



Selected Acquisition Report (SAR)

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



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

As of FY 2011 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
\$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
\$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
\$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

V-22 JOINT SERVICES ADVANCED VERTICAL LIFT AIRCRAFT (OSPREY) (V-22 (OSPREY))

DoD Component

Navy

Joint Participants

USMC; USN; USSOCOM; USAF

Responsible Office

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References

SAR Baseline (Production Estimate)

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

Approved APB

DAE Approved Acquisition Program Baseline (APB) dated February 29, 2008

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 2100 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, all Acquisition Program Baseline requirements, and excel operationally as it matures into its lifecycle. Over the past two years, three MV-22 squadrons successfully deployed to Iraq in support of Operation Iraqi Freedom; another MV-22 squadron completed the first shipboard deployment with a Marine Expeditionary Unit and then transferred to Afghanistan in support of Operation Enduring Freedom. Additionally, the CV-22 achieved Initial Operational Capability (IOC) and successfully completed deployments to South America and Africa.

The safety of the warfighters who embark on the V-22 drives the program's priorities. While the V-22 continues to excel operationally, its readiness and current cost per flight hour need improvement. Consequently, activities within the program team are focused on improving aircraft readiness and operating cost, and transitioning to an in-service mindset. The program is attacking both challenges aggressively by working with industry and government counterparts to improve component reliability and maintainability, as well as improving the aircraft supply posture. Some improvements, like enhanced troubleshooting procedures, should yield quick returns. Others, like component redesign efforts, will take years to fully implement across the fleet of aircraft. Standup of depot capabilities at Fleet Readiness Center East, NC have begun with repair capability established for 10 components out of 110 total planned over the next several years. In 2010, the first west coast squadrons will be stood-up (MV's at Marine Corps Air Station Miramar, CA; CV's at Cannon Air Force Base, NM).

On the production front, aircraft deliveries to the fleet continue on or ahead of schedule. The program currently has a five year Multi-Year Procurement (MYP) contract (awarded March 28, 2008) in place covering Lots 12-16 (Fiscal Year (FY) 08-FY12). In November 2009, the program obligated full funding for Lot 14 (FY10) and the first three MYP aircraft delivered in December 2009. Further, cost performance on the MYP continues to track to targets. Finally, teams are beginning to conduct a business case analysis to support a second MYP which would cover aircraft buys from FY13-FY17.

Development efforts continue to progress well for both Block C (MV aircraft) and Block 20 (CV aircraft) changes, with successful design reviews held in FY09. Block C modifications on test aircraft have begun, with the start of flight testing at Patuxent River slated to begin the spring of 2010. Other flight test efforts are continuing; however, some risk to schedule exists as a result of tests being deferred due to competing priorities.

There are no significant software-related issues on 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"/>
O&S Cost		<input checked="" type="checkbox"/>
Unit Cost	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Nunn-McCurdy Breaches

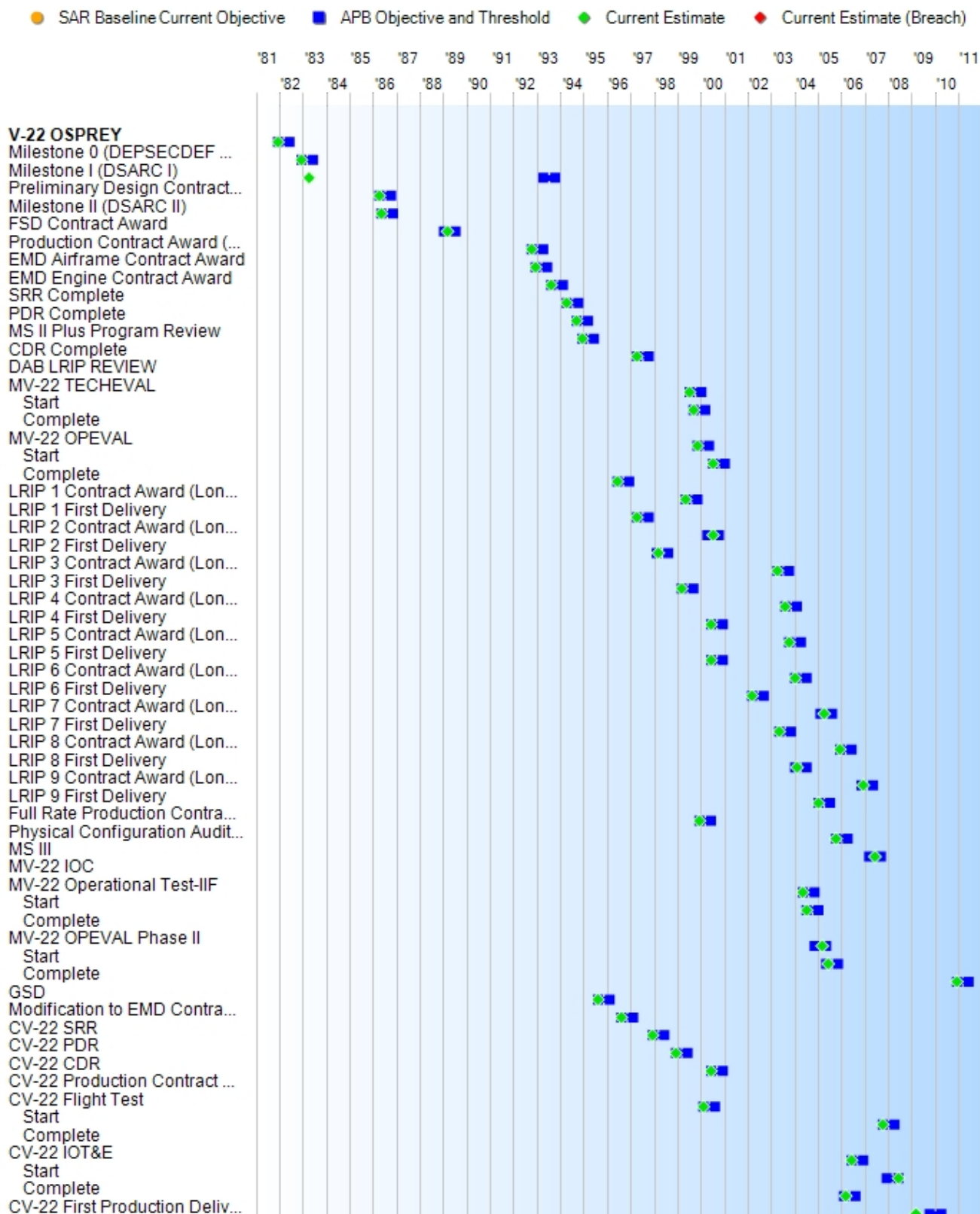
Current UCR Baseline

PAUC	None
APUC	None

Original UCR Baseline

PAUC	None
APUC	None

Schedule



CV IOC
CV-22 First PRTV Delivery

Schedule Events				
Events	SAR Baseline Production Estimate	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

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
Physical Configuration Audit (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	Dec 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

(Ch-1)

Change Explanations

(Ch-1) The estimated CV IOC date was revised from February 2009 to March 2009 which is the actual date CV IOC was achieved.

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

Performance

Performance Characteristics				
SAR Baseline Production Estimate	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	260.1
Mission Radius (NM)				
Land Trooplift				
200X1	200X1	200X1	210X1	230.1
Land External				
110X1	110X1	50X1	69X1	58.7
Sea Trooplift				
110X2	110X2	50X2	53X2	99.8X2
Sea External				
110X1	110X1	50X1	89X1	108.7
Amphibious Pre-Assault/Raid Ops (NM)				
200X1	200X1	200X1	230X1	292.4
Payload				
Troops				
24	24	24	24	24
External Lift (lbs)				
15,000	15,000	10,000	10,000	10,000
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 aerial refuel	2241.7 w/1 aerial refuel
Shipboard Compatible				
yes	yes	yes	yes	yes
V/STOL Capable				
yes	yes	yes	yes	yes
Reliability				

MFHBF (log)				
>=1.2	>=1.2	>=0.9	1.3	>=1.1
MFHBA				
17 Hrs	17 Hrs	17 Hrs	21.2	17 Hrs
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	234
Mission Radius (nm)				
750	750	500	538	531
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 Compatible				
yes	yes	yes	yes	yes
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	100 FT	100 FT
Reliability				
MFHBF (LOG)				
>=1.2	>=1.2	>=0.9	1.2	>=1.0
MFHBA				
15 Hrs	15 Hrs	15 Hrs	32	16 Hrs

Classified Performance information is provided in the classified annex to this submission.

Requirements Reference

Capability Production Document (CPD) dated September 1, 2010

Change Explanations

None

Notes

All performance estimates are based on the MV-22 Block B and CV-22 Block 10 configurations.

The estimated V-22 performance parameters listed above were last updated prior to the December 2007 SAR report and were calculated via performance models utilizing real-time aircraft specifications with updates based upon data derived from delivered aircraft. Demonstrated performance continues to satisfy APB requirements.

Demonstrated CV-22 performance results are based upon the CV IOT&E report dated November 26, 2008. Self deployment range has been verified by analysis and has been borne out by several worldwide deployments by operational forces.

Acronyms and Abbreviations

API - Armor Piercing Incendiary
 CE - Current Estimate
 COMOPTEVFOR - Commander, Operational Test and Evaluation Force
 DECM - Defensive Electronic Countermeasure
 DIRCM - Directed Infrared Countermeasures
 IERs - Information Exchange Requirements
 IOT&E - Initial Operational Test & Evaluation
 LZ w/IN - Landing Zone Within
 MFHBA - Mean Flight Hours Between Aborts
 MFHBF - Mean Flight Hours Between Failures
 MMR (TF/TA) - Multi-Mode Radar (Terrain Following/Terrain Avoidance)
 NAVAIR - Naval Air Systems Command
 OSD - Office of the Secretary of Defense
 R&M - Reliability and Maintainability
 SIRFC - Suite of Integrated Radio Frequency Countermeasures
 V/STOL - Vertical/Short Takeoff and Landing
 vel - Velocity
 VMC/IMC - Visual Meteorological Conditions/Instrument Meteorological Conditions
 w/CMDS - with Counter-Measures Dispenser System
 w/MW - with Missile Warning
 w/RF - with Radio Frequency
 w/RWR - with Radar Warning Receiver

Track to Budget

RDT&E

Appn	BA	PE
------	----	----

Air Force 3600 05 0401318F

Project	Name
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654103

Navy 1319 05 0604262N

Project	Name
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1425

Defense-Wide 0400 07 1160404BB

Project	Name
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SF200

Defense-Wide 0400 07 1160421BB

Project	Name
---------	------

SF200

Procurement

Appn	BA	PE
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Air Force 3010 06 0401318F

Line Item	Name
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000999

Navy 1506 01 0206121M

Line Item	Name
-----------	------

0164

Navy 1506 06 0206121M

Line Item	Name
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0605

Defense-Wide 0300 02 1160444BB

Line Item	Name
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1000CV2200

Air Force 3010 04 0401318F

Line Item	Name
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V022A0

MILCON

Appn	BA	PE
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Navy 1205 01 0204696N

Project	Name
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Defense-Wide 0500 01 1140494BB

Project	Name
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Notes

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

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2005 \$M			BY 2005 \$M	TY \$M		
	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate
RDT&E	11446.5	11446.5	12591.2	11683.9	9891.7	9891.7	10090.5
Procurement	38562.8	38562.8	42419.1	38152.3	43099.3	43099.3	42695.3
Flyaway	--	--	--	30985.7	--	--	34924.4
Recurring	--	--	--	29529.6	--	--	33379.4
Non Recurring	--	--	--	1456.1	--	--	1545.0
Support	--	--	--	7166.6	--	--	7770.9
Other Support	--	--	--	5204.3	--	--	5646.4
Initial Spares	--	--	--	1962.3	--	--	2124.5
MILCON	241.1	241.1	265.2	104.3	262.4	262.4	113.2
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	50250.4	50250.4	N/A	49940.5	53253.4	53253.4	52899.0

Total Quantity			
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate
RDT&E		2	2
Procurement		456	456
Total		458	458

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2011 President's Budget / December 2009 SAR (TY\$ M)									
Appropriation	Prior	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	To Complete	Total
RDT&E	9629.8	110.5	78.8	74.3	56.0	53.3	87.8	0.0	10090.5
Procurement	19385.9	3007.4	2844.5	2991.1	2350.6	2237.0	1928.0	7950.8	42695.3
MILCON	72.9	19.0	0.0	13.9	1.3	6.1	0.0	0.0	113.2
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2011 Total	29088.6	3136.9	2923.3	3079.3	2407.9	2296.4	2015.8	7950.8	52899.0
PB 2009 Total	29027.0	3158.7	2988.0	3185.1	3043.8	3091.9	2746.3	6986.1	54226.9
Delta	61.6	-21.8	-64.7	-105.8	-635.9	-795.5	-730.5	964.7	-1327.9

Funding Notes

Multiple MILCON project numbers are associated with each program element.

Quantity Summary										
FY 2011 President's Budget / December 2009 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	To Complete	Total
Development	2	0	0	0	0	0	0	0	0	2
Production	0	181	35	35	35	28	27	24	91	456
PB 2011 Total	2	181	35	35	35	28	27	24	91	458
PB 2009 Total	2	174	35	35	35	35	35	32	75	458
Delta	0	7	0	0	0	-7	-8	-8	16	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding							
1319 RDT&E Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1982	--	--	--	--	--	--	1.3
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	--	--	--	--	--	--	78.3
2011	--	--	--	--	--	--	46.1
2012	--	--	--	--	--	--	42.8
2013	--	--	--	--	--	--	37.7
2014	--	--	--	--	--	--	35.1
2015	--	--	--	--	--	--	49.9
Subtotal	--	--	--	--	--	--	9106.4

Annual Funding 1319 RDT&E Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 2005 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1982	--	--	--	--	--	--	2.2
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	--	--	--	--	--	--	69.9
2011	--	--	--	--	--	--	40.6
2012	--	--	--	--	--	--	37.1
2013	--	--	--	--	--	--	32.1
2014	--	--	--	--	--	--	29.4
2015	--	--	--	--	--	--	41.1
Subtotal	--	--	--	--	--	--	10684.1

NOTE: FY 1983 \$'s reflect \$29.9M of Army funds (PE 0604222A)

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

Annual Funding							
3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
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	--	--	--	--	--	--	19.6
2011	--	--	--	--	--	--	18.3
2012	--	--	--	--	--	--	22.0
2013	--	--	--	--	--	--	18.3
2014	--	--	--	--	--	--	18.2
2015	--	--	--	--	--	--	37.9
Subtotal	2	--	--	--	--	--	465.6

Annual Funding 3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 2005 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
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	--	--	--	--	--	--	16.3
2010	--	--	--	--	--	--	17.5
2011	--	--	--	--	--	--	16.1
2012	--	--	--	--	--	--	19.1
2013	--	--	--	--	--	--	15.6
2014	--	--	--	--	--	--	15.3
2015	--	--	--	--	--	--	31.3
Subtotal	2	--	--	--	--	--	462.4

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

Annual Funding							
0400 RDT&E Research, Development, Test, and Evaluation, Defense-Wide							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
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	--	--	--	--	--	--	22.1
2009	--	--	--	--	--	--	31.0
2010	--	--	--	--	--	--	12.6
2011	--	--	--	--	--	--	14.4
2012	--	--	--	--	--	--	9.5
Subtotal	--	--	--	--	--	--	518.5

Annual Funding							
0400 RDT&E Research, Development, Test, and Evaluation, Defense-Wide							
Fiscal Year	Quantity	BY 2005 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
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	--	--	--	--	--	--	20.2
2009	--	--	--	--	--	--	27.9
2010	--	--	--	--	--	--	11.2
2011	--	--	--	--	--	--	12.7
2012	--	--	--	--	--	--	8.2
Subtotal	--	--	--	--	--	--	537.4

Annual Funding 1506 Procurement Aircraft Procurement, Navy							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
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	1903.8	--	37.8	1941.6	300.5	2242.1
2010	30	1920.0	--	22.1	1942.1	386.4	2328.5
2011	30	1932.4	--	11.0	1943.4	278.5	2221.9
2012	30	2109.6	--	71.8	2181.4	249.9	2431.3
2013	24	1644.2	--	19.8	1664.0	174.8	1838.8
2014	24	1632.8	--	36.1	1668.9	216.4	1885.3
2015	24	1668.0	--	37.2	1705.2	222.8	1928.0
2016	24	1872.8	--	20.0	1892.8	179.1	2071.9
2017	34	2673.2	--	27.6	2700.8	452.1	3152.9
2018	33	2494.0	--	32.1	2526.1	199.9	2726.0
Subtotal	408	29343.7	--	1372.1	30715.8	5442.7	36158.5

Annual Funding 1506 Procurement Aircraft Procurement, Navy							
Fiscal Year	Quantity	BY 2005 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
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	303.3	994.7
2006	12	810.5	--	135.4	945.9	350.7	1296.6
2007	14	1001.7	--	204.4	1206.1	258.6	1464.7
2008	23	1496.2	--	135.8	1632.0	280.5	1912.5
2009	30	1701.7	--	33.8	1735.5	268.6	2004.1
2010	30	1694.1	--	19.5	1713.6	340.9	2054.5
2011	30	1678.7	--	9.6	1688.3	241.9	1930.2
2012	30	1802.3	--	61.3	1863.6	213.5	2077.1
2013	24	1381.2	--	16.6	1397.8	146.9	1544.7
2014	24	1348.7	--	29.8	1378.5	178.7	1557.2
2015	24	1354.7	--	30.2	1384.9	181.0	1565.9
2016	24	1495.6	--	16.0	1511.6	143.0	1654.6
2017	34	2099.2	--	21.7	2120.9	355.0	2475.9
2018	33	1925.7	--	24.8	1950.5	154.3	2104.8
Subtotal	408	25927.1	--	1293.9	27221.0	5047.6	32268.6

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	755.9
2002	9	628.5
2003	11	817.1
2004	9	660.2
2005	8	569.1
2006	12	800.8
2007	14	886.9
2008	23	1493.3
2009	30	1804.5
2010	30	1697.4
2011	30	1681.7
2012	30	1716.2
2013	24	1471.0
2014	24	1368.1
2015	24	1351.4
2016	24	1442.3
2017	34	2061.9
2018	33	2067.7
Subtotal	408	25927.1

Annual Funding								
3010 Procurement Aircraft Procurement, Air Force								
Fiscal Year	Quantity	TY \$M						Total Program
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support		
1999	--	--	--	--	--	--	21.7	21.7
2000	--	--	--	--	19.5	19.5	21.3	40.8
2001	--	--	--	--	26.7	26.7	24.9	51.6
2002	--	--	--	--	--	--	--	--
2003	--	9.8	--	--	--	9.8	88.3	98.1
2004	2	147.9	--	--	--	147.9	41.7	189.6
2005	3	209.1	--	--	7.2	216.3	114.8	331.1
2006	2	136.7	--	--	18.6	155.3	94.1	249.4
2007	3	219.8	--	--	9.3	229.1	162.8	391.9
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	324.7	--	--	18.8	343.5	229.5	573.0
2011	5	324.1	--	--	6.9	331.0	184.3	515.3
2012	5	344.6	--	--	4.0	348.6	107.2	455.8
2013	4	278.2	--	--	2.4	280.6	123.1	403.7
2014	3	200.6	--	--	1.0	201.6	72.2	273.8
Subtotal	48	3207.4	--	--	137.8	3345.2	1661.7	5006.9

Annual Funding								
3010 Procurement Aircraft Procurement, Air Force								
Fiscal Year	Quantity	BY 2005 \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
1999	--	--	--	--	--	--	23.4	23.4
2000	--	--	--	--	20.7	20.7	22.6	43.3
2001	--	--	--	--	28.1	28.1	26.2	54.3
2002	--	--	--	--	--	--	--	--
2003	--	10.0	--	--	--	10.0	90.3	100.3
2004	2	147.3	--	--	--	147.3	41.5	188.8
2005	3	202.3	--	--	7.0	209.3	111.1	320.4
2006	2	128.9	--	--	17.5	146.4	88.7	235.1
2007	3	201.9	--	--	8.5	210.4	149.5	359.9
2008	10	596.5	--	--	6.3	602.8	246.5	849.3
2009	6	314.3	--	--	14.6	328.9	92.2	421.1
2010	5	285.1	--	--	16.5	301.6	201.6	503.2
2011	5	280.1	--	--	6.0	286.1	159.2	445.3
2012	5	292.8	--	--	3.4	296.2	91.1	387.3
2013	4	232.5	--	--	2.0	234.5	102.8	337.3
2014	3	164.8	--	--	0.8	165.6	59.4	225.0
Subtotal	48	2856.5	--	--	131.4	2987.9	1506.1	4494.0

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	142.3
2005	3	206.8
2006	2	130.2
2007	3	185.4
2008	10	585.1
2009	6	338.6
2010	5	285.6
2011	5	280.5
2012	5	287.7
2013	4	237.0
2014	3	177.3
Subtotal	48	2856.5

Annual Funding 0300 Procurement Procurement, Defense-Wide								
Fiscal Year	Quantity	TY \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
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	--	190.4	--	2.3	192.7	156.3	349.0	
2009	--	93.4	--	1.9	95.3	29.7	125.0	
2010	--	53.7	--	9.7	63.4	42.5	105.9	
2011	--	57.8	--	9.4	67.2	40.1	107.3	
2012	--	63.3	--	3.9	67.2	36.8	104.0	
2013	--	63.8	--	3.3	67.1	41.0	108.1	
2014	--	49.9	--	2.5	52.4	25.5	77.9	
Subtotal	--	828.3	--	35.1	863.4	666.5	1529.9	

Annual Funding 0300 Procurement Procurement, Defense-Wide								
Fiscal Year	Quantity	BY 2005 \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
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	--	104.9	--	--	104.9	73.5	178.4	
2008	--	172.7	--	2.1	174.8	141.7	316.5	
2009	--	83.7	--	1.7	85.4	26.6	112.0	
2010	--	47.5	--	8.6	56.1	37.7	93.8	
2011	--	50.4	--	8.2	58.6	35.0	93.6	
2012	--	54.3	--	3.3	57.6	31.6	89.2	
2013	--	53.8	--	2.8	56.6	34.6	91.2	
2014	--	41.4	--	2.1	43.5	21.1	64.6	
Subtotal	--	746.0	--	30.8	776.8	612.9	1389.7	

NOTE: 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. 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	--	226.8
2009	--	87.0
2010	--	47.7
2011	--	50.5
2012	--	55.6
2013	--	54.4
2014	--	43.2
Subtotal	--	746.0

Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps	
Fiscal Year	TY \$M
	Total Program
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 1205 MILCON Military Construction, Navy and Marine Corps	
Fiscal Year	BY 2005 \$M
	Total Program
2003	0.8
2004	10.8
2005	13.9
2006	21.0
2007	--
2008	--
2009	--
2010	6.3
2011	--
2012	10.2
2013	--
2014	5.0
Subtotal	68.0

Annual Funding 0500 MILCON Military Construction, Defense-Wide	
Fiscal Year	TY \$M
	Total Program
2000	0.2
2001	0.3
2002	8.5
2003	1.9
2004	--
2005	--
2006	1.8
2007	1.9
2008	0.7
2009	9.0
2010	11.8
2011	--
2012	1.9
2013	1.3
Subtotal	39.3

Annual Funding 0500 MILCON Military Construction, Defense-Wide	
Fiscal Year	BY 2005 \$M
	Total Program
2000	0.2
2001	0.3
2002	8.8
2003	1.9
2004	--
2005	--
2006	1.7
2007	1.7
2008	0.6
2009	8.0
2010	10.4
2011	--
2012	1.6
2013	1.1
Subtotal	36.3

Low Rate Initial Production

Item	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 resturctured program.
Start Year	1997	1997
End Year	2001	2009

This LRIP is more than 10% of the total program buy because of the Milestone III slip caused by the December 2000 mishap and the subsequent program restructure. MS-III was achieved September 28, 2005.

LRIP Lot 3 aircraft deliveries beyond aircraft 23 were suspended as a result of the operational pause and until development of block upgrades could be completed. Aircraft 26 was the last aircraft to be upgraded post operational pause, utilizing resolution matrix funding, and was delivered in November 2009.

Foreign Military Sales

Notes

Nuclear Costs

None

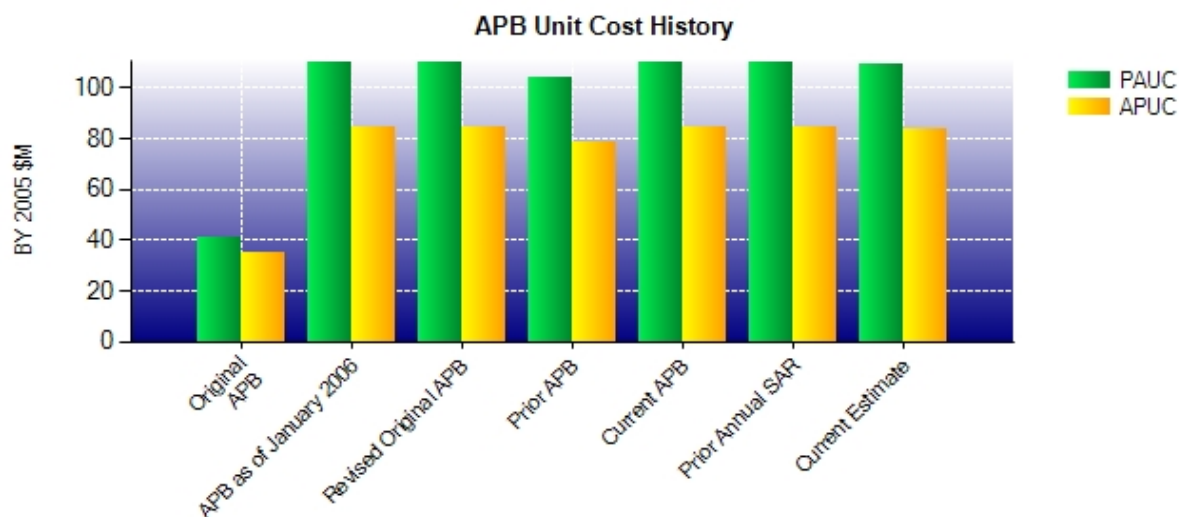
Unit Cost

Unit Cost Report

Item	BY 2005 \$M	BY 2005 \$M	% Change
	Current UCR Baseline (Feb 2008 APB)	Current Estimate (Dec 2009 SAR)	
Program Acquisition Unit Cost			
Cost	50250.4	49940.5	
Quantity	458	458	
Unit Cost	109.717	109.040	-0.62
Average Procurement Unit Cost			
Cost	38562.8	38152.3	
Quantity	456	456	
Unit Cost	84.568	83.667	-1.07

Item	BY 2005 \$M	BY 2005 \$M	% Change
	Revised Original UCR Baseline (Sep 2005 APB)	Current Estimate (Dec 2009 SAR)	
Program Acquisition Unit Cost			
Cost	50250.4	49940.5	
Quantity	458	458	
Unit Cost	109.717	109.040	-0.62
Average Procurement Unit Cost			
Cost	38562.8	38152.3	
Quantity	456	456	
Unit Cost	84.568	83.667	-1.07

Unit Cost History



Item	Date	BY 2005 \$M		TY \$M	
		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	Jun 2006	104.161	78.889	109.927	88.033
Current APB	Feb 2008	109.717	84.568	116.274	94.516
Prior Annual SAR	Dec 2007	110.203	84.899	118.399	96.577
Current Estimate	Dec 2009	109.040	83.667	115.500	93.630

SAR Unit Cost History

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
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 Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
116.274	-1.518	0.000	1.739	0.466	-2.033	0.000	0.572	-0.774	115.500

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
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 Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
94.516	-1.525	0.000	1.746	0.468	-2.149	0.000	0.574	-0.886	93.630

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	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	52899.0
Total Quantity	609	919	458	458
PAUC	40.176	32.277	116.274	115.500

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	9891.7	43099.3	262.4	53253.4
Previous Changes				
Economic	+8.3	+55.7	+2.3	+66.3
Quantity	--	--	--	--
Schedule	--	+746.0	--	+746.0
Engineering	--	+213.2	--	+213.2
Estimating	+6.7	+13.2	+16.3	+36.2
Other	--	--	--	--
Support	--	-88.2	--	-88.2
Subtotal	+15.0	+939.9	+18.6	+973.5
Current Changes				
Economic	-7.4	-751.2	-3.1	-761.7
Quantity	--	--	--	--
Schedule	--	+50.4	--	+50.4
Engineering	--	--	--	--
Estimating	+191.2	-993.1	-164.7	-966.6
Other	--	--	--	--
Support	--	+350.0	--	+350.0
Subtotal	+183.8	-1343.9	-167.8	-1327.9
Total Changes	+198.8	-404.0	-149.2	-354.4
Current Estimate	10090.5	42695.3	113.2	52899.0

Summary BY 2005 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	11446.5	38562.8	241.1	50250.4
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	+398.9	--	+398.9
Engineering	--	+157.1	--	+157.1
Estimating	+61.7	-336.3	+9.7	-264.9
Other	--	--	--	--
Support	--	-68.7	--	-68.7
Subtotal	+61.7	+151.0	+9.7	+222.4
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	+26.3	--	+26.3
Engineering	--	--	--	--
Estimating	+175.7	-889.6	-146.5	-860.4
Other	--	--	--	--
Support	--	+301.8	--	+301.8
Subtotal	+175.7	-561.5	-146.5	-532.3
Total Changes	+237.4	-410.5	-136.8	-309.9
Current Estimate	11683.9	38152.3	104.3	49940.5

Previous Estimate: December 2007

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-7.4
Adjustment for current and prior escalation. (Estimating)	+1.7	+1.9
Decrease due to revised estimate for completion of development schedule. (Air Force) (Estimating)	-6.8	-3.7
Increase due to Overseas Contingency Operation (OCO) supplemental. (Navy) (Estimating)	+15.9	+17.5
Decrease due to elimination of various upgrades planned for Block 20. (DoD) (Estimating)	-38.6	-61.9
Increase due to revised estimate for Follow On Test and Evaluation (FOT&E). (Navy) (Estimating)	+48.0	+55.1
Increase due to revised estimate for completion of development effort. (Navy) (Estimating)	+155.5	+182.3
RDT&E Subtotal	+175.7	+183.8

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-751.2
Additional Schedule Change (SOCOM/Air Force) (Schedule)	+22.4	+17.7
Additional Schedule Change (Navy) (Schedule)	+3.9	+3.4
Acceleration of procurement buy profile (Air Force). (Schedule)	0.0	-34.8
Reduced FY 2013 to FY 2016 by 21 aircraft. Two aircraft accelerated to FY 2008, remainder moved to FY 2017 and FY 2018. (Navy). (Schedule)	0.0	+64.1
Correction to align support and flyaway. (Subtotal)	0.0	0.0
(Estimating)	(+5.0)	(+5.5)
(Support)	(-5.0)	(-5.5)
Adjustment for current and prior escalation. (Estimating)	+62.0	+70.3
Increase due to updated learning curves and material costs adjustments. (Navy) (Estimating)	+469.4	+608.4
Increase due to Fuselage Transport, Advanced Procurement and other minor model adjustments. (Navy) (Estimating)	-0.4	+0.5
Increase due to addition of obsolescence, ancillary equipment, and Cost Reduction Initiative (CRI) Investments. (Navy) (Estimating)	+181.5	+218.8
Decrease due to updated prices for engines and Government Furnished Equipment (GFE). (Navy) (Estimating)	-62.0	-71.0
Increase due to updated learning curves and material costs adjustments. (Air Force) (Estimating)	-3.3	+1.4
Increase due to addition of obsolescence, ancillary equipment, and CRI Investments. (Air Force) (Estimating)	+12.5	+14.3
Increase due to updated prices for engines and realignment of Interim Defensive Electronic Counter Measure (IDECM) funding to AF from SOCOM. (Air Force) (Estimating)	+2.7	+4.3
Increase due to updated learning curves and material costs adjustments. (DoD) (Estimating)	+40.5	+46.1
Increase due to addition of obsolescence, ancillary equipment, and CRI Investments. (DoD) (Estimating)	+3.1	+3.6
Decrease due to realignment of IDECM funding from SOCOM to Air Force. (DoD)	-84.4	-96.2

(Estimating)		
Decrease due to erroneous inclusion of APN-5 mods under Procurement. (Navy)	-343.2	-367.3
(Estimating)		
Decrease due to duplication of APN-5 Obsolescence accounted for under O&S. (Air Force)	-81.0	-91.9
(Estimating)		
Decrease due to duplication of APN-5 Obsolescence accounted for under O&S. (DoD)	-51.3	-58.3
(Estimating)		
Decrease due to duplication of APN-5 Obsolescence accounted for under O&S. (Navy)	-1040.7	-1281.6
(Estimating)		
Adjustment for current and prior escalation. (Support)	+12.7	+13.7
Updated Support Equipment Estimate, Increased Production Support Cost to account for actuals, and reduced the number of Trainers.(Navy) (Support)	+312.5	+380.8
Decrease in Initial Spares reflects updated priorities for service requirements. (Navy). (Support)	-130.1	-159.0
Increase in Other Support due to addition of two Flight Training Devices and updated Production Support Costs based on actuals. (Air Force). (Support)	+28.0	+30.0
Increase in Initial Spares reflects updated priorities for service requirements. (Air Force). (Support)	+170.3	+193.1
Updated Support Equipment Estimate and reallocated Production Support Cost to Navy to account for actuals. (DoD) (Support)	-13.0	-15.9
Decrease in Initial Spares reflects updated priorities for service requirements. (DoD). (Support)	-73.6	-87.2
Procurement Subtotal	-561.5	-1343.9

MILCON	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-3.1
Adjustment for current and prior escalation. (Estimating)	+1.0	+1.0
Decrease due to removal of construction projects that are non-specific to V-22. (Navy) (Estimating)	-139.4	-155.9
Decrease due to revised estimate for completion of facilities. (DoD) (Estimating)	-8.1	-9.8
MILCON Subtotal	-146.5	-167.8

Contracts

Contract Identification

Appropriation: Procurement
Contract Name: FY08 FRP Lot 12 Airframe
Contractor: Bell-Boeing, JPO
Contractor Location: Amarillo, TX 79111
Contract Number: N00019-07-C-0001/1
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: April 02, 2007
Definitization Date: March 28, 2008

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
84.9	N/A	26	2198.9	2312.6	31	2081.0	2191.1

Target Price Change Explanation

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

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2009)	+15.5	-30.3
Previous Cumulative Variances	--	--
Net Change	+15.5	-30.3

Cost and Schedule Variance Explanations

General Contract Variance Explanation

The overall cost performance is favorable due to the labor efficiency gained in the the integration, assembly, and test production lines, as well as due to favorable material performance in the composite area.

The overall schedule performance is unfavorable mainly due to delays in submission of material invoices. The schedule is expected to recover in FY 10 as invoices are processed.

Notes

The initial contract price reflects the value of advance procurement funded items only. The current contract price reflects the full airframe value.

Contract Identification

Appropriation: Procurement
Contract Name: FY09 FRP Lot 13 Airframe
Contractor: Bell-Boeing, JPO
Contractor Location: Amarillo, TX 79111
Contract Number: N00019-07-C-0001/2
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: March 28, 2008
Definitization Date: March 28, 2008

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
20.7	N/A	36	2274.9	2399.5	36	2207.2	2269.1

Target Price Change Explanation

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

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2009)	+4.5	-20.2
Previous Cumulative Variances	--	--
Net Change	+4.5	-20.2

Cost and Schedule Variance Explanations**General Contract Variance Explanation**

The overall cost performance is favorable due to the labor and composite efficiency gained by the contractor as stated in LOT 12.

The overall schedule performance is unfavorable due to the summer 2009 contractor strike (Bell) that impacted the early stage of the production process. However, the cumulative schedule variance shows improvements due to the favorable material usage and the recovery of parts that were previously behind.

Notes

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

Initial contract price reflects the value of advance procurement funded items only. The current contract price reflects the full airframe value.

Contract Identification

Appropriation: RDT&E
Contract Name: FY07 MV-22 Block C Increments II & III
Contractor: Bell-Boeing, JPO
Contractor Location: Amarillo, TX 79111
Contract Number: N00019-07-C-0040
Contract Type: Cost Plus Award Fee (CPAF)
Award Date: August 23, 2007
Definitization Date: August 30, 2007

Contract Price								
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)		
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager	
49.3	N/A	N/A	75.8	N/A	N/A	74.9	75.5	

Target Price Change Explanation

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

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2009)	+0.5	-6.5
Previous Cumulative Variances	--	--
Net Change	+0.5	-6.5

Cost and Schedule Variance Explanations**General Contract Variance Explanation**

The net favorable cost performance is due to the favorable labor efficiency gained by the contractor.

The net unfavorable schedule performance is due to delays associated with the negotiation and award of subcontracted efforts. However, the Environmental Control System (ECS) and Weather Radar (Wx) development efforts were completed and thus, the schedule is expected to start improving as the Block C effort moves through the flight modification and flight test periods.

Notes

This is the first time this contract is being reported.

The initial contract price reflects the value of Block C Increment I. The current contract price reflects the value of Block C Increment I and II.

Contract Identification

Appropriation: Procurement
Contract Name: V-22 AE 1107C Turboshift Engine
Contractor: Rolls Royce
Contractor Location: Indianapolis, IN 46206-0420
Contract Number: N00019-07-C-0060
Contract Type: Firm Fixed Price (FFP)
Award Date: September 25, 2007
Definitization Date: September 25, 2007

Contract Price								
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	642.0	N/A	287	827.7	827.7	

Target Price Change Explanation

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

Cost and Schedule Variance Explanations

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

Notes

The engine contract provides for a base year and four option years for procurement of engines for production install and spares requirements through FY11, for both the MV and CV-22 weapons systems. This contract is a commercial Federal Acquisition Regulation Part 12 contract.

The initial contract price reflects 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 estimated price at completion represents the sum of the current contract price plus the expected value of the fourth and final option which is scheduled to be exercised by January 2011.

Contract Identification

Appropriation: RDT&E
Contract Name: CV-22 Block 20
Contractor: Bell-Boeing, JPO
Contractor Location: Amarillo, TX 79111
Contract Number: N00019-08-C-0025
Contract Type: Cost Plus Fixed Fee (CPFF)
Award Date: December 21, 2007
Definitization Date: December 21, 2007

Contract Price							
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	111.6	N/A	N/A	101.5	111.6

Target Price Change Explanation

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

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2009)	+7.0	-3.2
Previous Cumulative Variances	--	--
Net Change	+7.0	-3.2

Cost and Schedule Variance Explanations**General Contract Variance Explanation**

The CV-22 test aircraft is flying less Block 20 flight test hours than originally planned due to other operational priorities taking precedence.

The net unfavorable schedule variance is due to the replan of the remaining Terrain Following (TF) improvement efforts to gain efficiencies and to accommodate higher user flight test priorities.

Notes

This is the first time this contract is being reported.

The initial contract price reflects the value of Block 20 Increment I. The current contract price reflects the value of Block 20 Increment I & II.

Contract Identification

Appropriation: Acq O&M
Contract Name: PBL Phase 1/1.5
Contractor: Bell-Boeing, JPO
Contractor Location: Amarillo, TX 79111
Contract Number: N00019-09-D-0008
Contract Type: Cost Plus Incentive Fee (CPIF)
Award Date: January 22, 2009
Definitization Date: January 22, 2009

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
581.4	N/A	N/A	592.3	N/A	N/A	592.3	592.3

Target Price Change Explanation

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

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2009)	+9.5	-1.2
Previous Cumulative Variances	--	--
Net Change	+9.5	-1.2

Cost and Schedule Variance Explanations**General Contract Variance Explanation**

The net favorable cost performance is due to less materials being used than planned; expenditure of less travel dollars than planned and lower relocation expenses than planned.

The net unfavorable schedule variance is due to staffing and resource issues due to unfilled vacancies. The contractor has since rectified the staffing shortages and the cumulative schedule variance continues to improve.

Notes

This is the first time this contract is being reported.

The initial contract price reflects the cumulative total value of orders that can be placed for Integrated Logistics Support efforts only. The current contract price includes the addition of non-recurring work in support of reliability improvements to that cumulative value. Supply chain management efforts will be added to the contract price pending the outcome of ongoing negotiations.

The cost and schedule data performance outlined above is based upon the value delivery orders placed to date against the contract. The initial, current and estimated contract price values reflect the cumulative value of orders for Integrated Logistic Support efforts that can be placed against the contract.

NOTE:THE FOLLOWING CONTRACTS ARE MORE THAN 90% COMPLETE AND WILL NO LONGER BE REPORTED IN THE SAR:

N00019-96-C-0054, CPIF, Lot 3 Rework
N00019-99-C-1090, FPIF, Lot 4 Airframes
N00019-05-C-0002, FFP, Lot 10 Airframes
N00019-06-C-0292, FFP, Lot 11 Airframes

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	2	2	2	100.00%
Production	114	116	456	25.44%
Total Program Quantity Delivered	116	118	458	25.76%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	52899.0	Years Appropriated	29
Expended to Date	24252.8	Percent Years Appropriated	78.38%
Percent Expended	45.85%	Appropriated to Date	32225.5
Total Funding Years	37	Percent Appropriated	60.92%

Operating and Support Cost

Assumptions and Ground Rules

The following Ground Rules and Assumptions are based on the Milestone III Operating and Support costs estimate as of October 2005 combined with updates from the latest programmatic inputs where available:

	MV-22	HV-22	CV-22
Aircraft Service Life (hrs)	10,000	10,000	10,000
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	1031	905

There is no antecedent for the V-22 program.

Presented costs were developed January 2010

The methodology for projecting Unit Level Consumption has evolved into a part level analysis based on V-22 FY09 actuals. This change along with cost growth above inflation accounts for the majority of the cost growth.

The program is working to reduce the Unit Level Consumption Costs by pursuing R&M improvements, maintenance concept changes and repair development, direct to OEM contracting to eliminate Prime Contractor Pass through, and acceleration of I & D level repair capability standup.

The Average Annual Cost Per Aircraft represents total O&S costs divided by total aircraft operating years.

The Total Unitized Cost value was calculated as follows:

- Each of the seven cost elements (Mission Pay, Unit Level Consumption, etc.) are summed up for each of the three V-22 variants. Each cost element sum is then divided by the Total Operational Aircraft which is 9,403.109. This number is based on total available aircraft at year start, less annual pipeline and attrited aircraft. This is summed up for each year through 2043 to equal 9,403.109.
- Each of the seven cost elements is divided by the number of Total Operational Aircraft and their sum equals \$7,975,405 to be the Average Annual Cost per Aircraft. This number is then divided by 1000 to be represented as \$7,975.41 to be the Average Annual Cost per Aircraft in dollars thousand. The same result is achieved by dividing the Base Year O&S value by the Total Operational Aircraft.

Cost Estimate Reference:

None

Sustainment Strategy:

None

Antecedent Information:

None

Unitized O&S Costs BY2005 \$M			
Cost Element	V-22 OSPREY		N/A (Antecedent)
	Average Annual Cost Per Aircraft		
Mission Pay & Allowance	1.412		--
Unit Level Consumption	3.825		--
Intermediate Maintenance	0.501		--
Depot Maintenance	0.373		--
Contractor Support	0.377		--
Sustaining Support	0.435		--
Indirect	1.053		--
Other	--		--
Total	7.976		--

Unitized Cost Comments:

None

Item	Total O&S Cost \$M			
	V-22 OSPREY			N/A (Antecedent)
	Current Production APB Objective/Threshold		Current Estimate	
Base Year	48775.6	53653.2	75022.5¹	N/A
Then Year	75413.1	N/A	121543.7	N/A

¹ APB O&S Cost BreachTotal O&S Cost Comment

None

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 2005 \$M):