4
Schedule variance resulting from moving 24 aircraft from FY 2013 - FY 2017 into FY 2018 - FY 2019. (Schedule)	+100.7	+240.2
Schedule variance resulting from shifting one (1) aircraft from FY 2012 to FY 2011. (Air Force) (Schedule)	+4.2	+4.1
Schedule variance resulting from shifting one (1) aircraft from FY 2012 to FY 2011. (DoD) (Schedule)	-1.9	-2.4
Adjustment for current and prior escalation. (Estimating)	-84.8	-98.3
Decrease attributed to annual advance procurement cost adjustments, including a change in estimating assumptions of To Complete aircraft. (Navy) (Estimating)	-56.8	-74.0
Decrease attributed to change in estimating assumptions of To Complete aircraft. (Navy) (Estimating)	-93.2	-126.2
Decrease attributed to receipt and analysis of the Multiyear II Procurement Proposal. (Navy) (Estimating)	-130.6	-172.8
Decrease attributed to Engineering Change Order reduction. (Navy) (Estimating)	-9.6	-11.4
Decrease attributed to receipt and analysis of the Multiyear II Procurement Proposal. (Air Force) (Estimating)	-3.2	-3.8
Increase attributed to receipt and analysis of the Multiyear II Procurement Proposal. (DoD) (Estimating)	+13.5	+15.1
Adjustment for current and prior escalation. (Support)	-17.8	-20.6
Increase in Other Support attributed to the change in the procurement profile. (Navy) (Support)	+36.3	+68.9
Increase in Initial Spares due to refinement of cost estimate. (Navy) (Support)	+15.5	+22.2
Increase in Other Support due to revised estimate in Production Engineering Support. (Air Force) (Support)	+7.0	+8.2
Increase in Initial Spares due to refinement of cost estimate. (Air Force) (Support)	-4.5	-4.8
Increase in Other Support due to revised estimate in Avionics Peculiar Ground Support Equipment and Peculiar Training Equipment. (DoD) (Support)	+13.1	+16.6
Decrease in Initial Spares due to refinement of cost estimate. (DoD) (Support)	-21.3	-24.4
Procurement Subtotal	-233.4	+197.0

MILCON	$M	
	Base	**Then**

Current Change Explanations	Year	Year
Revised escalation indices. (Economic)	N/A	+0.7
Adjustment for current and prior escalation. (Estimating)	-0.4	-0.4
Decrease due to revised cost estimate. (Navy) (Estimating)	-0.1	-0.1
Decrease due to revised cost estimate. (DoD) (Estimating)	-0.1	-0.2
MILCON Subtotal	-0.6	0.0

Contracts

Appropriation: Procurement	
Contract Name	**FY08 FRP Lot 12 Airframe**
Contractor	Bell-Boeing, JPO
Contractor Location	401 Tiltrotor Drive Amarillo, TX 79111
Contract Number, Type	N00019-07-C-0001/1, FPIF
Award Date	April 02, 2007
Definitization Date	March 28, 2008

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
84.9	N/A	26	2297.5	2438.3	33	2117.0	2156.5

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	+17.8	-20.3
Previous Cumulative Variances	+21.3	-20.4
Net Change	-3.5	+0.1

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to material cost associated with select efforts being greater than originally budgeted.

The favorable net change in the schedule variance is due to some efficiency in the production line. Cumulative schedule performance remains unfavorable due to late delivery of parts to the production line which is causing delays in aircraft final assembly. Notwithstanding these delays, aircraft deliveries continue to be made on or ahead of schedule.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to the initial contract price reflecting the value of advance procurement funded items only. The current contract price reflects the full airframe value.

The aircraft associated with the initial contract completed delivery in calendar year 2010. Seven supplemental aircraft were added to this procurement after award of the initial contract and these aircraft will deliver incrementally over the next two years.

Appropriation: Procurement

Contract Name	**FY09 FRP Lot 13 Airframe**
Contractor	Bell-Boeing, JPO
Contractor Location	401 Tiltrotor Drive Amarillo, TX 79111
Contract Number, Type	N00019-07-C-0001/2, FPIF
Award Date	March 28, 2008
Definitization Date	March 28, 2008

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
81.4	N/A	36	2278.8	2403.6	36	2137.5	2209.1

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	+8.8	-22.4
Previous Cumulative Variances	-1.5	-71.7
Net Change	+10.3	+49.3

Cost And Schedule Variance Explanations

The favorable net change in the cost variance is due to lower than budgeted material cost associated with select efforts. In addition, less than budgeted engineering support was needed for the CV-22 model aircraft.

The favorable net change in the schedule variance is due to efficiencies in the production line. Cumulative schedule performance remains unfavorable due to late delivery of parts to the production line, which is causing delays in final aircraft assembly. Notwithstanding these delays, aircraft deliveries were made on or ahead of schedule.

Contract Comments

This contract is more than 90% complete; therefore, this is the final report for this contract.

The difference between the initial contract price target and the current contract price target is due to the initial contract price reflecting the value of advance procurement funded items only. The current contract price reflects the full airframe value.

The last aircraft on this contract delivered in December 2011.

Appropriation: Procurement

Contract Name	**FY10 FRP Lot 14 Airframe**
Contractor	Bell-Boeing, JPO
Contractor Location	401 Tiltrotor Drive Amarillo, TX 79111
Contract Number, Type	N00019-07-C-0001/3, FPIF
Award Date	March 28, 2008
Definitization Date	March 28, 2008

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
81.5	N/A	35	2120.6	2237.6	35	2068.4	2119.7

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	+14.9	-96.3
Previous Cumulative Variances	-3.8	-35.4
Net Change	+18.7	-60.9

Cost And Schedule Variance Explanations

The favorable net change in the cost variance is due to lower than budgeted material cost associated with select efforts.

The unfavorable net change in the schedule variance is due to late delivery of parts to the production line, which is causing delays in aircraft final assembly. Notwithstanding these delays, deliveries are projected to be made on or ahead of schedule.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to the initial contract price reflecting the value of advance procurement funded items only. The current contract price reflects the full airframe value.

Appropriation: Procurement

Contract Name	**FY11 FRP Lot 15 Airframe**
Contractor	Bell-Boeing JPO
Contractor Location	401 Tiltrotor Drive Amarillo, TX 79111
Contract Number, Type	N00019-07-C-0001/4, FPIF
Award Date	March 28, 2008
Definitization Date	March 28, 2008

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
93.9	93.9	35	2125.3	2242.0	35	2082.5	2125.1

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-1.9	-10.9
Previous Cumulative Variances	--	--
Net Change	-1.9	-10.9

Cost And Schedule Variance Explanations

The unfavorable cumulative cost variance is due to higher than budgeted material costs associated with select efforts.

The unfavorable cumulative schedule variance is due to delays in issuing parts in inventory to the production floor and some delinquent tasks associated with implementation of Block C configuration changes. Notwithstanding these delays, deliveries are projected to be made on or ahead of schedule.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to the initial contract price reflecting the value of advance procurement funded items only. The current contract price reflects the full airframe value.

This is the first time this lot of this contract is being reported.

Appropriation: Procurement

Contract Name	**V-22 AE 1107C Turboshaft Engine**
Contractor	Rolls Royce
Contractor Location	Indianapolis, IN 46206-0420
Contract Number, Type	N00019-07-C-0060, FFP
Award Date	September 25, 2007
Definitization Date	September 25, 2007

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
84.1	N/A	41	860.7	N/A	407	860.7	860.7

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to the initial contract price reflecting the value of the base year award. The current contract price represents the sum of the base year award plus the sum of the first, second and third options.

The engine contract provides for a base year and four option years for procurement of engines for production install and spares requirements through FY 2011, for both the MV and CV-22 weapons systems. This contract is a commercial Federal Acquisition Regulation Part 12 contract.

Appropriation: RDT&E

Contract Name	**CV-22 Block 20**
Contractor	Bell-Boeing, JPO
Contractor Location	Amarillo, TX 79111
Contract Number, Type	N00019-08-C-0025, CPFF
Award Date	December 21, 2007
Definitization Date	December 21, 2007

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
8.5	N/A	N/A	175.9	N/A	N/A	148.5	175.8

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	+5.3	-2.7
Previous Cumulative Variances	+6.5	-3.5
Net Change	-1.2	+0.8

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to more effort needed than originally planned for select efforts. In addition, obsolescence issues with test lab equipment adversely impacted some testing efforts. Overall, cost performance continues to be positive.

The favorable net change in the schedule variance is due to a mitigation plan put in place to "burn down" select delinquent tasks.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to the initial contract price reflecting the value of Block 20 Increment I. The current contract price reflects the value of Block 20 Increments I & II.

Appropriation: Acq O&M

Contract Name	**PBL Phase 1/1.5**
Contractor	Bell-Boeing, JPO
Contractor Location	Amarillo, TX 79111
Contract Number, Type	N00019-09-D-0008, CPIF
Award Date	January 22, 2009
Definitization Date	January 22, 2009

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
581.4	N/A	N/A	463.2	N/A	N/A	445.9	445.9

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	+7.3	0.0
Previous Cumulative Variances	+0.4	-1.4
Net Change	+6.9	+1.4

Cost And Schedule Variance Explanations

The favorable net change in the cost variance is due to travel and relocation being less than originally planned due to cost savings initiatives to hire locally rather than relocate personnel.

The favorable net change in the schedule variance is due to completion of select suppliers services ahead of schedule.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to the initial contract price reflecting the cumulative total value of orders that can be placed for Integrated Logistics Support (ILS) efforts only, while the current contract price represents the value of ILS efforts ordered to date.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	2	2	2	100.00%
Production	177	177	457	38.73%
Total Program Quantities Delivered	179	179	459	39.00%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	53494.5	Years Appropriated	31
Expenditures To Date	30510.9	Percent Years Appropriated	72.09%
Percent Expended	57.04%	Appropriated to Date	38012.5
Total Funding Years	43	Percent Appropriated	71.06%

Expenditure and delivery information is current through January 31, 2012.

Operating and Support Cost

Assumptions And Ground Rules

The following Ground Rules and Assumptions are based on the Operating and Support (O&S) costs estimate as of the October 2011 Acquisition Program Baseline update combined with updates from the latest programmatic inputs where available:

	MV-22	MV-22 Navy	CV-22
Aircraft Service Life (hrs)	10,000hrs	10,000hrs	10,000hrs
Aircraft Attrition Rate	1%	1%	0.6%
Aircraft Pipeline Rate	5%	10%	8%
Total Aircraft Inventory (TAI)	360	48	50
Primary Authorized Aircraft (PAA)	299	37	46
Flight Hours per Month	35	35	36
Flight Hours per Year	420	420	432
Total Aircraft Operating Years	7467	905	1031

There is no antecedent for the V-22 program. The Average Annual Cost Per Aircraft represents total O&S costs minus Demilitarization costs of $28.8 Million divided by total aircraft operating years. The total aircraft inventory listed above equals 458 aircraft. The program shows a total of 459 aircraft in the total acquisition cost and summary section of this report due to the authorization of one combat loss replacement aircraft.

Costs BY2005 $K		
Cost Element	**V-22 Average Annual Cost Per Aircraft**	**N/A**
Unit-Level Manpower	1412.3	--
Unit Operations	333.2	--
Maintenance	4742.2	--
Sustaining Support	521.8	--
Continuing System Improvements	218.1	--
Indirect Support	747.8	--
Other	--	--
Total Unitized Cost (Base Year 2005 $)	7975.4	--

Total O&S Costs $M	V-22	N/A
Base Year	75022.5	--
Then Year	121543.7	--