ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - System Development and Demonstration	**0604270A - Electronic Warfare Development**

	COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	53809	36206	266791	Continuing	Continuing
665	A/C SURV EQUIP DEV	3928	4052		Continuing	Continuing
L12	Signals Warfare Development (MIP)	10220	3605	28094	Continuing	Continuing
L13	COUNTER-IEDS			18598		18598
L15	ARAT-TSS	2077	2250	3095	Continuing	Continuing
L16	TROJAN DEVELOPMENT (MIP)	1407	1480	3251	Continuing	Continuing
L20	ATIRCM/CMWS	36177	24819	213753	Continuing	Continuing

A. Mission Description and Budget Item Justification: FY 2010/2011 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. The Prophet program provides for the development of multifunction ground based and airborne intelligence and electronic warfare systems. Trojan will complete Proof-of-Principle R&D for specific applications in advanced threat signals processing, prototype software upgrades, high frequency (HF) algorithms for compact antenna array technology (CAAT), search and acquisition capabilities for unattended signal collectors, and new digital intelligence collection, processing and dissemination technology. The Army Reprogramming Analysis Team (ARAT) Project will develop, test and equip an Army-wide infrastructure capable of rapidly reprogramming electronic combat software embedded in offensive and defensive weapon systems.

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5 - System Development and Demonstration	**0604270A - Electronic Warfare Development**

B. Program Change Summary	FY 2008	FY 2009	FY 2010
Previous President's Budget (FY 2009)	57169	32325	39720
Current BES/President's Budget (FY 2010)	53809	36206	266791
Total Adjustments	-3360	3881	227071
Congressional Program Reductions		-119	
Congressional Rescissions			
Congressional Increases		4000	18598
Reprogrammings	-1761		
SBIR/STTR Transfer	-1599		
Adjustments to Budget Years			208743

Change Summary Explanation: Funding - FY 2010: Funding increases in support of Signals Warfare Development, ATIRCM/CMWS, and anticipated FY 10 Overseas Contingency Operations supplement request increase.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - Electronic Warfare Development**	**665**

COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
665 A/C SURV EQUIP DEV	3928	4052		Continuing	Continuing

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 Phase 3 adds active Electronic Countermeasures (ECM) for selected aircraft.

FY 11 funding begins the prototyping of the digital Radar Warning Receiver (RWR).

Accomplishments/Planned Program:	FY 2008	FY 2009	FY 2010
In-house and program management administration	953	745	
Phase I Product Development (AN/APR-39A(V)1 Upgrade)	2862	2384	
Phase II Product Development (Digital RWR)			
Phase I Flight Test/Range Support/ Test and Evaluation	113	810	
Small Business Innovative Research/Small Business Technology Transfer Programs		113	
Total	3928	4052	

B. Other Program Funding Summary	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
AZ3511 RFCM	36239	36915	2571	Continuing	Continuing

Comment:

C. Acquisition Strategy The Army Radio Frequency (RF) Aircraft Survivability Equipment (ASE) is managed by Program Director ASE (PD ASE) for integration and installation on Army Aviation platforms. PD 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.

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - Electronic Warfare Development

PROJECT
665

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
AN/APR-39(V)1 Upgrade	FFP	Northrop Grumman Rolling Meadows, IL	19126	2975	2Q	2497	2-3Q				24598	
Digital Radar Warning Receiver (RWR)	Comp	TBD								103408	105719	
Subtotal:			19126	2975		2497				103408	130317	

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	MIPR	Multiple	3124	903	2Q	604	2Q			12843	19703	
Contractor Support	C/FFP	Multiple	538			129	2Q			2334	3491	
Subtotal:			3662	903		733				15177	23194	

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Phase II DT/OT/FOTE			145							23000	23000	
Flight Test/Range Support (Phase I)	MIPR	ATTC, Ft. Rucker, AL	450			600	1-2Q				1050	
Phase I Test and Evaluation	MIPR	TSSQ, Eglin AFB, FL	400			200	1-2Q				600	
Processor Upgrade Evaluation	MIPR	Evaluation Center APG, MD	25			10	1Q				35	
Subtotal:			1020			810				23000	24685	

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - Electronic Warfare Development

PROJECT
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IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Project Management	In-House	PD ASE	121	50	1-4Q	12	1-4Q			259	442	
Other Development	In-House	PD ASE	7985								7985	
Subtotal:			8106	50		12				259	8427	
Project Total Cost:			**31914**	**3928**		**4052**				**141844**	**186623**	

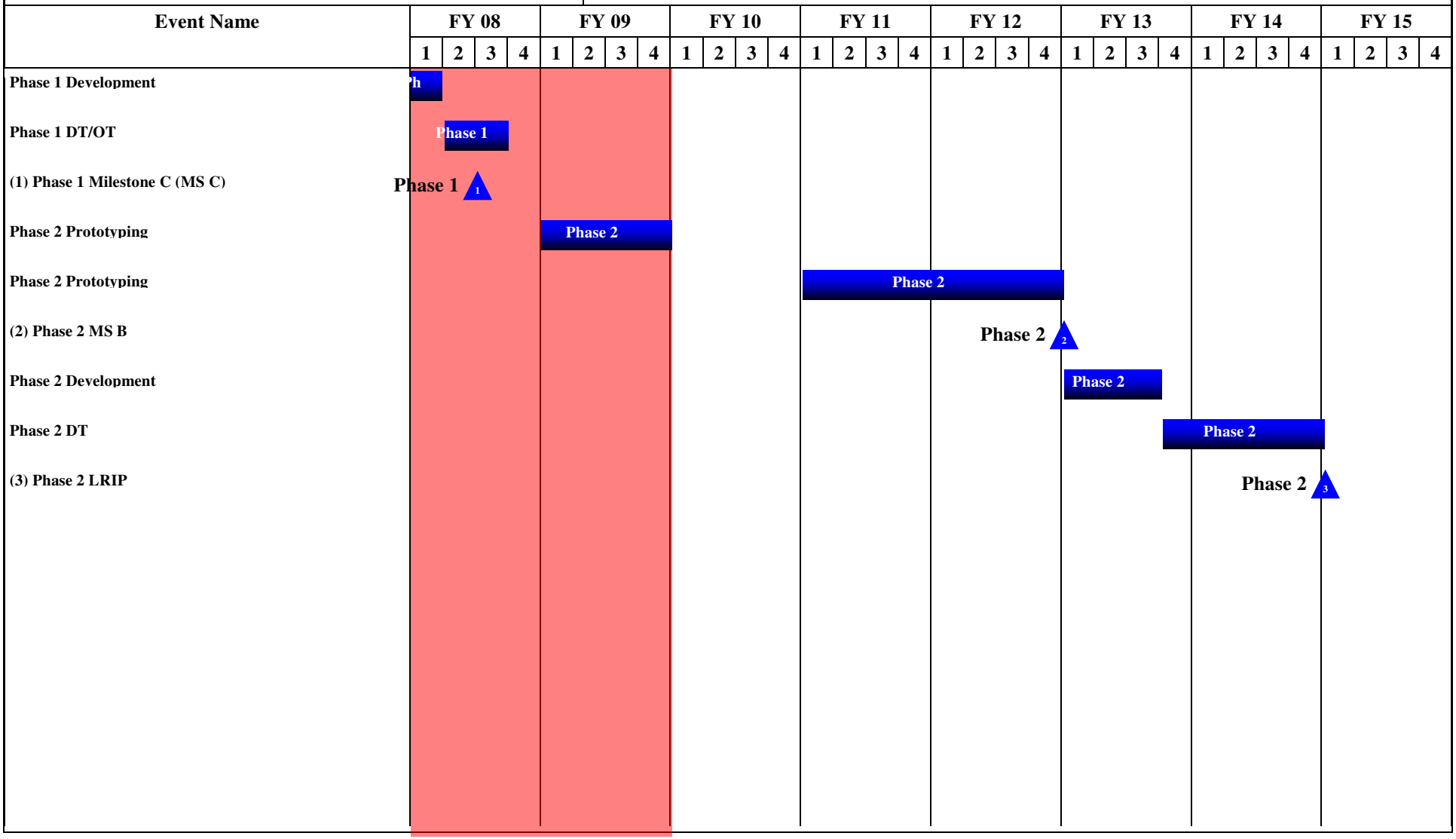
Schedule Profile (R4 Exhibit)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - Electronic Warfare Development

PROJECT
665



Schedule Detail (R4a Exhibit)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - Electronic Warfare Development

PROJECT
665

Schedule Detail	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Phase 1 Development	1Q							
Phase 1 DT/OT	2Q - 3Q							
Phase 1 Milestone C (MS C)	3Q							
Phase 2 Prototyping		1Q - 4Q						
Phase 2 Prototyping				1Q - 4Q	1Q - 4Q			
Phase 2 MS B						1Q		
Phase 2 Development						1Q - 3Q		
Phase 2 DT						4Q	1Q - 4Q	
Phase 2 LRIP								1Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - Electronic Warfare Development**	**L12**

COST (In Thousands)		FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
L12	Signals Warfare Development (MIP)	10220	3605	28094	Continuing	Continuing

A. Mission Description and Budget Item Justification: Prophet's primary mission is providing 24-hour Situation Development and Information Superiority to the supported maneuver brigade to enable the most effective engagement of enemy forces. Prophet is an integral part of the Army Transformation, providing Near Real Time (NRT) information to the Brigade Commander within his combat decision cycle. It is the tactical commander's sole organic ground-based Signals Intelligence/Electronic Warfare (SIGINT/EW) system for the Division, Brigade Combat Team (BCT), Stryker Brigade Combat Team (SBCT), Armored Calvary Regiments (ACR) and Battlefield Surveillance Brigade (BfSB). Prophet provides the tactical commander with the next generation SIGINT/EW - radio detection/direction finding and electronic attack capabilities. Prophet stationary and on-the-move direction finding information develops battlespace visualization, Intelligence Preparation of the Battlefield (IPB) and target development for enemy and gray emitters within radio line-of-sight across the brigade area of responsibility. This NRT information when processed provides a key component of the fused intelligence Common Operating Picture (COP). Prophet interfaces via Prophet Control with the maneuver brigade Analysis Control Team - Enclave (ACT-E) and All Source Analysis System (ASAS) Intelligence Fusion System (IFS). Prophet Control is a surrogate for the Distributed Common Ground System-Army (DCGS-A). The ACT-E forwards the gathered information to the division and armored cavalry Analysis and Control Element (ACE) ASAS. Also, Prophet interfaces directly with the National SIGINT Enterprise either via Prophet Control or via Wideband Beyond Line of Sight Satellite Communications. Prophet enables the Brigade Commander to detect signals while the vehicle is moving, a first for a Tactical SIGINT system. Prophet is utilizing an evolutionary acquisition strategy: Electronic Support (ES) Block I (SIGINT), ES 1 (Modern Signals) (Formerly known as Spiral 1 ES), ES 2 (Formerly known as Spiral 2 ES), Electronic Attack (EA) (Formerly known as Spiral 1 EA) and Prophet Enhanced.

FY2010 Base dollars develops P3I/TI for Next Generation Signals to increase the capabilities of the Prophet Enhanced system. It will also develop hardware and software upgrades for the ES 1 and Prophet Enhanced systems.

Accomplishments/Planned Program:	FY 2008	FY 2009	FY 2010
Prophet Spiral 2 ES System Development and Demonstration (SDD)	5096		
TI/SOI Development	5124	3605	
SIGINT Terminal Guidance			6500
Prophet Enhanced/Spiral 1 ES Software Upgrades - Phase 1			7000
Prophet Enhanced/Spiral 1 ES Software Upgrades - Phase 2			6814
Electronic Warfare Concept Exploration			4870
System Integrated Lab			2910
Total	10220	3605	28094

B. Other Program Funding Summary	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
BZ7326 Prophet Ground (TIARA)	122353	116249	64498	Continuing	Continuing
PE 305288G Defense Cryptological Program for PROPHET	5023	5839	598	Continuing	Continuing
BZ9751 Special Purpose Systems (TIARA) (Prophet Only)	118335	2416	7021	Continuing	Continuing

Comment:

C. Acquisition Strategy The Prophet Acquisition Strategy is structured to optimize system capability while reducing risk and streamlining business and engineering processes. Block I ES (SIGINT) Engineering and Manufacturing Development (EMD) was a sole source effort which leveraged off existing COTS equipment. Follow-on Block II (EA) and Block III (Modern Signals) RDT&E efforts were combined into a single SDD phase following an evolutionary acquisition process. Block II/III SDD was competitively awarded in 2QFY03. The Block II/III was split into spirals following the 3QFY05 LUT resulting in the Spiral 1 ES, Spiral 1 EA and future Spiral 2 ES/EA. Following a June 2005 MDA review, Spiral 1 EA (formerly Block II) entered LRIP under Cost Plus Incentive Fee contract. The Spiral 1 ES entered production under a Fixed Price Incentive Fee contract. Spiral 2 ES (formerly the Block II/III) continued in the SDD phase 1(using the existing SDD contract) as a risk reduction phase to address the total Prophet ES requirements. The Prophet Enhanced entered production in 2QFY09 via Full and Open competition. The Prophet Enhanced contract is a Firm-Fixed-Price, Indefinite-Delivery Indefinite-Quantity and will be used achieve the Prophet ES/EA requirements. The contract has provisions to support R&D and other developmental work.

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - Electronic Warfare Development

PROJECT
L12

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Prophet Spiral 2 ES SDD Contract	C-CPIF	General Dynamics Decision Systems, Scottsdale, AZ	24549	2065	2Q						26614	
Spiral 1 (SP1) ES Development Platforms	FPI	L3 Linkabit, San Diego, CA	2586	1908	1Q						4494	
DRT 4303 Enhancements	C-CPIF	Raytheon, Tampa, FL		260	4Q						260	
TI/SOI Development	C-CPIF	GD C4 Systems, Scottsdale, AZ		5124		2000					7124	
SIGINT Terminal Guidance		GD C4 Systems, Scottsdale, AZ					3Q	6500	2Q		6500	
Prophet Enhanced /SP1 ES S/W Upg - PH1		GD C4 Systems, Scottsdale, AZ					3Q	5500	2Q		5500	
Prophet Enhanced /SP1 ES S/W Upg - PH2		GD C4 Systems, Scottsdale, AZ						5182	2Q		5182	
Electronic Warfare Concept Exploration	C/T&M	TBD						4870	2Q		4870	
Modeling and Simulation	C/T&M	CACI, Alexandria, VA	1000								1000	
Subtotal:			28135	9357		2000		22052			61544	

Remarks: The contract for Prophet Enhanced Production was awarded 25 Feb 09 with a protest filed 10 Mar 09. The protest was withdrawn on 20 Apr 09. The net impact was to delay awarding and starting work on TI/SOI Development.

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	MIPR	CECOM, Fort Monmouth NJ	8501	200	1-3Q	200	1-4Q	432	1Q		9333	
Contractor Engineering Support	C/T&M	CACI, Eatontown, NJ	4025								4025	
Contractor Engineering Support	C/T&M	Mitre, Eatontown, NJ	956	663	2Q	1200	2Q	800	2Q		3619	
System Integrated Lab	MIPR	I2WD, Fort Monmouth,						2910	2Q		2910	

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - Electronic Warfare Development**	**L12**

		NJ										
Subtotal:			13482	863		1400		4142			19887	

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Prepare for and Conduct Spiral 2 ES - Phase I Demo	MIPR	EPG/AEC	10095								10095	
Geo-Location Testing	C/T&M	BAH, Eatontown, NJ	365								365	
Threat T&E	MIPR	TRADOC				100	2Q				100	
Theater Test/Technical Support	MIPR	EPG/AEC						600	1-3Q		600	
Prepare and Conduct DT/FOT&E	MIPR	EPG/AEC						1000	1-3Q		2100	
Subtotal:			10460			100		1600			13260	

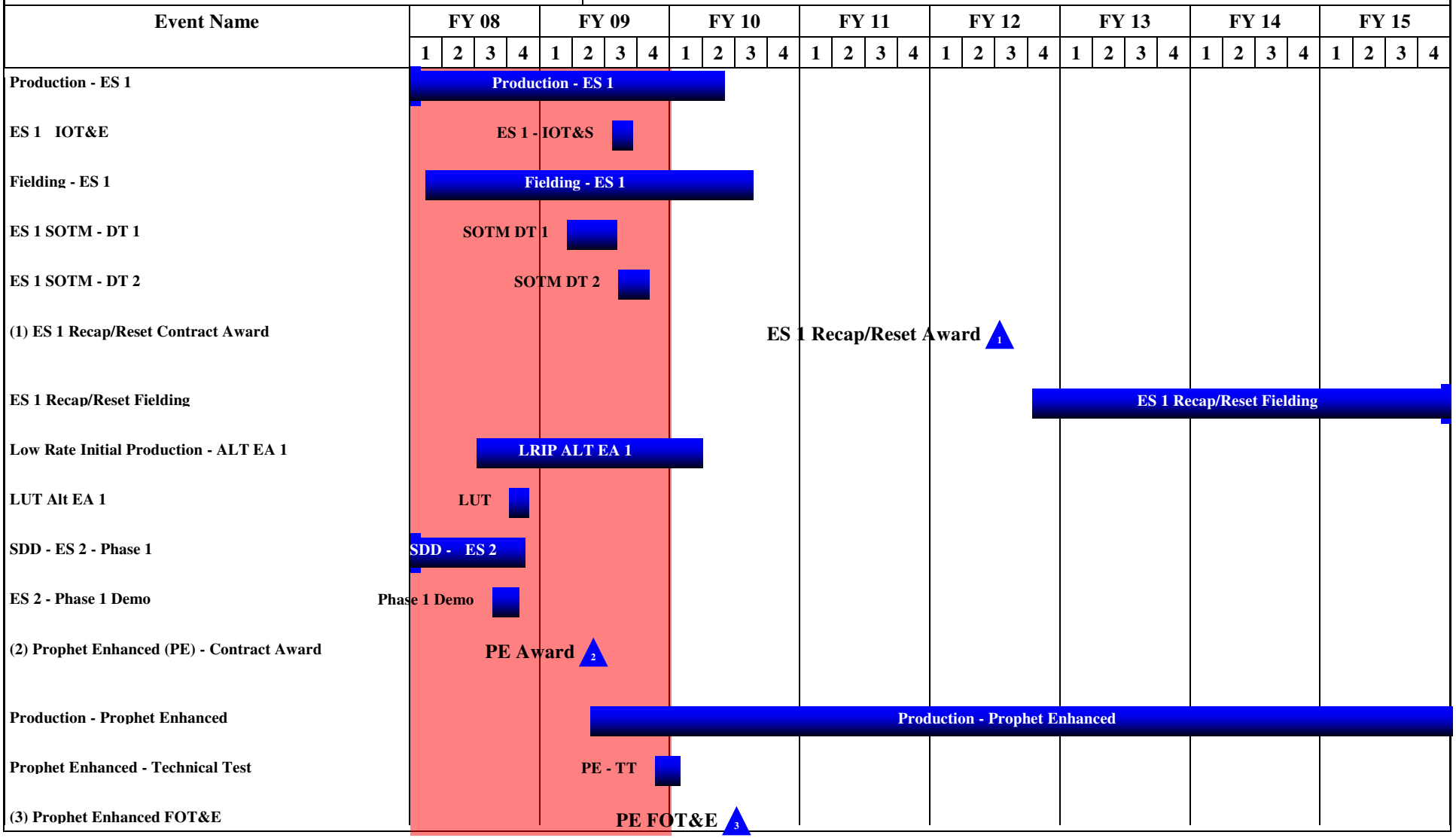
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Program Management	In-House	PM Signals Warfare, Fort Monmouth, NJ	6007			105	1-4Q	300	1-4Q		6412	
Blue Marauder (Congressional Add)	Funds passed thru - not related to Prophet	PM CSIS, Fort Belvoir, VA	4850								4850	
Subtotal:			10857			105		300			11262	

Project Total Cost:			**62934**	**10220**		**3605**		**28094**			**105953**	

Schedule Profile (R4 Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	0604270A - Electronic Warfare Development	L12



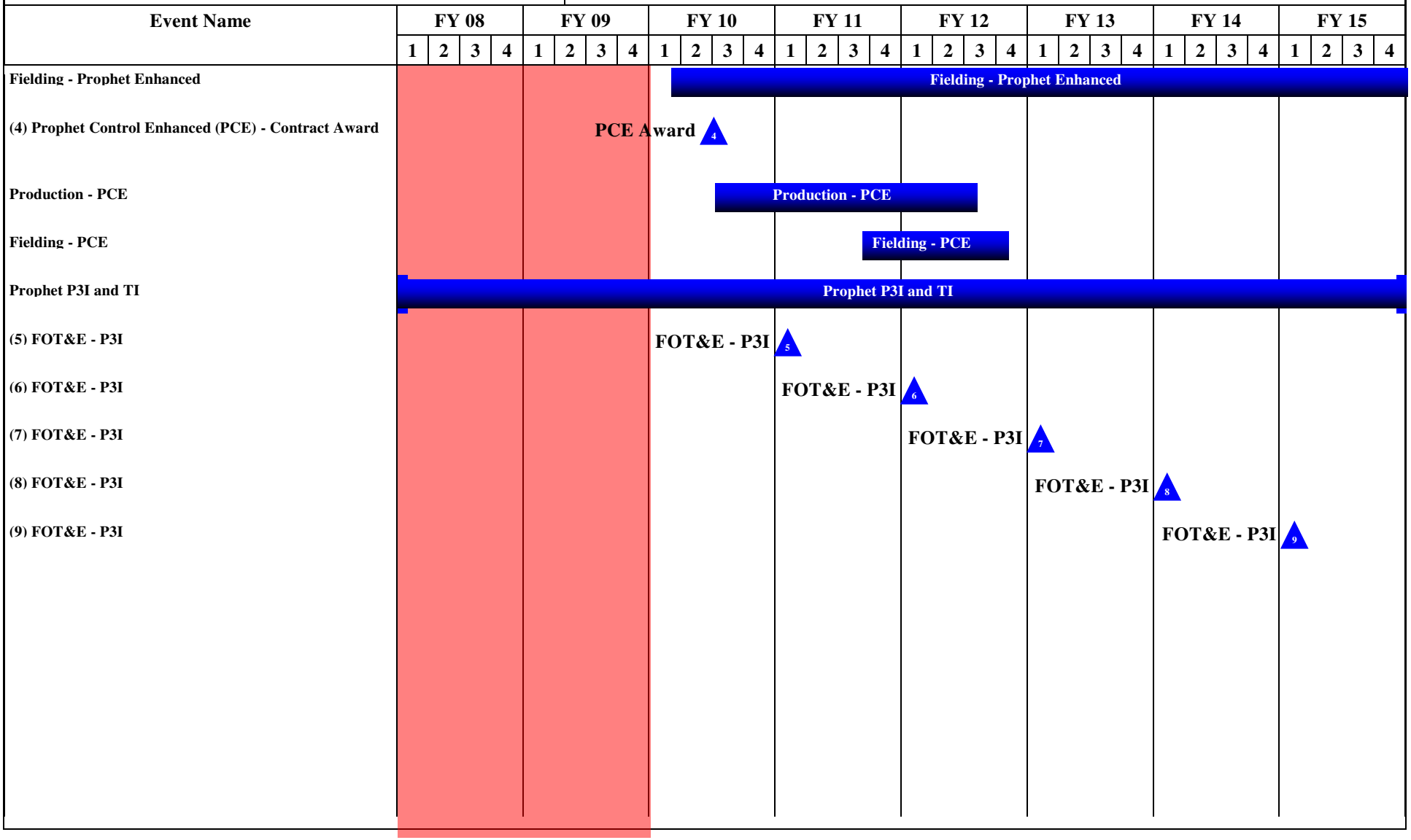
Schedule Profile (R4 Exhibit)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - Electronic Warfare Development

PROJECT
L12



Schedule Detail (R4a Exhibit)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - Electronic Warfare Development

PROJECT
L12

Schedule Detail	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
PROPHET								
Production - ES 1	1Q - 4Q	1Q - 4Q	1Q - 2Q					
ES 1 IOT&E		3Q						
Fielding - ES 1	1Q - 4Q	1Q - 4Q	1Q - 3Q					
ES 1 SOTM - DT 1		1Q - 3Q						
ES 1 SOTM - DT 2		3Q - 4Q						
ES 1 Recap/Reset Contract Award					3Q			
ES 1 Recap/Reset Fielding					4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
Low Rate Initial Production - ALT EA 1	3Q - 4Q	1Q - 4Q	1Q					
LUT Alt EA 1	4Q							
SDD - ES 2 - Phase 1	1Q - 4Q							
ES 2 - Phase 1 Demo	3Q - 4Q							
Prophet Enhanced (PE) - Contract Award		2Q						
Production - Prophet Enhanced		2Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
Prophet Enhanced - Technical Test		4Q	1Q					
Prophet Enhanced FOT&E			2Q					
Fielding - Prophet Enhanced			1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
Prophet Control Enhanced (PCE) - Contract Award			2Q					
Production - PCE			3Q - 4Q	1Q - 4Q	1Q - 3Q			
Fielding - PCE				3Q - 4Q	1Q - 4Q			
Prophet P3I and TI	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
FOT&E - P3I				1Q				
FOT&E - P3I					1Q			
FOT&E - P3I						1Q		

FOT&E - P3I							1Q	
FOT&E - P3I								1Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - Electronic Warfare Development**	**L15**

COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
L15 ARAT-TSS	2077	2250	3095	Continuing	Continuing

A. Mission Description and Budget Item Justification: The Army Reprogramming Analysis Team (ARAT) is a Department of the Army directed task to develop an architecture to reprogram, in near real time, mission software embedded in Army Force Protection and Targeting Sensing Systems (TSS) in response to changes in threat signatures and to establish/maintain an ARAT infrastructure with the mission to support the tactical Commander by providing timely/rapid reprogramming and software/information dissemination for any Army supported, joint, allied service, Army Electronic Warfare (EW) Integrated Reprogramming (EWIR) target acquisition, target engagement, or vehicle/aircraft survivability equipment (ASE) supporting Electronic Attack (EA), Electronic Protect (EP) and Electronic Support (ES) systems working within the Electromagnetic Spectrum. Current military operations experience a rapidly evolving threat environment, where IR man-portable air defense systems (MANPADS) seekers, Improvised Explosive Devices (IEDs), radar emitters, radar guided surface-to-air-missiles (SAM), laser guided weapons, land mines, anti-helicopter mines, and sensors are proliferating and evolving. Integrated solutions are required to counter increasingly smart and sophisticated EW threats, where engagement timelines from enemy decision to engage US forces to impact or detonation is measured in seconds.

The ARAT rapid reprogramming architecture supports tactical requirements for airborne (Aircraft Survivability Equipment) and ground-based (CREW) survivability systems both in development and already fielded to deployed forces including the CENTCOM area of responsibility (AOR). ARAT identifies and analyzes threat signature changes which affect TSS; determines the impact of observed signature changes on TSS; creates new mission data software to accommodate the changes; and disseminates and uploads the new software into the affected Warfighter TSS and Force Protection System. The infrastructure is comprised of an AMC CECOM directed Program Office (ARAT-PO) comprising of an Warfighter Support Operations Center (ARAT-OC), reprogramming support cells (ARAT-SC), a software engineering activity (ARAT-SE) as well as a INSCOM, 1st Information Operations Command directed threat analysis activity (ARAT-TA). Each element within the ARAT infrastructure plays a specific role within the programs rapid reprogramming process, which ultimately provides the Warfighters with the capability to install mission and target identification software at the lowest possible level to provide maximum flexibility for tactical commanders. ARAT participates in the operational and developmental test design of Army Force Protection Systems, and supports Service and JCS Reprogramming Exercises in all theaters.

To meet the requirements specified in Army Regulation (AR) 525-15, "Software Reprogramming Policy for Target Sensing Weapons Systems"(U), and Reprogramming FM 3-13.10, and system ORDs, ICDs and CDDs CECOM SEC ARAT-PO is required to maintain and modify the infrastructure that assists the Post Production Software Support (PPSS) ensuring timely and responsive resolution and fielding of mission software to counter emerging threats. ARAT responsibilities include the continuing development of automated threat analysis tools to rapidly detect (flag) threat changes within the intelligence system, tools to minimize the time to develop Mission Data Sets (MDS), tools and technology to minimize the time required to test and validate MDSs, maintenance and improvement of communications conduits to transmit mission software changes to field users, and enhancement of mission software uploading tools. These efforts allow for rapid threat analysis, simulation, software development, distribution and uploading of system software directly to the unit level Warfighter utilizing Force Protection Systems.

Accomplishments/Planned Program:	FY 2008	FY 2009	FY 2010
Platform-specific TSS, Force Protection System (FPS) & survivability equipment support maintain Force Protection System (FPS) &		500	550

Target Sensing System (TSS) survey to identify systems requiring support in Army Battlefield Functional Areas (BFAs) with a focus on operational, technical, and intelligence aspects. This survey included technical information about the actual FPS or TSS and their near and far term support requirements for intelligence collection, flagging, and threat analysis, Mission Data Set (MDS) development, communications, and field support. The survey will be kept current to reflect evolving threats to deployed Warfighters worldwide, to include the CENTCOM AOR in support of Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF), and to support the development of Mission Data Sets (MDS) for Army Target Sensing Systems (TSS). Building on the work completed in prior FYs, determine individual platform benefits vs. potential costs to upgrade systems on each Aviation platform. Initiate lab testing of potential system updates to verify the additional benefit and identify intelligence collection methodology to integrate the collected intelligence data onto an intelligence network. Develop/implement integrated ASE test environment. Ensure MDS and Aircraft/CM Integration flight test support.			
Infrastructure improvements (general). Research will enhance the ARAT communications architecture to facilitate the transmission of mission software changes to FPS & TSS users, with emphasis on remote user and highly mobile Warfighter connectivity. Ensure rapid reprogramming infrastructure as part of force protection support to the CENTCOM Area of Responsibility (AOR) by defining/implementing ARAT infrastructure improvements. Support the ARAT Warfighter Survivability Software Support Portal (AWSSSP) data distribution/support system and maintain continuity of operations in the event of catastrophe. Architecture allows TSS users to "pull" mission software changes, via a secure web-based capability, as soon as they are released by the developing agency. ARAT-PO will also conduct studies to improve understanding of threat environment to include multi-spectral emissions (e.g. EO, IR, RF, acoustic, etc.) which impact MDS & tool development in support of emerging FPS & TSS systems (e.g. missile warning systems).	271	563	450
MLV development & MDS Reprogramming - Research will develop new Memory Loader/Verifier (MLV) software & hardware or enhance existing systems as necessary to expand for application to new FPS & TSS systems and provide common MLVs in the field. The MLV is a user-friendly program, utilizing Graphical User Interface (GUI) and menu-driven selections, which operates on portable personal computers and issued to aviation and ground maintenance units. Enhanced software will be distributed to all users requiring upgraded software and to users of new TSS down to the tactical unit level, using a proactive data push methodology. End goal is to have MDSs distributed automatically through tactical communications networks and loaded via platform data busses.	151	51	50
Tool Development - MDS/Intel Tools - Develop applications, user interfaces, database structure, output formats, and placeholders for ARAT internal threat analysis and MDS generator tools. Enhance intelligence analytical tools, based on supported systems performance criteria, to rapidly identify and counter emerging threats in all operational theaters that adversely affect the performance of TSS. Create MDS development, testing and validation tools to decrease time from threat change detection to the distribution of MDS products. These tools decrease the response & MDS development timelines, increase the accuracy and fidelity of threat identification, and reduce the engineering involvement/workload associated with the manually intensive analysis and MDS development processes.	1081	780	799
Tool Development - NGES User Tools - Define requirements and develop tools to migrate to a data support infrastructure that employs Next Generation EWIR System (NGES) and which supports the intelligence and reprogramming needs of ARAT-TA (Lackland and Eglin AFBs) and ARAT-SE (Fort Monmouth). System(s) development will include common user interfaces, intelligence inputs, modular threat analysis and MDS generator tools, support for intelligence reporting, RF simulation scenario generation and MDS development. Maximum effort will be made to leverage the use of existing EWIR and emerging NGES tools. Data support infrastructure must be migrated to use NGES when EWIR is potentially decommissioned in the near term since NGES release is behind schedule.	411	180	330
Tool Development RF Flagging Models - Work jointly with the USAF at Lackland AFB, TX to complete the conversion of the current flagging database structure shared by the US Army and USAF flagging models to a more modern database structure. In addition, initiate	163	113	135

converting the US Army flagging models over to the new database structure and create new flagging models as required when new systems are fielded. Respond to high priority threat changes adversely affecting TSS performance within threshold.			
Automated Multi-Spectral IED Trigger Intercept: Conduct initial study to develop process for automated multi-spectral IED trigger intercept in order to support future CREW reprogramming requirements. Determine intelligence/information requirements, and develop methodology for data collection to reprogram multi-spectral IED triggers.			50
CREW Reprogramming: Determine intelligence/information requirements, study methods to reduce the effort and time necessary to collect, process, analyze and disseminate information required for CREW reprogramming, develop methodology, and develop tools to reprogram CREW in order to establish government post production, MDS support for the system. Continuing effort is required in out-years to accommodate threat changes and CREW system improvements.			661
Keeping Pace with the Enemy & Technology - Analysis & Studies for EO/IR/UV Multi-Spectral FPS/TSS Support: In order to keep pace with changing threat and technology ARAT requires assets to better understand the impact of the physical battlefield environment on deployed high-technology sensors and their sustainment. This effort will 1) study the intelligence data requirements to support MDS development for Electro-optical/Ultra-violet/Infra-red (EO/UV/IR) and other multi-spectral sensors for aviation & non-aviation force protection systems (FPS) and target sensing systems and to include active protection systems (APS), 2) Develop government organic knowledge and application-base enabling reprogramming of future systems and 3) Perform requirements analysis and concept development for the reprogramming of multi-spectral TSS.			70
Small Business Innovative Research/Small Business Technology Transfer Programs		63	
Total	2077	2250	3095

B. Other Program Funding Summary Not applicable for this item.

C. Acquisition Strategy The efforts to be funded in this project will require a combination of systems specific and high-tech knowledge. The contractual services portion for the project will be obtained from both the CECOM Software Engineering Center (SEC) competitive omnibus and the RDEC High Tech contracts.

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - Electronic Warfare Development

PROJECT
L15

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Labor (internal Gov't)	Labor (internal Gov't)	CECOM, Fort Monmouth, NJ & Aberdeen Proving Grounds, MD	2332	851	1-4Q	225	1-4Q	550	1-4Q	Cont.	Cont.	Cont.
Travel	Travel	Various sites	380	100	1-4Q	80	1-4Q	95	1-4Q	Cont.	Cont.	Cont.
Subtotal:			2712	951		305		645		Cont.	Cont.	Cont.

Remarks: Organic Government R&D Development Labor.

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Development Support (INSCOM Full Spectrum)	Development Support (INSCOM)	TBD/Various sites	2210	543	1-4Q	513	1-4Q	540	1-2Q	Cont.	Cont.	Cont.
Development Support (CECOM RDEC T&E CECOM SEC Omnibus)	Development Support (CECOM)	TBD/Various sites	5877	583	1-4Q	1432	1-4Q	1910	1-2Q	Cont.	Cont.	Cont.
Subtotal:			8087	1126		1945		2450		Cont.	Cont.	Cont.

Remarks: R&D Development Costs associated with contractual ARAT Team.

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												

IV. Management Services	Contract Method &	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award	FY 2009 Cost	FY 2009 Award	FY 2010 Cost	FY 2010 Award	Cost To Complete	Total Cost	Target Value of

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - Electronic Warfare Development**	**L15**

	Type					Date		Date		Date			Contract
Subtotal:													
Project Total Cost:			**10799**	**2077**		**2250**		**3095**		**Cont.**	**Cont.**	**Cont.**	

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - Electronic Warfare Development**	**L16**

COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
L16 TROJAN DEVELOPMENT (MIP)	1407	1480	3251	Continuing	Continuing

A. Mission Description and Budget Item Justification: This project is a Tactical Intelligence and Related Activities (TIARA) program. TROJAN RDT&E supports TROJAN Classic XXI (TCXXI) and next generation (NexGEN) future capabilities to fulfill the Army's need for a worldwide, deployable, remotable, intelligence, surveillance and reconnaissance (ISR) support that can dynamically execute operations from sanctuary-based to deployed assets in theater. In support of the Objective Force and Future Combat System (FCS), TCXXI will provide soldiers with a real-world, hands-on, live and near-real time SIGINT training environment sustaining, maintaining and enhancing their military occupational specialty (MOS) proficiencies and specific target expertise. This operational readiness training will fulfill the Army's larger intelligence training requirement via a secure collaborative architecture.

A key factor for success the Objective Force and FCS will be the ability to collect, process and use information about an adversary while preventing similar information from being disclosed. TROJAN is a combined operational and readiness mission system which uses advanced networking technology to provide seamless rapid radio relay, secure communications to include voice, data, facsimile, and electronic reconnaissance support to U.S. forces throughout the world. TROJAN operations may be easily tailored to fit military intelligence unit training schedules and surged during specific events to involve every aspect of the tactical intelligence collection, processing, analysis and reporting systems. This project engineers, tests and evaluates new digital intelligence collection, processing and dissemination technology using the fielded TROJAN systems, prior to the acquisition of those technologies. As part of the Objective C4ISR Architecture, these capabilities will enable processing and dissemination of real-time intelligence data from various sources to form the intelligence needed to issue orders inside the threat decision cycle. To that end, it is imperative that TROJAN keeps pace with digitization initiatives in order to respond aggressively to the emerging intelligence communication threats.

Accomplishments/Planned Program:	FY 2008	FY 2009	FY 2010
Integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. Resource development of GLAIVE software. Integrated several new NSA SW packages-efforts still ongoing.	201	250	260
Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput.	111	115	120
Develop prototype QRC Receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using DSP and FPGA technologies.	300	310	320
Integrate Direction Finding (DF) and geolocation technologies into TROJAN Remote Receiving Groups (RRGs).	320	325	330
Develop hardware/software interface for TCXXI system and NexGEN to ONEROOF storage system	275	280	300
Develop specialized software enhancements to the TROJAN audio streaming subsystems to improve system redundancy & throughput capacity and system management capabilities; Investigate compression/processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies.	200	200	220
Development of smaller more mobile SATCOM dishes and receivers. Development of more efficien use of bandwidth, Comm's on the move and man-packable intelligence collection systems.			701

Labor for two SW engineers at NSA in support of GLAIVE and other above applicable efforts. Labor for one MAT DEV technologist, one MAT DEV software and one MAT DEV HW engineer.			1000
Total	1407	1480	3251

B. Other Program Funding Summary	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
New OFS item					

Comment:

C. Acquisition Strategy This Acquisition Strategy for the TROJAN Classic XXI System supported by TROJAN RDT&E is to adapt and leverage from Commercial Off the Shelf (COTS) and Government Off the Shelf (GOTS) products. Additionally leverage off of development by DoD and other Government agencies to the greatest extend possible. TROJAN RDT&E is used to fund the development of enhancing these technologies to meet specific user requirements. The funding for production and fielding of these capabilities are funded under TROJAN BA0331.

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - Electronic Warfare Development

PROJECT
L16

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Develop Prototype QRC Receiver packages	MIPR	CERDEC I2WD Ft Monmouth	3006	251		300		310	1-2Q	Cont.	Cont.	Cont.
Develop DF Capabilities for TROJAN RRG	MIPR	CERDEC I2WD Ft Monmouth	642	320		325	1-2Q	330	1-2Q	Cont.	Cont.	Cont.
Investigate Compression /processing technologies		CERDEC I2WD Ft Monmouth	1038							Cont.	Cont.	Cont.
Develop specialized software enhancements to TROJAN audio streaming	MIPR	CERDEC I2WD Ft Monmouth	1437	200		200	1-2Q	220	1-2Q	Cont.	Cont.	Cont.
Develop hardware/software interface to ONEROOF	MIPR	CERDEC I2WD Ft Monmouth	700	275		280	1-2Q	300	1-2Q	Cont.	Cont.	Cont.
Develop smaller SATCOM, efficient BW and COTM	MIPR	CERDEC I2WD Ft Monmouth					1-2Q	701	1-2Q	Cont.	Cont.	Cont.
Labor for NSA and MAT DEV	MIPR										Cont.	Cont.
Subtotal:			6823	1046		1105		1861		Cont.	Cont.	Cont.

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Aquire & Apply muliti bandwidth compr Algorithm	MIPR	CECOM I2WD FT Monmouth	900	111	1-2Q	115	1-2Q	120	1-2Q	Cont.	Cont.	Cont.
Labor	MIPR	REX Office-Ft Meade; CECOM Ft Monmouth						1000	1-2Q	Cont.	Cont.	Cont.
Subtotal:			900	111		115		1120		Cont.	Cont.	Cont.

III. Test And Evaluation	Contract	Performing Activity &	Total	FY 2008	FY 2008	FY 2009	FY 2009	FY 2010	FY 2010	Cost To	Total	Target

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - Electronic Warfare Development

PROJECT
L16

	Method & Type	Location	PYs Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Complete	Cost	Value of Contract
Integrate/test hardware/software	MIPR	CECOM I2WD FT Monmouth	2090	250		260	1-2Q	270	1-2Q	Cont.	Cont.	Cont.
Operational test/eval of enhanced SIG Processing		CECOM I2WD Ft Monmouth	429							Cont.	Cont.	Cont.
Subtotal:			2519	250		260		270		Cont.	Cont.	Cont.

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												
Project Total Cost:			**10242**	**1407**		**1480**		**3251**		**Cont.**	**Cont.**	**Cont.**

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - Electronic Warfare Development**	**L20**

COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
L20 ATIRCM/CMWS	36177	24819	213753	Continuing	Continuing

A. Mission Description and Budget Item Justification: The Advanced Threat Infrared Countermeasure (ATIRCM) is a US Army program to develop, test, and integrate defensive infrared (IR) countermeasures capabilities into existing, current generation host platforms for more effective protection against a greater number of IR- guided missile threats than afforded by currently fielded IR countermeasures. The US Army operational requirements concept for 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 (ATIRCM), Common Missile Warning System (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 CMWS also functions as a stand-alone system with the capability to detect missiles and provide audible and visual warnings to the pilot(s); and, when installed with the ICMD, activates expendables to provide a degree of protection. ATIRCM/CMWS is the key IR survivability system for Future Force Army aircraft.

The A-Kit is the modification hardware, wiring harness, cable, etc., necessary to install and interface the ATIRCM/CMWS Mission Kit to each platform. The A-Kit ensures the Mission Kit is functionally and physically operational with the host platform.

The Mission Kit consists of the ATIRCM/CMWS which performs the missile detection, false alarm rejection, and missile declaration functions of the system. The Electronic Control Unit (ECU) of the CMWS sends a missile alert signal to on-board avionics and other Aircraft Survivability Equipment (ASE) such as expendable flare dispensers. Threat missiles detected by the CMWS are handed over to the ATIRCM.

FY 2010 Core funding supports technology assessment and the Engineering and Manufacturing Development(EMD) Phase for Common Infrared Countermeasure (CIRCM), a separate ATIRCM increment established by an Acquisition Decision Memorandum (ADM) dated April 15, 2009.

FY 2010 OCO-N/A

*Acquisition Decision Memorandum (ADM) to revise Acquisition Strategy was signed on April 15, 2009. Appropriate notifications forthcoming.

Accomplishments/Planned Program:	FY 2008	FY 2009	FY 2010
Product Development	24732	16222	147554
Management Services	300	995	37730
Test and Evaluation	11145	7602	28469

B. Other Program Funding Summary	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
APA, BA 4 AZ3507 ASE Infrared CM	442461	433941	339642		1216044

Comment: continue development of Generation 3 Electronic Control Unit (ECU).

C. Acquisition Strategy Funding supports an acquisition strategy of buying CMWS separately from ATIRCM, while installing A-kits on all modernized aircraft. The current production contract is a fixed-priced, five year, Indefinite Delivery, Indefinite Quantity (IDIQ) contract to BAE Systems. Due to acceleration of CMWS, the acquisition strategy accounts for separate Initial Operational Test and Evaluation (IOT&E's) and Full Rate Production decisions for CMWS and ATIRCM. Based on the Army Overarching Integrated Product Team (OIPT's) recommendation to the AAE in November 2005, the CMWS entered the Full Rate Production and Deployment phase of the acquisition, based upon submittal of the Beyond Low Rate Initial Production (LRIP) Report to Congress on April 25, 2006. The AAE approved the ATIRCM path forward in December 2005 with the incorporation of the Multi-band Laser into the production baseline. Schedule and costs have been updated to include CIRCM, a new ATIRCM increment.

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - Electronic Warfare Development

PROJECT
L20

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
AIRCMM	C/CPIF	Thiokol, Brigham City, UT	1563								1563	1563
ATIRCM EMD Basic Contract	C/CPAF	BAE Systems, Nashua, NH	23574								23574	23574
ATIRCM 6 Lot/EMD/RDT	SS/CPFF	BAE Systems, Nashua, NH	199250								199250	195250
ATIRCM	C/CPFF	Cowley, Chantilly, VA	100								100	100
Test Facility	C/CPFF	Amherst, Huntsville, AL	1300								1300	1300
Modeling and Simulation	T & M	CAS, Huntsville, AL	3300	1200	1-2Q	1200	1-2Q	1200	1-2Q	3600	10500	10500
Gen 3 ECU ETC	C/CPFF	TBD						3000	1-2Q		3000	3000
Gen 3 Providence Additional Phases	C/CPFF	TBD						6500	1-2Q		6500	6500
CMWS System Development	C/CPFF	TBD	1839	21732	1-2Q	9222	1-2Q	10308	1-2Q	34796	77897	77897
CIRCM System Development	TBD	TBD						85446	1-2Q	10318	95764	95764
CMWS Modernization Efforts (HFI)	C/FFP	BAE Systems, Nashua, NH				4000	1-2Q	40100	1-2Q	107563	151663	151663
Tier 2/3 Threat Upgrades	Various	BAE Systems, Nashua, NH	675	1800	1-2Q	1800	1-2Q	1000	1-2Q	2815	8090	8090
Subtotal:			231601	24732		16222		147554		159092	579201	575201

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Contractor Support	C/FFP	Huntsville, AL	37911								37911	37911
Matrix Support	MIPR	CECOM, Ft Monmouth NJ; AMCOM, Huntsville AL	3055								3055	
Subtotal:			40966								40966	37911

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Technical Support for User Tests	MIPR	Electronic Proving Ground, Ft. Huachuca, AZ	8851	550	1-3Q	400	1-3Q	500	1-4Q	1500	11801	
ATIRCM E2E	MIPR	TSMO,Redstone Ars, AL	303	595	1-3Q	400	1-3Q	400	1-4Q	1200	2898	
ACR	Various	TBD	609							1500	2109	
ATIRCM ACR3	MIPR	WSMR,NM	8	500	1-3Q						508	
ATIRCM IOT&E	MIPR	ATEC and others	10781	500	1-3Q	400	1-3Q				11681	
ATIRCM FOT&E (Follow On Operating Tests)								750	1-3Q	2250	3000	
Test Support	MIPR	ATTC, Ft. Rucker, AL; RTTC, Redstone Ars, AL	102530					500	1-3Q	2200	105230	
Test Support (Instrumentation)	C/FFP	Westar, Huntsville, AL and Neer/Thomsen, Huntsville, AL	4194	500	1-3Q	400	1-3Q				5094	5094
RSA HITL (Hardware in the Loop)	MIPR	Redstone Ars, AL				1000	1-3Q	2000	1-3Q	6000	9000	
Test Support With Live Missile Firing. Data Gathering and System Evaluation	MIPR	PM, Instrumentation Targets and Threat Simulators (ITTS) and 46th Test Wing, Eglin AFB, FL	3989	500	1-3Q	800	1-3Q	1000	1-3Q	2650	8939	
Test Support	C/FFP	BAE Systems, Eglin AFB, FL	2306	500	1-3Q	400	1-3Q	400	1-3Q	1200	4806	4806
SMEOS Phase 2	C/FFP	Various	376			500	1-3Q	500	1-3Q		1376	1376
Simulation And Evaluation	MIPR	TSMO, Redstone Ars, AL	85	600	1-3Q						685	
Missiles and Telemetry Kits for	MIPR	Various	7052	900	1-3Q	702	1-3Q	1000	1-3Q	5100	14754	

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - Electronic Warfare Development

PROJECT
L20

Testing												
Guided Weapons Evaluation Facility (GWEF)	MIPR	46th Test Wing, Eglin AFB, FL	415	500	1-3Q	500	1-3Q	1000	1-3Q	2315	4730	
ATIRCM Test Flights	MIPR	ATTC, Ft. Rucker, AL; RTTC, Redstone Ars, AL		900	1-3Q	200	1-3Q	200	1-3Q	1250	2550	
Tier I Threat Verification Testing/Missile Shots/PM Missle Test	MIPR	Various	2500	800	1-3Q	700	1-3Q	1000	1-3Q	3000	8000	
Tier I Threat Verification Testing/FAR Trolling	MIPR	ATTC, Ft. Rucker, AL; RTTC, Redstone Ars, AL	1082	600	1-3Q	600	1-3Q	600	1-3Q	750	3632	
AWR Testing	MIPR	ATTC, Ft. Rucker, AL; RTTC, Redstone Ars, AL	1200	600	1-3Q	200	1-3Q	200	1-3Q	1800	4000	
Delta A-Kit for UH-60 Testing	MIPR	Various	1000	875	1-3Q						1875	
Captive Seeker Tests	MIPR	TBD		875	1-3Q		1-3Q	500	1-3Q	1000	2375	
Sled Test #2	MIPR	TBD		850	1-3Q					500	1350	
PM Jammer Test	MIPR	TBD								800	800	
RDT (Government)	MIPR	RTTC, Redstone Ars, AL				400	1-3Q	400	1-4Q	1200	2000	
CIRCM Test & Evaluation	Various	TBD						17519	1-3Q		17519	
Subtotal:			147281	11145		7602		28469		36215	230712	11276

Remarks: 0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
CMWS Project Management	In House Support	PD ASE Huntsville, AL	123198	300	1-4Q	300	1-4Q	300	1-4Q	900	124998	
CIRCM Project Managemnet	In House Support							37430	1-4Q		37430	
SIBR/STTR		PD ASE Huntsville, AL	414			695	1-4Q				1109	2201

ARMY RDT&E COST ANALYSIS (R3)									May 2009	
BUDGET ACTIVITY **5 - System Development and Demonstration**	PE NUMBER AND TITLE **0604270A - Electronic Warfare Development**									PROJECT **L20**
Subtotal:	123612	300		995		37730		900	163537	2201
Project Total Cost:	**543460**	**36177**		**24819**		**213753**		**196207**	**1014416**	**626589**

Schedule Profile (R4 Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - Electronic Warfare Development**	**L20**

Event Name	FY 08				FY 09				FY 10				FY 11				FY 12				FY 13				FY 14				FY 15			
	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	1	2	3	4
FY 2010 CORE																																
(1) CIRCM Milestone B											1																					
(2) CIRCM Engineering and Manufacturing Development Contract Award											2																					
(3) HFDS Milestone A											3																					
FY 2010 OCO																																
(4) Start Fielding to support QRC Assets								4																								
(5) Start of Fielding to support OH-58 Platform													5																			

Schedule Detail (R4a Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - Electronic Warfare Development**	**L20**

Schedule Detail	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
FY 2010 CORE								
CIRCM Milestone B			3Q					
CIRCM Engineering and Manufacturing Development Contract Award			3Q					
HFDS Milestone A			4Q					
FY 2010 OCO		1Q						
Start Fielding to support QRC Assets		4Q						
Start of Fielding to support OH-58 Platform			4Q					

Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Funding (R5)		May 2009
BUDGET ACTIVITY **5 - System Development and Demonstration**	PE NUMBER AND TITLE **0604270A - Electronic Warfare Development**	PROJECT **L20**

Funding in $000

Program	FY 2008	FY 2009	FY 2010
Total Termination Liability Funding:			