Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0401318F / *CV-22*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	348.589	19.741	46.705	-	-	-	-	-	-	-	-	415.035
654103: *CV-22*	348.589	19.741	46.705	-	-	-	-	-	-	-	-	415.035
Quantity of RDT&E Articles	2.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 212												

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY2015, Project 654103 CV-22, efforts were transferred to PE 0401318F, CV-22, Project 676033 CV-22 RDT&E Post Production in order to align efforts in Budget Activity 07, Operational System Development, since CV-22 has been fielded.

A. Mission Description and Budget Item Justification

The CV-22 is a Special Operations Forces (SOF) variant of the 1st generation V-22 tilt-rotor, multi-mission aircraft. CV-22 RDT&E provides development, integration, testing and enhancement of critical capability to insert, extract, and re-supply special operations forces into politically or militarily denied areas. The CV-22 Block 10 configuration added terrain following radar, additional fuel tanks, additional radios, flare/chaff dispensers, radio frequency/infrared and defensive countermeasures, weapons, situational awareness improvements, and Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) to the V-22 Block B aircraft. Block 20 development includes, but is not limited to, improved communications, situational awareness, software, and other requirements specified in the V-22 Block C/20 Capabilities Production Document. A future capabilities increment is following Block 20 to enhance defensive systems and self-deployment capabilities such as Distributed Ice Protection, improved engine performance, additional CNS/ATM and improved communication capabilities. CV-22 RDT&E also provides for a baseline CV-22 flight test aircraft for validation/verification of Block 20 and various software and reliability and maintainability mods. The V-22 Joint Program Office is developing improved operational safety, suitability, and effectiveness capabilities in incremental modifications. Ongoing planning and associated activities will take place to prevent diminishing manufacturing resources and obsolescence issues, as required.

US Special Operations Command (USSOCOM) and USAF jointly fund development projects to meet operational safety, suitability, and effectiveness mission needs. This includes designing, prototyping, integrating, testing and fielding proposed solutions to emerging warfighter issues. USSOCOM funds the development, integration and testing of Special Operations Forces (SOF) unique mission capability, while USAF funds interoperability, basic air vehicle enhancements, integration of Air Force and Navy maintenance and information systems used with the V-22, support for operational testing, and CV-22 implementation and testing of MV-22 Block B and Block C changes. USSOCOM and USAF jointly fund correction of deficiencies and Block 20 development. Block 20 increments 1 and 3 are developed with USAF funds and increment 2 is developed with USSOCOM funds.

This program was in Budget Activity 5, System Development and Demonstration (SDD), through FY2014. In FY2015, CV-22 RDT&E funding transitioned to Budget Activity 7, Operational Systems Development, because the program has reached the end of System Development and Demonstration and is transitioning to Operational Systems Development.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	28.027	46.705	41.588	-	41.588
Current President's Budget	19.741	46.705	-	-	-
Total Adjustments	-8.286	-	-41.588	-	-41.588
• Congressional General Reductions	-0.037	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-5.782	-			
• SBIR/STTR Transfer	-0.791	-			
• Other Adjustments	-1.676	-	-41.588	-	-41.588

Change Summary Explanation

FY13: $5.782M was reprogrammed to higher AF priorities, reduction in Other Adjustments was due to Sequestration.

FY15: The CV-22 RDT&E transitioned from BA05 System Development & Demonstration to BA07 Operational Systems Development, PE 0401318F Project 676033

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: CV-22 Block 20 RDT&E	14.741	17.417	-
Description: Develop, test, and evaluate additional capabilities for the CV-22 aircraft. The V-22 Joint Program Office is developing improved operational safety, suitability, and effectiveness. Block 20 development includes, but is not limited to, improved communications, software, and other requirements specified in the V-22 Block C/20 Capabilities Production Document.			
FY 2013 Accomplishments: RDT&E activities were conducted on Block 20 increments 1, 2, and 3. Conducted Line-of-Sight Communications Functional Configuration Audit (FCA) and operational testing. Conducted Beyond-Line-of-Sight (BLOS) Communications risk reduction, electromagnetic interference testing and Preliminary Design Review (PDR). Completed Block 20 Increment 1 RDT&E effort.			
FY 2014 Plans: RDT&E activities are continuing on Block 20 increments 2 and 3. Conduct long-range communications Critical Design Review (CDR). Initiate long-range communications developmental testing (DT).			
FY 2015 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
See BA07 Program Element 0401318F CV-22 for FY15 activities and funding.			
Title: Enhanced Self-Deployment Capabilities	5.000	10.000	-
Description: Future capabilities increment to enhance self-deployment capabilities such as Distributed Ice Protection, Engine Time-On-Wing Improvement and Area Navigation (Global Positioning System) (RNAV(GPS)). ***FY 2013 Accomplishments:*** Initiated Future Capabilities increment to enhance self-deployment capabilities such as Distributed Ice Protection and Engine Time-On-Wing Improvement. Began risk reduction analysis and assessed industry's internal research and development (IRAD) of Improved Inlet Solution prototypes to improve Engine Time-On-Wing performance. ***FY 2014 Plans:*** RDT&E activities are continuing for Enhanced Self-deployment Capabilities such as Distributed Ice Protection and Engine Time-On-Wing Improvement. Conduct SRR on Distributed Ice Protection. Initiate RDT&E activities for RNAV(GPS). Conduct risk reduction analysis and System Requirements Review (SRR) for RNAV(GPS). ***FY 2015 Plans:*** See BA07 Program Element 0401318F CV-22 for FY15 activities and funding.			
Title: Improved Inlet Solution	-	19.288	-
Description: Initiate Improved Inlet Solution (IIS) development to increase engine time on wing, resolve Air Force Special Operations Command #1 priority deficiency, and reduce Operations & Support cost. Improved Inlet Solution is a joint V-22 effort being developed in conjunction with the Department of the Navy. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Conducting Improved Inlet Solution Preliminary Design Review (PDR). Improved Inlet Solution PDR is driven by the results from the risk reduction analysis for Engine Time-On-Wing Improvement. ***FY 2015 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
See BA07 Program Element 0401318F CV-22 for FY15 activities and funding.			
Accomplishments/Planned Programs Subtotals	19.741	46.705	-

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDT&E: BA07: PE 0401318F: *CV-22*	-	-	38.719	-	38.719	26.422	15.914	14.443	14.718	62.338	172.554
• RDT&E: BA07: PE 1160421BB: *Special Operations, CV-22 Development*	2.076	-	-	-	-	-	-	-	-	-	520.411
• RDT&E: BA07: PE 1160403BB: *Special Operations, Aviation Systems*	-	2.817	0.182	-	0.182	-	-	-	-	-	2.999
• Proc: BA02: Line Item #1000CV2200: *CV-22 Modification*	126.021	108.599	25.578	-	25.578	19.703	16.123	13.226	13.480	-	1,700.376
• APAF: BA04: Line Item #V022A0: *CV-22 (MYP)*	290.286	285.998	-	-	-	-	-	-	-	-	4,229.529
• APAF: BA05: Line Item #V02200: *CV-22 Mods*	21.625	19.555	74.874	-	74.874	70.370	72.671	73.999	75.386	178.710	692.660
• APAF: BA07: Line Item #B00100: *CV-22 Post Production Support*	-	-	16.931	-	16.931	-	-	-	-	-	16.931
• RDT&E: BA05: PE 0604262N: *V-22A*	44.294	43.084	61.249	-	61.249	58.893	59.944	53.793	53.596	41.000	9,409.230

Remarks

E. Acquisition Strategy

The V-22 Joint Program Office (NAVAIRSYSCOM PMA-275) ensures that CV-22 changes are incorporated into the ongoing V-22 production line with minimal impact. The Joint Program Office (JPO) is developing new capabilities for the V-22 in blocks. Block 0 and Block 10 have completed development, and Block 20 is currently underway. NAVAIRSYSCOM awarded a cost plus fixed fee contract with the prime contractor in Dec 2007 for Block 20 development and test. After Block 20 development and test, future development efforts beyond Block 20 will be conducted as pre-planned product improvements. Development activities for the V-22 program are performed by the prime contractor selected on a sole-source basis. Bell-Boeing is a strategic partnership between Bell Helicopter and Boeing Integrated Defense Systems. OSD re-designated the V-22 program from ACAT 1D to ACAT 1C on 24 Jul 2012.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
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F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0401318F / *CV-22*	Project (Number/Name) 654103 / *CV-22*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
2 Production Representative Test Vehicles	SS/CPAF	Bell Boeing : Amarillo, TX	161.859	-		-		-		-		-	-	161.859	-
Block 10 Development	SS/CPAF	Bell Boeing : Amarillo, TX	44.025	-		-		-		-		-	-	44.025	-
Block 10 Development Tech Support	Various	Various : Various,	11.886	-		-		-		-		-	-	11.886	-
Situational Awareness Hazard Avoidance Federated Terminal	C/CPAF	Manufacturing Technology Inc : Fort Walton Beach, FL	5.000	-		-		-		-		-	-	5.000	-
Block 20 Development	SS/CPFF	Bell Boeing : Amarillo, TX	47.807	9.801	Dec 2012	6.031	Nov 2013	-		-		-	-	63.639	161.014
Enhanced Self-deployment Capability	Various	Various : Various,	0.000	5.000	Aug 2013	9.900	Apr 2014	-		-		-	-	14.900	-
Improved Inlet Solution	SS/CPFF	Bell Boeing : Various,	0.000	-		19.288	May 2014	-		-		-	-	19.288	-
		Subtotal	270.577	14.801		35.219		-		-		-	-	320.597	-

Remarks

The Block 20 Development effort target value of contract differs from the total cost because the target contract value includes some test related funding and USSOCOM MFP-11 funding for Special Operations Forces (SOF) peculiar development efforts.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Interim Contractor Support	SS/CPAF	Bell Boeing : Amarillo, TX	26.889	-		-		-		-		-	-	26.889	-
Contractor Logistics Support for Test Aircraft	Various	Various : Various,	10.362	1.618	Dec 2012	3.420	Dec 2013	-		-		-	-	15.400	-
		Subtotal	37.251	1.618		3.420		-		-		-	-	42.289	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0401318F / *CV-22*	Project (Number/Name) 654103 / *CV-22*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation	SS/CPFF	Bell Boeing : Amarillo, TX	30.119	2.224	Apr 2013	5.593	Feb 2014	-		-		-	-	37.936	-
Test & Evaluation Technical Support	MIPR	Various : Various,	8.523	1.072	Dec 2012	2.373	Dec 2013	-		-		-	-	11.968	-
		Subtotal	38.642	3.296		7.966		-		-		-	-	49.904	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Services (Support)	MIPR	Various : Various,	2.119	-		-		-		-		-	-	2.119	-
Travel	Allot	AFLCMC/WIV : Patuxent River, MD	0.000	0.026		0.100		-		-		-	-	0.126	-
		Subtotal	2.119	0.026		0.100		-		-		-	-	2.245	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	348.589	19.741		46.705		-		-		-	-	415.035	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*	**Project (Number/Name)** 654103 / *CV-22*

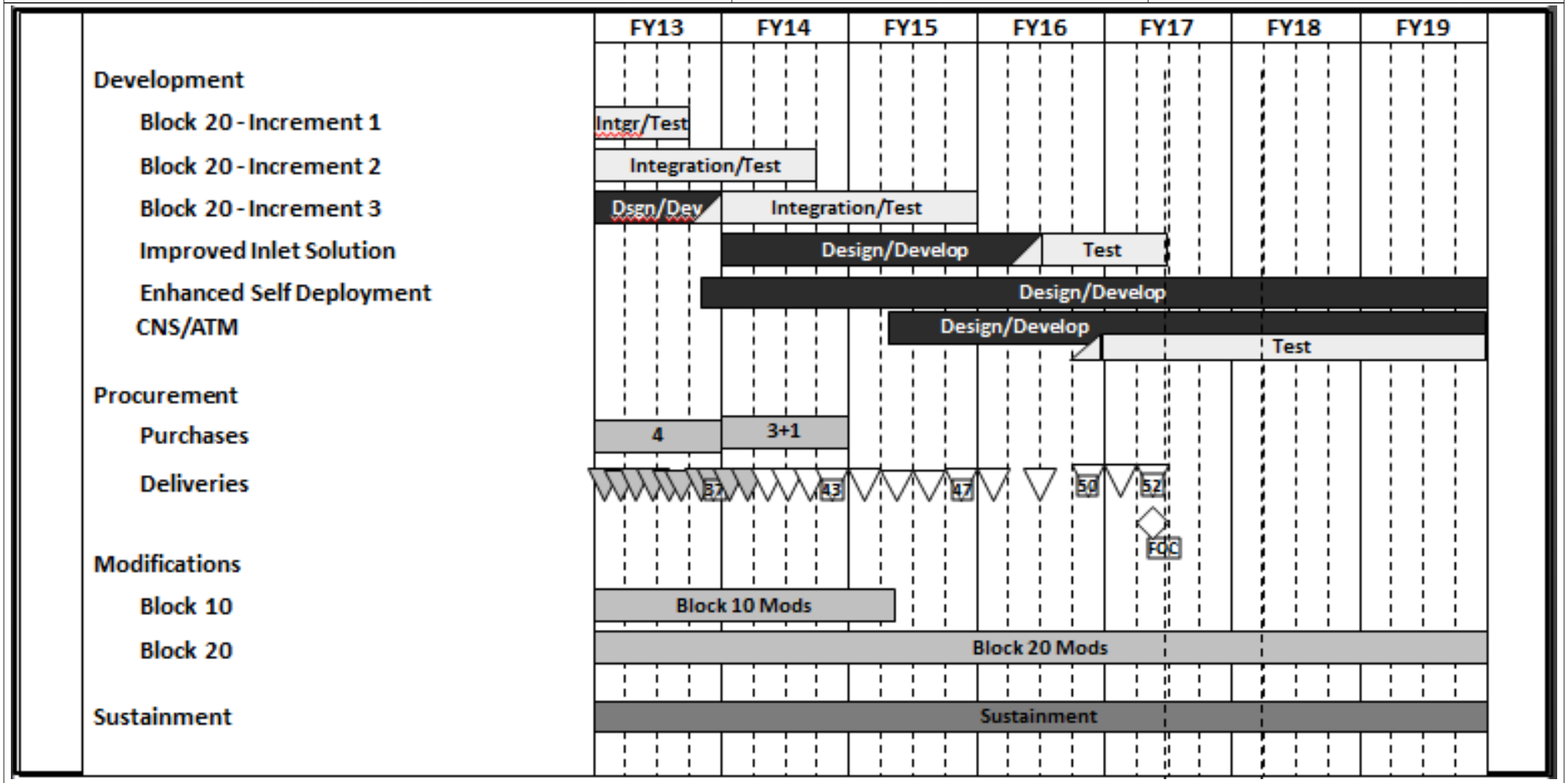

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*	**Project (Number/Name)** 654103 / *CV-22*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Block 20 Increment 1 Development, Testing and Evaluation	1	2013	3	2013
-- Line-of-site Comm ground and flight tests	1	2013	3	2013
Block 20 Increment 2 Development, Testing and Evaluation	1	2013	3	2014
-- Situational awareness/avionics upgrades ground & flight tests	1	2013	3	2014
Block 20 Increment 3 Development, Testing and Evaluation	1	2013	4	2014
-- Long range comm upgrades development and design reviews	1	2013	4	2013
-- Long range comm upgrades ground and flight tests	3	2013	4	2014
Enhanced Self Deployment	4	2013	4	2014
Improved Inlet Solution (IIS)	1	2014	4	2014
-- IIS development and design reviews	3	2014	4	2014