Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy										DATE: February 2011	
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 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	78.866	46.070	84.477	-	84.477	64.982	36.685	51.603	53.043	Continuing	Continuing
1425: *V-22*	78.866	46.070	84.477	-	84.477	64.982	36.685	51.603	53.043	Continuing	Continuing

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 strike 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 began in FY06 and continue through FY12. Overseas Contingency Operations (OCO) funding provided in FY10 was for the development of the Main Landing Gear Bay Fire Suppression system. Funding in FY11 addressed Capability Development Document (CDD) 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, and ARC 210 Generation 5 Radio. FY12 funding initiates instrumentation of a test aircraft.

Basis for FY2010 OCO Supplemental Budget Request: $1,645K was for increased fuel costs.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy	DATE: February 2011
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	76.693	46.070	42.849	-	42.849
Current President's Budget	78.866	46.070	84.477	-	84.477
Total Adjustments	2.173	-	41.628	-	41.628
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	3.132	-			
• SBIR/STTR Transfer	-2.426	-			
• Program Adjustments	1.645	-	42.177	-	42.177
• Section 219 Reprogramming	-0.176	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.549	-	-0.549
• Congressional General Reductions Adjustments	-0.002	-	-	-	-

Change Summary Explanation

Technical: Not applicable

Schedule: Added Operational Test Readiness Review (OTRR) events to sync with Program Office master test schedules.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
1425: *V-22*	78.866	46.070	84.477	-	84.477	64.982	36.685	51.603	53.043	Continuing	Continuing
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 strike 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 began in FY06 and continue through FY12. Overseas Contingency Operations (OCO) funding provided in FY10 was for the development of the Main Landing Gear Bay Fire Suppression system. Funding in FY11 addressed Capability Development Document (CDD) 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, and ARC 210 Generation 5 Radio. FY12 funding initiates instrumentation of a test aircraft.

Basis for FY2010 OCO Supplemental Budget Request: $1,645K was for increased fuel costs.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Continued development of V-22	70.781	42.326	66.939	-	66.939
Articles:	0	0	0		0
FY 2010 Accomplishments: Performed development efforts for interoperability, including Mid-Wing Process Unit (MPU), Mission System Upgrade to Advanced Mission Computer with a common Integrated Core Avionics Processor (ICAP) and the ARC-210 Generation 5 Radio. These development efforts address V-22 Net-Ready Key Performance Parameters (KPP) and CDD interoperability requirements while simultaneously addressing current avionics					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
obsolescence issues. OCO funding was for the development of the Main Landing Gear Bay Fire Suppression system. ***FY 2011 Plans:*** Continued development efforts for the provided interoperability funding including MPU, Mission System Upgrade to Advanced Mission Computer with a common ICAP and the ARC-210 Generation 5 Radio. These development efforts address V-22 Net-Ready KPP and CDD interoperability requirements while simultaneously addressing current avionics obsolescence issues. ***FY 2012 Base 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 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. Initiate funding for instrumentation of test aircraft.					
Title: Continued support of V-22 development, test and evaluation program	8.085	3.744	17.538	-	17.538
Articles:	0	0	0		0
FY 2010 Accomplishments: Continued in-house field activity support of Integrated Test Team, Integrated Product Teams, engineering and logistics. Continued development in support of MV-22 Block Upgrades. Continued field development efforts on test aircraft. Provided Research & Development support in the areas of Reliability and Maintainability data analysis, loads and dynamics, electromagnetic environmental effects, V-22 avionics, facilities management, structures, communications, etc. Continued engineering, logistics, flight test, flight test support, and addressed correction of deficiencies as required in support of the Flight Test Program, Block C and the overall V-22 development program. In addition, provided R&D support and planning for the Defensive Weapon System development. ***FY 2011 Plans:*** Provide continued support as described above in FY10. ***FY 2012 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Provide continued support as described above in FY10 and FY11. Initiate funding for instrumentation of test aircraft.					
Accomplishments/Planned Programs Subtotals	78.866	46.070	84.477	-	84.477

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• APN 0164: *V-22*	2,284.902	2,202.911	2,308.825	0.000	2,308.825	1,883.851	1,832.993	1,877.147	1,815.614	6,615.218	35,633.258
• APN 0590: *V-22 Series*	94.223	58.405	60.264	30.000	90.264	93.921	130.201	113.167	98.792	1,105.000	2,171.157
• APN 0605: *V-22 Inital Spares*	6.200	18.888	8.362	0.000	8.362	10.713	15.556	11.718	11.920	Continuing	Continuing
• RDTE 0401318F : *CV-22 USAF*	17.992	19.640	18.270	0.000	18.270	21.983	18.277	18.237	37.891	Continuing	Continuing
• RDTE 1160421BB: *CV-22 SOCOM*	30.970	12.687	14.476	0.000	14.476	9.589	0.000	0.000	0.000	0.000	518.719

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 2012 Navy		DATE: February 2011
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 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MV-22 Hardware Dev Airframe	SS/CPAF	Boeing Co.:Ridley Park, PA	3,794.908	39.186	Jan 2011	65.043	Jan 2012	-		65.043	215.980	4,115.117	4,115.117
MV-22 Hardware Dev Propulsion	SS/CPIF	Rolls-Royce Corp.:Indianapolis, IN	195.676	2.199	Jan 2011	0.797	Jan 2012	-		0.797	1.607	200.279	200.279
MV-22 Award Fee	SS/CPAF	Boeing Co.:Ridley Park, PA	211.609	0.941	Jan 2011	1.100	Sep 2012	-		1.100	0.000	213.650	231.583
Prior Year Prod Dev	Various	Various:Various	1,016.085	-		-		-		-	0.000	1,016.085	
		Subtotal	5,218.278	42.326		66.940		-		66.940	217.587	5,545.131	

Remarks

Total award fee pool available for MV portion is $231,583.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MV-22 Govt Engineering Sppt	WR	NAWCAD:Pax River, MD	1,099.703	0.003	Nov 2010	1.611	Dec 2011	-		1.611	30.445	1,131.762	
Prior Year Support	Various	Various:Various	189.718	-		-		-		-	0.000	189.718	
		Subtotal	1,289.421	0.003		1.611		-		1.611	30.445	1,321.480	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MV-22 Dev Test & Evaluation	WR	NAWCAD:Pax River, MD	985.089	2.100	Nov 2010	8.663	Dec 2011	-		8.663	61.071	1,056.923	
MV-22 Operational Test & Evaluation	WR	OT&E Force:Norfolk, VA	43.559	-		4.449	Dec 2011	-		4.449	27.364	75.372	
Prior Year T & E	Various	Various:Various	48.200	-		-		-		-	0.000	48.200	
		Subtotal	1,076.848	2.100		13.112		-		13.112	88.435	1,180.495	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MV-22 Engineering Tech Sppt	Various	Various:Various	1,045.172	0.276	Nov 2010	0.776	Nov 2011	-		0.776	8.762	1,054.986	
MV-22 Management Sppt Svc	Various	Various:Various	154.100	0.225	Nov 2010	0.340	Nov 2011	-		0.340	6.833	161.498	
MV-22 Program Mgmt Support	WR	NAWCAD:Pax River, MD	54.681	0.890	Nov 2010	1.217	Nov 2011	-		1.217	13.791	70.579	
MV-22 Travel	WR	NAWCAD:Pax River, MD	15.225	0.250	Dec 2010	0.481	Jan 2012	-		0.481	5.460	21.416	
Prior Year Mgmt	Various	Various:Various	41.087	-		-		-		-	0.000	41.087	
		Subtotal	1,310.265	1.641		2.814		-		2.814	34.846	1,349.566	

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	8,894.812	46.070		84.477		-		84.477	371.313	9,396.672	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
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 2012 Navy		DATE: February 2011
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	2010	4	2016
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: Operational Test Readiness Review (OTRR) I	2	2011	2	2011
Test & Evaluation: Operational Evaluation: Operational Test Readiness Review (OTRR) II	2	2012	2	2012