Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*				R-1 ITEM NOMENCLATURE PE 0604262N: *V-22A*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	42.686	84.477	54.412	-	54.412	40.279	54.856	51.134	52.224	111.055	491.123
1425: *V-22*	42.686	84.477	54.412	-	54.412	40.279	54.856	51.134	52.224	111.055	491.123

A. Mission Description and Budget Item Justification

The V-22 Osprey is an Acquisition Category ID Joint Program led by the Department of the Navy for the purpose of developing, testing, evaluating, procuring and fielding a tilt rotor, vertical takeoff and landing aircraft for Joint Service application. The V-22 program is designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the utility/rescue needs of the Navy, and the special operations needs of the Air Force and the United States Special Operations Command (USSOCOM). The V-22 is replacing the CH-46E and CH53A/D in the Marine Corps with the MV-22; will supplement the H-60 in the Navy with the HV-22; and replace the MH-53J and MH-53M as well as augment the C-130 in the Air Force and USSOCOM with the CV-22. The V-22 is capable of flying over 2100 nautical miles with a single refueling, giving the services the advantage of a Vertical/Short Take-off and Landing aircraft that can rapidly self-deploy to any location in the world. This program is funded under Engineering Manufacturing and Development for correction of deficiencies and includes Block A and Block B upgrades which encompassed engineering and manufacturing development of new end-items prior to the production incorporation decision. Block C suitability and effectiveness development upgrades continue through FY12. Funding in FY11 addressed Capability Development Document interoperability requirements through a spiral upgrade acquisition strategy. These funds were the first spiral providing Key Enabling Department of Defense mandated open systems architecture upgrades for the mission computer hardware and software while simultaneously addressing required interoperability common avionics upgrades and current avionics obsolescence issues. Development efforts include Block C Upgrade, Mission System Upgrade, Mid-Wing Process Unit, ARC 210 Generation 5 Radio, Mission Computer Obsolescence Initiative, Ramp Mounted Weapon System, AAR-47 Hostile Fire Indicator, and Blue Force Tracker/Netted Weather. FY12-13 funds initiates instrumentation of a test aircraft.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy					DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*		R-1 ITEM NOMENCLATURE PE 0604262N: *V-22A*			
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	46.070	84.477	64.982	-	64.982
Current President's Budget	42.686	84.477	54.412	-	54.412
Total Adjustments	-3.384	-	-10.570	-	-10.570
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.102	-			
• SBIR/STTR Transfer	-1.411	-			
• Program Adjustments	-	-	-10.810	-	-10.810
• Rate/Misc Adjustments	-	-	0.240	-	0.240
• Congressional General Reductions Adjustments	-0.226	-	-	-	-
• Congressional Directed Reductions Adjustments	-1.645	-	-	-	-

Change Summary Explanation

Technical: Not applicable

Schedule: Not applicable

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604262N: *V-22A*	PROJECT 1425: *V-22*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1425: *V-22*	42.686	84.477	54.412	-	54.412	40.279	54.856	51.134	52.224	111.055	491.123
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The V-22 Osprey is an Acquisition Category ID Joint Program led by the Department of the Navy for the purpose of developing, testing, evaluating, procuring and fielding a tilt rotor, vertical takeoff and landing aircraft for Joint Service application. The V-22 program is designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the utility/rescue needs of the Navy, and the special operations needs of the Air Force and the United States Special Operations Command (USSOCOM). The V-22 is replacing the CH-46E and CH53A/D in the Marine Corps with the MV-22; will supplement the H-60 in the Navy with the HV-22; and replace the MH-53J and MH-53M as well as augment the C-130 in the Air Force and USSOCOM with the CV-22. The V-22 is capable of flying over 2100 nautical miles with a single refueling, giving the services the advantage of a Vertical/Short Take-off and Landing aircraft that can rapidly self-deploy to any location in the world. This program is funded under Engineering Manufacturing and Development for correction of deficiencies and includes Block A and Block B upgrades which encompassed engineering and manufacturing development of new end-items prior to the production incorporation decision. Block C suitability and effectiveness development upgrades continue through FY12. Funding in FY11 addressed Capability Development Document interoperability requirements through a spiral upgrade acquisition strategy. These funds were the first spiral providing Key Enabling Department of Defense mandated open systems architecture upgrades for the mission computer hardware and software while simultaneously addressing required interoperability common avionics upgrades and current avionics obsolescence issues. Development efforts include Block C Upgrade, Mission System Upgrade and Obsolescence Initiative, Ramp Mounted Weapon System, Blue Force Tracker/Netted Weather, Mid-Wing Process Unit and ARC 210 Generation 5 Radio. FY12-13 funds initiates instrumentation of a test aircraft.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Continued development of V-22	27.585	66.939	36.341
Articles:	0	0	0
FY 2011 Accomplishments: Performed development efforts for interoperability including Mission System Upgrade to Advanced Mission Computer with a common Integrated Core Avoinics Processor and the ARC-210 Generation 5 Radio. Integrated joint/common avionics, including Joint and Allied Threat Awareness System/APR-39. These development efforts address V-22 Net-Ready Key Performance Parameters and CDD interoperability requirements while simultaneously addressing current avionics obsolescence issues.			
FY 2012 Plans: Continue development efforts as described above in FY11. Continue MV-22 development efforts by Bell-Boeing. Rolls-Royce will continue to provide engine support and development of MV-22 flight testing. Continue MV-22 software development/ sustainment efforts. Continue development in support of MV-22 Block upgrades. Continue engineering, logistics, flight test, flight			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604262N: *V-22A*	PROJECT 1425: *V-22*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
test support and address correction of deficiencies. Continue contracted development efforts on test aircraft. Initiate funding for instrumentation of test aircraft. ***FY 2013 Plans:*** Continue development efforts as described above in FY12. Continue MV-22 development efforts by Bell-Boeing. Rolls-Royce will continue to provide engine support and development of MV-22 flight testing. Continue MV-22 software development efforts. Continue development in support of MV-22 Block upgrades. Continue engineering, logistics, flight test, flight test support and address correction of deficiencies. Continue contracted development efforts on test aircraft. Continue instrumentation of test aircraft.			
Title: Continued support of V-22 development, test and evaluation program	15.101	17.538	18.071
Articles:	0	0	0
FY 2011 Accomplishments: Performed in-house field activity support of Integrated Test Team, Integrated Product Teams, engineering and logistics. Continued development in support of MV-22 Block Upgrades. Provided field development efforts on test aircraft. Provided Research & Development support in areas of Reliability and Maintainability data analysis, loads and dynamics, electromagnetic environmental effects, V-22 avionics, facilities management, structures, communications, etc. Provided engineering, logistics, flight test, flight test support, envelope expansion testing and correction of deficiencies as required in support of the Flight Test Program, Block C (weather radar, improved environmental control system, cabin situational awareness device, forward firing chaff/ flare dispenser) and the overall V-22 development program. Initiated testing of improved inlet and scroll prototype to improve engine time on wing. In addition, provided R&D support and planning for the Defensive Weapon System development.			
FY 2012 Plans: Continue in-house field activity support of Integrated Test Team, Integrated Product Teams, engineering and logistics. Continue development in support of MV-22 Block Upgrades. Continue field development efforts on test aircraft. Provide Research & Development support in areas of Reliability and Maintainability data analysis, loads and dynamics, electromagnetic environmental effects, V-22 avionics, facilities management, structures, communications, etc. Provide engineering, logistics, flight test, flight test support, envelope expansion testing and correction of deficiencies as required in support of the Flight Test Program, Block C, Defensive Weapon System, and the overall V-22 development program. Initiate support of instrumentation of test aircraft. Conduct aero-performance rebaseline, Time on Wing and Mission Computer Obsolescence Initative Testing. Expanded shipboard launch and recovery envelopes with additional dynamic interface testing. Conduct KPP sustainment testing of proprotor improvements and nacelle sail design.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604262N: *V-22A*	PROJECT 1425: *V-22*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Provide continued support as described above in FY12. Continue support of instrumentation of test aircraft. Test B 5.01 software suite. Conduct Joint and Allied Threat Awareness System testing. Conduct Aircraft Mission Maneuvering Envelope Expansion and Velocity Not to Exceed Expansion testing.			
Accomplishments/Planned Programs Subtotals	42.686	84.477	54.412

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APN 0164: *V-22*	2,190.918	2,265.885	1,457.322	0.000	1,457.322	1,494.431	1,583.609	1,516.343	1,494.883	6,240.142	35,340.232
• APN 0590: *V-22 Series*	69.530	81.264	95.856	0.000	95.856	160.880	152.400	138.247	160.192	338.900	1,731.763
• APN 0605: *V-22 Inital Spares*	0.000	8.362	15.985	0.000	15.985	20.762	17.641	5.002	0.000	Continuing	Continuing
• RDTE 0401318F : *CV-22 USAF*	17.648	13.223	28.027	0.000	28.027	25.438	21.223	14.656	14.484	Continuing	Continuing
• RDTE 1160421BB: *CV-22 SOCOM*	13.976	10.775	1.800	0.000	1.800	0.900	0.180	0.000	0.000	0.000	509.598

D. Acquisition Strategy

The MV-22 is a post Milestone III ACAT-ID program. As a result of mishaps during and subsequent to MV-22 Operational Evaluation (Apr and Dec 00), the program was restructured employing a phased approach to return to flight and tactical introduction. The Contractor and Government defined deficient areas within the program/ aircraft requiring correction prior to return to flight. A Block Upgrade approach was planned, with required efforts identified in Block "A", "B", and "C". Block "A" included those efforts necessary to return the V-22 to safe and operational fleet operations. Block "B" included those efforts necessary to improve the effectiveness and suitability of the aircraft. Block "C" includes mission enhancements like weather radar, cabin effectiveness suitability improvements, i.e., Environmental Control System, and Forward Firing ALE-47. Non-recurring development activities are to be initiated and completed for all efforts identified in Block "A", "B", and "C". The Contractor will develop specific Statements of Work and Preliminary Specification Change Notices required to integrate the Block Upgrade efforts into the baseline Program. A Systems Requirements Review, Initial Design Review, and Final Design Review was held for each of the Block efforts so the design maturity could be reviewed and the Government could redirect activities as appropriate. The CV-22 Engineering Manufacturing and Development program is also structured in Blocks to define an evolutionary approach to achieving full operational capability. Block "0" is the initial baseline CV-22 variant. Block "10" enhances mission capability with the addition of terrain following radar, additional fuel tanks, additional radios, and Block "20" includes capabilities such as radio frequency and infrared countermeasures improvements. Additional Blocks are in the planning stages to continue the growth process throughout the operational life of the weapon system.

E. Performance Metrics

Milestone Reviews.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604262N: *V-22A*	PROJECT 1425: *V-22*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MV-22 Hardware Dev Airframe	SS/CPAF	Boeing Co.:Ridley Park, PA	3,830.843	65.043	Jan 2012	35.534	Jan 2013	-		35.534	170.175	4,101.595	4,101.595
MV-22 Hardware Dev Propulsion	SS/CPIF	Rolls-Royce Corp.:Indianapolis, IN	197.875	0.797	Jan 2012	0.807	Jan 2013	-		0.807	0.800	200.279	200.279
MV-22 Award Fee (BLK C)	SS/CPAF	Boeing Co.:Ridley Park, PA	212.550	1.100	Sep 2012	-	Sep 2013	-		-	0.000	213.650	213.650
Prior Year Prod Dev	Various	Various:Various	1,016.085	-		-		-		-	0.000	1,016.085	
		Subtotal	5,257.353	66.940		36.341		-		36.341	170.975	5,531.609	

Remarks

Contract type in FY13 for Instrumented A/C is FPIF

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MV-22 Govt Engineering Sppt	WR	NAWCAD:Pax River, MD	1,099.706	1.611	Dec 2011	1.627	Nov 2012	-		1.627	28.818	1,131.762	
Prior Year Support	Various	Various:Various	189.718	-		-		-		-	0.000	189.718	
		Subtotal	1,289.424	1.611		1.627		-		1.627	28.818	1,321.480	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MV-22 Dev Test & Evaluation	WR	NAWCAD:Pax River, MD	988.803	8.663	Dec 2011	8.722	Nov 2012	-		8.722	52.426	1,058.614	
MV-22 Operational Test & Evaluation	WR	OT&E Force:Norfolk, VA	41.914	4.449	Dec 2011	4.310	Dec 2012	-		4.310	23.054	73.727	
Prior Year T & E	Various	Various:Various	48.200	-		-		-		-	0.000	48.200	
		Subtotal	1,078.917	13.112		13.032		-		13.032	75.480	1,180.541	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604262N: *V-22A*	PROJECT 1425: *V-22*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MV-22 Engineering Tech Sppt	Various	Various:Various	1,045.448	0.776	Nov 2011	0.538	Nov 2012	-		0.538	7.937	1,054.699	
MV-22 Management Sppt Svc	Various	Various:Various	154.325	0.340	Nov 2011	0.553	Nov 2012	-		0.553	6.280	161.498	
MV-22 Program Mgmt Support	WR	NAWCAD:Pax River, MD	55.571	1.217	Nov 2011	1.855	Nov 2012	-		1.855	11.936	70.579	
MV-22 Travel	WR	NAWCAD:Pax River, MD	15.373	0.481	Jan 2012	0.466	Jan 2013	-		0.466	4.905	21.225	
Prior Year Mgmt	Various	Various:Various	41.087	-		-		-		-	0.000	41.087	
		Subtotal	1,311.804	2.814		3.412		-		3.412	31.058	1,349.088	

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	8,937.498	84.477		54.412		-		54.412	306.331	9,382.718	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604262N: *V-22A*	PROJECT 1425: *V-22*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604262N: *V-22A*	**PROJECT** 1425: *V-22*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
V-22				
Engineering Milestones: Block C Increments I & II: Block C Increment (Inc) I&II Functional Configuration Audit (FCA)	1	2011	1	2011
Engineering Milestones: Block C Increments I & II: Block C Inc I&II Physical Configuration Audit (PCA)	2	2011	2	2011
Engineering Milestones: Block C Increment III: Block C Inc III FCA	3	2011	3	2011
Engineering Milestones: Block C Increment III: Block C Inc III PCA	2	2012	2	2012
Test & Evaluation: Development Test: Development Flight Test / Integrated Test (IT-IIID) & Continuous software sustainment developmental testing	1	2011	4	2017
Test & Evaluation: Operational Evaluation: Operational Testing (OT-IIIG)	3	2011	3	2011
Test & Evaluation: Operational Evaluation: Operational Testing (OT-IIIH)	3	2012	3	2012
Test & Evaluation: Operational Evaluation: Software Sustainment Operational Testing (SSOT-I)	3	2013	3	2013
Test & Evaluation: Operational Evaluation: Software Sustainment Operational Testing (SSOT-II)	3	2015	3	2015
Test & Evaluation: Operational Evaluation: Software Sustainment Operational Testing (SSOT III)	3	2017	3	2017
Test & Evaluation: Operational Evaluation: Operational Test Readiness Review (OTRR) I	2	2011	2	2011
Test & Evaluation: Operational Evaluation: Operational Test Readiness Review (OTRR) II	2	2012	2	2012
Production Milestones: Deliveries: Instrumented Test Aircraft Delivery	3	2014	3	2014