

UNCLASSIFIED

PE NUMBER: 0401318F
PE TITLE: CV-22

Exhibit R-2, RDT&E Budget Item Justification								DATE February 2006																																					
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0401318F CV-22																																									
Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total																																				
Total Program Element (PE) Cost	14.175	39.955	26.601	56.972	58.315	58.317	79.268	Continuing	TBD																																				
4103 CV-22	14.175	39.955	26.601	56.972	58.315	58.317	79.268	Continuing	TBD																																				
<p>(U) <u>A. Mission Description and Budget Item Justification</u></p> <p>The CV-22 is a Special Operations Forces (SOF) variant of the V-22 vertical lift, multi-mission aircraft. The CV-22 will provide critical capability to insert, extract, and resupply special operation forces into politically or militarily denied areas, not currently provided by existing aircraft. The CV-22 Block B/10 configuration adds terrain following radar, additional fuel tanks, additional radios, flare/chaff dispensers, a RF warning receiver and jammer, and infrared countermeasures to the V-22 Block B aircraft.</p> <p>USSOCOM and USAF jointly fund Block 10 development. USSOCOM funds the development, integration and testing of SOF mission capability, while USAF funds the design, integration, testing and certification of Block 10 Communication Navigation Surveillance/ Air Traffic Management (CNS/ATM) capability for compliance with the CNS/ATM Capstone Requirements Document for worldwide deployment. USAF also funds the integration of Air Force and Navy maintenance information systems used with the V-22, contractor logistics support for operational testing, Block B/10 correction of deficiencies, and CV-22 unique implementation and testing of V-22 Block B and Block C changes.</p> <p>USAF Block 20 funding is required to design, integrate, and test improvements to enhance the CV-22 ability to execute the SOF mission as well as comply with OSD mandated interoperability requirements. FY06 risk reduction studies will refine requirements and specifications for Block 20 development to be initiated in FY07.</p> <p>(U) <u>B. Program Change Summary (\$ in Millions)</u></p> <table style="width: 100%; margin-top: 10px;"> <thead> <tr> <th></th> <th style="text-align: right;"><u>FY 2005</u></th> <th style="text-align: right;"><u>FY 2006</u></th> <th style="text-align: right;"><u>FY 2007</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">16.439</td> <td style="text-align: right;">39.532</td> <td style="text-align: right;">6.635</td> </tr> <tr> <td>(U) Current PBR/President's Budget</td> <td style="text-align: right;">14.175</td> <td style="text-align: right;">39.955</td> <td style="text-align: right;">26.601</td> </tr> <tr> <td>(U) Total Adjustments</td> <td style="text-align: right;">-2.264</td> <td style="text-align: right;">0.423</td> <td></td> </tr> <tr> <td>(U) Congressional Program Reductions</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Congressional Rescissions</td> <td style="text-align: right;">-0.156</td> <td style="text-align: right;">-0.577</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Congressional Increases</td> <td></td> <td style="text-align: right;">1.000</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Reprogrammings</td> <td style="text-align: right;">-1.650</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">SBIR/STTR Transfer</td> <td style="text-align: right;">-0.458</td> <td></td> <td></td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u></p> <ul style="list-style-type: none"> - FY06 Defense Appropriation added \$1M to research nanocrystalline diamond coatings for potential radome anti-icing and surface erosion protection - PB07 increase fully funds Block B/10 operational testing, correction of deficiencies and initiation of Block 20 development 											<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	(U) Previous President's Budget	16.439	39.532	6.635	(U) Current PBR/President's Budget	14.175	39.955	26.601	(U) Total Adjustments	-2.264	0.423		(U) Congressional Program Reductions				Congressional Rescissions	-0.156	-0.577		Congressional Increases		1.000		Reprogrammings	-1.650			SBIR/STTR Transfer	-0.458		
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Exhibit R-2a, RDT&E Project Justification

DATE

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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

Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
4103 CV-22	14.175	39.955	26.601	56.972	58.315	58.317	79.268	Continuing	TBD
Quantity of RDT&E Articles	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. The CV-22 will provide critical capability to insert, extract, and resupply special operation forces into politically or militarily denied areas, not currently provided by existing aircraft. The CV-22 Block B/10 configuration adds terrain following radar, additional fuel tanks, additional radios, flare/chaff dispensers, a RF warning receiver and jammer, and infrared countermeasures to the V-22 Block B aircraft.

USSOCOM and USAF jointly fund Block 10 development. USSOCOM funds the development, integration and testing of SOF mission capability, while USAF funds the design, integration, testing and certification of Block 10 Communication Navigation Surveillance/ Air Traffic Management (CNS/ATM) capability for compliance with the CNS/ATM Capstone Requirements Document for worldwide deployment. USAF also funds the integration of Air Force and Navy maintenance information systems used with the V-22, contractor logistics support for operational testing, Block B/10 correction of deficiencies, and CV-22 unique implementation and testing of V-22 Block B and Block C changes.

USAF Block 20 funding is required to design, integrate, and test improvements to enhance the CV-22 ability to execute the SOF mission as well as comply with OSD mandated interoperability requirements. FY06 risk reduction studies will refine requirements and specifications for Block 20 development to be initiated in FY07.

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

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Accomplishment/Planned Program			
(U) Continue USN/USAF maintenance information system integration (Block 10)	2.580	3.907	0.790
(U) Continue development, integration and testing of CNS/ATM (Block 10)	0.344	14.789	1.140
(U) Support for Block B/10 operational test and evaluation	11.251	15.221	11.370
(U) Accomplish Block B/10 correction of deficiencies			4.971
(U) Accomplish CV-22 Unique Implementation and Testing of V-22 Block B and Block C Changes			3.120
(U) Accomplish Block 20 Risk Reduction Studies / Initiate Block 20 Development		5.038	5.210
(U) Research Nanocrystalline Diamond Coatings for Radome Anti-icing and Surface Erosion Protection (Congressional Adjustment)		1.000	
(U) Total Cost	14.175	39.955	26.601

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(U) **C. Other Program Funding Summary (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Other APPN									
(U) 3010 BP10/11/16/AP, PE 0401318F	339.803	268.165	279.525	573.217	470.970	501.451	415.629	1,341.909	4,190.669

Total Cost number does not include 407.614M procurement funding prior to FY05.

(U) **D. 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.

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Exhibit R-3, RDT&E Project Cost Analysis

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(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &</u> <u>Type</u>	<u>Performing</u> <u>Activity &</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target Value</u> <u>of Contract</u>
(U) <u>Product Development</u>												
Development of 2 PRTVs (Block 10)	SS, CPIF	Bell-Boeing	185.422							0.000	185.422	
Integration of USN/USAF Maintenance Information Systems (Block 10)	MIPR	Multiple	5.417	2.580	Dec-04	3.907	Feb-06	0.790	Dec-06	0.000	12.694	
Development CNS/ATM (Block 10)	SS, CPAF	Bell-Boeing	21.801			7.000	Feb-06		Oct-06	0.000	28.801	
Block 10 Development Technical Support	MIPR	Multiple	0.310	0.344	Dec-04	2.868	Feb-06	1.140	Dec-06	Continuing	TBD	
Block B/10 Correction of Deficiencies	TBD	Bell-Boeing						4.971	Dec-06	Continuing	TBD	4.971
Block 20 Risk Reduction Study	SS, CPFF	Bell-Boeing				3.635	Apr-06			0.000	3.635	3.635
Block 20 Development and Integration	TBD	Bell-Boeing						5.210	Mar-07	Continuing	TBD	5.210
Block 20 Development Technical Support	MIPR	Multiple				1.403	Feb-06			Continuing	TBD	1.403
CV-22 Incorporation of V-22 Blk B&C Changes	TBD	Bell-Boeing						3.120	Dec-06	Continuing	TBD	3.120
Research Nanocrystalline Diamond Coatings for Radome Applications (Congressional Add)	TBD	TBD				1.000	Apr-06			0.000	1.000	1.000
Subtotal Product Development			212.950	2.924		19.813		15.231		Continuing	TBD	19.339
Remarks:												
(U) <u>Support</u>												
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Test & Evaluation</u>												
Block 10 Flight Test Technical Support	SS, CPAF	Bell-Boeing				4.380	Apr-06			0.000	4.380	4.380
Block 10 Flight Test Maintenance Support	SS, CPFF	DynCorp				0.541	Feb-06			0.000	0.541	
Block B/10 Operational Test Logistics Support	SS, CPAF	Bell-Boeing	1.648	7.471	Dec-04	11.973	Feb-06	8.979	Dec-06	Continuing	TBD	
Block B/10 Operational Test Logistics Support	SS, CPFF	Rolls Royce		0.381	Oct-04	1.260	Feb-06	0.945	Oct-06	Continuing	TBD	
Block B/10 Operational Test Logistics Support	MIPR	Multiple	0.140	3.399	Dec-04	1.988	Feb-06	1.446	Dec-06	Continuing	TBD	
Subtotal Test & Evaluation			1.788	11.251		20.142		11.370		Continuing	TBD	4.380
Remarks:												
(U) <u>Management</u>												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			214.738	14.175		39.955		26.601		Continuing	TBD	23.719

Exhibit R-4, RDT&E Schedule Profile

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05 System Development and Demonstration (SDD)

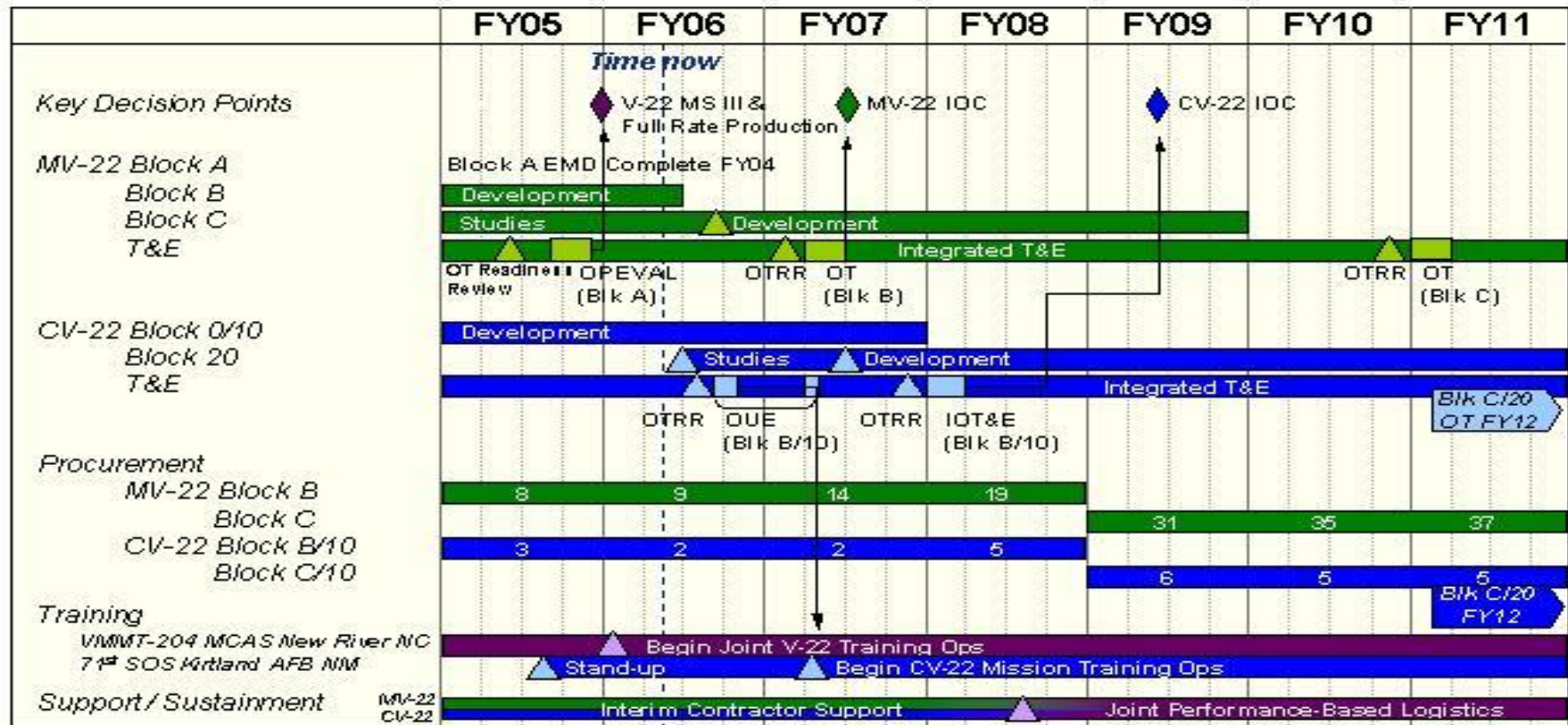
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CV-22 Osprey Schedule



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Exhibit R-4a, RDT&E Schedule Detail

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	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) <u>Schedule Profile</u>			
(U) Block 10 Production Representative Test Vehicle deliveries (two aircraft)	4Q	1Q	
(U) Block 10 CNS/ATM/TCAS development cotrtract (incremental funding)	1Q	2Q	1-2Q
(U) Block 10 Navy/Air Force maintenance information system development contract (incremental funding)	1Q	2Q	1-2Q
(U) Block 10 Flight Test Technical Support contracts		2-3Q	
(U) Block 10 Operational Test Support contracts	1Q	2Q	1-2Q
(U) Block 10 Operational Utility Evaluation		3-4Q	
(U) Block 10 Operational Utility Evaluation (Cold Weather Portion)			2Q
(U) Block 20 Study contract		3Q	
(U) Block 20 Development contract			2-3Q