

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE MAY 2009
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APPROPRIATION / BUDGET ACTIVITY RDT&E, DEFENSE-WIDE / 7	R-1 ITEM NOMENCLATURE / PROJECT NO. PE 1160482BB SOF Rotary Wing Aviation/D615
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COST (Dollars in Millions)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Cost to Complete	Total Cost
PE1160482BB		3.243	18.863						Cont.	Cont.
D615, SOF Rotary Wing Aviation		3.243	18.863						Cont.	Cont.

A. Mission Description and Budget Item Justification: This program element develops/upgrades SOF rotary wing aircraft systems that operate in increasingly hostile environments. Rotary wing aircraft supported by this project include: MH-60L/K/M, MH-47D/E/G, and A/MH-6M. These aircraft provide aviation support to Special Operations Forces (SOF) in worldwide contingency operations and low-intensity conflicts. They must be capable of rapid deployment; undetected penetration of hostile areas; and operating at extended ranges under adverse weather conditions to infiltrate, provide logistics for, reinforce, and extract SOF. The threat is characterized by an extensive and sophisticated ground based air defense system and an upgraded air-to-air capability targeted against helicopters.

B. Program Change Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>
Previous President's Budget		3.822	15.294
Current President's Budget		3.243	18.863
Total Adjustments		-0.579	3.569
Congressional Program Reductions		-2.179	
Congressional Increases		1.600	
Reprogrammings			
Other Program Adjustments			3.569

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<p>Funding:</p> <p>FY09: Net decrease of -\$0.579 million is due to a Congressional reduction for A/MH-6 Infrared Exhaust Suppressor (-\$2.175 million), Congressional adds for Hostile Fire Indicating System (\$0.800 million) and Cable Warning Obstacle Avoidance (\$0.800 million), and a reduction for Section 8101 (-\$0.004 million).</p> <p>FY10: Net increase of \$3.569 million is due to funding the A/MH-6 Improved Seat System (\$3.579 million) and the Hostile Fire Indicating System (\$2.483 million), realignments for higher command priorities (-\$2.231 million) and a decrease for economic assumptions (-\$0.262 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>		

Exhibit R2-a, RDT&E Project Justification

Date: MAY 2009

Appropriation/Budget Activity RDT&E.A BA # 7	Special Operations Forces (SOF) Rotary Wing Aviation /Project D615
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Cost (\$ in millions)	FY08*	FY09	FY10	FY11	FY12	FY13	FY14	FY15
SOF Rotary Wing Aviation	.960	3.243	18.863					
RDT&E Articles Quantity								

***FY2008 funds were in Program Element 1160404BB.**

A. Mission Description and Budget Item Justification: This project develops/upgrades SOF rotary wing aircraft systems that operate in increasingly hostile environments. Rotary wing aircraft supported by this project include: MH-60L/K/M, MH-47D/E/G, and A/MH-6M. These aircraft provide aviation support to SOF in worldwide contingency operations and low-intensity conflicts, and they must be capable of rapid deployment; undetected penetration of hostile areas; and operating at extended ranges under adverse weather conditions to infiltrate, provide logistics for, reinforce, and extract SOF. The threat is characterized by an extensive and sophisticated ground based air defense system and an upgraded air-to-air capability targeted against helicopters. Efforts include:

- MH-47/MH-60/A/MH-6M Aircraft. (1) Develops the Reduced Optical Signature Emission Solution (ROSES), which reduces the optical signature output of the current infrared expendable decoys for purposes of reducing Army Special Operations Aviation aircraft vulnerabilities. This flare solution will have the capability to decoy currently fielded infrared missiles and more sophisticated emerging threats, and is an interim solution pending flare technology advancements. (2) Develops an improved integrated seat system for A/MH-6M aircraft that will provide ballistic protection, crash attenuation, and restraint system upgrades.
- MH-47/MH-60 Survivability Equipment/Sensors. (1) Develops the Aircraft Occupant Ballistic Protection System to reduce weight to permit additional critical payloads on mission aircraft, while maintaining or improving armor effectiveness; (2) Develops and qualifies the Forward Looking Infrared Radar (FLIR) Pre-Planned Product Improvements (P3I), which will provide increased detection ranges, a sensor suite capable of target recognition, short wave infrared marker identification, and illuminator detection regardless of ambient and cultural lighting conditions.
- Congressional Add to develop a Hostile Fire Indicating System that detects, classifies, and alerts the aircrew to the presence of small caliber weapons fire for SOF rotary wing platforms.
- Congressional Add to develop a Cable Warning Obstacle Avoidance system. This system will allow aircraft to perform evasive actions, significantly increasing the aircrew's probability of survival during a hostile fire engagement.

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B. Accomplishments/Planned Program

	FY08	FY09	FY10	FY11
MH-47/MH-60/A/MH-6M Aircraft	.080		7.367	
RDT&E Articles Quantity				
FY08 Terminated the development effort of the infrared exhaust suppressor for the A/MH-6M. FY10 Begins development of the ROSES and the improved integrated crashworthy seat system for the A/MH-6M.				
	FY08	FY09	FY10	FY11
MH-47/MH-60 – Survivability Equipment /Sensors	0.880	1.685	11.496	
RDT&E Articles Quantity				
FY08 Began development of improved lightweight armor for the Aircraft Occupant Ballistic Protection System. FY09 Continue development of the Aircraft Occupant Ballistic Protection System. FY10 Begins development of the FLIR P3I program and continues development of Hostile Fire Indicating System				
	FY08	FY09	FY10	FY11
MH-47/MH-60 – Survivability Equipment /Sensors-Congressional Adds		1.558		
RDT&E Articles Quantity				
FY09 Congressional adds to begin the development of Hostile Fire Indicating System and a Cable Warning Obstacle Avoidance System.				

C. Other Program Funding Summary:

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	To Complete Cont.	Total Cost Cont.
Rotary Wing Upgs & Sust PROC	71.663	89.197	101.936							

D. Acquisition Strategy:

- A/MH-6M - This effort develops and qualifies the necessary protection from crash loads and airframe vibrations by upgrading the current A/MH-6M seat and restraint system to meet current MIL-STD 1290 requirements. A competitive source selection process will be conducted for the crashworthy seat system replacement to the extent possible. Proprietary considerations may direct some efforts to the original equipment manufacturer.
- MH-47/MH-60 Aircraft - This effort develops and qualifies a flare solution that discharges fewer expendables per dispense and

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emits less visible light to improve aircrew's ability to survive in sophisticated threat environments. A competitive source selection process will be conducted for the Reduced Optical Signature Emissions Solution to the extent possible. Proprietary considerations may direct some efforts to the original equipment manufacturer.

- MH-47/MH-60 Survivability Equipment/Sensors - Develops next-generation improvements, enhancements, and upgrades to survivability equipment and sensors. Active and passive survivability acquisition will be conducted using competitive processes to the maximum extent practicable. Proprietary considerations may direct some efforts to the original equipment manufacturer.

Exhibit R-3 RDT&E Project Cost Analysis

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Actual or Budget Value (\$ in millions)

Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	Budget Cost FY09	Award Date FY09	Budget Cost FY10	Award Date FY10	Budget Cost FY11	Award Date FY11	To Complete	Total Program
Primary Hardware Development											
MH-6/47/60 Survivability Equipment Reduced Optical Signature Emissions Solution	Various	PM TAPO/Ft Eustis VA				3.788	Various			Cont.	Cont.
MH-47/60 Survivability Equipment/Sensors	Various	PM TAPO/Ft Eustis, VA	61.110	1.685						Cont.	Cont.
Aircraft Occupant Ballistic Protection System	Various	PM TAPO/Ft Eustis, VA				9.013	Various				9.013
Forward Looking Infrared Radar	Various	PM TAPO/Ft Eustis, VA		0.779		2.483	Various				3.262
Hostile Fire Indicating System	Various	PM TAPO/Ft Eustis, VA		0.779							0.779
Cable Warning Obstacle Avoidance System	TBD	TBD		0.779							0.779
A/MH-6M Improved Seat System	Various	PM MELB, Ft. Eustis, VA	15.931			3.579	Various				19.510
Subtotal			77.041	3.243		18.863				Cont.	Cont.

Remarks:

Management											
Subtotal Spt											

Remarks:

Developmental Test & Evaluation											
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Remarks:

Subtotal Management											
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Remarks:

Prior Years			19.877								19.877
Total Cost			96.918	3.243		18.863				Cont.	Cont.

Remarks:

