Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army											Date: February 2018	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0304270A *I Electronic Warfare Development - MIP*							
COST ($ in Millions)	**Prior Years**	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Cost To Complete**	**Total Cost**
Total Program Element	-	18.425	14.616	8.922	-	8.922	16.142	35.424	54.951	14.187	0.000	162.667
EW5: *Electronic Warfare Development - MIP*	-	6.758	5.751	1.881	-	1.881	6.544	25.356	44.498	3.525	0.000	94.313
EW6: *ARAT-TSS - MIP*	-	11.667	8.865	7.041	-	7.041	9.598	10.068	10.453	10.662	0.000	68.354

A. Mission Description and Budget Item Justification

This Program Element encompasses engineering and manufacturing development for tactical Electronic Warfare (EW). 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, counter mortar/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. Prophet Enhanced is the current system under the Prophet Ground acquisition program. Its primary mission is to provide 24-hour Situation Development and Information Superiority to the supported maneuver brigade to enable the most effective engagement of enemy forces. Prophet Enhanced provides a modular, scalable, open architecture-based system solution optimized for ease of use in a variety of configurations (Stationary-Fixed, Mobile and Manpack). The Army Reprogramming Analysis Team (ARAT) is a Department of the Army established project to develop techniques, methods, tools and architecture to reprogram mission software embedded in Army EW systems, Force Protection Systems (FPS), and Target Sensing Systems (TSS) in response to changes in threat signatures. ARAT Research and Development enables continuous development of: 1) automated threat analysis tools to rapidly detect (flag) threat changes within intelligence systems, 2) tools to minimize the time to develop EW Mission Software and Products (MSP) for both air and ground EW systems, 3) tools and technology to minimize the time required to test and validate MSPs, 4) improved communications conduits to transmit mission software changes to field users, and 5) enhanced mission-software uploading tools. These efforts allow for rapid threat analysis, simulation, mission software development, distribution and uploading of mission software changes directly to the supported Soldier in the field. The ARAT project will develop, test and equip an Army-wide infrastructure capable of rapidly reprogramming electronic combat software embedded in offensive and defensive weapon system.

Fiscal Year (FY) 2019 budget request funds Electronic Warfare (EW) Development for Prophet Enhanced efforts (Project EW5) and The Army Reprogramming Analysis Team (ARAT) efforts (Project EW6).

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army					Date: February 2018
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0304270A / *Electronic Warfare Development - MIP*		
B. Program Change Summary ($ in Millions)	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**
Previous President's Budget	18.425	14.616	12.885	-	12.885
Current President's Budget	18.425	14.616	8.922	-	8.922
Total Adjustments	0.000	0.000	-3.963	-	-3.963
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-3.963	-	-3.963

Change Summary Explanation

Funding decrease by $3.963M due to economic adjustments.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / *Electronic Warfare Development - MIP*	Project (Number/Name) EW5 / *Electronic Warfare Development - MIP*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
EW5: *Electronic Warfare Development - MIP*	-	6.758	5.751	1.881	-	1.881	6.544	25.356	44.498	3.525	0.000	94.313
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Prophet Enhanced is the current system under the Prophet Ground acquisition program. Funds provide for development and integration of Technical Insertion upgrades for Next Generation Signals and state-of-the-art Signals Intelligence (SIGINT) exploitation techniques to increase the capabilities of the Prophet Enhanced and maintain operational relevance. The Prophet Enhanced is the tactical commander's sole organic ground-based SIGINT/Electronic Warfare system for the Multi-Function Teams (MfTs), Stryker Brigade Combat Teams (SBCTs), and Expeditionary-Military Intelligence Brigades (E-MIBs). Its primary mission is to provide 24-hour Situation Development and Information Superiority to the supported maneuver brigade to enable the most effective engagement of enemy forces. Prophet Enhanced provides a modular, scalable, open architecture-based system solution optimized for ease of use in a variety of configurations (Stationary-Fixed, Mobile and Manpack). It also incorporates product modification, integration, and test of equipment for rapid integration of Technical Insertions (TI) and product development to ensure operational relevance.

Justification:
Fiscal Year (FY) 2019 Base dollars in the amount of $1.881 million will support continuing non-recurring engineering upgrades to the Prophet Enhanced Signals of Interest (SOI) baseline and implement Joint Interface Control Document (JICD) 4.2, enabling Theater Netcentric Geolocation (TNG) capabilities to leverage collaborative networks. Specifically, new signal capabilities will be developed, integrated, and tested/accredited to ensure that Prophet keeps pace with the constantly changing signal environment and to ensure that Prophet maintains its operational relevance against key enemy threats.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Improved Manpack Signal Set ***Description:*** Development and integration of the improved Manpack enables the Prophet system to remain operationally relevant in the constantly changing signal environment.	6.258	-	-	-	-
Title: Program Management ***Description:*** Development of next generation signals, enhanced SIGINT exploitation, and improved manpack signal sets enable the Prophet system to remain operationally relevant with state-of-the-art Signal and Threat exploitation capabilities. ***FY 2018 Plans:***	0.500	0.130	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development - MIP*	**Project (Number/Name)** EW5 / *Electronic Warfare Development - MIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Funds will provide for core, matrix and contractor system engineering and program management support for the Prophet program. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Funding allocation decreased due to FY2019 realignment of RDT&E funding to OMA for PMO costs.					
Title: Upgrade to JICD 4.2 ***Description:*** JCID 4.2 will allow Theater Netcentric Geolocation (TNG) capabilities to leverage collaborative networks. ***FY 2018 Plans:*** Development of new JICD 4.2 software and integration into Prophet Enhanced. ***FY 2019 Base Plans:*** Continuing development of new JICD 4.2 software and integration into Prophet Enhanced. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Majority of software development effort completed in FY2018, FY2019 allocation is less than FY2018 due to a lesser continuing integration effort to complete this task.	-	3.409	0.301	-	0.301
Title: Redhawk Signal of Interest upgrades ***Description:*** The Signal Environment that Prophet Systems exploit is constantly changing with evolving threats. This environment creates gaps in Prophet?s ability to collect and exploit these signals. Prophet must constantly integrate software upgrades to remain relevant against these numerous, key, and high-priority emerging threats. ***FY 2018 Plans:*** Development of Next Generation SIGINT capabilities to include numerous key REDHAWK software applications and integration of the Next Generation Manpack software into the Prophet SIGINT Software (PS2) Baseline. The REDHAWK applications and Manpack Software address signal exploitation gaps in Prophet?s ability to exploit key tactical signals and threats. ***FY 2019 Base Plans:*** Continuing development of Next Generation SIGINT capabilities to include numerous key REDHAWK software applications and integration of the Next Generation Manpack software into the Prophet SIGINT Software (PS2)	-	2.212	1.580	-	1.580

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development - MIP*	**Project (Number/Name)** EW5 / *Electronic Warfare Development - MIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Baseline. The REDHAWK applications and Manpack Software address signal exploitation gaps in Prophet?s ability to exploit key tactical signals and threats. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** The majority of the Redhawk capability is developed in FY2018, the FY2019 allocation is less than FY2018 due to a lesser effort in FY2019 to fully integrate this single Redhawk capability.					
Accomplishments/Planned Programs Subtotals	6.758	5.751	1.881	-	1.881

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• BZ9753: *Prophet Enhanced Modification MIP (BZ9753)*	46.350	49.093	41.836	2.011	43.847	40.444	11.549	-	68.188	Continuing	Continuing
• BZ9751: *Special Purpose Systems (MIP OPA) (Prophet Only) - BZ9751*	4.055	4.241	4.162	-	4.162	-	-	-	6.464	Continuing	Continuing
• DX9: *National Integration to Tactical Systems (MIP) - DX9 (TNG, PE 0605766A)*	4.955	2.820	9.060	-	9.060	8.090	5.723	6.683	5.925	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Prophet Research and Development (R&D) Acquisition Strategy is structured to maintain operational relevancy of Prophet Enhanced systems in a dynamic threat environment while reducing risk and streamlining business and engineering processes. Contracting activities are to modify forty-seven previously fielded ground tactical SIGINT systems to the current technology baseline. The Technical Insertion (TI) contract supports R&D and other developmental work.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / *Electronic Warfare Development - MIP*	Project (Number/Name) EW5 / *Electronic Warfare Development - MIP*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	PM Electronic Warfare & Cyber : APG, MD	0.981	0.500	Nov 2016	0.130		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.981	0.500		0.130		-		-		-	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software SIL	C/CPFF	GD C4 Systems : Scottsdale, AZ	0.889	-		-		-		-		-	0.000	0.889	-
Improved Manpack Signal Set	C/CPFF	TBD : TBD	-	5.258	Dec 2016	-		-		-		-	0.000	5.258	-
Upgrade to JICD 4.2	SS/CPFF	GD Mission Systems : Scottsdale, AZ	-	-		3.409	Jan 2018	0.899	Jan 2019	-		0.899	Continuing	Continuing	Continuing
Redhawk Signals of Interst Upgrade	SS/CPFF	GD Mission Systems : Scottsdale, AZ	-	-		2.212	Jan 2018	0.982	Jan 2019	-		0.982	Continuing	Continuing	Continuing
		Subtotal	0.889	5.258		5.621		1.881		-		1.881	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering & Software Support	C/IDIQ	AASKI Technology : APG, MD	0.964	-		-		-		-		-	0.000	0.964	-
System Integration Lab	Various	I2WD : APG, MD	2.500	-		-		-		-		-	0.000	2.500	-
		Subtotal	3.464	-		-		-		-		-	0.000	3.464	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / *Electronic Warfare Development - MIP*	Project (Number/Name) EW5 / *Electronic Warfare Development - MIP*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prepare and Conduct Delta Testing	MIPR	EPG/AEC : Huachuca, AZ	1.240	-		-		-		-		-	Continuing	Continuing	Continuing
Software Qualification Test	MIPR	TBD : TBD	-	1.000	Jul 2017	-		-		-		-	0.000	1.000	-
		Subtotal	1.240	1.000		-		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	6.574	6.758		5.751		1.881		-		1.881	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development - MIP*	**Project (Number/Name)** EW5 / *Electronic Warfare Development - MIP*

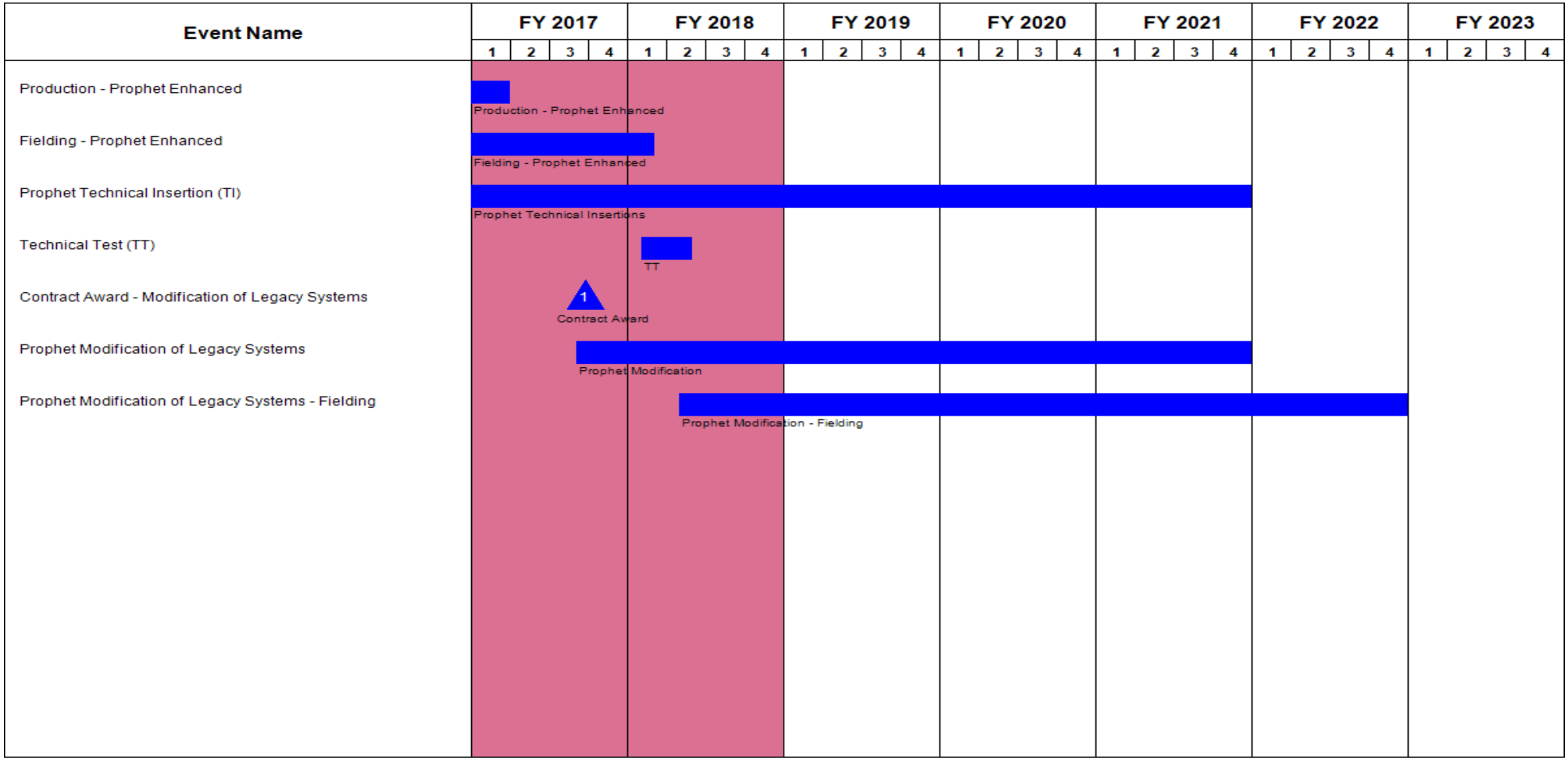

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development - MIP*	**Project (Number/Name)** EW5 / *Electronic Warfare Development - MIP*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Production - Prophet Enhanced	2	2009	1	2017
Fielding - Prophet Enhanced	2	2010	1	2018
Prophet Technical Insertion (TI)	4	2008	4	2021
Technical Test (TT)	1	2018	2	2018
Contract Award - Modification of Legacy Systems	3	2017	3	2017
Prophet Modification of Legacy Systems	3	2017	4	2021
Prophet Modification of Legacy Systems - Fielding	2	2018	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / *Electronic Warfare Development - MIP*	Project (Number/Name) EW6 / *ARAT-TSS - MIP*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
EW6: *ARAT-TSS - MIP*	-	11.667	8.865	7.041	-	7.041	9.598	10.068	10.453	10.662	0.000	68.354
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

The Army Reprogramming Analysis Team (ARAT) is a Department of the Army established program to develop techniques, methods, tools and architecture to rapidly reprogram mission software embedded in Army Electronic Warfare (EW) systems in response to changes in threat signatures. The regulatory guidance directing this mission is contained in Army Regulation (AR) 525-15, AR 525-22, and AR 95-1. The ARAT develops integrated technical solutions required to counter increasingly sophisticated EW threats to US Forces. The ARAT reprogramming infrastructure supports the Army Campaign Plan to provide the Regionally Aligned Forces tactical Commander timely rapid-reprogramming capability of EW systems with mission software. The ARAT mission responsibility is to develop and distribute Mission Software and Products to forward deployed combat forces. ARAT identifies and analyzes threat signature changes which affect EW systems; determine the impact of observed signature changes; rapidly develop new mission software to adapt friendly systems to detect and defeat enemy threats to U.S. Army ground and air platforms; disseminate the Mission Software and Products to forward deployed forces, and provide government developed tools and software to upload new mission software into the affected EW systems.

A. Mission Description and Budget Item Justification

Current military operations are conducted in a rapidly changing threat environment, where Improvised Explosive Devices (IEDs), Infra Red (IR) man-portable air defense systems (MANPADS) seekers, radar guided surface-to-air-missiles (SAM), laser guided weapons, anti-helicopter mines, and targeting sensors are proliferating and evolving. Integrated solutions are required to counter increasingly sophisticated EW threats. The ARAT reprogramming infrastructure supports the tactical Commander by providing timely rapid reprogramming of mission software and information dissemination for Army supported, Joint and allied services. ARAT supports integrated reprogramming of target acquisition, target engagement, vehicle survivability, and Aircraft Survivability Equipment (ASE). ARAT rapid-reprogramming infrastructure supports tactical requirements for deployed aircraft and ground-based (e.g. Counter Radio-Controlled Improvised Explosive Device (CREW)) survivability systems. ARAT identifies and analyzes threat signature changes which affect EW systems; determines the impact of observed signature changes; develops new mission software to adapt the system to the changes; disseminates the mission software; and provides methods to upload the new mission software into the affected EW systems. Each element within the ARAT infrastructure plays a specific role within the program's rapid reprogramming process, providing the Soldier with the capability to install mission and target identification software at the lowest possible level, thus maximizing flexibility for tactical commanders. ARAT participates in the operational and developmental test design of Army EW systems, and supports Joint Service Reprogramming Exercises in all theaters. ARAT Research and Development enables continuous development of: 1) automated threat analysis tools to rapidly detect (flag) threat changes within the intelligence system, 2) tools to minimize the time to develop Mission Software and Products (MSP), 3) tools and technology to minimize the time required to test and validate MSPs, 4) improved communications conduits to rapidly transmit mission software to upload into supported EW systems. These efforts allow for rapid threat analysis, threat modeling and simulation, mission software development and testing, distribution and uploading of mission software directly to the supported Soldier in the field.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development - MIP*	**Project (Number/Name)** EW6 / *ARAT-TSS - MIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Keeping Pace with the Enemy and Technology	5.826	4.872	3.722	-	3.722
Description: This effort focuses on developing a capability for the Government to rapidly develop and distribute organic mission software solutions for multiple EW systems. The Army must continually modernize and enhance software tools and processes counter enemy technology. ARAT EW6 Military Intelligence Program (MIP) executes Research, Development, Test, and Evaluation (RDTE) funding to provide an organic Army capability for this organization to rapidly develop and distribute mission software solutions for forward deployed combat forces. ***FY 2018 Plans:*** This FY effort will capitalize on accomplishments in FY17 and will continue to enhance: 1) Intelligence data requirements to support MSP development for Electro-Optical (EO)/Ultraviolet (UV)/Infrared (IR) spectrums and other multi-spectral sensors for aviation and non-aviation EW systems, 2) Government organic knowledge and application-base enabling reprogramming of future systems, 3) United States Government (USG) capability for the reprogramming of multi-spectral EW systems. ***FY 2019 Base Plans:*** This FY effort will capitalize on accomplishments in FY18 and will continue to enhance: 1) Intelligence data requirements to support MSP development for EO/UV/IR spectrums and other multi-spectral sensors for aviation and non-aviation EW systems, 2) Government organic knowledge and application-base enabling reprogramming of future systems, 3)USG capability for the reprogramming of multi-spectral EW systems. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Similar level of effort in FY18 and FY19.					
Title: Infrastructure Improvements Multispectral	2.428	1.637	1.104	-	1.104
Description: This effort focuses on enhancing the Army's multispectral Missile Warning System (MWS) software sustainment infrastructure. With the worldwide proliferation of MANPADS the Army must have the capability to rapidly analyze and develop mission software solutions to detect and counter MANPADS to defend Army Aviation platforms against this lethal threat. ***FY 2018 Plans:*** Will continue to conduct infrastructure enhancements for an OFP software development environment to enable the USG to develop and deploy an OFP environment for MWS. Continue evaluation of data and conduct analysis requirements for MANPADS characterization and enhance the organic government analysis and					

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development - MIP*	**Project (Number/Name)** EW6 / *ARAT-TSS - MIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
sustainment process to support OFPs and subsequently adapt MWSs to new threats. Enhance government organic capability, thereby decreasing the risk that systems cannot be readily adapted to changing threats. ***FY 2019 Base Plans:*** Will continue to conduct infrastructure enhancements for an OFP software development environment to enable the USG to develop and deploy an OFP environment for MWS. Continue evaluation of data and conduct analysis requirements for MANPADS characterization and enhance the organic government analysis and sustainment process to support OFPs and subsequently adapt MWSs to new threats. Enhance government organic capability, thereby decreasing the risk that systems cannot be readily adapted to changing threats. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Similar level of effort in FY18 and FY19.					
Title: Infrastructure Improvement Radio Frequency General ***Description:*** This effort focuses on enhancing the Army's Radio Frequency (RF) EW system MSP development and distribution infrastructure. The Army must fight in a contested and congested EW environment. Mission software solutions to defend against RF threats must be rapidly developed, tested and distributed to Soldiers on an ever changing battlefield. ***FY 2018 Plans:*** Will further augment the ARAT communications architecture to enhance the rapid secure transmission of mission software changes to EW systems, with emphasis on remote user and highly mobile Soldier connectivity. Will continue to enhance the USG integrated EW development and test environment to ensure MSP and threat countermeasure integration on the respective EW platform. ***FY 2019 Base Plans:*** Will further augment the ARAT communications architecture to enhance the rapid secure transmission of mission software changes to EW systems, with emphasis on remote user and highly mobile Soldier connectivity. Will continue to enhance the USG integrated EW development and test environment to ensure MSP and threat countermeasure integration on the respective EW platform. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Similar level of effort in FY18 and FY19.	2.491	1.538	1.349	-	1.349
Title: Threat Flagging and Mission Data Set Reprogramming Tool Development	0.922	0.818	0.866	-	0.866

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development - MIP*	**Project (Number/Name)** EW6 / *ARAT-TSS - MIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Description: This effort focuses on enhancing the Army's capability to monitor changes in enemy EW systems that affect system performance of onboard Army detection, declaration and countermeasure EW systems. The enemy is continuously developing or modifying it's EW systems. For Army platforms to have protection against enemy systems it must have a robust capability to immediately detect changes in threat system performance and rapidly develop, test, and distribute a mission software solution that counter the threat. This effort will enhance the Army's capability bridge detection of a change in enemy threat and the rapid development of MSP. ***FY 2018 Plans:*** Will continue to enhance spiral applications for ARAT internal system specific threat flagging, threat analysis, mission software generation and testing processes. Will conduct spiral enhancement of threat flagging (threat performance change detection) and intelligence analytical tools, based on supported systems performance criteria, to rapidly identify and counter emerging and changing threats that adversely affect the performance of the EW systems. Will continue to enhance mission software development, testing and validation tools to decrease time from threat-change detection to the distribution of MSP in order to increase the accuracy and fidelity of threat identification, and reduce the engineering involvement/workload associated with the manually intensive analysis and MSP development processes. Will continue to enhance software tools that enhance a data support infrastructure that employs the EWIR database. ***FY 2019 Base Plans:*** Will continue to enhance spiral applications for ARAT internal system specific threat flagging, threat analysis, mission software generation and testing processes. Will conduct spiral enhancement of threat flagging (threat performance change detection) and intelligence analytical tools, based on supported systems performance criteria, to rapidly identify and counter emerging and changing threats that adversely affect the performance of the EW systems. Will continue to enhance mission software development, testing and validation tools to decrease time from threat-change detection to the distribution of MSP in order to increase the accuracy and fidelity of threat identification, and reduce the engineering involvement/workload associated with the manually intensive analysis and MSP development processes. Will continue to enhance software tools that enhance a data support infrastructure that employs the EWIR database. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Similar level of effort in FY18 and FY19.					
Accomplishments/Planned Programs Subtotals	11.667	8.865	7.041	-	7.041

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development - MIP*	**Project (Number/Name)** EW6 / *ARAT-TSS - MIP*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. 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 Communications-Electronics Command (CECOM) Software Engineering Center (SEC) competitive omnibus and the Research, Development and Engineering Command (RDECOM) and the Defense Technical Intelligence Center (DTIC) high tech contracts.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / *Electronic Warfare Development - MIP*	Project (Number/Name) EW6 / *ARAT-TSS - MIP*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	CECOM SEC : Aberdeen Proving Ground, MD	0.256	0.266		8.865		7.041		-		7.041	Continuing	Continuing	Continuing
		Subtotal	0.256	0.266		8.865		7.041		-		7.041	Continuing	Continuing	N/A

Remarks

Beginning FY16, Program Management cost is properly aligned in Management Services.

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
USG Labor	Various	CECOM SEC : Various Locations	3.111	-		-		-		-		-	0.000	3.111	-
Travel	Various	CECOM SEC : Various Locations	0.838	-		-		-		-		-	0.000	0.838	-
		Subtotal	3.949	-		-		-		-		-	0.000	3.949	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Various	CECOM SEC, RDECOM, DTIC : Various Locations	23.325	11.401		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	23.325	11.401		-		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	27.530	11.667		8.865		7.041		-		7.041	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / *Electronic Warfare Development - MIP*	Project (Number/Name) EW6 / *ARAT-TSS - MIP*	

	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development - MIP*	**Project (Number/Name)** EW6 / *ARAT-TSS - MIP*

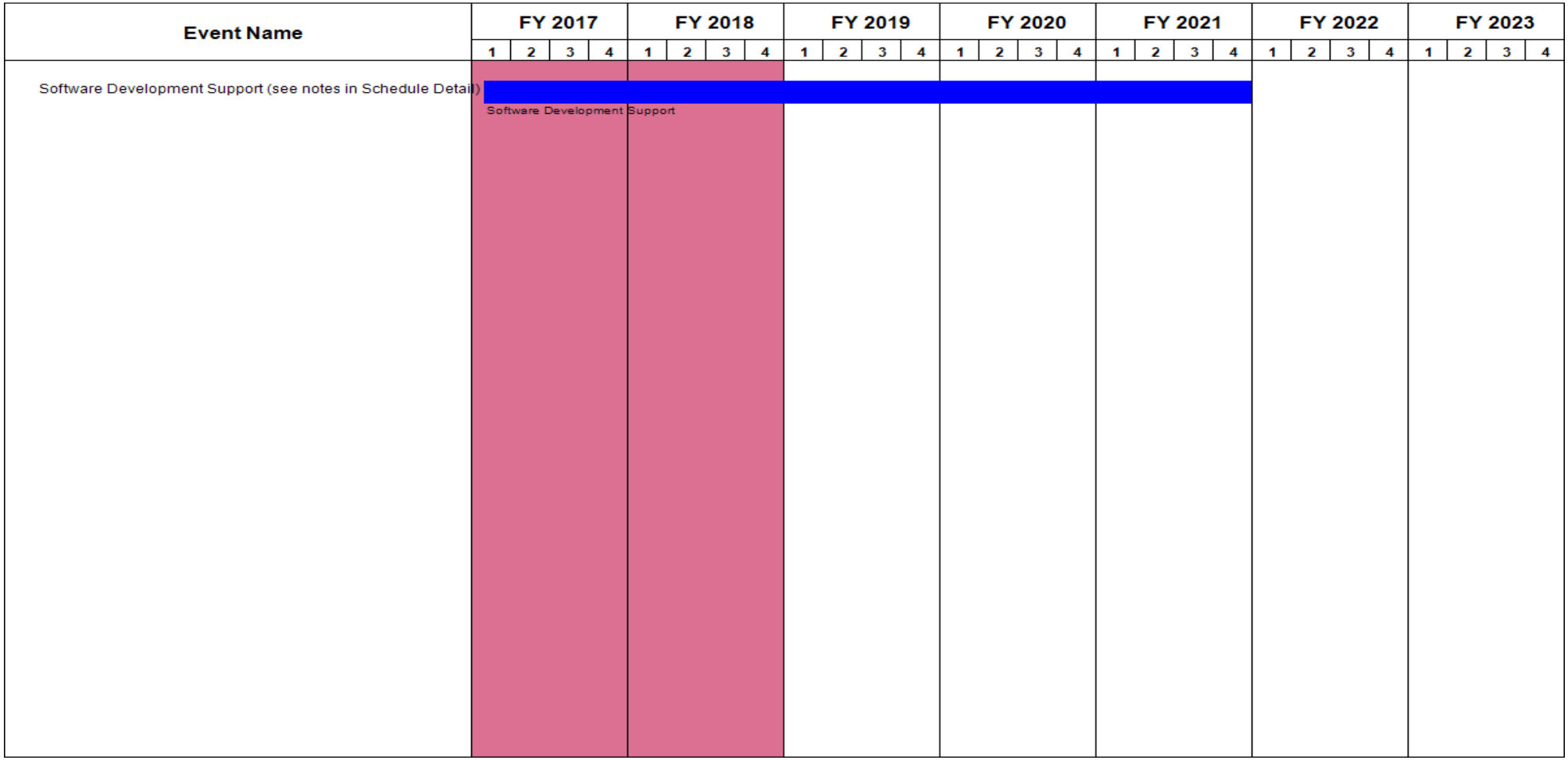

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0304270A / *Electronic Warfare Development - MIP*	**Project (Number/Name)** EW6 / *ARAT-TSS - MIP*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Software Development Support (see notes in Schedule Detail)	1	2015	4	2021

Note

-Software Test Automation
-Threat Analysis Data Evaluation Tool
-Enhance Data Distribution