

UNCLASSIFIED

PE NUMBER: 0401318F
 PE TITLE: CV-22

Exhibit R-2, RDT&E Budget Item Justification									DATE May 2009	
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0401318F CV-22					
Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	23.417	18.512	19.640	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
4103 CV-22	23.417	18.512	19.640	0.000	0.000	0.000	0.000	0.000	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

The CV-22 is a Special Operations Forces (SOF) variant of the V-22 vertical lift, multi-mission aircraft. CV-22 RDT&E provides development, integration, testing and enhancement of critical capability to insert, extract, and re-supply special operation forces into politically or militarily denied areas. The CV-22 Block 10 configuration adds terrain following radar, additional fuel tanks, additional radios, flare/chaff dispensers, RF warning receiver and jammer, infrared countermeasures, 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, Communication Co-Site Interference program, terrain-following terrain-avoidance (TF/TA) radar improvements, improved situational awareness, Line-of-sight Communication, Communication Switching Unit, Intercommunications Systems Unit, Civil Global Positioning System, Desert Environment Suitability, Long Range Communication, Restricted Visibility Landing (Brownout), Software MODE 5, voice/data recorder, Engine Emergency/Reserve Power, Improved Brakes, Improved Payload Performance and other requirements specified in the V-22 Block C/20 Capabilities Development Document. The V-22 Joint Program Office is using spiral acquisition to develop improved operational safety, suitability, and effectiveness capabilities in block increments. Ongoing planning and associated activities will take place to prevent diminishing manufacturing resources and obsolescence issues as required.

USSOCOM and USAF jointly fund correction of deficiencies and Block 20 development. USSOCOM funds the development, integration and testing of SOF 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 development projects to meet operational safety, suitability, and effectiveness mission needs. This includes designing, prototyping, integrating, and testing proposed solutions to emerging warfighter issues.

Exhibit R-2, RDT&E Budget Item Justification

DATE

May 2009

BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0401318F CV-22

(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Previous President's Budget	16.688	18.562	41.777
(U) Current PBR/President's Budget	23.417	18.512	19.640
(U) Total Adjustments	6.729	-0.050	
(U) Congressional Program Reductions	0.000		
Congressional Rescissions	-0.105	-0.050	
Congressional Increases	0.000		
Reprogrammings	7.300		
SBIR/STTR Transfer	-0.466		

(U) **Significant Program Changes:**

FY2008 Reprogrammings:

\$5M for Situational Awareness Hazard Avoidance Federated Terminal (SHAFT) Project.

\$2.3M to support CV-22 Block 20 developmental efforts.

FY2010 Reduction:

FY2010 funding was reallocated to higher DoD priorities.

Exhibit R-2a, RDT&E Project Justification

DATE
May 2009

BUDGET ACTIVITY 05 System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0401318F CV-22			PROJECT NUMBER AND TITLE 4103 CV-22			
Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
4103 CV-22	23.417	18.512	19.640	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The CV-22 is a Special Operations Forces (SOF) variant of the V-22 vertical lift, multi-mission aircraft. CV-22 RDT&E provides development, integration, testing and enhancement of critical capability to insert, extract, and re-supply special operation forces into politically or militarily denied areas. The CV-22 Block 10 configuration adds terrain following radar, additional fuel tanks, additional radios, flare/chaff dispensers, RF warning receiver and jammer, infrared countermeasures, 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, Communication Co-Site Interference program, terrain-following terrain-avoidance (TF/TA) radar improvements, improved situational awareness, Line-of-sight Communication, Communication Switching Unit, Intercommunications Systems Unit, Civil Global Positioning System, Desert Environment Suitability, Long Range Communication, Restricted Visibility Landing (Brownout), Software MODE 5, voice/data recorder, Engine Emergency/Reserve Power, Improved Brakes, Improved Payload Performance and other requirements specified in the V-22 Block C/20 Capabilities Development Document. The V-22 Joint Program Office is using spiral acquisition to develop improved operational safety, suitability, and effectiveness capabilities in block increments. Ongoing planning and associated activities will take place to prevent diminishing manufacturing resources and obsolescence issues as required.

USSOCOM and USAF jointly fund correction of deficiencies and Block 20 development. USSOCOM funds the development, integration and testing of SOF 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 development projects to meet operational safety, suitability, and effectiveness mission needs. This includes designing, prototyping, integrating, and testing proposed solutions to emerging warfighter issues.

(U) B. Accomplishments/Planned Program (\$ in Millions)

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Block 10 Development	0.896	0.000	0.000
(U) Block 20 Development	6.130	12.022	10.217
(U) Situational Awareness Hazard Avoidance Federated Terminal (SHAFT)	5.000		
(U) Test & Evaluation	6.103	3.185	5.833
(U) Support	5.289	3.305	3.590
(U) Total Cost	23.417	18.512	19.640

Exhibit R-2a, RDT&E Project Justification

DATE
May 2009

BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0401318F CV-22	PROJECT NUMBER AND TITLE 4103 CV-22
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(U) C. Other Program Funding Summary (\$ in Millions)

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost to Complete</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>								
(U) RDT&E, Defense-wide PE 1160421BB	22.739	39.117	12.687						Continuing	TBD
(U) Procurement, Defense-wide PE 1160421BB	357.719	162.490	114.553						Continuing	TBD
(U) Aircraft Procurement, Air Force 3010 BP10/11/16/AP, PE 0401318F	964.170	485.688	599.273						Continuing	TBD

FY2008 Procurement Defense-wide includes \$160.160M in GWOT supplemental funding.

FY2008 Aircraft Procurement, Air Force funding includes \$380.403M in GWOT supplemental funding for five additional CV-22s.

(U) D. Acquisition Strategy

The V-22 Program Office (NAVAIR PMA-275) ensures that CV-22 changes are incorporated into the ongoing V-22 production line with minimal impact. The JPO is developing new capabilities for the V-22 in blocks. Block 0 and Block 10 have completed development, and the Block 20 is currently underway. NAVAIRSYSCOM awarded a cost plus award fee contract with the prime contractor in Dec 2007 for Block 20 development and test. Subsequent Block 20 increments will use a similar acquisition strategy.

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE

May 2009

BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
05 System Development and Demonstration (SDD)				0401318F CV-22					4103 CV-22			
(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2008 Cost</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>FY 2010 Cost</u>	<u>FY 2010 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u>												
Development of 2 Production Representative Test Vehicles	SS, CPAF	Bell-Boeing	185.422								185.422	
Block 10 Development	SS, CPAF	Bell-Boeing	30.516	0.896	Mar-08						31.412	
Block 10 Development	Multiple	Multiple	11.886								11.886	
Block 20 Development	SS, CPAF	Bell-Boeing	3.950	6.130	Dec-07	12.022	Dec-08	10.217	Dec-09	Continuing	TBD	
Situational Awareness Hazard Avoidance Federated Terminal (SHAFT)	Multiple	Mechanical Technology Inc.	0.000	5.000	May-08						5.000	
Subtotal Product Development			231.774	12.025		12.022		10.217		Continuing	TBD	0.000
Remarks:												
(U) <u>Support</u>												
Interim Contractor Support	SS, CPAF	Bell-Boeing	25.889	1.000	Dec-07						TBD	
Contractor Logistics Services for Test Aircraft	Multiple	DynCorp, Rolls Royce, Bell-Boeing		4.289	Dec-07	3.305	Dec-08	3.590	Dec-09		11.184	
Subtotal Support			25.889	5.289		3.305		3.590		Continuing	TBD	0.000
Remarks:												
(U) <u>Test & Evaluation</u>												
Testing & Integration	SS, CPAF	Bell-Boeing	12.139	6.103	Feb-08	3.185	Feb-09	5.833	Feb-10	Continuing	TBD	
Testing, Integration and Support	MIPR	Multiple	3.539								3.539	
Subtotal Test & Evaluation			15.678	6.103		3.185		5.833		Continuing	TBD	0.000
Remarks:												
(U) <u>Management</u>												
Management & Integration Support	MIPR	Multiple	2.000	0.000		0.000		0.000		Continuing	TBD	
Subtotal Management			2.000	0.000		0.000		0.000		Continuing	TBD	0.000
Remarks:												
(U) Total Cost			275.341	23.417		18.512		19.640		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile

DATE

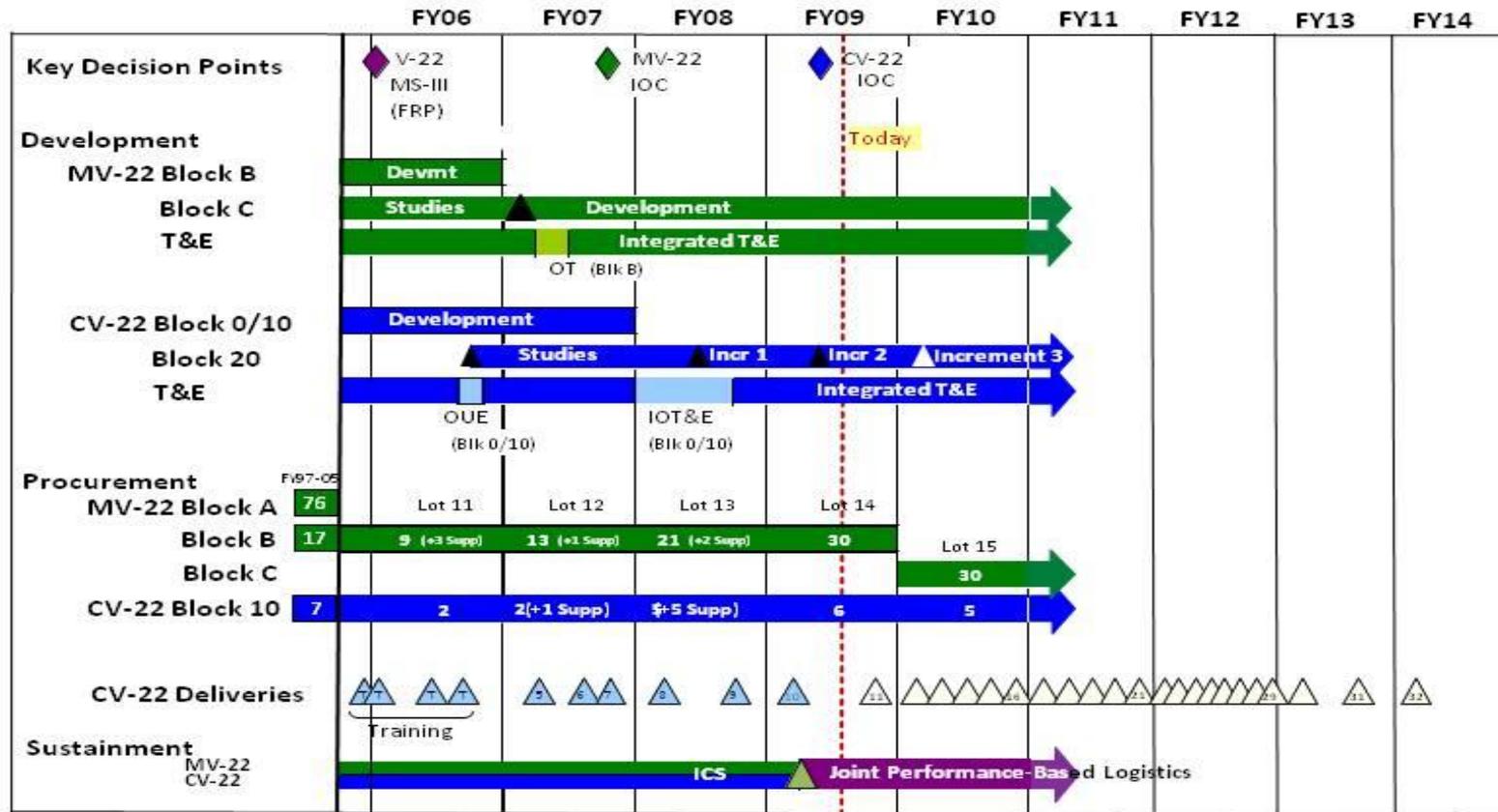
May 2009

BUDGET ACTIVITY
05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0401318F CV-22

PROJECT NUMBER AND TITLE
4103 CV-22

CV-22 Schedule



UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail	DATE May 2009
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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0401318F CV-22	PROJECT NUMBER AND TITLE 4103 CV-22
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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) <u>Schedule Profile</u>			
(U) Block 10 Development/Correction of Deficiencies	1-4Q	1-4Q	
(U) Block 0/10 Flight Test	1-4Q	1-4Q	
(U) Operational Test & Evaluation	1-3Q		
(U) Block 20 Studies/Development/Test	1-4Q	1-4Q	1-4Q
(U) Aircraft Deliveries	1-4Q	1-4Q	1-4Q
(U) CV-22 IOC		2Q	

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