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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604270A: <i>Electronic Warfare Development</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	196.428	34.233	181.347	-	181.347	245.239	271.971	155.916	140.185	Continuing	Continuing
665: <i>A/C SURV EQUIP DEV</i>	4.727	9.545	21.976	-	21.976	14.109	18.362	18.996	15.374	Continuing	Continuing
L13: <i>COUNTER-IEDS</i>	4.000	-	-	-	-	-	-	-	-	Continuing	Continuing
L20: <i>ATIRCM/CMWS</i>	187.701	-	-	-	-	-	-	-	-	Continuing	Continuing
VS6: <i>INTEGRATED ELECTRONIC WARFARE SYSTEMS</i>	-	7.386	49.836	-	49.836	110.180	113.947	55.156	56.087	Continuing	Continuing
VU7: <i>COMMON MISSILE WARNING SYSTEM (CMWS)</i>	-	17.125	12.094	-	12.094	-	-	-	-	Continuing	Continuing
VU8: <i>COMMON INFRARED COUNTER MEASURE (CIRCM)</i>	-	0.177	97.441	-	97.441	120.950	139.662	81.764	68.724	Continuing	Continuing

Note

Change Summary Explanation: Realigned to higher priority requirements.

A. Mission Description and Budget Item Justification

FY 2012 budget request funds Electronic Warfare Development. This program element (PE) encompasses engineering and manufacturing development for tactical electronic warfare (EW), signals warfare (SW), aircraft survivability equipment (ASE), battlefield deception, rapid software reprogramming and protection of personnel and equipment from hostile artillery. EW encompasses the development of tactical EW equipment and systems mounted in both ground and air vehicles. The systems under this program provides the Army with the capability to degrade or deny hostile forces the effective use of their communications, countermortar/counterbattery radars, surveillance radars, infrared/optical battlefield surveillance systems and electronically fused munitions. Existing Army EW systems must be replaced or upgraded to maintain their capability in the face of threats. This program element satisfies requirements for brigade, division, corps and higher commanders to conduct electronic warfare to meet tactical and Special Electronic Mission Aircraft (SEMA), attack/scout, and assault/cargo mission requirements.

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APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
2040: Research, Development, Test & Evaluation, Army		PE 0604270A: Electronic Warfare Development			
BA 5: Development & Demonstration (SDD)					
B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	172.269	101.265	207.036	-	207.036
Current President's Budget	196.428	34.233	181.347	-	181.347
Total Adjustments	24.159	-67.032	-25.689	-	-25.689
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	24.159	-67.032	-25.689	-	-25.689

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270A: Electronic Warfare Development				PROJECT 665: A/C SURV EQUIP DEV			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
665: A/C SURV EQUIP DEV	4.727	9.545	21.976	-	21.976	14.109	18.362	18.996	15.374	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
The objective of the Aircraft Survivability Equipment (ASE) Development project is to improve radio frequency (RF) ASE for Army aviation. Milestone Decision Authority (MDA) approved phase 1 of a phased/incremental path forward, supported by the user and HQDA.											
Phase I upgrades the Processor Line Replaceable Unit (LRU) of the AN/APR-39A(V)1 Radar Signal Detecting Set through modernization and reduced parts count. Along with improved maintainability and reliability, performance will be enhanced via increased processing speed and expanded memory. These improvements will result in faster response time, better dense environment capability and improved parameter measurement. Phase 1 serves to make the currently fielded system viable until affordable improved RF ASE capability can be pursued in Phases 2 and 3. Phase 2 initiates development of an improved digital Radar Warning Receiver (RWR) and is pursuing a 4QFY12 MDD. Phase 3 adds active Electronic Countermeasures (ECM) jamming capability for selected aircraft.											
FY13 RDTE funding \$21.976 million funds the digital RWR AOA, software development, modeling and simulation and the AN/APR-39 processor upgrade eveluation.											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2011	FY 2012	FY 2013
Title: Radio Frequency Countermeasures									-	2.489	-
Articles:										0	
Description: In-house and program management administration											
FY 2012 Plans: Will continue to fund Phase II RFCM											
Title: Phase II Digital RWR									4.727	7.056	21.976
Articles:									0	0	
Description: Phase II Product Development (Digital RWR)											
FY 2011 Accomplishments: Technical Studies											
FY 2012 Plans: Technical Studies											
FY 2013 Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>		PROJECT 665: <i>A/C SURV EQUIP DEV</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
Will continue to fund Phase II RFCM		FY 2011	FY 2012	FY 2013
Accomplishments/Planned Programs Subtotals		4.727	9.545	21.976
C. Other Program Funding Summary (\$ in Millions) N/A				
D. Acquisition Strategy The Army Radio Frequency (RF) Aircraft Survivability Equipment (ASE) is managed by Program Manager ASE (PM ASE) for integration and installation on Army Aviation platforms. PM ASE proposed a three phased path forward commensurate with user priorities and life cycle management philosophy. Phase 1, approved by MDA, upgrades the currently fielded AN/APR-39A(V)1 Radar Signal Detecting Set which is employed by approximately 3,000 aircraft; awarded sole source via ECP to the existing contractor of the APR-39A. Phase 2 develops an improved digital Radar Warning Receiver for modernized Army platforms by capitalizing on emerging technologies to provide enhanced aircrew situational awareness. Phase 3 will develop and integrate active Electronic Countermeasures jamming capability for select aircraft. Competition will be considered for the future phases.				
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.				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270A: Electronic Warfare Development				PROJECT 665: A/C SURV EQUIP DEV					
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Development	Various	Various:-	7.985	-		2.638		-		2.638	Continuing	Continuing	Continuing
Project Management	Various	Various:-	0.182	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			8.167	-		2.638		-		2.638			
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Digital Radar Warning Receiver (RWR)	SS/FP	Lab Demo / AoA / Studies:Various-	3.569	7.065		8.391		-		8.391	Continuing	Continuing	Continuing
S/W Development	MIPR	AMRDEC, SED:Redstone Arsenal, AL	-	-		2.104		-		2.104	Continuing	Continuing	0.000
Modeling and Simulation	MIPR	AMRDEC, SEd:Redstone Arsenal, AL	-	-		1.052		-		1.052	Continuing	Continuing	0.000
Subtotal			3.569	7.065		11.547		-		11.547			
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Support	Various	Various:-	1.439	0.920		0.945		-		0.945	Continuing	Continuing	Continuing
Matrix Support	Various	Various:-	4.974	1.560		1.587		-		1.587	Continuing	Continuing	Continuing
Subtotal			6.413	2.480		2.532		-		2.532			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army											DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>				PROJECT 665: <i>A/C SURV EQUIP DEV</i>					

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Processor Upgrade Evaluation	TBD	Evaluation Center:I2WD	0.025	-		5.259		-		5.259	Continuing	Continuing	Continuing
Subtotal			0.025	-		5.259		-		5.259			
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			18.174	9.545		21.976		-		21.976			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>		PROJECT 665: <i>A/C SURV EQUIP DEV</i>	

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Lab Demo Studies																												
Phase 2 MDD																												
Phase 2 MS A																												
Phase 2 TD																												
Phase 2 MS B																												
Phase 2 EMD																												
Phase 2 DT/OT																												
Phase 2 MS C																												
Phase 2 LRIP																												
FUE																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>	PROJECT 665: <i>A/C SURV EQUIP DEV</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Lab Demo Studies	2	2011	3	2012
Phase 2 MDD	4	2012	4	2012
Phase 2 MS A	2	2014	2	2014
Phase 2 TD	2	2014	4	2015
Phase 2 MS B	1	2016	1	2016
Phase 2 EMD	1	2016	4	2016
Phase 2 DT/OT	4	2016	4	2016
Phase 2 MS C	1	2017	1	2017
Phase 2 LRIP	1	2017	1	2017
FUE	2	2017	2	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>				PROJECT L13: <i>COUNTER-IEDS</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
L13: <i>COUNTER-IEDS</i>	4.000	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note
FY 2010 funding was for the Counter Radio Controlled Improvised Explosive Devices (RCIED) Electronics Warfare (CREW) family. There was no funding request in FY 2011.

A. Mission Description and Budget Item Justification
The Counter Improvised Explosive Devices (R-IED) is part of the family of Electronic Warfare and Electronic Counter Measure (ECM) systems used to provide essential force protection for fixed sites, vehicle platforms and soldiers. The Counter-IEDS funds will support the evolving Integrated Electronic Warfare Systems Program by supporting the technology and development of Electronic Attack, Electronic Protect and Electronic Support systems and continued support to specific Electronic Counter Measure (ECM) System such as the Counter Radio Controlled Improvised Explosive Devices (RCIED) Electronic Warfare (CREW) family of systems.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: COUNTER -IEDS <div style="text-align: right;">Articles:</div> Description: This line funds government program operations and Duke Technical Insertion efforts. FY 2011 Accomplishments: Funds for Duke Technical Insertion efforts.	4.000 0	-	-
Accomplishments/Planned Programs Subtotals	4.000	-	-

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• VA8000: <i>WARLOCK</i>	24.127		15.565		15.565		60.259	200.754		0.000	316.153

D. Acquisition Strategy
The Duke Technical Insertion (DTI) effort will enable the Duke System to maintain relevancy and performance in pace with the changing threat. The engineering and manufacturing development was awarded competitively through the CERDEC S3 Contract vehicle for the CREW 2 Duke system improvement.

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270A: Electronic Warfare Development				PROJECT L13: COUNTER-IEDS					
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO Staff/Travel OH	Various	PM Electronic Warfare -:PM Electronic Warfare - Fort Monmouth, NJ	0.475	-		-		-		-	Continuing	Continuing	0.000
Program SETA Support	Various	CACI -:NJ/MD	0.675	-		-		-		-	Continuing	Continuing	0.000
Subtotal			1.150	-		-		-		-			0.000
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Tech Insertion Range and Frequency Leverage - Duke	TBD	SRCTec:Syracuse, NY	15.305	-		-		-		-	Continuing	Continuing	0.000
Subtotal			15.305	-		-		-		-			0.000
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
COMMS Compatability & EMI	Various	I2WD:Fort Monmouth, NJ	1.200	-		-		-		-	Continuing	Continuing	0.000
Modeling and Simulation	Various	CERDEC, S&TCD:Fort Monmouth, NJ	1.679	-		-		-		-	Continuing	Continuing	0.000
Government Engineering Support	Various	I2WD:Fort Monmouth, NJ	0.588	-		-		-		-	Continuing	Continuing	0.000
Government Engineering Support	Various	Various:Various	0.788	-		-		-		-	Continuing	Continuing	0.000
Subtotal			4.255	-		-		-		-			0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army											DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>				PROJECT L13: <i>COUNTER-IEDS</i>					

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Chamber Test	Various	I2WD -:Fort Monmouth, NJ	0.350	-		-		-		-	Continuing	Continuing	0.000
Operational Range Test	MIPR	Yuma Proving Ground,:Yuma Proving Ground, AZ	1.538	-		-		-		-	Continuing	Continuing	0.000
Subtotal			1.888	-		-		-		-			0.000

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	22.598	-	-	-	-			0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army																DATE: February 2012																			
APPROPRIATION/BUDGET ACTIVITY								R-1 ITEM NOMENCLATURE								PROJECT																			
2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)								PE 0604270A: Electronic Warfare Development								L13: COUNTER-IEDS																			
								FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
								1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
DTI Production																																			

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604270A: Electronic Warfare Development	PROJECT L13: COUNTER-IEDS

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
DTI Production	2	2012	3	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270A: Electronic Warfare Development				PROJECT L20: ATIRCM/CMWS			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
L20: ATIRCM/CMWS	187.701	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											
Note Not applicable for this item.											
A. Mission Description and Budget Item Justification L20 has been broken into subprograms for FY12 and those dollars are now covered in the VU7 (CMWS), and VU8 (CIRCM). In FY11 L20 covered CMWS, CIRCM, and HFDS. The HFDS MDD was indefinitely postponed during FY11 and no FY12 funding exists. The US Army operational requirements concept for Infrared (IR) countermeasure systems is known as the Suite of Integrated Infrared Countermeasures (SIIRCM). It is an integrated warning and countermeasure system to enhance aircraft survivability against IR guided threat missile systems. The core element of the SIIRCM concept is the Advanced Threat Infrared Countermeasure/Common Missile Warning System (ATIRCM/CMWS) Program. The ATIRCM/CMWS, a subsystem to a host aircraft, is an integrated ultraviolet (UV) missile warning system and an IR Laser Jamming and Improved Countermeasure Dispenser (ICMD). The ATIRCM/CMWS program was restructured per an Under Secretary of Defense for Acquisition, Technology, and Logistics (USD (AT&L)) Acquisition Decision Memorandum (ADM) dated April 15, 2009. USD (AT&L) designated the ATIRCM/CMWS program as an Acquisition Category (ACAT) 1D special interest program, and directed the establishment of the CMWS, ATIRCM QRC and Common Infrared Countermeasure (CIRCM) subprograms. On September 3, 2010, Mr Kendall, Principal Deputy to the USD(AT&L), Acting DAE signed an ADM approving the reinstatement of MS C for CMWS and redesignating the ATIRCM QRC and CMWS subprograms as ACAT IC. Mr. Kendall also approved new baselines for each subprogram. The CMWS subprogram is a UV missile warning system that cues both flare and laser countermeasures to defeat incoming IR missiles. The B-kit consists of the components which perform the missile detection and identification, false alarm rejection, hostile missile declaration, and countermeasure employment functions of the system. The CMWS Electronic Control Unit (ECU) receives UV missile detection data from Electro-optic Missile Sensors (EOMS) and sends a missile alert signal to alert crewmen via on-board avionics, and ATIRCM QRC Jam Head Control Unit. Tier 1 threat missiles detected and tracked by the CMWS are subsequently defeated by a combination of missile seeker countermeasures, including decoy flares and ATIRCM IR Laser Jamming (CH-47 platform). The CMWS Generation 3 (Gen 3) Electronics Control Unit (ECU) will meet Tier 1 requirements while retaining a low false alarm rate. The Gen 3 ECU is required to obtain a Full Material Release for CMWS and ensure protection against emerging IR guided missile threats. The ATIRCM Quick Reaction Capability (QRC) subprogram is an ATIRCM program transition in response to Operational Needs Statement (ONS) Number 08-5661 dated June 10, 2008. This ONS outlines the urgent requirement to equip CH-47 helicopters being used in SWA in support of Operation Enduring Freedom/ Operation New Dawn (OEF/OND) with an improved IRCM capability to counter threats from advanced Man Portable Air Defense Systems (MANPADS). To address this requirement, an ATIRCM QRC for seventy (70) CH-47 helicopters was authorized by an Acquisition Decision Memorandum (ADM) signed September 15, 2008 by											

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the Army Acquisition Executive (AAE). The DAE signed an ADM on April 15, 2009 that increased this urgent requirement to equip a total of eighty-three (83) CH-47 helicopters. On August 13, 2011, the AAE approved an increase in the ATIRCM quantities for a total of 340 A-kits and 120 B-kits.					
The CIRCM (next generation ATIRCM) subprogram is an IR countermeasure system that interfaces with a Missile Warning System (MWS) to provide near spherical coverage of the host platform in order to defeat all IR threats. The Defense Acquisition Executive (DAE) directed that the SIIRCM ORD be the requirement baseline for the CIRCM, in lieu of an Initial Capabilities Document (ICD). CIRCM will provide the sole acquisition of future laser based IR countermeasure systems for all rotary-wing, tilt-rotor, and small fixed wing aircraft across the Department of Defense. The December 28, 2011 Defense Acquisition Executive Acquisition Memorandum (DAE ADM) authorized entry into the Technology Development (TD) Phase, designated the program a pre-Major Defense Acquisition Program (MDAP), and approved the updated exit criteria.					
The A-kit for CMWS, ATIRCM QRC, and CIRCM includes mounting hardware, wiring harnesses, cables, and other components necessary to install and interface the mission kit on host aircraft. The A-kit ensures the mission kit is functionally and physically operational with a specific host aircraft type.					
The Hostile Fire Detection System (HFDS) provides small arms fire detection, orientation, type and real time cueing to all aircrew members enabling avoidance and/or response.					
The Hostile Fire Quick Reaction Capability (HF QRC) is in response to Operational Needs Statement (ONS) Number 09-0836 dated May 09, 2009. This ONS outlines the urgent requirement for a ballistic threat detection system for Army aircraft. To address this requirement the Army Resource and Requirements Board (AR2B) and War Production Board (WPB) approved a Common Missile Warning System (CMWS) based solution. This capability is scheduled for fielding in FY12.					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2011	FY 2012	FY 2013
Title: Development Efforts Articles: Description: ATIRCM/CMWS RDT&E funding supports the design and development for the CMWS Generation 3 (Gen 3) Electronic Control Unit (ECU), CMWS Enhanced Sensor, CMWS Tier 2/3 enhancement, and the HFDS/HF QRC development and begins the design and development of the CIRCM system. FY 2011 Accomplishments: RDT&E dollars supported HF QRC, CMWS Enhanced Sensor studies, initial development of the CMWS Tier 2/3 enhancement, the CIRCM Technology Development phase and HFDS development.			187.701	-	-
			0		
Accomplishments/Planned Programs Subtotals			187.701	-	-
C. Other Program Funding Summary (\$ in Millions)					
N/A					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>	PROJECT L20: <i>ATIRCM/CMWS</i>
D. Acquisition Strategy <p>The current ATIRCM/CMWS Acquisition Program Baseline is dated September 2010, and the program is fully funded to the CAPE ICE. The acquisition strategy includes buying CMWS separately from ATIRCM and installation of A-kits on all modernized aircraft. The current CMWS production contract is a fixed-priced, Indefinite Delivery, Indefinite Quantity (IDIQ) contract. The Gen 3 ECU became a part of the system in FY10, and fielding will begin in FY12. The ATIRCM QRC effort was procured using three letter contracts; two for ATIRCM QRC A-kits and one for ATIRCM QRC B-kits. A new contract for ATIRCM QRC A-kits and B-kits will be awarded in FY12.</p> <p>After a full and open competition beginning in 2QFY12 for the CIRCM Technology Development (TD) phase, at least two contractors will be selected and awarded TD contracts. CIRCM will continue pre-MS B activities and enter into a competition for EMD in 3QFY14. MS B approval will be followed by award of EMD contract with priced options for LRIP and for the procurement of all technical data relevant to the performance of this contract or life cycle of this program. Upon CIRCM MS C approval, the LRIP option will be exercised and the program will immediately enter the Production & Deployment phase. At this time, PM Countermeasures intends to award a fixed price contract for CIRCM Full Rate Production.</p> <p>The Hostile Fire (HF) Quick Reaction Capability (QRC) effort was procured under the CMWS Generation 3 (Gen 3) program utilizing the current T206 (Hardware and T&M Effort) contract and a letter contract.</p>		
E. Performance Metrics <p>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.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army											DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				PE 0604270A: Electronic Warfare Development				L20: ATIRCM/CMWS					
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR/STTR	Various	Various:-	6.775	-		-		-		-	Continuing	Continuing	Continuing
CMWS Systems Engineering and Prgram Management	Various	Various:-	3.711	-		-		-		-	0.000	3.711	0.000
CIRCM System Engineering Program Management	Various	PM ASE, HSV, AL:-	23.420	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			33.906	-		-		-		-			
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ATIRCM QRC Test Facility	SS/FP	Amherst, HSV, AL:-	1.300	-		-		-		-	Continuing	Continuing	Continuing
ATIRCM QRC	SS/FP	Cowley, Chantilly, VA:-	0.100	-		-		-		-	Continuing	Continuing	Continuing
CMWS Modeling and Simulation	Various	CAS, HSV, AL:-	8.100	-		-		-		-	Continuing	Continuing	Continuing
CMWS Enhanced Sensor Study & Evaluation	Various	TBD:-	11.000	-		-		-		-	Continuing	Continuing	Continuing
CMWS Tier 2/3 Threat Upgrades	Various	Various:-	3.475	-		-		-		-	Continuing	Continuing	Continuing
CMWS Development Engineering	Various	:-	43.982	-		-		-		-	Continuing	Continuing	0.000
CMWS Gen 3 ECU ETC	Various	Various:-	19.640	-		-		-		-	Continuing	Continuing	Continuing
CMWS Gen 3 Providence Additional Phases	Various	TBD:-	15.310	-		-		-		-	Continuing	Continuing	Continuing
CIRCM Non-Recurring Engineering	C/CPFF	TBD:-	96.011	-		-		-		-	Continuing	Continuing	Continuing
CIRCM Other R&D	TBD	Various:Various	12.880	-		-		-		-	0.000	12.880	0.000
CIRCM Development Facilities	TBD	Various:Various	6.190	-		-		-		-	0.000	6.190	0.000
HFDS Modernization Efforts	Various	Various:TBD	67.300	-		-		-		-	Continuing	Continuing	Continuing
HF QRC	TBD	Various:Various	48.000	-		-		-		-	0.000	48.000	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army											DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>				PROJECT L20: <i>AT/IRCM/CMWS</i>					
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			333.288	-		-		-		-			
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CIRCM Support Equipment	Various	TBD:-	3.350	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			3.350	-		-		-		-			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CMWS System Test and Evaluation	Various	Various:-	6.250	-		-		-		-	Continuing	Continuing	Continuing
CIRCM Other Testing	Various	TBD:-	5.910	-		-		-		-	Continuing	Continuing	Continuing
CIRCM Government System Test & Evaluation	Various	Various:-	15.856	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			28.016	-		-		-		-			
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			398.560	-		-		-		-			
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>		PROJECT L20: <i>AT/IRCM/CMWS</i>	

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
CMWS System Dev/Tier 2 and 3 Upgrades (Base)																												
Start of CMWS GEN 3 Asset Installation (Base)																												
CIRCM TD Phase																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>	PROJECT L20: <i>AT/IRCM/CMWS</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
CMWS System Dev/Tier 2 and 3 Upgrades (Base)	2	2011	4	2013
Start of CMWS GEN 3 Asset Installation (Base)	3	2012	3	2012
CIRCM TD Phase	2	2012	1	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270A: Electronic Warfare Development				PROJECT VS6: INTEGRATED ELECTRONIC WARFARE SYSTEMS			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
VS6: INTEGRATED ELECTRONIC WARFARE SYSTEMS	-	7.386	49.836	-	49.836	110.180	113.947	55.156	56.087	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
The Integrated Electronic Warfare (IEW) Family of Systems (FoS) will provide Electronic Warfare capabilities to the Army and Joint Force Commander with a modular, scalable and interoperable architecture to allow tailored responses to a variety of EW threats/scenarios. The program is structured along three lines of effort: Multi-Function EW (MFEW), EW Planning & Management Tools (EWPMT), and Defensive Electronic Attack (DEA). The MFEW FoS will provide Offensive Electronic Attack (OEA) capability organic to the Brigade Combat Team (BCT) through a Family of Systems (FoS) including ground vehicle, man-pack, fixed site, and airborne variants. The EWPMT will provide planning capabilities to coordinate, manage, and deconflict unit EW activities; employ EW assets to conduct offensive EW targeting, and synchronize EW spectrum operations within an Effects/Fires Cell as an element of Mission Command.											
FY2013 funds support Materiel Solution Analysis (MSA) phase efforts for two IEWS components and transition of each into the acquisition process with separate Milestone decisions.											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2011	FY 2012	FY 2013	
Title: IEWS <div>Articles:</div> Description: The IEW System (IEWS) will consist of an Electronic Warfare Planning and Management Tool (EWPMT), Multi-Function EW (MFEW) and Defensive Electronic Attack (DEA) family of systems. FY 2012 Plans: IEWS Family of Systems: Establish Product Management Offices and support Analysis of Alternatives (AoA) efforts for all three components of the IEWS. EWPMT: Initiate efforts on an Acquisition Requirements Package (ARP) and prepare documentation in support of a Milestone B Decision. MFEW: Initiate efforts on an ARP and prepare documentation in support of a Milestone A Decision. FY 2013 Plans: EWPMT: Conduct Milestone B Decision Review. Complete ARP development, initiate a competitive procurement, conduct source selection, and award an EMD contract. MFEW: Conduct a Milestone A Decision Review. Complete ARP development, conduct source selection and award competitive prototyping efforts as architecture, networking, and technology risk reduction activities to support the MFEW effort.								-	7.386 0	49.836	
Accomplishments/Planned Programs Subtotals								-	7.386	49.836	

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>	PROJECT VS6: <i>INTEGRATED ELECTRONIC WARFARE SYSTEMS</i>	

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Integrated Electronic Warfare Syste: <i>K00000</i>							130.667	265.117	269.624	0.000	766.620

D. Acquisition Strategy

FY12 IEWS efforts consist of completion of Material Solution Analysis (MSA) phase efforts to include AoAs that will inform a Technology Development strategy and initial actions towards technology development and EMD contracts. In FY13, multiple competitive contracts are anticipated for each IEWS line of effort. For EWPMT, an automated information system (software) strategy is envisioned. For MFEW, multiple competitive prototype contracts are anticipated for the Technology Development phase.

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE				PROJECT				
2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)					PE 0604270A: Electronic Warfare Development				VS6: INTEGRATED ELECTRONIC WARFARE SYSTEMS				
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO Staff/Travel	Allot	PM Electronic Warfare:Aberdeen Proving Ground, MD	-	0.975		3.025		-		3.025	Continuing	Continuing	0.000
Program and Technical Assistance support	C/TBD	TBD:Aberdeen Proving Ground, MD	-	0.489		-		-		-	Continuing	Continuing	0.000
Source Selection Evaluation Board (SSEB) support	MIPR	TBD:Aberdeen Proving Ground, MD	-	-		4.360		-		4.360	0.000	4.360	0.000
Subtotal			-	1.464		7.385		-		7.385			0.000
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
EMD Contract - EWPMT	C/TBD	TBD:TBD	-	-		11.748		-		11.748	Continuing	Continuing	0.000
IEWS Engineering and Development	MIPR	I2WD:Aberdeen MD	-	3.757		-		-		-	Continuing	Continuing	Continuing
Technology Development contract for MFEW	C/TBD	TBD:TBD	-	-		24.461		-		24.461	Continuing	Continuing	0.000
Subtotal			-	3.757		36.209		-		36.209			
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical/Engineering Support - Contractor	C/TBD	TBD:TBD	-	-		2.405		-		2.405	Continuing	Continuing	Continuing
Government Engineering Support	MIPR	USACECOM:Aberdeen Proving Ground, MD	-	2.165		3.837		-		3.837	Continuing	Continuing	Continuing
Subtotal			-	2.165		6.242		-		6.242			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army											DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>				PROJECT VS6: <i>INTEGRATED ELECTRONIC WARFARE SYSTEMS</i>					

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test support	MIPR	Various:TBD	-	-		-		-		-	Continuing	Continuing	0.000
Subtotal			-	-		-		-		-			0.000

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	7.386		49.836		-		49.836			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>		PROJECT VS6: <i>INTEGRATED ELECTRONIC WARFARE SYSTEMS</i>	

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Establish Product Management Offices (PMOs)																												
EW Planning & Mgmt Tool (EWPMT) - MS B																												
EWPMT EMD Contract																												
EWPMT Limited Deployment																												
Multi-Functional EW - MS A																												
MFEW TD Phase Prototyping Efforts																												
Multi-Function EW																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>	PROJECT VS6: <i>INTEGRATED ELECTRONIC WARFARE SYSTEMS</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Establish Product Management Offices (PMOs)	2	2012	2	2013
EW Planning & Mgmt Tool (EWPMT) - MS B	2	2013	2	2013
EWPMT EMD Contract	3	2013	4	2017
EWPMT Limited Deployment	4	2014	4	2014
Multi-Functional EW - MS A	1	2013	1	2013
MFEW TD Phase Prototyping Efforts	3	2013	4	2014
Multi-Function EW	2	2015	2	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270A: Electronic Warfare Development				PROJECT VU7: COMMON MISSILE WARNING SYSTEM (CMWS)			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
VU7: COMMON MISSILE WARNING SYSTEM (CMWS)	-	17.125	12.094	-	12.094	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

CMWS is the subprogram identified as VU7.

The US Army operational requirements concept for infrared (IR) countermeasure systems is known as the Suite of Integrated Infrared Countermeasures (SIIRCM). SIIRCM is an integrated warning and countermeasure system to enhance aircraft survivability against IR guided threat missile systems. The core element of the SIIRCM concept is the Advanced Threat Infrared Countermeasure/Common Missile Warning System (ATIRCM/CMWS) Program. The ATIRCM/CMWS is an integrated ultraviolet (UV) missile warning system, an IR Laser Jamming and Improved Countermeasure Dispenser (ICMD) serving as a subsystem to the host aircraft.

The ATIRCM/CMWS program was restructured per an Under Secretary of Defense for Acquisition, Technology, and Logistics (USD (AT&L)) Acquisition Decision Memorandum (ADM) dated April 15, 2009. USD (AT&L) designated the ATIRCM/CMWS program as an Acquisition Category (ACAT) ID special interest program, and directed the establishment of the CMWS and Common Infrared Countermeasure (CIRCM) subprograms. On September 3, 2010, the Principal Deputy to the USD(AT&L), Acting DAE signed an ADM approving the reinstatement of MS C for CMWS. The ADM redesignated the CMWS subprogram as ACAT IC. The Principal Deputy to the USD(AT&L) also approved the new baseline for CMWS.

The CMWS subprogram is a UV missile warning system that cues both flare and laser countermeasures to defeat incoming missiles and provides a limited ability to warn aircrews of incoming unguided munitions. The B-kit consists of the components which perform the missile detection and identification, unguided munitions detection, false alarm rejection, hostile missile declaration, and countermeasure employment functions of the system. The CMWS Electronic Control Unit (ECU) receives UV missile detection data from Electro-optic Missile Sensors (EOMS) and sends a missile warning signal to on-board avionics (to alert crewmembers) and to the IR Jam Head Control Unit. Tier 1 threat missiles detected and tracked by the CMWS are subsequently defeated by a combination of missile seeker countermeasures, including decoy flares. In addition the CMWS ECU receives detections of unguided munitions which it then passes oral and visual cues to the aircrew. The aircrew then applies the appropriate Tactics Techniques and Procedures (TTPs) to break contact or engage the enemy with own ship ordnance. The CMWS Generation 3 (Gen 3) Electronic Control Unit (ECU) will meet Tier 1 requirements while retaining a low false alarm rate. The Gen 3 ECU is required to obtain a Full Materiel Release for CMWS and ensure protection against emerging guided missile threats.

The A-kit for CMWS includes mounting hardware, wiring harnesses, cables, and other components necessary to install and interface the mission kit on host aircraft. The A-kit ensures the mission kit is functionally and physically operational with a specific host aircraft type.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012												
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>	PROJECT VU7: <i>COMMON MISSILE WARNING SYSTEM (CMWS)</i>												
<p>Justification</p> <p>RDT&E</p> <p>Fiscal Year 2013 Base RDT&E dollars in the amount of 12.094 million supports design and development of Tier 2/3 upgrades and CMWS enhanced sensor studies.</p> <p>CMWS will continue to spend RDT&E funds on the next generation sensor studies, new algorithm updates (Tier 2/3 upgrades) to counter new variants/missiles, and continue program security initiatives. The sensor studies will evaluate current CMWS technology as compared to the Navy JATAS program and look at the pros and cons of UV missile warning sensors compared to IR missile warning sensors for Army aircraft. The study will also examine other technologies to possibly enhance the CMWS UV sensor with either an IR or acoustic adjunct to determine possible cost savings to the USG.</p>														
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)														
		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:33%;">FY 2011</th> <th style="width:33%;">FY 2012</th> <th style="width:33%;">FY 2013</th> </tr> </table>	FY 2011	FY 2012	FY 2013									
FY 2011	FY 2012	FY 2013												
Title: Development Effort	Articles:	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%; text-align: center;">-</td> <td style="width:33%; text-align: center;">17.125 0</td> <td style="width:33%; text-align: center;">12.094</td> </tr> </table>	-	17.125 0	12.094									
-	17.125 0	12.094												
Description: - FY 2012 Plans: RDT&E funding supports the design and development of the CMWS Tier 2/3 enhancement and the CMWS Enhanced Sensor studies. FY 2013 Plans: RDT&E funding supports the design and development of the CMWS Tier 2/3 enhancement and the CMWS Enhanced Sensor studies.														
Accomplishments/Planned Programs Subtotals		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%; text-align: center;">-</td> <td style="width:33%; text-align: center;">17.125</td> <td style="width:33%; text-align: center;">12.094</td> </tr> </table>	-	17.125	12.094									
-	17.125	12.094												
C. Other Program Funding Summary (\$ in Millions)														
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:20%;">Line Item</th> <th style="width:10%;">FY 2011</th> <th style="width:10%;">FY 2012</th> <th style="width:10%;">FY 2013 Base</th> <th style="width:10%;">FY 2013 OCO</th> <th style="width:10%;">FY 2013 Total</th> <th style="width:10%;">FY 2014</th> <th style="width:10%;">FY 2015</th> <th style="width:10%;">FY 2016</th> <th style="width:10%;">FY 2017</th> <th style="width:10%;">Cost To Complete</th> <th style="width:10%;">Total Cost</th> </tr> </table>	Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost		
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost			
• APA Funding: APA, BA 4 AZ3517	104.251	127.751	127.751		125.349	176.656	155.324	0.000	855.740					
D. Acquisition Strategy The current CMWS subprogram Acquisition Program Baseline is dated September 2010, and the subprogram is fully funded to the CAPE ICE. The acquisition strategy includes buying CMWS B-kits (2002) to support the Army Force Generation (ARFORGEN) model and installation of A-kits on all modernized aircraft. The current CMWS production contract is a fixed-priced, Indefinite Delivery, Indefinite Quantity (IDIQ) contract. The Gen 3 ECU became a part of the system in FY10, and fielding will begin in FY12.														

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>	PROJECT VU7: <i>COMMON MISSILE WARNING SYSTEM (CMWS)</i>

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				PE 0604270A: Electronic Warfare Development				VU7: COMMON MISSILE WARNING SYSTEM (CMWS)					
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CMWS System Engineering Program Management	Various	PM ASE, HSV, AL:-	-	2.670		1.984		-		1.984	Continuing	Continuing	Continuing
Subtotal			-	2.670		1.984		-		1.984			
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CMWS Modeling and Simulation	Various	CAS, HSV, AL:-	-	0.455		1.200		-		1.200	Continuing	Continuing	Continuing
CMWS Enhanced Sensor Study & Evaluation	Various	TBD:-	-	12.000		8.095		-		8.095	Continuing	Continuing	Continuing
CMWS Tier 2/3 Threat Upgrades	Various	Various:-	-	2.000		0.815		-		0.815	Continuing	Continuing	Continuing
CMWS Development Engineering	Various	Various:-	-	-		-		-		-	Continuing	Continuing	Continuing
CMWS Gen 3 ECU ETC	Various	Various:-	-	-		-		-		-	Continuing	Continuing	Continuing
CMWS Gen 3 Providence Additional Phases	Various	TBD:-	-	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			-	14.455		10.110		-		10.110			
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CMWS Contractor Support	SS/FP	Various:-	-	-		-		-		-	Continuing	Continuing	Continuing
CMWS Matrix Support	Various	Various:-	-	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			-	-		-		-		-			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270A: Electronic Warfare Development				PROJECT VU7: COMMON MISSILE WARNING SYSTEM (CMWS)			
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	17.125		12.094		-		12.094			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>		PROJECT VU7: <i>COMMON MISSILE WARNING SYSTEM (CMWS)</i>	

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
CMWS System Dev/Tier 2 and 3 Upgrades (Base)	[REDACTED]																											
CMWS Enhanced Sensor Study & Evaluation	[REDACTED]																											
Start of CMWS Gen3 Fielding to support CMWS Assets	[REDACTED]																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>	PROJECT VU7: <i>COMMON MISSILE WARNING SYSTEM (CMWS)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
CMWS System Dev/Tier 2 and 3 Upgrades (Base)	2	2011	4	2013
CMWS Enhanced Sensor Study & Evaluation	3	2012	1	2014
Start of CMWS Gen3 Fielding to support CMWS Assets	3	2012	3	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270A: Electronic Warfare Development				PROJECT VU8: COMMON INFRARED COUNTER MEASURE (CIRCM)			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
VU8: COMMON INFRARED COUNTER MEASURE (CIRCM)	-	0.177	97.441	-	97.441	120.950	139.662	81.764	68.724	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The CIRCM (next generation Advanced Threat Infrared Countermeasure (ATIRCM)) subprogram is an infrared countermeasure system that interfaces with a Missile Warning System (MWS) to provide near spherical coverage of the host platform in order to defeat Infrared (IR) threats. The December 28, 2011 Defense Acquisition Executive Acquisition Decision Memorandum (DAE ADM) authorized entry into the Technology Development (TD) phase, designated the program a pre-Major Defense Acquisition Program (MDAP), and approved the updated exit criteria. CIRCM is funded to the CAPE ICE per DAE ADM, December 28, 2011.

The A-kit for CIRCM includes mounting hardware, wiring harnesses, cables, and other components necessary to install and interface the mission kit on host aircraft. The A-kit ensures the mission kit is functionally and physically operational with a specific host aircraft type. The CIRCM B-kit is the mission kit (laser, pointer tracker, and controller) to achieve near spherical coverage for an aircraft.

Due to program decrements in FY12 the program is funded primarily with FY11 carry-over funds. Army deems program affordable.

Justification

RDT&E

Fiscal Year 2013 Base RDT&E dollars in the amount of \$97.441 million continues the CIRCM Technology Development phase and continues preparation for Engineering and Manufacturing Development phase (EMD).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013
Title: Development Efforts	-	0.177	97.441
Articles:		0	
Description: RDT&E dollars begins the design and development of the CIRCM system.			
FY 2012 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>			PROJECT VU8: <i>COMMON INFRARED COUNTER MEASURE (CIRCM)</i>					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)											
RDT&E dollars support the CIRCM Technology Development (TD) phase.							FY 2011	FY 2012	FY 2013		
<i>FY 2013 Plans:</i> RDT&E dollars for the CIRCM Technology Development phase and continue preparation for the Engineering and Manufacturing Development (EMD) phase. FY13 funding adjustment based on changing from Army Cost Position to CAPE (Cost Assessment and Program Evaluation) Independent Cost Estimate (ICE).											
Accomplishments/Planned Programs Subtotals							-	0.177	97.441		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APA Funding: <i>APA, BA 4 AZ3537</i>							8.335	94.746	71.656	0.000	174.737
D. Acquisition Strategy After a full and open competition beginning in 2QFY12, two contractors will be selected and awarded Technology Development contracts. CIRCM will continue pre-MS B activities and enter into a competition for EMD in 3QFY14. MS B approval will be followed by award of EMD contract with priced options for LRIP and for the procurement of all technical data relevant to the performance of the EMD contract or life cycle of the CIRCM program. Upon CIRCM MS C approval, the LRIP option will be exercised and the program will immediately enter the Production & Deployment phase. At this time, PM Countermeasures intends to pursue full and open competition for the award of a fixed price contract for CIRCM Full Rate Production.											
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.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army											DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604270A: Electronic Warfare Development				PROJECT VU8: COMMON INFRARED COUNTER MEASURE (CIRCM)					
Management Services (\$ in Millions)					FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
CIRCM System Engineering Program Management	Various	PM ASE, HSV, AL:-	-	0.177		9.133		-		9.133	Continuing	Continuing	Continuing	
Subtotal			-	0.177		9.133		-		9.133				
Product Development (\$ in Millions)					FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
CIRCM Non-Recurring Engineering	C/CPFF	TBD:-	-	-		42.880		-		42.880	Continuing	Continuing	Continuing	
CIRCM Development Facilities	Various	Various:-	-	-		8.390		-		8.390	Continuing	Continuing	Continuing	
CIRCM Other R&D	Various	Various:-	-	-		16.353		-		16.353	Continuing	Continuing	Continuing	
Subtotal			-	-		67.623		-		67.623				
Support (\$ in Millions)					FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
CIRCM Support Equipment	Various	TBD:-	-	-		3.670		-		3.670	Continuing	Continuing	Continuing	
Subtotal			-	-		3.670		-		3.670				
Test and Evaluation (\$ in Millions)					FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Government System Testing & Evaluation	Various	CECOM - I2WD APG MD:-	-	-		5.120		-		5.120	Continuing	Continuing	Continuing	
Other Testing	Various	CECOM - I2WD APG MD:-	-	-		11.895		-		11.895	Continuing	Continuing	0.000	
Subtotal			-	-		17.015		-		17.015				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270A: Electronic Warfare Development				PROJECT VU8: COMMON INFRARED COUNTER MEASURE (CIRCM)			
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.177		97.441		-		97.441			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>		PROJECT VU8: <i>COMMON INFRARED COUNTER MEASURE (CIRCM)</i>	

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
CIRCM MS A																												
CIRCM TD PHASE																												
CIRCM TD CONTRACT AWARD																												
CIRCM Bridge Option																												
CIRCM MS B																												
CIRCM EMD PHASE																												
CIRCM EMD CONTRACT AWARD																												
CIRCM MS C																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270A: <i>Electronic Warfare Development</i>	PROJECT VU8: <i>COMMON INFRARED COUNTER MEASURE (CIRCM)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
CIRCM MS A	1	2012	1	2012
CIRCM TD PHASE	2	2012	1	2014
CIRCM TD CONTRACT AWARD	2	2012	2	2012
CIRCM Bridge Option	1	2014	3	2014
CIRCM MS B	3	2014	3	2014
CIRCM EMD PHASE	3	2014	4	2016
CIRCM EMD CONTRACT AWARD	3	2014	3	2014
CIRCM MS C	4	2016	4	2016