

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>					PE 0604220A: <i>Armed, Deployable Helos</i>							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	80.323	90.494	73.309	-	73.309	38.727	11.221	2.675	1.876	Continuing	Continuing
538: <i>Kiowa Warrior</i>	-	66.647	85.468	69.844	-	69.844	38.106	10.807	2.675	1.876	Continuing	Continuing
53Z: <i>Armed Scout Helicopter</i>	-	13.676	5.026	3.465	-	3.465	0.621	0.414	0.000	0.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Change Summary Explanation:

FY 2012: Base funding realigned to other Army programs.

FY 2013: None.

FY 2014: Base funding realigned from other Army programs.

A. Mission Description and Budget Item Justification

The Project 538 funding line develops, integrates and tests modifications which will allow the Kiowa Warrior (KW) to continue to safely serve as the Army's armed reconnaissance aviation capability until replaced/retired. An ACAT II program, OH-58F KW Cockpit and Sensor Upgrade Program (CASUP), was established to address capability shortfalls, obsolescence, and safety issues with the current fielded fleet and is required through 2025 and beyond. KW CASUP current program baseline is not the alternative solution to meet the Armed Scout Helicopter (Project 53Z) capability.

Funding supports the Armed Aerial Scout (AAS) voluntary flight demonstration and AAS milestone support/risk reduction. Post FY 2014 funding will be re-addressed as program strategies mature.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army				DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
2040: Research, Development, Test & Evaluation, Army		PE 0604220A: Armed, Deployable Helos			
BA 5: System Development & Demonstration (SDD)					
B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	82.363	90.494	50.043	-	50.043
Current President's Budget	80.323	90.494	73.309	-	73.309
Total Adjustments	-2.040	0.000	23.266	-	23.266
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 3	-2.040	-	23.266	-	23.266

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604220A: Armed, Deployable Helos				PROJECT 538: Kiowa Warrior			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
538: Kiowa Warrior	-	66.647	85.468	69.844	-	69.844	38.106	10.807	2.675	1.876	Continuing	Continuing
Quantity of RDT&E Articles												
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
The OH-58D Kiowa Warrior (KW) is a two-seat, single-engine, observation, scout/attack helicopter with four main rotor blades. It utilizes a thermal-imaging system and a laser rangefinder/designator in a Mast Mounted Sight (MMS) situated above the main rotor system. The aircraft is equipped with a variety of weapon systems including: HELLFIRE, 2.75-inch rockets, and a .50-caliber machine gun. The aircraft operates autonomously at standoff ranges providing armed reconnaissance, command and control, and target acquisition/designation for Apache helicopters and other airborne weapons platforms in day, night, and adverse-weather conditions. Sensor imagery from compatible Unmanned Aerial Systems (UAS) and manned aircraft can be received and relayed to other aircraft or ground stations. The Active Army and the National Guard fly Kiowa Warriors.												
Funding develops, integrates and qualifies modifications to support Kiowa Warrior missions. The ACAT II KW Cockpit and Sensor Upgrade Program (CASUP) will convert the OH-58D to the OH-58F configuration, and allow it to continue to safely serve as the Army's armed reconnaissance, aviation platform through its operational service life. Efforts include upgrading Control Display System (CDS) mission computers, avionics, intercom system, aircraft survivability systems, weapon systems, electrical systems, and cockpit instruments and displays, reducing weight and obsolescence, structural modifications, and replacing single with dual channel Full Authority Digital Electronic Control (FADEC), the MMS with the nose mounted AN/AAS-53 Common Sensor Payload (CSP) which is common with the Gray Eagle Unmanned Aerial Vehicle (UAV). Training Aids, Devices, Simulators and Simulations (TADSS) will be upgraded to maintain concurrency.												
OH-58D KW addresses the Degraded Visual Environment (DVE) requirements by improving the Stability and Control Augmentation System (SCAS), digital map elevation banding and inter-visibility, and position location/integrity through the embedded Global Positioning System (GPS). OH-58F KW CASUP adds CSP and Pilot Vehicle Interface (PVI) flight symbology to further increase capability in degraded environments.												
Additionally, the funding will develop and qualify Fielded Fleet Upgrades (FFU) for the OH-58D fleet in order to address near term obsolescence, safety and interoperability. FFU will accelerate integration of the Improved Master Controller Processor Unit (IMCPU) and Dual Channel FADEC (DCF) software and hardware. FFU maintains OH-58D fleet viability and operational readiness using components that are common with the OH-58F configuration.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: Development and Integration									49.634	54.675	36.133	
									Articles: 0	0		

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604220A: Armed, Deployable Helos	PROJECT 538: Kiowa Warrior		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Description: Development and Integration Efforts FY 2012 Accomplishments: Development and Integration Efforts FY 2013 Plans: Development and Integration Efforts FY 2014 Plans: Development and Integration Efforts				
Title: Engineering Support Activities Description: Engineering Support Activities FY 2012 Accomplishments: Engineering Support Activities FY 2013 Plans: Engineering Support Activities FY 2014 Plans: Engineering Support Activities		11.875 Articles: 0	17.550 0	17.512
Title: Test and Evaluation Description: Test and Evaluation FY 2012 Accomplishments: Test and Evaluation FY 2013 Plans: Test and Evaluation FY 2014 Plans: Test and Evaluation		1.814 Articles: 0	6.615 0	10.170
Title: Program Management		3.324	6.628	6.029

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0604220A: <i>Armed, Deployable Helos</i>			PROJECT 538: <i>Kiowa Warrior</i>			

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						FY 2012	FY 2013	FY 2014
Articles:						0	0	
Description: Program Management								
FY 2012 Accomplishments: B. Program Management								
FY 2013 Plans: Program Management								
FY 2014 Plans: C. Program Management								
Accomplishments/Planned Programs Subtotals						66.647	85.468	69.844

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• (AZ2200): <i>Kiowa Warrior (AZ2200)</i>	92.552	192.484	184.044		184.044	423.960	426.309	453.496	398.286	Continuing	Continuing
• (A02345): <i>Kiowa WRA (A02345)</i>	112.800	183.900								0.000	296.700
Remarks											
Funding will procure and install modification kits and components on the Kiowa Warrior (KW).											
FY2014 OCO funding will continue to build Kiowa Warrior Wartime Replacement Aircraft (WRA) in the most current configuration to include fielded fleet upgrades and weight reduction items.											
D. Acquisition Strategy											
The Government serves as the system integrator managing multiple contracts and government agencies.											
E. Performance Metrics											
Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.											

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604220A: <i>Armed, Deployable Helos</i>						PROJECT 538: <i>Kiowa Warrior</i>			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	Various Activities: Various Activities	18.478	3.324	Jan 2012	6.628	Jan 2013	6.029	Jan 2014	-		6.029	Continuing	Continuing	Continuing
Subtotal			18.478	3.324		6.628		6.029		0.000		6.029			
Remarks Funding will provide Armed Scout Helicopter (ASH) Government and contractor Program Management, Engineering, and Logistical support.															
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development and Integration	Various	Various Activities: Honeywell Inc. / PIF/BHTI	171.125	49.634	Dec 2011	54.675	Nov 2012	36.133	Nov 2013	-		36.133	Continuing	Continuing	Continuing
Subtotal			171.125	49.634		54.675		36.133		0.000		36.133			
Remarks Funding will provide both contractor and in-house development and integration efforts. Development and Integration activities will be performed by Honeywell Inc, Prototype Integration Facility and Bell Helicopter Textron Inc.															
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support Activities	Various	Various Activities: AMRDEC, AED & SED	22.920	11.875	Mar 2012	17.550	Mar 2013	17.512	Mar 2014	-		17.512	Continuing	Continuing	Continuing
Subtotal			22.920	11.875		17.550		17.512		0.000		17.512			
Remarks Funding will provide engineering support activities performed by Aviation and Missile Research and Development Center (AMRDEC), Aviation Engineering Directorate (AED) and Software Engineering Directorate (SED).															

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army												DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604220A: <i>Armed, Deployable Helos</i>				PROJECT 538: <i>Kiowa Warrior</i>				

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	Various	Various Activities:RTC, AATD, DTC, OTC	5.955	1.814	Dec 2011	6.615	Feb 2013	10.170	Feb 2014	-		10.170	Continuing	Continuing	Continuing
Subtotal			5.955	1.814		6.615		10.170		0.000		10.170			

Remarks
Funding will provide test and evaluation activities conducted by Redstone Test Center (RTC), Aviation Applied Technology Directorate (AATD), Developmental Test Command (DTC), and Operational Test Command (OTC).

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	218.478	66.647	85.468	69.844	0.000	69.844			

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army												DATE: April 2013					
APPROPRIATION/BUDGET ACTIVITY								R-1 ITEM NOMENCLATURE						PROJECT			
2040: Research, Development, Test & Evaluation, Army								PE 0604220A: Armed, Deployable Helos						538: Kiowa Warrior			
BA 5: System Development & Demonstration (SDD)																	

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
Critical Design Review (CDR)																												
Milestone C																												
First Unit Equipped																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604220A: <i>Armed, Deployable Helos</i>	PROJECT 538: <i>Kiowa Warrior</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Critical Design Review (CDR)	2	2012	2	2012
Milestone C	2	2015	2	2015
First Unit Equipped	4	2016	4	2016

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604220A: Armed, Deployable Helos				PROJECT 53Z: Armed Scout Helicopter			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
53Z: Armed Scout Helicopter	-	13.676	5.026	3.465	-	3.465	0.621	0.414	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
The mission of the Kiowa Warrior replacement aircraft is to provide a robust reconnaissance and security capability for the Joint Combined arms air-ground maneuver team. It will be a direct replacement for the aging OH-58D Kiowa Warrior / OH-58F Kiowa Warrior CASUP fleet or an upgrade to the OH-58 design.												
The aircraft will provide a highly deployable, reconnaissance and security capability that will employ immediately upon arrival into theater. The platform will address the capability gaps of interoperability, survivability, versatility, agility, lethality, and sustainability to ensure interoperability over extended ranges. The platform enhances mission effectiveness throughout the operational environment, and focuses on system survivability against threats operating in the contemporary operational environment, while reducing the logistical burden on the tactical unit. The fundamental purpose is to perform reconnaissance and to provide security in combat operations. In doing so, it improves the commander's ability to maneuver and concentrate superior combat power against the enemy at the decisive time and place.												
Funding supports the Armed Aerial Scout (AAS) voluntary flight demonstrations, capabilities assessment study, and AAS milestone support/risk reduction. Post FY 2014 funding will be re-addressed as program strategies mature.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: AAS AoA and Milestone Support/Risk Reduction Articles: Description: Funding is provided for the following effort FY 2012 Accomplishments: Complete AoA and initiate AAS Milestone Support/Risk Reduction FY 2013 Plans: AAS AoA and Milestone support FY 2014 Plans: AAS Milestone Support and Risk Reduction									5.736	5.026	3.465	
									0	0		
Title: Voluntary Flight Demonstration Articles:									7.940	0.000	0.000	
									0			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604220A: <i>Armed, Deployable Helos</i>	PROJECT 53Z: <i>Armed Scout Helicopter</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013
Description: Funding is to support Voluntary Flight Demonstration FY 2012 Accomplishments: Voluntary Flight Demonstration			
Accomplishments/Planned Programs Subtotals		13.676	5.026
C. Other Program Funding Summary (\$ in Millions) N/A Remarks D. Acquisition Strategy Not applicable for this item. E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.			

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army													DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>							R-1 ITEM NOMENCLATURE PE 0604220A: <i>Armed, Deployable Helos</i>				PROJECT 53Z: <i>Armed Scout Helicopter</i>				

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Voluntary Flight Demonstration	Various	Various:Various	0.000	7.940		-		-		-		-	0.000	7.940	0.000
Subtotal			0.000	7.940		0.000		0.000		0.000		0.000	0.000	7.940	0.000

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AAS AoA and Milestone Support/Risk Reduction	Various	Various:Various	3.289	5.736		5.026		3.465		-		3.465	0.414	17.930	Continuing
Subtotal			3.289	5.736		5.026		3.465		0.000		3.465	0.414	17.930	

			All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			3.289	13.676	5.026	3.465	0.000	3.465	0.414	25.870	

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army																DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY								R-1 ITEM NOMENCLATURE								PROJECT			
2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)								PE 0604220A: Armed, Deployable Helos								53Z: Armed Scout Helicopter			

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604220A: <i>Armed, Deployable Helos</i>	PROJECT 53Z: <i>Armed Scout Helicopter</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
VOLUNTARY FLIGHT DEMONSTRATION	3	2012	2	2013
MILESTONE SUPPORT and RISK REDUCTION	3	2012	4	2016