Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army

Date: March 2014

Appropriation/Budget Activity

R-1 Program Element (Number/Name)

2040: Research, Development, Test & Evaluation, Army I BA 7: Operational

PE 0305219A I MQ-1 Gray Eagle UAV

Systems Development

COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO <sup>#</sup>	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	-	68.694	10.895	46.472	-	46.472	-	-	-	-	-	126.061
MQ1: MQ-1 Gray Eagle - Army UAV (MIP)	-	68.694	10.895	46.472	-	46.472	-	-	-	-	-	126.061

<sup>&</sup>lt;sup>#</sup> The FY 2015 OCO Request will be submitted at a later date.

## A. Mission Description and Budget Item Justification

Gray Eagle provides Reconnaissance, Surveillance, Target Acquisition (RSTA), command and control, communications relay, Signals Intelligence (SIGNIT), battle damage assessment, and manned-unmanned teaming capability. Gray Eagle is a dedicated, assured, multi-mission Unmanned Aircraft System (UAS) fielded to all ten Army Divisions to support the commander's combat operations. The Army Special Operations Aviation Command (ARSOAC) Gray Eagle units and Aerial Exploitation Battalions (AEB) Gray Eagle units are self-contained Intelligence, Surveillance and Reconnaissance capabilities teamed with organic Processing, Exploitation and Dissemination that are a global rapidly deployable force and contribute to the Department of Defense Global ISR mission. A Gray Eagle unit consists of either 9 or 12 Aircraft, Universal Ground Control equipment, Standard Equipment Package and Payloads to include: Electro-Optical/Infrared Laser Range Finder/Laser Designator, synthetic aperture radar/ground moving target indicator, communication relay, and up to 4 HELLFIRE Missiles.

The Ground Based Sense and Avoid (GBSAA) system provides an alternative means of complying with Federal Aviation Administration "see and avoid" regulations.

Justification: FY 2015 funding of \$46.472 million will provide for completion of development and developmental testing of the Software Version 4.3 which will be used for Follow-on Test and Evaluation (FOT&E) and will complete Gray Eagle FOT&E test events. FY 2015 funds will also provide for GBSAA development and testing.

B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	74.618	10.901	17.609	-	17.609
Current President's Budget	68.694	10.895	46.472	-	46.472
Total Adjustments	-5.924	-0.006	28.863	-	28.863
<ul> <li>Congressional General Reductions</li> </ul>	-5.924	-0.006			
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-			
Congressional Rescissions	-	-			
Congressional Adds	-	-			
Congressional Directed Transfers	-	-			
Reprogrammings	-	-			
SBIR/STTR Transfer	-	-			
Adjustments to Budget Years	-	-	28.863	-	28.863

PE 0305219A: MQ-1 Gray Eagle UAV

Army

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army												
Appropriation/Budget Activity 2040 / 7					_		<b>t (Number</b> / Gray Eagle	umber/Name) -1 Gray Eagle - Army UAV (MIP)				
COST (\$ in Millions)	Prior Years	FY 2013	FY 2015 FY 2015 FY 2015 FY 2016 FY 2017 FY 2018							FY 2019	Cost To Complete	Total Cost
MQ1: MQ-1 Gray Eagle - Army UAV (MIP)	-	68.694	10.895	46.472	-	46.472	-	-	-	-	-	126.061
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

<sup>&</sup>lt;sup>#</sup> The FY 2015 OCO Request will be submitted at a later date.

#### Note

Integration of the Universal Ground Products into the Gray Eagle System requires completion of a Follow-On Operational Test and Evaluation (FOT&E). FY2015 funds increase is required to accommodate the FOT&E move to FY2015.

## A. Mission Description and Budget Item Justification

Gray Eagle provides Reconnaissance, Surveillance, Target Acquisition (RSTA), command and control, communications relay, Signals Intelligence (SIGINIT), battle damage assessment, and manned-unmanned teaming capability. Gray Eagle is a dedicated, assured, multi-mission Unmanned Aircraft System (UAS) fielded to all ten Army Divisions to support the commander's combat operations. The Army Special Operations Aviation Command (ARSOAC) Gray Eagle units and Aerial Exploitation Battalions (AEB) Gray Eagle units are self-contained Intelligence, Surveillance and Reconnaissance capabilities teamed with organic Processing, Exploitation and Dissemination that are a global rapidly deployable force and contribute to the Department of Defense Global ISR mission. A Gray Eagle unit consists of either 9 or 12 Aircraft, Universal Ground Control equipment, Standard Equipment Package and Payloads to include: Electro-Optical/Infrared Laser Range Finder/Laser Designator, synthetic aperture radar/ground moving target indicator, communication relay, and up to 4 HELLFIRE Missiles.

The Ground Based Sense and Avoid (GBSAA) system provides an alternative means of complying with Federal Aviation Administration "see and avoid" regulations.

Justification: FY 2015 funding of \$46.472 million will provide for completion of development and developmental testing of the Software Version 4.3 which will be used for Follow-on Test and Evaluation (FOT&E) and will complete Gray Eagle FOT&E test events. FY 2015 funds will also provide for GBSAA development and testing.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Gray Eagle Engineering and Manufacturing Development	12.487	-	-
Articles:	-	=	-
<b>Description:</b> Completed EMD contract efforts. Conducted Engineering Services efforts related to Link 16 and Universal product hardware development.			
FY 2013 Accomplishments: Completed EMD contract efforts. Conducted Engineering Services efforts related to Link 16 and Universal product hardware development.			
Title: Gray Eagle Software / Hardware Development	44.474	-	18.330

PE 0305219A: MQ-1 Gray Eagle UAV

	UNCLASSIFIED				
Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: M	arch 2014	
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305219A / MQ-1 Gray Eagle UAV		ct (Number/N MQ-1 Gray E	•	UAV (MIP)
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantit	•		FY 2013	FY 2014	FY 2015
Description: Gray Eagle Software / Hardware Development	A	rticles:	-	-	-
FY 2013 Accomplishments:  Began software development of the 4.3.X software, required for the introdu Universal products which will be tested in FOT&E.	uction of the Universal Ground Control Station and	d other			
FY 2015 Plans: Complete development of 4.3.X software.					
Title: Government Test Support	A	rticles:	3.595 -	5.080 -	22.493 -
<b>Description:</b> Government test support including support of developmental testing on the UGCS, Joint Interoperability Test Center efforts, Link 16 test complete FOT&E.	•				
FY 2013 Accomplishments: Government test support including support of developmental test, Electron UGCS, Joint Interoperability Test Center efforts, Link 16 testing, and FOT8	` ,	е			
FY 2014 Plans: Continue Government test support including support of developmental test	t and FOT&E test planning and site preparation.				
FY 2015 Plans: Complete developmental test to include Captive Carry, Transport/Mobility.	Conduct and complete FOT&E.				
Title: Gray Eagle Support including Engineering and Program Management		rticles:	0.445	-	-
<b>Description:</b> Gray Eagle Support including Engineering and Program Mar	nagement				
FY 2013 Accomplishments: Implement reliability improvements and corrections for IOT&E as well as ir	ntegration of office wide interoperability initiatives.				
Title: Ground Base Sense and Avoid (GBSAA)	Α	rticles:	7.693 -	5.815 -	5.649 -
Description: Ground Base Sense and Avoid (GBSAA)					

PE 0305219A: MQ-1 Gray Eagle UAV Army UNCLASSIFIED

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
1	R-1 Program Element (Number/Name)	Project (Number/Name)
2040 / 7	PE 0305219A I MQ-1 Gray Eagle UAV	MQ1 I MQ-1 Gray Eagle - Army UAV (MIP)

	, , ,		•	, ,
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in	<u>Each)</u>	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Ground Base Sense and Avoid (GBSAA); Development of the GBSAA software	and perform testing			
FY 2014 Plans: Ground Base Sense and Avoid (GBSAA)				
FY 2015 Plans: Ground Base Sense and Avoid (GBSAA); Development of the GBSAA softwar	re, integration, and perform testing.			
	Accomplishments/Planned Programs Subto	tals 68.694	10.895	46.472

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

			FY 2015	FY 2015	FY 2015					Cost To	
<u>Line Item</u>	FY 2013	FY 2014	<b>Base</b>	OCO	<u>Total</u>	FY 2016	FY 2017	FY 2018	FY 2019	<b>Complete</b>	<b>Total Cost</b>
• MQ-1 UAV / APA (A00005):	518.088	437.143	190.581	-	190.581	45.885	47.401	1.988	0.099	Continuing	Continuing
MQ-1 UAV / APA (A00005) -Base											

#### Remarks

# D. Acquisition Strategy

An Extended Range Multi-Purpose (ERMP) Operational Requirement Document (ORD) was approved by the Joint Requirement Oversight Council (JROC) 6 Apr 2005, Milestone B occurred 20 Apr 2005, and the System Development and Demonstration contract was awarded 8 Aug 2005, as a result of a competitive solicitation which included a vendor system capabilities demonstration. A Capabilities Production Document (CPD) was approved 14 Mar 09. To meet the required capability, evolutionary acquisition has been employed to implement the incremental approach outlined in the CPD. Gray Eagle completed IOT&E and the program now has to complete software development, integration and testing of the universal products (UGCS, UGDT and other universal ground equipment). PM JAMS is developing the R model of the HELLFIRE missile and participating in the integration and test activities for the entire Gray Eagle system. PEO Missile and Space is budgeting for the procurement of missiles for the fielded systems. PEO Intelligence and Electronic Warfare Systems (IEWS) develops, manages, and is responsible for meeting all Gray Eagle costs associated for payloads, payload integration, and payload sustainment.

### E. Performance Metrics

N/A

Army

PE 0305219A: MQ-1 Gray Eagle UAV

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Exhibit R-3, RDT&E	Project C	ost Analysis: PB 2	015 Army	/			,					Date:	March 20	14	
Appropriation/Budge 2040 / 7	et Activity	1					ogram Ele 5219A / M				_	(Number	r/ <b>Name)</b> y Eagle - /	Army UA	V (MIP)
Management Service	es (\$ in M	illions)		FY 2	2013	FY :	2014		2015 ise		2015 CO	FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	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	MIPR	PM UAS : Redstone Arsenal, AL	9.066	-		-		-		-		-	-	9.066	-
		Subtotal	9.066	-		-		-		-		-	-	9.066	-
Product Developmer	nt (\$ in M	illions)		FY 2	2013	FY 2	2014		2015 ise		2015 CO	FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	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 Engineering	C/CPIF	General Atomics / ASI : San Diego, CA	149.848	12.487	Sep 2013	-		-		-		-	-	162.335	-
Prototype Manufacturing	Various	General Atomics / ASI : San Diego, CA	213.776	-		-		-		-		-	-	213.776	-
Ground Support Equipment	C/CPIF	Various : Various	9.075	-		-		-		-		-	-	9.075	-
Ground Base Sense & Avoid (GBSAA)	SS/CPFF	Various : Various	0.000	7.693	Apr 2013	5.815	Mar 2014	5.649	Jan 2015	-		5.649	0.013	19.170	-
Software / Hardware Development	SS/CPIF	General Atomics : San Diego, CA	31.740	44.474	Sep 2013	-		18.330	Nov 2014	-		18.330	-	94.544	-
		Subtotal	404.439	64.654		5.815		23.979		-		23.979	0.013	498.900	-
Support (\$ in Million	s)			FY 2	2013	FY:	2014		2015 ise		2015 CO	FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	MIPR	Ft. Huachuca : Ft. Huachuca	24.402	0.099		-		-		-		-	-	24.501	-
Training and Training Equipment	MIPR	Ft. Huachuca : Ft. Huachuca	43.892	-		-		-		-		-	_	43.892	-
Government Engineering Support	C/FFP	Various : Various	18.513	0.346		-		-		-		-	-	18.859	-
		Subtotal	86.807	0.445		-		-		-		-	-	87.252	-

PE 0305219A: MQ-1 Gray Eagle UAV Army

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army

Appropriation/Budget Activity

2040 / 7

R-1 Program Element (Number/Name)
PE 0305219A / MQ-1 Gray Eagle UAV

MQ1 / MQ-1 Gray Eagle - Army UAV (MIP)

Test and Evaluation	(\$ in Milli	ons)		FY 2	2013	FY 2	2014		2015 ase	FY 2015 OCO					
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contrac
Test and Evaluation	MIPR	Various Government Agencies : Various Government Agencies	49.079	3.595	Mar 2013	5.080	Mar 2014	22.493	Jan 2015	-		22.493	-	80.247	-
		Subtotal	49.079	3.595		5.080		22.493		-		22.493	-	80.247	
			Prior					FY 2	2015	FY 2	2015	FY 2015	Cost To	Total	Target Value o

FY 2014

10.895

FY 2013

68.694

Years

549.391

**Project Cost Totals** 

Remarks

PE 0305219A: MQ-1 Gray Eagle UAV

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oco

Total

46.472

Complete

0.013

Cost

675.465

Contract

Base

46.472

Exhibit R-4, RDT&E Schedule Profile: PB 2015 A	٩rm	y																					Dat	e: M	arcl	า 20	14		
Appropriation/Budget Activity 2040 / 7											Project (Number/Name) MQ1 / MQ-1 Gray Eagle - Army UAV																		
		EV	7 20	142			EV 4							1				1	EV										
	1	2		)13 3	4	1	7 Y Z	2014 3	4	1	2	2015	4	1	2	2016 3	4	1	2	201	_	1	2	2018 3	_	1	2	2019	_
Engineering and Manufacturing Development																													
Full Rate Production Contract Award																													
Initial Operating Capability																								-					
Follow-on Operational Test and Evaluation		_																											
Developmental Testing and Software Testing																													

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (N	umber/Name)
2040 / 7	PE 0305219A I MQ-1 Gray Eagle UAV	MQ1 / MQ	-1 Gray Eagle - Army UAV (MIP)

# Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
Engineering and Manufacturing Development	3	2005	4	2013
Full Rate Production Contract Award	3	2013	3	2013
Initial Operating Capability	1	2013	1	2013
Follow-on Operational Test and Evaluation	3	2015	3	2015
Developmental Testing and Software Testing	1	2014	1	2016