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 2017 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

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

DoD Component

Navy

Joint Participants

United States Marine Corps; United States Navy; United States Special Operations Command; United States Air Force

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

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

Mission and Description

The V-22 Osprey Joint Services Advanced Vertical Lift Aircraft (V-22) Program was established by the DoD to develop, test, evaluate, procure, field and support a tilt rotor, Vertical/Short Takeoff and Landing 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 Carrier-On Board Delivery/fleet logistics needs of the Navy, and the special operations needs of the USAF and United States Special Operations Command (USSOCOM). The MV-22 variant replaces the CH-46E and CH-53D in the USMC. The CV-22 variant replaces the MH-53-J/M, but also provides a new capability and augments the MC-130 in the USAF/USSOCOM inventory for special operations infiltration, exfiltration, and resupply missions. The Navy CMV-22 will be replacing the C-2A in the Navy inventory. The V-22 is capable of flying over 2,100 nautical miles 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 provides an enhanced CV-unique configuration with communications and aircraft system performance upgrades. The Navy CMV-22 is an MV-22 Block C configuration with enhancements including extended range fuel tanks, high frequency radio and a cabin intercom system.

Executive Summary

The V-22 Program focus is on improving aircraft readiness, sustaining Fleet aircraft, delivery of Multi-Year 2 production aircraft, reducing operating costs, and expanding our business base, both domestically and internationally. Both the MV-22 and CV-22 continue to meet all Key Performance Parameters. APB cost performance remains within established thresholds.

Production has completed on 17 of 27 planned aircraft production lots. As of February 26, 2016, 329 (281 MV/48 CV) aircraft have been delivered. To support program affordability, the Program is currently pursuing a third Multi-Year Procurement (MYP) contract for FY 2018-FY 2022. On the V-22 MYP 2 Contract with Bell-Boeing, the Lot 20 full-funding modification was awarded for $1.184B on October 26, 2015 and $38.6M of Advance Procurement funding for Lot 21 was awarded on November 24, 2015.

The Navy variant of the V-22 in support of the Carrier Onboard Delivery mission will begin development in FY 2016. The initial Navy Non-Recurring Engineering/Engineering Change Proposal delivery order is expected to award in second quarter FY 2016. Production of the Navy variant V-22 will begin in FY 2018.

The Program Office awarded a $332M modification to the MYP 2 Contract with Bell-Boeing in July 2015 to provide for the manufacture and delivery of five MV-22 tilt rotor aircraft in support of the Government of Japan. On September 25, 2015, a delivery order was awarded with Bell-Boeing for $20.9M to complete Non-Recurring Engineering for Japan-specific aircraft modifications. It is expected that a second Letter of Offer and Acceptance (LOA) will be in place by June 2016 for up to 12 additional aircraft, for a total of 17 aircraft for Japan.

The Operational Utility Evaluation (OUE) of the new Mission Computer and Color Helmet Mounted Display systems on the CV-22 began on December 8, 2015, and was completed on February 11, 2016.

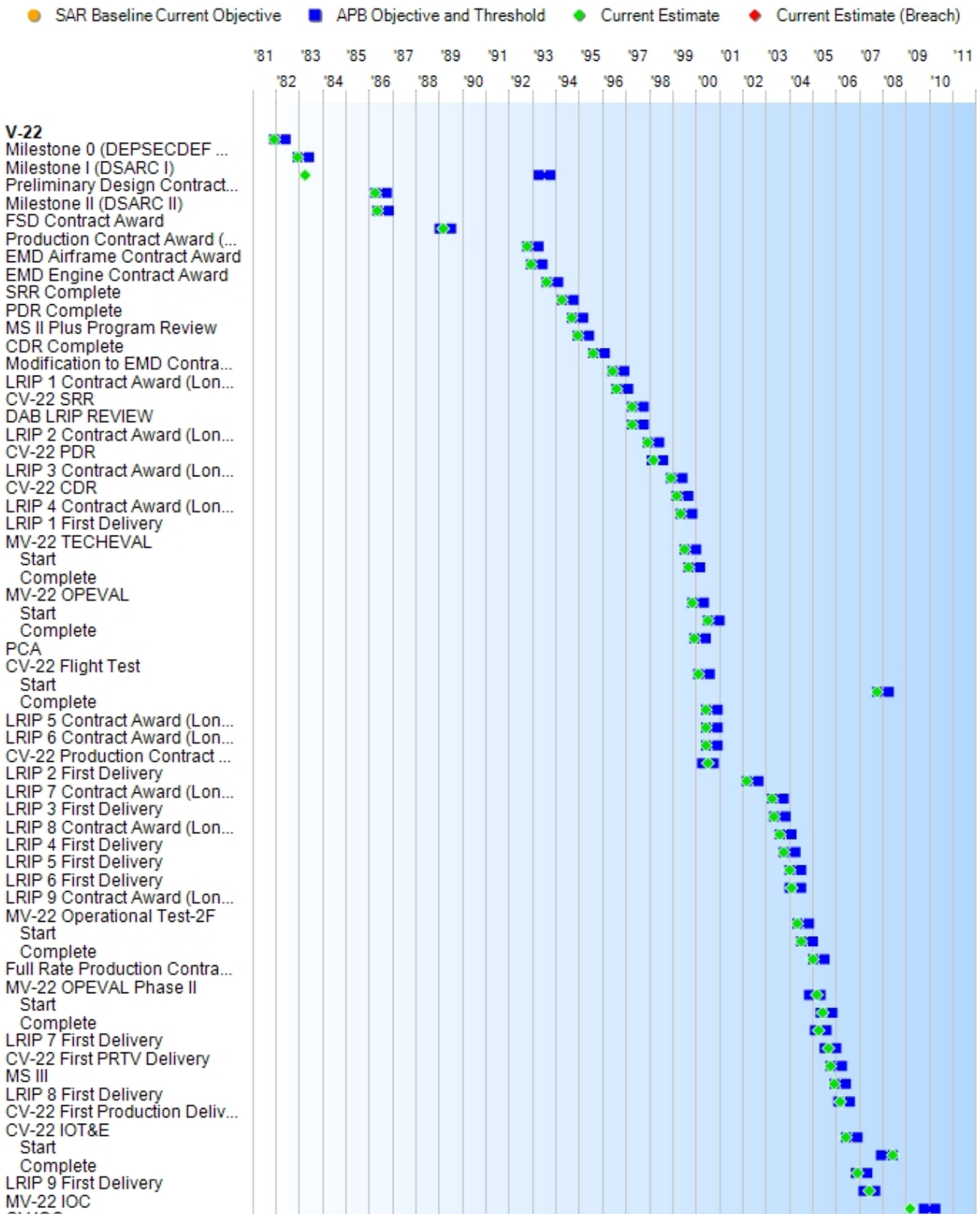
There are no significant software-related issues with the program at this time.

Threshold Breaches

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

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

Schedule


SAR Baseline Current Objective
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
Modification to EMD Contra...
LRIP 1 Contract Award (Lon...
CV-22 SRR
DAB LRIP REVIEW
LRIP 2 Contract Award (Lon...
CV-22 PDR
LRIP 3 Contract Award (Lon...
CV-22 CDR
LRIP 4 Contract Award (Lon...
LRIP 1 First Delivery
MV-22 TECHEVAL
Start
Complete
MV-22 OPEVAL
Start
Complete
PCA
CV-22 Flight Test
Start
Complete
LRIP 5 Contract Award (Lon...
LRIP 6 Contract Award (Lon...
CV-22 Production Contract ...
LRIP 2 First Delivery
LRIP 7 Contract Award (Lon...
LRIP 3 First Delivery
LRIP 8 Contract Award (Lon...
LRIP 4 First Delivery
LRIP 5 First Delivery
LRIP 6 First Delivery
LRIP 9 Contract Award (Lon...
MV-22 Operational Test-2F
Start
Complete
Full Rate Production Contra...
MV-22 OPEVAL Phase II
Start
Complete
LRIP 7 First Delivery
CV-22 First PRTV Delivery
MS III
LRIP 8 First Delivery
CV-22 First Production Deliv...
CV-22 IOT&E
Start
Complete
LRIP 9 First Delivery
MV-22 IOC

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
Modification to EMD Contract to Include CV-22 Efforts	Aug 1995	Aug 1995	Feb 1996	Aug 1995
LRIP 1 Contract Award (Long lead $)	Jun 1996	Jun 1996	Dec 1996	Jun 1996
CV-22 SRR	Aug 1996	Aug 1996	Feb 1997	Aug 1996
DAB LRIP REVIEW	Apr 1997	Apr 1997	Oct 1997	Apr 1997
LRIP 2 Contract Award (Long lead $)	Apr 1997	Apr 1997	Oct 1997	Apr 1997
CV-22 PDR	Dec 1997	Dec 1997	Jun 1998	Dec 1997
LRIP 3 Contract Award (Long Lead $)	Feb 1998	Feb 1998	Aug 1998	Mar 1998
CV-22 CDR	Dec 1998	Dec 1998	Jun 1999	Dec 1998
LRIP 4 Contract Award (Long Lead $)	Mar 1999	Mar 1999	Sep 1999	Mar 1999
LRIP 1 First Delivery	May 1999	May 1999	Nov 1999	May 1999
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
PCA	Dec 1999	Dec 1999	Jun 2000	Dec 1999
CV-22 Flight Test				
Start	Feb 2000	Feb 2000	Aug 2000	Feb 2000
Complete	Oct 2007	Oct 2007	Apr 2008	Oct 2007

LRIP 5 Contract Award (Long Lead $)	Jun 2000	Jun 2000	Dec 2000	Jun 2000
LRIP 6 Contract Award (Long Lead $)	Jun 2000	Jun 2000	Dec 2000	Jun 2000
CV-22 Production Contract Award (Long lead $)	Jun 2000	Jun 2000	Dec 2000	Jun 2000
LRIP 2 First Delivery	Apr 2000	Apr 2000	Oct 2000	Jul 2000
LRIP 7 Contract Award (Long Lead $)	Mar 2002	Mar 2002	Sep 2002	Mar 2002
LRIP 3 First Delivery	Apr 2003	Apr 2003	Oct 2003	Apr 2003
LRIP 8 Contract Award (Long Lead $)	May 2003	May 2003	Nov 2003	May 2003
LRIP 4 First Delivery	Aug 2003	Aug 2003	Feb 2004	Aug 2003
LRIP 5 First Delivery	Oct 2003	Oct 2003	Apr 2004	Oct 2003
LRIP 6 First Delivery	Jan 2004	Jan 2004	Jul 2004	Jan 2004
LRIP 9 Contract Award (Long Lead $)	Jan 2004	Jan 2004	Jul 2004	Feb 2004
MV-22 Operational Test-2F				
Start	May 2004	May 2004	Nov 2004	May 2004
Complete	Jul 2004	Jul 2004	Jan 2005	Jul 2004
Full Rate Production Contract Award (Long lead $)	Jan 2005	Jan 2005	Jul 2005	Jan 2005
MV-22 OPEVAL Phase II				
Start	Nov 2004	Nov 2004	May 2005	Mar 2005
Complete	May 2005	May 2005	Nov 2005	Jun 2005
LRIP 7 First Delivery	Feb 2005	Feb 2005	Aug 2005	Apr 2005
CV-22 First PRTV Delivery	Jul 2005	Jul 2005	Jan 2006	Sep 2005
MS III	Oct 2005	Oct 2005	Apr 2006	Oct 2005
LRIP 8 First Delivery	Dec 2005	Dec 2005	Jun 2006	Dec 2005
CV-22 First Production Delivery	Feb 2006	Feb 2006	Aug 2006	Mar 2006
CV-22 IOT&E				
Start	Jun 2006	Jun 2006	Dec 2006	Jun 2006
Complete	Dec 2007	Dec 2007	Jun 2008	Jun 2008
LRIP 9 First Delivery	Nov 2006	Nov 2006	May 2007	Dec 2006
MV-22 IOC	Mar 2007	Mar 2007	Sep 2007	Jun 2007
CV IOC	Oct 2009	Oct 2009	Apr 2010	Mar 2009
GSD	Dec 2010	Dec 2010	Jun 2011	Apr 2010

Change Explanations

None

Acronyms and Abbreviations

AAC - Advanced Acquisition Contract
CDR - Critical Design Review
DEPSECDEF - Deputy Secretary of Defense
DSARC - Defense Systems Acquisition Review Council
FSD - Full Scale Development
GSD - Government Support Date
IOT&E - Initial Operational Test and Evaluation
MS - Milestone
OPEVAL - Operational Evaluation
PCA - Physical Configuration Audit
PDR - Preliminary 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	285	(Ch-1)
Mission Radius (nm)					
Land Trooplift					
200X1	200X1	200X1	210x1	216X1	(Ch-1)
Land External					
110X1	110X1	50X1	69x1	51x1	(Ch-1)
Sea Trooplift					
110X2	110X2	50X2	53x2	90X2	(Ch-1)
Sea External					
110X1	110X1	50X1	89x1	84X1	(Ch-1)
Amphibious Pre-Assault/Raid Ops (nm)					
200X1	200X1	200X1	230x1	319x1	(Ch-1)
Payload					
Troops					
24	24	24	24	24	
External Lift (lbs)					
15,000	15,000	10,000	10,000	12,500	
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 aeriel refuel	2294 w/1 aerial refuel	(Ch-1)
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	1.24	(Ch-2)
MFHBA					
17 Hrs	17 Hrs	17 Hrs	31.2	33.1	(Ch-3)
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	261	(Ch-4)
Mission Radius (nm)					
750	750	500	538	567	(Ch-4)
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	2161 w/1 aerial refuel	(Ch-4)
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	100FT	100 FT	
Reliability					
MFHBF (LOG)					
>=1.2	>=1.2	>=0.9	1.6	1.5	(Ch-5)
MFHBA					
15 Hrs	15 Hrs	15 Hrs	29.2	29	(Ch-6)

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

Requirements Reference

CPD dated September 1, 2010

Change Explanations

(Ch-1) The current performance estimates for MV-22 have been updated to reflect Lot 18 (current production lot) aircraft specification weight. Changes to the specification weight, drag and assumptions associated with calculating performance values have resulted in minor adjustments to performance predictions.
(Ch-2) The current estimate for MV-22 MFHBF has changed slightly from 1.25 hrs to 1.24 hrs. These values reflect the updated calculations from the V-22 Failure Reporting, Analysis and Corrective Action System database. This data is based on the Block B and C Aircraft operating in the Vertical Marine Medium Tilt-Rotor Squadrons through October 2015 with 176,688 flight hours.
(Ch-3) The current estimate for MV-22 MFHBA has improved from 32.1 hrs to 33.1 hrs. These values reflect the updated calculations from the V-22 Failure Reporting, Analysis and Corrective Action System database. This data is based on the Block B and C Aircraft operating in the Vertical Marine Medium Tilt-Rotor Squadrons through October 2015 with 176,688 flight hours.
(Ch-4) The current estimate for CV-22 Cruise Speed (kts), Mission Radius (nm) and Self-Deployment (nm) is based on Lot 18 aircraft specification weights with slight adjustment to SOF mission weights used in modeling the performance. These changes generally resulted in improvements to current estimates for calculated aircraft performance.
(Ch-5) The current estimate for CV-22 MFHBF has changed slightly from 1.6 hrs to 1.5 hrs. These values reflect the updated calculations from the V-22 Failure Reporting, Analysis and Corrective Action System database. This data is based on the Block 10 and 20 Aircraft operating at Hurlburt, Cannon, and Mildenhall through October 2015 with 36,019 flight hours.
(Ch-6) The current estimate for CV-22 MFHBA has changed slightly from 29.9 hrs to 29.0 hrs. These values reflect the updated calculations from the V-22 Failure Reporting, Analysis and Corrective Action System database. This data is based on the Block 10 and 20 Aircraft operating at Hurlburt, Cannon, and Mildenhall through October 2015 with 36,019 flight hours.

Acronyms and Abbreviations

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
LOG - Logistics
LZ w/IN - Landing Zone Within
MAX - Maximum
MFHBA - Mean Flight Hours Between Aborts
MFHBF - Mean Flight Hours Between Failures
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
VMC/IMC - Visual Meteorological Conditions/Instrument Meteorological Conditions
w/RF - with Radio Frequency
w/RWR - with Radar Warning Receiver

Track to Budget

RDT&E

Appn		BA	PE	
Navy	1319	05	0604262N	
	Project		**Name**	
	1425		V-22	
Air Force	3600	05	0401318F	
	Project		**Name**	
	654103		CV-22	(Sunk)
Air Force	3600	07	0401318F	
	Project		**Name**	
	676033		CV-22 RDT&E Post Production Support	
Defense-Wide	0400	07	1160403BB	
	Project		**Name**	
	SF200		CV-22 Development	(Shared)
Defense-Wide	0400	07	1160404BB	
	Project		**Name**	
	SF200		SO Tactical Systems (Automation)	(Sunk)
	Notes:		1985 Sunk (funded in prior years only)	
Defense-Wide	0400	07	1160421BB	
	Project		**Name**	
	SF200		CV-22	(Sunk)

Procurement

Appn		BA	PE	
Navy	1506	01	0206121M	
	Line Item		**Name**	
	0164		V-22 (Medium Lift)	
	Notes:		Spares are separately entered.	
Navy	1506	06	0206121M	
	Line Item		**Name**	
	0605		Spares and Repair Parts	(Shared)
Air Force	3010	06	0401318F	
	Line Item		**Name**	
	000999		Initial Spares/Repair Parts	(Shared)
Air Force	3010	04	0401318F	
	Line Item		**Name**	
	V022A0		CV-22 (MYP)	

Notes: Spares are separately entered.

Defense-Wide	0300	02	1160421BB

Line Item	Name
1000CV22	CV-22 Modification

Notes: Does not include retrofit funding.

MILCON

Appn		BA	PE
Navy	1205	01	0216496M

Project	Name
00318887	LHD Pad Conversion and MV-22 LZ Improvements

Defense-Wide	0500	01	1140494BB

Project	Name
QFQE0530	Special Operations Command Simulator Facility

Notes

Multiple MILCON projects are associated with each program element and are too numerous to list. Projects that are identified are either ongoing or to be completed.

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	12487.1	9891.7	9891.7	11176.6
Procurement	38562.8	38562.8	42419.1	38812.8	43099.3	43099.3	44570.0
Flyaway	--	--	--	31704.5	--	--	36653.1
Recurring	--	--	--	30138.5	--	--	34937.3
Non Recurring	--	--	--	1566.0	--	--	1715.8
Support	--	--	--	7108.3	--	--	7916.9
Other Support	--	--	--	5203.2	--	--	5786.9
Initial Spares	--	--	--	1905.1	--	--	2130.0
MILCON	241.1	241.1	265.2	105.1	262.4	262.4	115.7
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	50250.4	50250.4	N/A	51405.0	53253.4	53253.4	55862.3

Confidence Level

Confidence Level of cost estimate for current APB: 50%

The current APB/SAR cost estimate provides sufficient resources to execute the program under normal conditions, encountering average levels of technical, schedule and programmatic risk and external interference. It was consistent with average resource expenditures on historical efforts of similar size, scope, and complexity and represents a notional 50% confidence level when established.

Total Quantity			
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate
RDT&E	2	2	2
Procurement	456	456	459
Total	458	458	461

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2017 President's Budget / December 2015 SAR (TY$ M)									
Appropriation	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
RDT&E	10102.6	104.3	206.7	177.1	135.8	83.9	82.5	283.7	11176.6
Procurement	33049.6	1526.0	1284.7	663.9	731.0	664.1	1532.5	5118.2	44570.0
MILCON	103.3	0.0	12.4	0.0	0.0	0.0	0.0	0.0	115.7
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2017 Total	43255.5	1630.3	1503.8	841.0	866.8	748.0	1615.0	5401.9	55862.3
PB 2016 Total	43254.0	1608.0	1707.1	1048.4	936.2	959.8	1860.1	3384.4	54758.0
Delta	1.5	22.3	-203.3	-207.4	-69.4	-211.8	-245.1	2017.5	1104.3

Quantity Summary										
FY 2017 President's Budget / December 2015 SAR (TY$ M)										
Quantity	Undistributed	Prior	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Development	2	0	0	0	0	0	0	0	0	2
Production	0	351	20	16	6	6	6	14	40	459
PB 2017 Total	2	351	20	16	6	6	6	14	40	461
PB 2016 Total	2	351	19	18	8	8	8	16	30	460
Delta	0	0	1	-2	-2	-2	-2	-2	10	1

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	--	--	--	--	--	--	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	--	--	--	--	--	--	357.3
2005	--	--	--	--	--	--	246.9
2006	--	--	--	--	--	--	192.2
2007	--	--	--	--	--	--	251.6
2008	--	--	--	--	--	--	118.0
2009	--	--	--	--	--	--	65.7
2010	--	--	--	--	--	--	76.9
2011	--	--	--	--	--	--	40.3
2012	--	--	--	--	--	--	69.1
2013	--	--	--	--	--	--	44.1
2014	--	--	--	--	--	--	40.6
2015	--	--	--	--	--	--	50.2
2016	--	--	--	--	--	--	76.5

2017	--	--	--	--	--	--	174.4
2018	--	--	--	--	--	--	145.3
2019	--	--	--	--	--	--	97.6
2020	--	--	--	--	--	--	64.2
2021	--	--	--	--	--	--	67.5
2022	--	--	--	--	--	--	55.5
2023	--	--	--	--	--	--	56.5
2024	--	--	--	--	--	--	45.2
2025	--	--	--	--	--	--	27.1
2026	--	--	--	--	--	--	10.9
2027	--	--	--	--	--	--	14.5
Subtotal	--	--	--	--	--	--	9963.5

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	--	--	--	--	--	--	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	--	--	--	--	--	--	360.0
2005	--	--	--	--	--	--	242.4
2006	--	--	--	--	--	--	183.0
2007	--	--	--	--	--	--	233.8
2008	--	--	--	--	--	--	107.7
2009	--	--	--	--	--	--	59.2
2010	--	--	--	--	--	--	68.3
2011	--	--	--	--	--	--	34.9
2012	--	--	--	--	--	--	58.9
2013	--	--	--	--	--	--	37.2
2014	--	--	--	--	--	--	33.8
2015	--	--	--	--	--	--	41.3
2016	--	--	--	--	--	--	61.9
2017	--	--	--	--	--	--	138.5
2018	--	--	--	--	--	--	113.2
2019	--	--	--	--	--	--	74.5
2020	--	--	--	--	--	--	48.1
2021	--	--	--	--	--	--	49.6

2022	--	--	--	--	--	--	39.9
2023	--	--	--	--	--	--	39.9
2024	--	--	--	--	--	--	31.3
2025	--	--	--	--	--	--	18.4
2026	--	--	--	--	--	--	7.2
2027	--	--	--	--	--	--	9.5
Subtotal	--	--	--	--	--	--	11331.1

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	--	--	--	--	--	--	0.8
1986	--	--	--	--	--	--	2.3
1987	--	--	--	--	--	--	3.0
1988	--	--	--	--	--	--	--
1989	--	--	--	--	--	--	--
1990	--	--	--	--	--	--	--
1991	--	--	--	--	--	--	--
1992	--	--	--	--	--	--	--
1993	--	--	--	--	--	--	--
1994	--	--	--	--	--	--	--
1995	--	--	--	--	--	--	--
1996	--	--	--	--	--	--	--
1997	--	--	--	--	--	--	--
1998	--	--	--	--	--	--	--
1999	--	--	--	--	--	--	--
2000	--	--	--	--	--	--	--
2001	--	--	--	--	--	--	--
2002	--	--	--	--	--	--	145.5
2003	--	--	--	--	--	--	5.9
2004	--	--	--	--	--	--	52.7
2005	--	--	--	--	--	--	14.2
2006	--	--	--	--	--	--	30.5
2007	--	--	--	--	--	--	12.8
2008	--	--	--	--	--	--	22.0
2009	--	--	--	--	--	--	16.1
2010	--	--	--	--	--	--	15.5
2011	--	--	--	--	--	--	17.7
2012	--	--	--	--	--	--	9.6
2013	--	--	--	--	--	--	19.7
2014	--	--	--	--	--	--	44.9
2015	--	--	--	--	--	--	37.7
2016	--	--	--	--	--	--	27.8
2017	--	--	--	--	--	--	16.7
2018	--	--	--	--	--	--	17.5
2019	--	--	--	--	--	--	16.6
2020	--	--	--	--	--	--	14.7
2021	--	--	--	--	--	--	15.0
2022	--	--	--	--	--	--	15.3
2023	--	--	--	--	--	--	15.6
2024	--	--	--	--	--	--	15.9

2025	--	--	--	--	--	--	16.2
2026	--	--	--	--	--	--	11.0
Subtotal	2	--	--	--	--	--	633.2

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	--	--	--	--	--	--	1.2
1986	--	--	--	--	--	--	3.5
1987	--	--	--	--	--	--	4.3
1988	--	--	--	--	--	--	--
1989	--	--	--	--	--	--	--
1990	--	--	--	--	--	--	--
1991	--	--	--	--	--	--	--
1992	--	--	--	--	--	--	--
1993	--	--	--	--	--	--	--
1994	--	--	--	--	--	--	--
1995	--	--	--	--	--	--	--
1996	--	--	--	--	--	--	--
1997	--	--	--	--	--	--	--
1998	--	--	--	--	--	--	--
1999	--	--	--	--	--	--	--
2000	--	--	--	--	--	--	--
2001	--	--	--	--	--	--	--
2002	--	--	--	--	--	--	153.0
2003	--	--	--	--	--	--	6.1
2004	--	--	--	--	--	--	53.4
2005	--	--	--	--	--	--	14.0
2006	--	--	--	--	--	--	29.2
2007	--	--	--	--	--	--	12.0
2008	--	--	--	--	--	--	20.1
2009	--	--	--	--	--	--	14.5
2010	--	--	--	--	--	--	13.8
2011	--	--	--	--	--	--	15.5
2012	--	--	--	--	--	--	8.3
2013	--	--	--	--	--	--	16.7
2014	--	--	--	--	--	--	37.5
2015	--	--	--	--	--	--	31.2
2016	--	--	--	--	--	--	22.6
2017	--	--	--	--	--	--	13.3
2018	--	--	--	--	--	--	13.7
2019	--	--	--	--	--	--	12.8
2020	--	--	--	--	--	--	11.1
2021	--	--	--	--	--	--	11.1
2022	--	--	--	--	--	--	11.1
2023	--	--	--	--	--	--	11.1
2024	--	--	--	--	--	--	11.1

2025	--	--	--	--	--	--	11.1
2026	--	--	--	--	--	--	7.4
Subtotal	2	--	--	--	--	--	570.7

The FY 2002 Appropriation Act provided funding for two CV-22 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	--	--	36.1	--	36.1
1991	--	8.0	--	--	8.0	--	8.0
1992	--	15.0	--	--	15.0	--	15.0
1993	--	--	--	--	--	--	--
1994	--	14.7	--	--	14.7	--	14.7
1995	--	--	--	--	--	--	--
1996	--	--	--	--	--	--	--
1997	--	--	--	--	--	--	--
1998	--	--	--	--	--	--	--
1999	--	--	--	--	--	--	--
2000	--	33.5	--	--	33.5	--	33.5
2001	--	40.1	--	--	40.1	--	40.1
2002	--	104.1	--	--	104.1	--	104.1
2003	--	32.2	--	--	32.2	--	32.2
2004	--	68.4	--	--	68.4	--	68.4
2005	--	53.1	--	--	53.1	--	53.1
2006	--	23.7	--	--	23.7	--	23.7
2007	--	--	--	--	--	--	--
2008	--	21.9	--	--	21.9	--	21.9
2009	--	30.5	--	--	30.5	--	30.5
2010	--	12.2	--	--	12.2	--	12.2
2011	--	14.0	--	--	14.0	--	14.0
2012	--	10.8	--	--	10.8	--	10.8
2013	--	2.1	--	--	2.1	--	2.1
2014	--	2.8	--	--	2.8	--	2.8
2015	--	0.2	--	--	0.2	--	0.2
2016	--	--	--	--	--	--	--
2017	--	15.6	--	--	15.6	--	15.6
2018	--	14.3	--	--	14.3	--	14.3
2019	--	21.6	--	--	21.6	--	21.6
2020	--	5.0	--	--	5.0	--	5.0
Subtotal	--	579.9	--	--	579.9	--	579.9

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	--	--	46.9	--	46.9
1991	--	10.0	--	--	10.0	--	10.0
1992	--	18.2	--	--	18.2	--	18.2
1993	--	--	--	--	--	--	--
1994	--	17.2	--	--	17.2	--	17.2
1995	--	--	--	--	--	--	--
1996	--	--	--	--	--	--	--
1997	--	--	--	--	--	--	--
1998	--	--	--	--	--	--	--
1999	--	--	--	--	--	--	--
2000	--	36.0	--	--	36.0	--	36.0
2001	--	42.5	--	--	42.5	--	42.5
2002	--	109.3	--	--	109.3	--	109.3
2003	--	33.3	--	--	33.3	--	33.3
2004	--	69.1	--	--	69.1	--	69.1
2005	--	52.1	--	--	52.1	--	52.1
2006	--	22.6	--	--	22.6	--	22.6
2007	--	--	--	--	--	--	--
2008	--	20.0	--	--	20.0	--	20.0
2009	--	27.5	--	--	27.5	--	27.5
2010	--	10.8	--	--	10.8	--	10.8
2011	--	12.2	--	--	12.2	--	12.2
2012	--	9.3	--	--	9.3	--	9.3
2013	--	1.8	--	--	1.8	--	1.8
2014	--	2.3	--	--	2.3	--	2.3
2015	--	0.2	--	--	0.2	--	0.2
2016	--	--	--	--	--	--	--
2017	--	12.4	--	--	12.4	--	12.4
2018	--	11.2	--	--	11.2	--	11.2
2019	--	16.6	--	--	16.6	--	16.6
2020	--	3.8	--	--	3.8	--	3.8
Subtotal	--	585.3	--	--	585.3	--	585.3

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	552.1	--	25.0	577.1	132.3	709.4
1998	7	622.1	--	20.4	642.5	66.2	708.7
1999	7	561.4	--	18.0	579.4	104.1	683.5
2000	11	768.5	--	31.0	799.5	187.8	987.3
2001	9	753.1	--	99.2	852.3	157.9	1010.2
2002	9	660.6	--	21.6	682.2	204.6	886.8
2003	11	844.2	--	109.4	953.6	129.6	1083.2
2004	9	651.9	--	59.9	711.8	167.5	879.3
2005	8	584.4	--	115.8	700.2	321.8	1022.0
2006	12	868.2	--	146.4	1014.6	367.1	1381.7
2007	14	1129.2	--	222.8	1352.0	244.3	1596.3
2008	23	1651.9	--	153.8	1805.7	308.1	2113.8
2009	30	1855.8	--	70.6	1926.4	307.8	2234.2
2010	30	1847.9	--	81.6	1929.5	317.4	2246.9
2011	30	1855.6	--	30.5	1886.1	264.7	2150.8
2012	30	1921.3	--	25.8	1947.1	264.3	2211.4
2013	18	1289.9	--	29.1	1319.0	164.1	1483.1
2014	19	1230.0	--	37.8	1267.8	144.5	1412.3
2015	19	1336.4	--	16.3	1352.7	194.9	1547.6
2016	19	1342.8	--	0.3	1343.1	97.6	1440.7
2017	16	1147.2	--	9.3	1156.5	127.3	1283.8
2018	6	567.6	--	4.0	571.6	92.1	663.7
2019	6	584.6	--	7.8	592.4	138.6	731.0
2020	6	620.1	--	0.5	620.6	43.5	664.1
2021	14	1334.5	--	7.2	1341.7	190.8	1532.5
2022	14	1379.6	--	10.7	1390.3	266.8	1657.1
2023	14	1393.5	--	8.5	1402.0	209.3	1611.3
2024	6	681.2	--	37.1	718.3	204.6	922.9
2025	6	677.2	--	37.7	714.9	144.4	859.3
2026	--	--	--	67.6	67.6	--	67.6
Subtotal	408	30753.9	--	1505.7	32259.6	5795.4	38055.0

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	609.6	--	27.6	637.2	146.1	783.3
1998	7	679.0	--	22.3	701.3	72.3	773.6
1999	7	605.0	--	19.4	624.4	112.2	736.6
2000	11	817.4	--	33.0	850.4	199.7	1050.1
2001	9	791.5	--	104.3	895.8	166.0	1061.8
2002	9	685.6	--	22.4	708.0	212.4	920.4
2003	11	859.1	--	111.3	970.4	131.9	1102.3
2004	9	646.3	--	59.4	705.7	166.1	871.8
2005	8	563.5	--	111.7	675.2	310.3	985.5
2006	12	814.6	--	137.4	952.0	344.4	1296.4
2007	14	1035.3	--	204.3	1239.6	224.0	1463.6
2008	23	1492.2	--	138.9	1631.1	278.3	1909.4
2009	30	1653.4	--	62.9	1716.3	274.2	1990.5
2010	30	1612.6	--	71.2	1683.8	277.0	1960.8
2011	30	1587.8	--	26.1	1613.9	226.5	1840.4
2012	30	1620.8	--	21.8	1642.6	223.0	1865.6
2013	18	1076.6	--	24.3	1100.9	136.9	1237.8
2014	19	1013.4	--	31.1	1044.5	119.1	1163.6
2015	19	1084.8	--	13.2	1098.0	158.2	1256.2
2016	19	1071.4	--	0.2	1071.6	77.9	1149.5
2017	16	898.3	--	7.3	905.6	99.6	1005.2
2018	6	435.9	--	3.1	439.0	70.7	509.7
2019	6	440.1	--	5.9	446.0	104.4	550.4
2020	6	457.7	--	0.4	458.1	32.1	490.2
2021	14	965.7	--	5.2	970.9	138.1	1109.0
2022	14	978.8	--	7.6	986.4	189.2	1175.6
2023	14	969.2	--	5.9	975.1	145.6	1120.7
2024	6	464.5	--	25.3	489.8	139.5	629.3
2025	6	452.7	--	25.2	477.9	96.6	574.5
2026	--	--	--	44.3	44.3	--	44.3
Subtotal	408	26428.6	--	1373.0	27801.6	5172.1	32973.7

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	593.7
1998	7	675.2
1999	7	612.8
2000	11	800.2
2001	9	791.6
2002	9	722.8
2003	11	834.8
2004	9	670.4
2005	8	549.7
2006	12	803.9
2007	14	921.0
2008	23	1488.9
2009	30	1757.0
2010	30	1617.7
2011	30	1593.0
2012	30	1634.5
2013	18	1018.7
2014	19	1087.6
2015	19	1078.8
2016	19	1078.3
2017	16	917.9
2018	6	434.0
2019	6	441.0
2020	6	439.7
2021	14	965.0
2022	14	977.8
2023	14	988.2
2024	6	464.3
2025	6	470.1
2026	--	--
Subtotal	408	26428.6

Annual Funding 3010 | Procurement | Aircraft Procurement, 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
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	360.1	--	16.4	376.5	103.4	479.9
2010	5	314.3	--	18.8	333.1	237.9	571.0
2011	6	388.9	--	15.0	403.9	166.3	570.2
2012	5	332.0	--	4.0	336.0	62.6	398.6
2013	4	255.0	--	0.5	255.5	61.8	317.3
2014	4	258.6	--	3.2	261.8	36.0	297.8
2015	--	--	--	15.0	15.0	3.7	18.7
2016	1	64.3	--	--	64.3	3.0	67.3
2017	--	--	--	--	--	0.9	0.9
2018	--	--	--	--	--	0.2	0.2
Subtotal	51	3355.3	--	161.2	3516.5	1499.3	5015.8

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	--	--	--	--	--	23.6	23.6
2000	--	--	--	20.7	20.7	22.7	43.4
2001	--	--	--	28.0	28.0	23.8	51.8
2002	--	--	--	--	--	--	--
2003	--	10.0	--	--	10.0	81.0	91.0
2004	2	147.1	--	--	147.1	41.9	189.0
2005	3	202.2	--	7.0	209.2	110.1	319.3
2006	2	128.8	--	17.5	146.3	88.8	235.1
2007	3	201.7	--	8.5	210.2	143.4	353.6
2008	10	595.9	--	6.3	602.2	246.2	848.4
2009	6	320.1	--	14.6	334.7	92.0	426.7
2010	5	274.0	--	16.4	290.4	207.4	497.8
2011	6	333.8	--	12.9	346.7	142.7	489.4
2012	5	280.7	--	3.4	284.1	52.9	337.0
2013	4	211.2	--	0.4	211.6	51.2	262.8
2014	4	211.3	--	2.6	213.9	29.5	243.4
2015	--	--	--	12.1	12.1	3.0	15.1
2016	1	50.9	--	--	50.9	2.4	53.3
2017	--	--	--	--	--	0.7	0.7
2018	--	--	--	--	--	0.2	0.2
Subtotal	51	2967.7	--	150.4	3118.1	1363.5	4481.6

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	142.1
2005	3	206.7
2006	2	130.2
2007	3	185.2
2008	10	584.4
2009	6	344.5
2010	5	274.6
2011	6	334.2
2012	5	275.5
2013	4	215.7
2014	4	223.8
2015	--	--
2016	1	50.8
2017	--	--
2018	--	--
Subtotal	51	2967.7

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	--	177.5	--	2.1	179.6	138.7	318.3
2009	--	85.4	--	11.6	97.0	29.8	126.8
2010	--	56.1	--	7.1	63.2	31.7	94.9
2011	--	57.3	--	9.1	66.4	37.2	103.6
2012	--	57.1	--	8.6	65.7	34.0	99.7
2013	--	59.1	--	3.8	62.9	30.3	93.2
2014	--	61.6	--	4.5	66.1	25.9	92.0
2015	--	--	--	--	--	--	--
2016	--	18.0	--	--	18.0	--	18.0
Subtotal	--	828.1	--	48.9	877.0	622.2	1499.2

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	--	104.8	--	--	104.8	73.6	178.4
2008	--	160.9	--	1.9	162.8	125.6	288.4
2009	--	76.4	--	10.4	86.8	26.6	113.4
2010	--	49.3	--	6.2	55.5	27.9	83.4
2011	--	49.6	--	7.9	57.5	32.1	89.6
2012	--	48.6	--	7.3	55.9	28.9	84.8
2013	--	49.7	--	3.2	52.9	25.4	78.3
2014	--	51.1	--	3.7	54.8	21.5	76.3
2015	--	--	--	--	--	--	--
2016	--	14.5	--	--	14.5	--	14.5
Subtotal	--	742.2	--	42.6	784.8	572.7	1357.5

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	--	215.0
2009	--	79.6
2010	--	49.4
2011	--	49.7
2012	--	49.9
2013	--	50.3
2014	--	53.0
2015	--	--
2016	--	14.5
Subtotal	--	742.2

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	6.2
2013	--
2014	--
2015	--
2016	--
2017	12.4
Subtotal	74.4

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	6.2
2011	--
2012	5.2
2013	--
2014	--
2015	--
2016	--
2017	9.6
Subtotal	67.5

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	7.9
2010	11.6
2011	--
2012	--
2013	6.5
Subtotal	41.3

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	7.0
2010	10.0
2011	--
2012	--
2013	5.4
Subtotal	37.6

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	4/25/1997	5/6/2002
Approved Quantity	25	58
Reference	LRIP ADM	Program Restructure ADM
Start Year	1997	1997
End Year	2001	2009

The Current Total LRIP Quantity is more than 10% of the total production quantity due to a program restructure with the May 2002 ADM which authorized additional LRIP aircraft.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost $M	Description
Japan	6/12/2015	5	556.0	FMS Case JA-P-SCH: Procurement of five V-22 aircraft, unique Japan communications equipment, development, and associated logistics support for long lead requirements.
Japan	8/22/2014		1.0	FMS Case JA-P-FXQ: Studies and Analysis of the V-22 Program to refine requirements for future aircraft procurement and conduct site assessments in Japan.
Israel	11/21/2013		1.3	FMS Case IS-P-GOY-A1: Studies and Analysis of the V-22 Program to refine requirements for future aircraft procurement and conduct site assessments in Israel.

Notes

Nuclear Costs

None

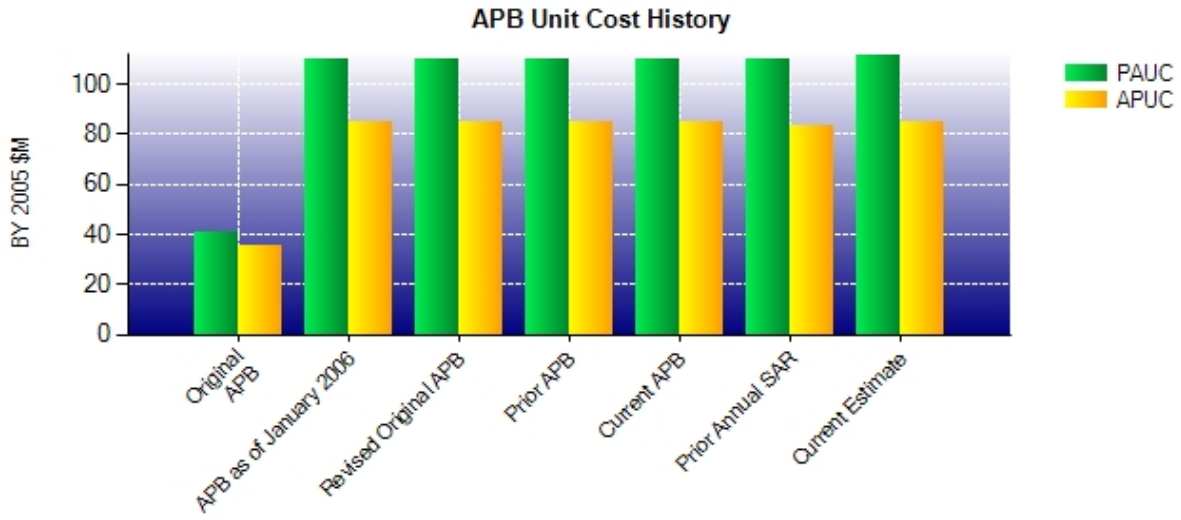
Unit Cost

Unit Cost Report

Item	BY 2005 $M Current UCR Baseline (Oct 2011 APB)	BY 2005 $M Current Estimate (Dec 2015 SAR)	% Change
Program Acquisition Unit Cost			
Cost	50250.4	51405.0	
Quantity	458	461	
Unit Cost	109.717	111.508	+1.63
Average Procurement Unit Cost			
Cost	38562.8	38812.8	
Quantity	456	459	
Unit Cost	84.568	84.559	-0.01

Item	BY 2005 $M Revised Original UCR Baseline (Sep 2005 APB)	BY 2005 $M Current Estimate (Dec 2015 SAR)	% Change
Program Acquisition Unit Cost			
Cost	50250.4	51405.0	
Quantity	458	461	
Unit Cost	109.717	111.508	+1.63
Average Procurement Unit Cost			
Cost	38562.8	38812.8	
Quantity	456	459	
Unit Cost	84.568	84.559	-0.01

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	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 2014	110.059	83.280	119.039	95.207
Current Estimate	Dec 2015	111.508	84.559	121.176	97.102

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	-1.169	-0.280	5.513	1.913	-1.909	0.000	0.834	4.902	121.176

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	-1.174	-0.140	5.537	0.466	-2.941	0.000	0.838	2.586	97.102

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	55862.3
Total Quantity	609	919	458	461
PAUC	40.176	32.277	116.274	121.176

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	+6.7	-417.8	-0.1	-411.2
Quantity	--	+145.5	--	+145.5
Schedule	--	+2222.1	--	+2222.1
Engineering	+639.2	+213.4	--	+852.6
Estimating	+508.3	-1551.7	-155.0	-1198.4
Other	--	--	--	--
Support	--	-106.0	--	-106.0
Subtotal	+1154.2	+505.5	-155.1	+1504.6
Current Changes				
Economic	-6.6	-121.1	-0.1	-127.8
Quantity	--	+74.0	--	+74.0
Schedule	--	+319.6	--	+319.6
Engineering	+29.0	+0.4	--	+29.4
Estimating	+108.3	+201.7	+8.5	+318.5
Other	--	--	--	--
Support	--	+490.6	--	+490.6
Subtotal	+130.7	+965.2	+8.4	+1104.3
Total Changes	+1284.9	+1470.7	-146.7	+2608.9
CE - Cost Variance	11176.6	44570.0	115.7	55862.3
CE - Cost & Funding	11176.6	44570.0	115.7	55862.3

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	--	+118.6	--	+118.6
Schedule	--	+1141.3	--	+1141.3
Engineering	+481.0	+157.3	--	+638.3
Estimating	+458.8	-1686.2	-142.6	-1370.0
Other	--	--	--	--
Support	--	-151.4	--	-151.4
Subtotal	+939.8	-420.4	-142.6	+376.8
Current Changes				
Economic	--	--	--	--
Quantity	--	+58.6	--	+58.6
Schedule	--	+143.7	--	+143.7
Engineering	+22.8	+0.3	--	+23.1
Estimating	+78.0	+141.6	+6.6	+226.2
Other	--	--	--	--
Support	--	+326.2	--	+326.2
Subtotal	+100.8	+670.4	+6.6	+777.8
Total Changes	+1040.6	+250.0	-136.0	+1154.6
CE - Cost Variance	12487.1	38812.8	105.1	51405.0
CE - Cost & Funding	12487.1	38812.8	105.1	51405.0

Previous Estimate: December 2014

RDT&E	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-6.6
Addition of V-22 Electrical System Re-Design (Navy). (Engineering)	+7.2	+9.2
Addition of V-22 RBA recovery (Navy). (Engineering)	+15.6	+19.8
Revised estimate for V-22 Aerial Refueling System development (Navy). (Estimating)	+15.7	+19.8
Revised estimate for MV-22 Digital Interoperability (Navy). (Estimating)	+34.4	+45.0
Revised estimate for Follow-On Test and Evaluation (FOT&E) (Navy). (Estimating)	+3.6	+6.3
Revised estimate for FOT&E (Air Force). (Estimating)	+3.4	+4.5
Revised estimate for Silent Night Radar (DoD). (Estimating)	+15.6	+19.8
Revised estimate for Digital Interoperability (Air Force). (Estimating)	+29.6	+43.1
Revised estimate to reflect actuals (Navy). (Estimating)	-16.5	-20.4
Revised estimate to reflect actuals (Air Force). (Estimating)	-9.4	-11.5
Adjustment for current and prior escalation. (Estimating)	+1.6	+1.7
RDT&E Subtotal	+100.8	+130.7

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-121.1
Total Quantity variance resulting from an increase of one aircraft from 50 to 51 (Air Force). (Subtotal)	+61.1	+77.2
Quantity variance resulting from an increase of one aircraft from 50 to 51 (Air Force). (Quantity)	(+58.6)	(+74.0)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(+3.4)	(+4.3)
Allocation to Engineering resulting from Quantity change. (Engineering) (QR)	(+0.3)	(+0.4)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-1.2)	(-1.5)
Stretch-out of procurement buy profile from FY 2017-FY 2023 to FY 2017-FY 2025 (Navy). (Schedule)	0.0	+99.9
Additional schedule variance due to the procurement buy profile from FY 2017-FY 2023 to FY 2017-FY 2025 (Navy). (Schedule)	+140.3	+215.4
Revised estimate to reflect Multi-Year Procurement II contract prices (Navy). (Estimating)	+17.3	+21.4
Increase due to FY 2018 Single-Year Procurement vice Multi-Year Procurement assumption (Navy). (Estimating)	+37.8	+49.2
Revised estimate for the C/MV-22 Navy variant unique items (Navy). (Estimating)	+0.4	+5.2
Increase attributed to Government Furnished Equipment, Engine, Ancillary, and Non-Recurring cost estimate updates (Navy). (Estimating)	+60.8	+87.8
Adjustment for Annual Advanced Procurement due to estimating changes (Navy). (Estimating)	-6.4	-1.0
Additional variance resulting from an increase of one aircraft (Air Force). (Estimating)	-10.2	-12.9
Additional variance resulting from an increase of one aircraft (DoD). (Estimating)	+14.5	+18.0
Revised estimate to reflect actuals (Air Force). (Estimating)	-3.2	-3.8
Adjustment for current and prior escalation. (Estimating)	+31.8	+39.3
Adjustment for current and prior escalation. (Support)	+4.6	+5.1
Increase in Other Support due to revised estimate of Support Equipment, Peculiar Training	+95.5	+156.3

Equipment, Technical Publications, Production Engineering Support, and Other Integrated Logistics Support (Navy). (Support)		
Increase in Other Support due to revised estimate of Production Engineering Support for an increase of one aircraft (Air Force). (Support)	+0.2	+0.3
Increase in Other Support to reflect actuals (DoD). (Support)	0.0	+0.1
Increase in Initial Spares due to revised spares requirement based on current projections for C/MV-22 Navy variant (Navy). (Support)	+225.3	+328.2
Increase in Initial Spares to reflect actuals and to update remaining Spares requirements based on current projections (Air Force). (Support)	+0.6	+0.7
Decrease in Initial Spares to reflect actuals (DoD). (Support)	0.0	-0.1
Procurement Subtotal	+670.4	+965.2

(QR) Quantity Related

MILCON	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-0.1
Revised estimate for LHD Pad Conversion and MV-22 LZ Improvements (Navy). (Estimating)	+6.5	+8.4
Adjustment for current and prior escalation. (Estimating)	+0.1	+0.1
MILCON Subtotal	+6.6	+8.4

Contracts

Contract Identification

Appropriation: Procurement
Contract Name: V22 MYP2 Year 1 (FY13 Lot 17)
Contractor: Bell-Boeing JPO
Contractor Location: 401 Tiltrotor Drive
Amarillo, TX 79111
Contract Number: N00019-12-C-2001/1
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: December 29, 2011
Definitization Date: June 12, 2013

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
81.9	N/A	21	1411.3	1485.6	22	1174.0	1178.7

Target Price Change Explanation

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, as well as additional required Engineering Change Proposals.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2015)	+9.4	-8.6
Previous Cumulative Variances	-1.5	-67.4
Net Change	+10.9	+58.8

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to favorable material costs and efficiencies on the production line.

The favorable net change in the schedule variance is due to production line schedule recovery.

Notes

The quantity increase is due to a Congressional add for combat-loss replacement aircraft.

Contract N0001912C2001 was initially awarded on December 29, 2012 with Lot 17 Advance Procurement Long Lead Items. Lot 17 aircraft were added and the Multi-Year Procurement was definitized with a modification to this contract on June 12, 2013.

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

Contract Identification

Appropriation: Procurement

Contract Name: V22 MYP2 Year 2 (FY14 Lot 18)

Contractor: Bell-Boeing JPO

Contractor Location: 401 Tiltrotor Drive
Amarillo, TX 79111

Contract Number: N00019-12-C-2001/2

Contract Type: Fixed Price Incentive(Firm Target) (FPIF)

Award Date: December 17, 2013

Definitization Date: December 17, 2013

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1000.6	N/A	22	1474.6	1552.2	23	1255.4	1240.5

Target Price Change Explanation

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, as well as additional required Engineering Change Proposals.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2015)	-20.6	-82.9
Previous Cumulative Variances	-2.2	-27.3
Net Change	-18.4	-55.6

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to higher material cost associated with two work breakdown structure elements.

The unfavorable net change in the schedule variance is due to inventory being awarded but not issued to the production line because operations behind schedule.

Notes

CV-22 Option 0107 was exercised, adding one more aircraft to Lot 18.

Contract Identification

Appropriation: Procurement

Contract Name: V-22 AE 1107C Turboshaft Engine

Contractor: Rolls Royce

Contractor Location: 2355 S. Tibbs Avenue
Indianapolis, IN 46206-0420

Contract Number: N00019-12-C-0007

Contract Type: Firm Fixed Price (FFP)

Award Date: March 30, 2012

Definitization Date: March 30, 2012

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
150.9	N/A	70	404.5	N/A	182	404.5	404.5

Target Price Change Explanation

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 three options.

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 FY 2012 through FY 2016 requirements for the MV-22 and CV-22 weapons systems. To date, the base year (FY 2012) was awarded and the first three options (FY 2013, FY 2014, and FY 2015) have been exercised. This contract is a Commercial Federal Acquisition Regulation Part 12 contract.

Contract Identification

Appropriation: Acq O&M
Contract Name: JPBL 1 Year 7
Contractor: Bell-Boeing JPO
Contractor Location: 401 Tilt Rotor Drive
Amarillo, TX 79111
Contract Number: N00019-09-D-0008/882
Contract Type: Cost Plus Incentive Fee (CPIF)
Award Date: November 20, 2014
Definitization Date: November 20, 2014

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
119.0	N/A	N/A	119.0	N/A	N/A	100.7	105.6

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/7/2016)	+3.5	-0.1
Previous Cumulative Variances	--	--
Net Change	+3.5	-0.1

Cost and Schedule Variance Explanations

The favorable cumulative cost variance is due to actual logistics support requirements under predicted estimates resulting in a potential underrun.

The unfavorable cumulative schedule variance is due to a slight delay in completion of tasking.

Notes

This is the first time this contract is being reported.

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

Contract Identification

Appropriation: Acq O&M
Contract Name: JPBL ll
Contractor: Bell-Boeing
Contractor Location: 404 Tilt Rotor Drive
Amarillo, TX 79111
Contract Number: N00019-09-D-0008/6
Contract Type: Cost Plus Fixed Fee (CPFF)
Award Date: October 04, 2012
Definitization Date: October 04, 2012

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
193.3	N/A	N/A	291.0	N/A	N/A	421.0	257.6

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to a contract modification to fund a cost overrun caused by increased Fleet demand for parts and blade repairs.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/7/2016)	-46.8	+28.8
Previous Cumulative Variances	--	--
Net Change	-46.8	+28.8

Cost and Schedule Variance Explanations

The unfavorable cumulative cost variance is due to the fact that Fleet demand for parts and blade repairs have been higher than the baseline plan.

The favorable cumulative schedule variance is due to completion of required tasking sooner than planned.

Notes

This is the first time this contract is being reported.

Contract Identification

Appropriation: Procurement

Contract Name: V-22 MYP2 Year 3 (FY15 Lot 19)

Contractor: Bell-Boeing JPO

Contractor Location: 401Tilt Rotor Drive
Amarillo, TX 79111

Contract Number: N00019-12-C-2001/19

Contract Type: Fixed Price Incentive(Firm Target) (FPIF)

Award Date: December 22, 2014

Definitization Date: December 22, 2014

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1220.8	1285.1	19	1222.2	1286.5	19	1018.8	1072.1

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to contract modifications to incorporate required Engineering Change Proposals.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/7/2016)	+0.9	-26.5
Previous Cumulative Variances	--	--
Net Change	+0.9	-26.5

Cost and Schedule Variance Explanations

The favorable cumulative cost variance is due to lower material costs than planned.

The unfavorable cumulative schedule variance is due to inventory being available but not issued to the production line because of operations behind schedule.

Notes

This is the first time this contract is being reported.

Deliveries and Expenditures

Deliveries				
Delivered to Date	**Planned to Date**	**Actual to Date**	**Total Quantity**	**Percent Delivered**
Development	2	2	2	100.00%
Production	329	329	459	71.68%
Total Program Quantity Delivered	331	331	461	71.80%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	55862.3	Years Appropriated	35
Expended to Date	39962.1	Percent Years Appropriated	76.09%
Percent Expended	71.54%	Appropriated to Date	44885.8
Total Funding Years	46	Percent Appropriated	80.35%

The above data is current as of February 26, 2016.

Operating and Support Cost

Cost Estimate Details

Date of Estimate: January 12, 2016
Source of Estimate: POE
Quantity to Sustain: 452
Unit of Measure: Aircraft
Service Life per Unit: 25.00 Years
Fiscal Years in Service: FY 2001 - FY 2054

The O&S cost estimate does not include the 2 developmental aircraft, 4 HX-21 aircraft, and 2 test aircraft. The estimate also does not include the plus-up aircraft added in the FY 2017 PB.

	MV-22	Navy MV-22	CV-22
Aircraft Service Life (hrs)	10,000	10,000	10,000
Aircraft Attrition Rate	0.6%	1.0%	0.6%
Aircraft Pipeline Rate	13.3%	10.0%	8%
Total Aircraft Inventory (TAI)	360	48	50
Primary Authorized Aircraft (PAA)	276	36	50
Flight Hour per Month	35	35	36
Flight Hours per Year	420	420	432
Total Aircraft Operating Years	7,744	948	1,082

Sustainment Strategy

The V-22 Program Office is executing a Joint Sustainment Strategy that provides the product support elements for the Marine Corps MV-22, Air Force CV-22 fleets and Navy CMV-22. The sustainment strategy addresses all three levels of maintenance (Organizational, Intermediate and Depot). The cornerstones of the Joint Sustainment Strategy are the Performance Based Agreements (PBA) between the Program Office and the war fighters. The PBAs clearly define the war fighter's product support requirements to be achieved through the execution of the V-22 Joint Sustainment Strategy. The Joint Sustainment Strategy is executed via a myriad of processes and organizations to include DoD organic activities and commercial contractors. Multiple Performance Based Logistics contracts are used to support the V-22 Program.

Antecedent Information

The V-22s antecedent aircraft are the CH-46E Sea Knight, CH-53D Sea Stallion, MH-53J/M Pave Low, and the C-2A Greyhound aircraft.

The CH-46E Sea Knight's O&S costs were used as the basis for the V-22 antecedent aircraft costs. The largest number of V-22s being procured (360 MV-22s) are being used to replace the CH-46E aircraft. The antecedent cost is based on the CH-46E's 3-year average (1999-2001) O&S cost data extracted from Visibility and Management of Operating and Support Costs (VAMOSC) database for the 229 aircraft reported on during that time. Since VAMOSC does not capture Indirect Support costs, the CH-46E Indirect Support cost is calculated by multiplying the CH-46E Unit-Level Manpower by the ratio of V-22 Indirect Support to V-22 Unit-Level Manpower. The data was normalized to BY05$M.

Annual O&S Costs BY2005 $M		
Cost Element	**V-22 Average Annual Cost Per Aircraft**	**CH-46E (Antecedent) Average Annual Cost Per Aircraft**
Unit-Level Manpower	1.448	0.449
Unit Operations	0.298	0.058
Maintenance	4.488	1.227
Sustaining Support	0.533	0.038
Continuing System Improvements	0.655	0.182
Indirect Support	0.764	0.220
Other	--	--
Total	8.186	2.174

Item	Total O&S Cost $M			
	V-22			CH-46E (Antecedent)
	Current Production APB Objective/Threshold		Current Estimate	
Base Year	75022.5	82524.8	80032.1	20782.3
Then Year	121543.7	N/A	125049.3	N/A

Disposal Cost is included in the Operating and Support Cost of the current APB objective and threshold for this program.

Equation to Translate Annual Cost to Total Cost

Average Annual O&S Cost per Aircraft = Total O&S Cost / (MV-22 USMC operating years + MV-22 Navy operating years + CV-22 operating years)

O&S Cost Variance		
Category	**BY 2005 $M**	**Change Explanations**
Prior SAR Total O&S Estimates - Dec 2014 SAR	72098.9	

Programmatic/Planning Factors	2305.8	PB17 Flight Hours, updated CMV-22 delivery schedule, updated CMV-22 squadron standup, additional MV-22 squadrons, manpower estimate update, attrition rate change.
Cost Estimating Methodology	0.0	
Cost Data Update	6137.6	Updated reliabilities of Aviation Depot Level Repairables and Aviation Fleet Maintenance parts, FY 2016 pricing (24% APC), updated actuals, FY 2015 fuel consumption, indirect rates update.
Labor Rate	-387.9	FY 2016 Labor Rates
Energy Rate	-122.3	Fuel rate decrease
Technical Input	0.0	
Other	0.0	
Total Changes	7933.2	
Current Estimate	80032.1	

Disposal Estimate Details

Date of Estimate: January 12, 2016

Source of Estimate: POE

Disposal/Demilitarization Total Cost (BY 2005 $M): Total costs for disposal of all Aircraft are 98.4