Exhibit R-2, RDT&E Budget Item Justification: PB 2015 United States Special Operations Command	Date: March 2014
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160482BB / *SOF Rotary Wing Aviation*

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	170.648	25.166	-	-	-	-	-	-	-	-	-	195.814
D615: *SOF Rotary Wing Aviation*	170.648	25.166	-	-	-	-	-	-	-	-	-	195.814

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

Note

Beginning in FY 2014, SOF Rotary Wing Aviation, Program Element 1160482BB has been consolidated into SO Aviation Systems, SOCOM Program Element 1160403BB.

A. Mission Description and Budget Item Justification

This SOF Rotary Wing Aviation projects develops SOF-unique modifications and upgrades to SOF rotary wing aircraft that operate in increasingly hostile environments. Rotary wing aircraft supported by this project include: MH-60M, MH-47G, 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 ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	24.430	-	-	-	-
Current President's Budget	25.166	-	-	-	-
Total Adjustments	0.736	-	-	-	-
• Congressional General Reductions	-2.155	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-0.032	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.660	-			
• SBIR/STTR Transfer	-0.737	-			

Change Summary Explanation

FY 2013: Net increase of $0.736 million is due to sequestration reductions (-$2.155 million), congressional rescission (-$0.032 million), an increase for a reprogramming to support additional flight testing for the MH-60 Modernization program ($3.660 million), and a transfer of funds to Small Business Innovative Research (-$0.737 million).

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 United States Special Operations Command	Date: March 2014
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Sequestration Impacts: Delays the A/MH-6M by one month and requires additional funding at the end of the program. The MH-47G program had to de-scope engine barrier filter efforts to accommodate the available FY 2013 funds. The impact of the reduction requires additional funding at the end of the program.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command			Date: March 2014
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160482BB / *SOF Rotary Wing Aviation*	Project (Number/Name) D615 / *SOF Rotary Wing Aviation*	

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
D615: *SOF Rotary Wing Aviation*	170.648	25.166	-	-	-	-	-	-	-	-	-	195.814
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

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-60M, MH-47G, 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. Sub-projects include:

• A/MH-6M Block 3.0 Upgrade is necessary to restore structural, performance, and safety margins for the aircrews. An airframe structural modification will address structural failures due to high intensity, high gross weight operations, and a decade of battle damage. A main/tail rotor drive train and engine control effort will reduce airframe loads and restore sufficient safety and performance margins. An avionics upgrade Non-Developmental Item/Commercial Off-The-Shelf (NDI/COTS) will replace obsolescent components and provide improved battlefield situational awareness to the aircrews and customers necessary to support time sensitive mission requirements. This upgrade is critical in keeping A/MH-6M aircraft in the fight through the 2020's and likely beyond until a suitable replacement aircraft is available. The non-recurring effort supports development, fabrication of test hardware, qualification of components and system data items to support issuance of Government airworthiness releases for structural and software modifications.

• MH-47 Modifications and Upgrades program develops technologies to improve performance and safety of the MH-47G and decrease operational costs. Efforts include the Active Parallel Actuator System (APAS), Active Noise Cancellation (ANC), and Engine Barrier Filter.

• MH-60 SOF Modernization program provides for the systems engineering and platform integration efforts, to include continued flight and qualification testing and test support.

• Degraded Visual Environment (DVE) solution will fuse information from currently fielded aircraft sensors with emerging technology to display real-time reference points, obstacles, and landing zone information to the aviator. The DVE solution will provide MH-47/60 aircrews with visual cues for obstacle avoidance and aircraft control during all phases of flight and significantly increase crew and passenger survivability in DVE such as dirt and snow.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: A/MH-6M Block 3.0 Upgrade	11.516	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160482BB / *SOF Rotary Wing Aviation*	**Project (Number/Name)** D615 / *SOF Rotary Wing Aviation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continued development of cockpit upgrades, improved rotor systems, and upgrades to airframe.			
Title: MH-47 Modifications and Upgrades ***FY 2013 Accomplishments:*** Completed ANC technology demonstration and continued development of the APAS technology for the MH-47G. Began development of the Engine Barrier Filter for the MH-47G.	2.699	-	-
Title: MH-60 SOF Modernization Program ***FY 2013 Accomplishments:*** Continued systems engineering and platform integration efforts to include flight and qualification testing and test support.	5.528	-	-
Title: Degraded Visual Environment (DVE) ***FY 2013 Accomplishments:*** Initiated development, integration, and testing of DVE sensors solution with avionics backbone for ARSOA platforms.	5.423	-	-
Accomplishments/Planned Programs Subtotals	25.166	-	-

C. 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
• PROC/0201RWUPGR: *Rotary Wing Upgrades and Sustainment*	74.733	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

• A/MH-6M Block 3.0 Upgrade comprises three major efforts: airframe/rotors, engine control, and cockpit. The airframe/rotors development effort will be a sole source contract to Boeing, who owns the technical data associated with the A/MH-6 airframe. The engine control work will be performed by Rolls-Royce and Goodrich Power and Engine Control under subcontract to Boeing. As part of the airframe upgrade, the main and tail rotor blades are being replaced with one of several blades available off-the-shelf through a competitive evaluation. The cockpit avionics architecture will be developed by Rockwell-Collins, with the intent to leverage the Common Avionics Architecture System source code to the extent possible. Any new hardware components will be NDI/COTS and will be competitively selected. The production software effort will be a FFP contract. Airframe modification and integration work will be conducted at the Special Operations Forces Support Activity (SOFSA) by the incumbent contractor.

• MH-47 Modifications and Upgrades - These efforts develop technologies to improve performance and safety of the MH-47G and decrease operational costs. Efforts include the APAS, ANC, and Engine Barrier Filter. This effort will consist mostly of Government executed integration, testing, and qualification efforts with some analytical engineering services to be procured. Because of proprietary considerations, efforts may be directed to the original equipment manufacturer.

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160482BB / *SOF Rotary Wing Aviation*	**Project (Number/Name)** D615 / *SOF Rotary Wing Aviation*

• MH-60M SOF Modernization Program - This supports the Systems Integration and Qualification efforts on the prototype MH-60M helicopter. This includes, but is not limited to, government and contractor flight test support, engineering analysis, documentation, and airworthiness substantiation. Contractor Flight test support will be conducted at the SOFSA by the incumbent contractor.

• DVE - This effort integrates and qualifies a solution to address a safety of flight issue while flying in degraded visual environments. A competitive source selection process will be conducted for the DVE solution which will procure, integrate and install components to provide real time “see through” imagery and heads up display of visual cues for obstacle avoidance and landing zone information during all phases of flight. DVE will increase MH-60 and MH-47 aircrew and customer survivability in a DVE.

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160482BB / *SOF Rotary Wing Aviation*	**Project (Number/Name)** D615 / *SOF Rotary Wing Aviation*

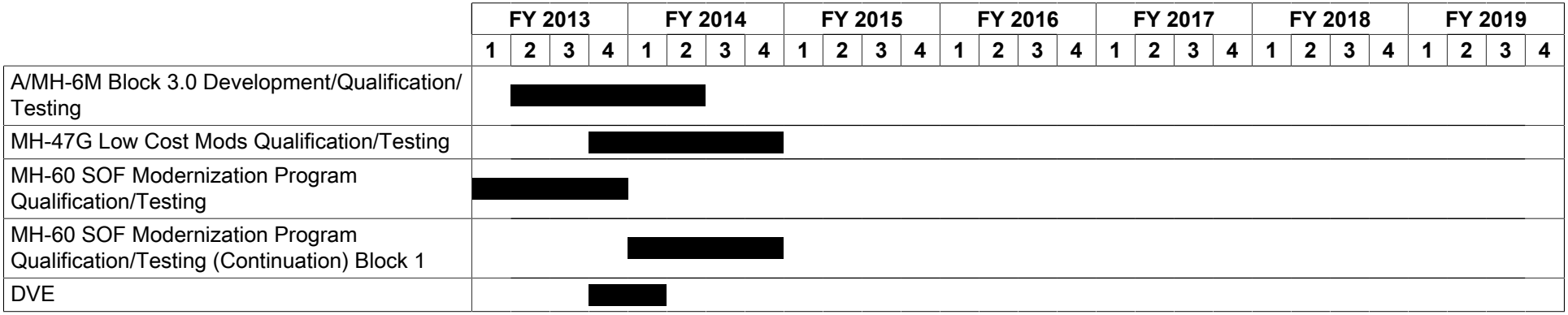

Exhibit R-4A, RDT&E Schedule Details: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160482BB / *SOF Rotary Wing Aviation*	**Project (Number/Name)** D615 / *SOF Rotary Wing Aviation*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
A/MH-6M Block 3.0 Development/Qualification/Testing	2	2013	2	2014
MH-47G Low Cost Mods Qualification/Testing	4	2013	4	2014
MH-60 SOF Modernization Program Qualification/Testing	1	2013	4	2013
MH-60 SOF Modernization Program Qualification/Testing (Continuation) Block 1	1	2014	4	2014
DVE	4	2013	1	2014