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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 United States Special Operations Command **DATE:** February 2011

**APPROPRIATION/BUDGET ACTIVITY**

0400: *Research, Development, Test & Evaluation, Defense-Wide*  
BA 7: *Operational Systems Development*

**R-1 ITEM NOMENCLATURE**

PE 1160421BB: *Special Operations CV-22 Development*

<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	12.214	14.406	10.775	-	10.775	-	-	-	-	0.000	37.395
SF200: SO CV-22	12.214	14.406	10.775	-	10.775	-	-	-	-	0.000	37.395

**A. Mission Description and Budget Item Justification**

The CV-22 is a Special Operations Forces (SOF) variant of the V-22 vertical medium lift, multi-mission aircraft. The CV-22 will provide long range, high speed, infiltration, exfiltration, and resupply to Special Forces teams in hostile, denied, and politically sensitive areas. This is a capability not currently provided by existing aircraft. The V-22 Joint Program Office is developing improved capabilities in block increments. The funding in this program element supports these block increments, as well as associated flight test support. The Block 10 increment was completed in FY 2007, and the Block 20 increment started in FY 2008.

- Block 10: Integrate and test Directional Infrared Countermeasures, a system that protects against infrared guided missiles; design, integrate and validate the Troop Commander Situational Awareness Station to provide the embarked troop commander access to the CV-22's communication, navigation and mission management system; relocate the ALE-47 chaff and flare dispenser control head to allow any cockpit crew member to activate defensive countermeasures; add a second forward firing chaff and flare dispenser to provide an adequate quantity of consumable countermeasures for the extended duration of SOF infiltration, exfiltration, and resupply missions; and incorporate a dual access feature to the Digital Map System to allow both the pilot and co-pilot to independently access and control the digital map display from the mission computer.

- Block 20: Design, integrate, test, and validate enhancements required to meet SOF-unique mission requirements and correct deficiencies identified in previous testing. This incremental development will provide improved capabilities to include, but not limited to, more robust performance in situational awareness, weapons, avionics, survivability, maneuverability, and mission deployment, and improved reliability and maintainability of the CV platform. Initial risk reduction and trade studies were initiated in FY 2006, and System Design and Development started in FY 2008. FY 2010 RDT&E activities continue on Block 20, initiating Block 20 Increment 3 and continuing Increment 1 & 2 efforts. FY 2011 RDT&E activities continue on Block 20 Increment 1, 2 & 3 efforts. FY 2012 RDT&E activities continue on Block 20 Increment 1, 2 & 3 efforts.

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

	<b><u>FY 2010</u></b>	<b><u>FY 2011</u></b>	<b><u>FY 2012 Base</u></b>	<b><u>FY 2012 OCO</u></b>	<b><u>FY 2012 Total</u></b>
Previous President's Budget	12.634	14.406	9.530	-	9.530
Current President's Budget	12.214	14.406	10.775	-	10.775
Total Adjustments	-0.420	-	1.245	-	1.245
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-0.019	-			
• SBIR/STTR Transfer	-0.401	-			
• Other Adjustments	-	-	1.245	-	1.245

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 United States Special Operations Command		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 1160421BB: Special Operations CV-22 Development	
<p><b><u>Change Summary Explanation</u></b></p> <p>Funding:</p> <p>FY 2010: Decrease of \$0.420 million includes a reprogramming to higher command priorities (-\$0.019 million), and a transfer of funds to Small Business Innovative Research (-\$0.401 million).</p> <p>FY 2011: None</p> <p>FY 2012: Net increase of \$1.245 million will fund CV-22 testing requirements.</p> <p>Schedule: None.</p> <p>Technical: None.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2012 United States Special Operations Command									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 1160421BB: Special Operations CV-22 Development				PROJECT SF200: SO CV-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
SF200: SO CV-22	12.214	14.406	10.775	-	10.775	-	-	-	-	0.000	37.395
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>The CV-22 is a Special Operations Forces (SOF) variant of the V-22 vertical medium lift, multi-mission aircraft. The CV-22 will provide long range, high speed infiltration, exfiltration, and resupply to Special Forces teams in hostile, denied, and politically sensitive areas. This is a capability not currently provided by existing aircraft. The V-22 Joint Program Office is developing improved capabilities in block increments supported with rapid prototyping. The funding in this project supports these block increments as well as associated flight test support.</p> <p>- The Block 10 increment completed in FY 2007, and the Block 20 increment started in FY 2008. Block 10: Integrate and test Directional Infrared Countermeasures, a system that protects against infrared guided missiles; design, integrate and validate the Troop Commander Situational Awareness Station to provide the embarked troop commander access to the CV-22's communication, navigation and mission management system; relocate the ALE-47 chaff and flare dispenser control head to allow any cockpit crew member to activate defensive countermeasures; add a second forward firing chaff and flare dispenser to provide an adequate quantity of consumable countermeasures for the extended duration of SOF infiltration, exfiltration, and resupply missions; and incorporate a dual access feature to the Digital Map System to allow both the pilot and co-pilot to independently access and control the digital map display from the mission computer.</p> <p>- Block 20: Design, integrate, test, and validate enhancements required to meet SOF-unique mission requirements and correct deficiencies identified in previous testing. This incremental development will provide improved capabilities to include, but not limited to, robust performance in situational awareness, weapons, avionics, survivability, maneuverability, mission deployment, improved reliability and maintainability of the CV platform. Initial risk reduction and trade studies were initiated in FY 2006, and System Development and Demonstration started in FY 2008. FY 2010 RDT&amp;E activities continue on Block 20, initiating Block 20 Increment 3 and continuing Increment 1 &amp; 2 efforts. FY 2011 RDT&amp;E activities continue on Block 20 Increment 1, 2 &amp; 3 efforts. FY 2012 RDT&amp;E activities continue on Block 20 Increment 1, 2 &amp; 3 efforts.</p>											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: CV-22 Aircraft Block 20							12.214	14.406	10.775	-	10.775
FY 2010 Accomplishments: Continued flight test support and design and development of Block 20.											
FY 2011 Plans: Continues flight test support and design and development of Block 20.											
FY 2012 Base Plans: Continue flight test support and design and development of Block 20.											
Accomplishments/Planned Programs Subtotals							12.214	14.406	10.775	-	10.775

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 United States Special Operations Command							<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 1160421BB: <i>Special Operations CV-22 Development</i>				<b>PROJECT</b> SF200: <i>SO CV-22</i>		

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PROC1: <i>CV-22 SOF MOD</i>	115.382	124.035	118.002	15.000	133.002	121.711	88.981	11.285	6.402	Continuing	Continuing
• PROC2/0401318F: <i>Aircraft Procurement Air Force</i>	597.331	529.275	466.705	70.000	536.705	422.107	331.269	135.264	51.893	Continuing	Continuing
• RDT&E1/0401318F: <i>RDT&amp;E, USAF</i>	19.640	18.270	21.793	0.000	21.793	23.144	21.389	21.019	14.425	Continuing	Continuing

**D. Acquisition Strategy**

The CV-22 program is managed by the Navy V-22 Joint Program Office (NAVAIRSYSCOM PMA-275). This ensures that the CV-22 changes are incorporated into the ongoing V-22 production line with minimum impact. Funding for the baseline CV-22 Engineering Manufacturing and Development, known as Block 0, is embedded in the Navy budget. Block 10 Research, Development, Testing, and Evaluation funding was sent from USSOCOM to NAVAIRSYSCOM to be placed on contract with the V-22 prime contractor. Block 10 capability is required for compliance with the Joint Operational Requirements Document and associated Milestone III Capabilities Production Document. Block 20 and subsequent block upgrades are planned to follow the same acquisition strategy, with NAVAIRSYSCOM PMA-275 ensuring the integration of SOF-unique systems with the ongoing basic vehicle improvements supporting both the CV-22 and the Marine Corps MV-22.

**E. Performance Metrics**

N/A

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**Exhibit R-3, RDT&E Project Cost Analysis:** PB 2012 United States Special Operations Command **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 1160421BB: <i>Special Operations CV-22 Development</i>	<b>PROJECT</b> SF200: <i>SO CV-22</i>
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<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Prior Year Completed Efforts	C/Various	Various:Various	384.007	-		-		-		-	0.000	384.007	
Integration, Assembly, Test and Checkout (Block 20)	SS/CPFF	Bell-Boeing:Amarillo, TX	46.175	6.513	Jan 2011	7.995	Dec 2011	-		7.995	0.000	60.683	
Systems Engineering	SS/CPFF	Raytheon:Indianapolis, IN	5.882	0.012	Jan 2011	-		-		-	0.000	5.894	
<b>Subtotal</b>			436.064	6.525		7.995		-		7.995	0.000	450.584	

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Prior Year Completed Efforts	C/Various	Various:Various	43.584	-		-		-		-	0.000	43.584	
Systems Test and Evaluation (Block 20)	C/Various	Bell-Boeing; DynCorp:Amarillo, TX; Fort Worth, TX	3.389	5.117	Jan 2011	1.795	Nov 2011	-		1.795	0.000	10.301	
System Test and Evaluation (ATA)	C/Various	Bell-Boeing; DynCorp:Amarillo, TX; Fort Worth, TX	10.477	2.764	Jan 2011	0.985	Dec 2011	-		0.985	0.000	14.226	
<b>Subtotal</b>			57.450	7.881		2.780		-		2.780	0.000	68.111	

	<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>		493.514	14.406		10.775	-		10.775	0.000	518.695	

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 United States Special Operations Command										<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>					<b>R-1 ITEM NOMENCLATURE</b> PE 1160421BB: <i>Special Operations CV-22 Development</i>					<b>PROJECT</b> SF200: <i>SO CV-22</i>			

	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>CV-22</b>																												
CV-22 Block 20 Development/Test																												
CV-22 Aircraft Deliveries (PROC)																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 United States Special Operations Command			<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 1160421BB: <i>Special Operations CV-22 Development</i>	<b>PROJECT</b> SF200: <i>SO CV-22</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>CV-22</b>				
CV-22 Block 20 Development/Test	2	2010	4	2013
CV-22 Aircraft Deliveries (PROC)	1	2010	4	2016

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