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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army										Date: May 2017		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0305219A I MQ-1 Gray Eagle UAV							
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	-	22.285	30.970	9.574	-	9.574	0.000	0.000	0.000	0.000	0.000	62.829
MQ1: MQ-1 Gray Eagle - Army UAV (MIP)	-	22.285	30.970	9.574	-	9.574	0.000	0.000	0.000	0.000	0.000	62.829
A. Mission Description and Budget Item Justification												
The MQ-1C Gray Eagle provides the Army with an extended range, multi-purpose (ERMP) unmanned aircraft system (UAS); capable of executing reconnaissance, security, attack, and intelligence collection missions in the range of military operations (ROMO). Sensors/payloads include an Electro-Optical/Infrared/Laser Designator (EO/IR/LD), Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI), Signals Intelligence (SIGINT), and HELLFIRE missiles; providing a near all-weather mission capability. MQ-1C Gray Eagle is a dedicated, assured, multi-mission Unmanned Aircraft System (UAS) fielded to all Army Divisions, Intelligence and Security Command and Army Special Operations Command in support of the commander's warfighting priorities.												
The Fiscal Year (FY) 2018 MQ-1 Gray Eagle funding of \$9.574 million will support Test and Evaluation efforts associated with the MQ-1C Gray Eagle Extended Range Engineering Change Proposal (ECP). The test effort will evaluate overall system level performance to ensure it meets developmental and operational requirements. The types of effort required include Environmental Testing, Electromagnetic Environmental Effects (E3) testing, transport/mobility testing, logistics demonstration, and Follow-On Operational Test and Evaluation (FOTE II).												
B. Program Change Summary (\$ in Millions)				FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total				
Previous President's Budget				0.000	13.470	0.000	-	0.000				
Current President's Budget				22.285	30.970	9.574	-	9.574				
Total Adjustments				22.285	17.500	9.574	-	9.574				
• Congressional General Reductions				-	-							
• Congressional Directed Reductions				-	-							
• Congressional Rescissions				-	-							
• Congressional Adds				-	-							
• Congressional Directed Transfers				-	-							
• Reprogrammings				22.285	-							
• SBIR/STTR Transfer				-	-							
• Adjustments to Budget Years				0.000	17.500	9.574	-	9.574				
Change Summary Explanation												
The Fiscal Year (FY) 2016 MQ-1C Gray Eagle funding of \$22.285 million received 27 Sept 2016 will support the Longbow integration and address software obsolescence issues directly related to Airworthiness, Cyber Security and becoming Future Airborne Capability Environment (FACE) compliant.												

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<p>The Fiscal Year (FY) 2017 increase requests MQ-1C Gray Eagle funding of \$17.500 million to support development of Cyber Threat assessment activities and design and integration efforts.</p> <p>The Fiscal Year (FY) 2018 MQ-1C Gray Eagle funding of \$9.574 million will support Test and Evaluation efforts associated with the MQ-1C Gray Eagle Extended Range Engineering Change Proposal (ECP). The test effort will evaluate the changes to materiel (Extended Range Gray Eagle). The types of effort required include Environmental Testing, Electromagnetic Environmental Effects (E3) testing, transport/mobility testing, logistics demonstration, and Follow-On Operational Test and Evaluation (FOTE II).</p>		

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Army										Date: May 2017		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0305219A / MQ-1 Gray Eagle UAV				Project (Number/Name) MQ1 / MQ-1 Gray Eagle - Army UAV (MIP)			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
MQ1: MQ-1 Gray Eagle - Army UAV (MIP)	-	22.285	30.970	9.574	-	9.574	0.000	0.000	0.000	0.000	0.000	62.829
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
The MQ-1C Gray Eagle provides the Army with an extended range, multi-purpose (ERMP) unmanned aircraft system (UAS); capable of executing reconnaissance, security, attack, and intelligence collection missions in the range of military operations (ROMO). Sensors/payloads include an Electro-Optical/Infrared/Laser Designator (EO/IR/LD), Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI), Signals Intelligence (SIGINT), and HELLFIRE missiles; providing a near all-weather mission capability. MQ-1C Gray Eagle is a dedicated, assured, multi-mission Unmanned Aircraft System (UAS) fielded to all Army Divisions, Intelligence and Security Command and Army Special Operations Command in support of the commander's warfighting priorities.												
The Fiscal Year (FY) 2018 MQ-1 Gray Eagle funding of \$9.574 million will support Test and Evaluation efforts associated with the MQ-1C Gray Eagle Extended Range Engineering Change Proposal (ECP). The test effort will evaluate overall system level performance to ensure it meets developmental and operational requirements. The types of effort required include Environmental Testing, Electromagnetic Environmental Effects (E3) testing, transport/mobility testing, logistics demonstration, and Follow-On Operational Test and Evaluation (FOTE II).												
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2016	FY 2017	FY 2018
Title: MQ-1C Gray Eagle Extended Range - Testing										-	13.470	9.574
Description: MQ-1C ER Testing												
FY 2017 Plans: IGE Environmental Testing, E3 testing, and FOTE II.												
FY 2018 Plans: The FY2018 efforts will complete trans/mobility for Gray Eagle. Will complete required testing and evaluation of MQ1C Gray Eagle Extended Range system hardware.												
Title: MQ-1C Gray Eagle Extended Range - Longbow Integration										2.300	-	-
FY 2016 Accomplishments: Initial integration efforts by the Original Equipment Manufacturer (OEM) in support of the Longbow Integration effort into the MQ-1C Gray Eagle system.												
Title: Common System Integration (CSI) Obsolescence										19.985	-	-
FY 2016 Accomplishments:												

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B. Accomplishments/Planned Programs (\$ in Millions)									FY 2016	FY 2017	FY 2018
Awarded Base contract for development of partitioning new software architecture in November 2016. Working with Contractor to support development and award of Option to the contact in March 2017.											
Title: Cyber Threat Assessment									-	17.500	-
FY 2017 Plans: The Fiscal Year (FY) 2017 increase of \$17.500 million in the MQ-1C Gray Eagle RDTE line will support development of Cyber Threat assessment activities and follow on design and integration efforts for M-code GPS integration and removable hard drives to more easily declassify the aircraft. The funding supports a Cyber Threat Assessment (penetration testing) to ensure maintenance of security posture which includes Information Assurance and Level of Rigor efforts and systems engineering/qualification testing development.											
Accomplishments/Planned Programs Subtotals									22.285	30.970	9.574
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• MQ-1 UAV / APA - Base: A00005	314.273	55.388	30.206	-	30.206	-	-	-	-	0.000	399.867
• Gray Eagle Mods: A00002	-	-	74.291	-	74.291	103.246	58.724	24.662	-	Continuing	Continuing
• MQ-1C Gray Eagle	-	-	39.362	-	39.362	18.492	6.965	4.577	5.475	Continuing	Continuing
MODS: 273744 EB6											
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 on 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), version 8.7 was approved on 17 Jul 15. MQ-1C Gray Eagle completed FOTE 12 Jun 2015. On 14 Jul 2015, the trigger Configuration Steering Board (CSB) concurred with the Course of Action (COA) to validate the revised requirement for the Echelons Above Division (EAD) Gray Eagle and grant authorities through a new Acquisition Decision memorandum (ADM) to pursue the extended range capable Gray Eagle configuration. ER is an enhanced derivative of the MQ-1C Gray Eagle UAS and closes the capability gap by delivering extended surveillance coverage which supports Army RSTA missions in excess of 34 hours. ER's extended range provides the capacity for multi-intelligence payloads, precision strike capability, and reconnaissance in support of Special Operations Forces (SOF), Mission command from Aerial Intelligence Brigade (AIB) and U.S. Army Special Operations Command (USASOC). The Gray Eagle Research, Development, Test, and Evaluation (RDTE) acquisition strategy emphasis will be to complete Developmental test events (Environmental, E3, Transportability, & Performance Tests) to define and address system risks, followed by a FOTE II for the IGE.											
E. Performance Metrics											
N/A											