Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army											Date: March 2014	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305204A / *Tactical Unmanned Aerial Vehicles*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	28.466	33.515	22.870	-	22.870	16.690	11.566	12.710	8.171	Continuing	Continuing
11A: *Advanced Payload Develop & Spt (MIP)*	-	6.239	5.554	5.271	-	5.271	5.036	3.050	3.265	3.304	Continuing	Continuing
11B: *Tsp Development (MIP)*	-	17.906	24.678	12.904	-	12.904	7.138	4.375	4.685	-	-	71.686
123: *Joint Technology Center System Integration*	-	4.321	3.283	4.695	-	4.695	4.516	4.141	4.760	4.867	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Project 11A: The Advanced Payloads Development project line is a shared funding line between multiple Payload programs. These Payload programs support the Army's transformation by developing Reconnaissance, Surveillance and Target Acquisition (RSTA) and Intelligence, Surveillance and Reconnaissance (ISR) payload systems for Brigade Combat Teams, Divisions, and Corps Unmanned Aircraft Systems (UAS). This is in accordance with Headquarters Department of the Army (HQDA) and Training and Doctrine Command (TRADOC) UAS priorities.

Small Tactical Radar - Lightweight (STARLite) Synthetic Aperture Radar/Ground Moving Target Indicator (SAR/GMTI) is a lightweight, high performance, all weather, multi-functional radar system for the Gray Eagle Unmanned Aircraft System (UAS). The STARLite system provides wide area, near real time Reconnaissance, Surveillance and Target Acquisition (RSTA) capabilities. It operates throughout the UAS flight mission profile in adverse weather and through battlefield obscurants. The SAR mode generates quality images for the battlefield commander for detection, classification and location of stationary commercial wheeled vehicle-size targets. The GMTI mode detects moving ground targets, to include man-sized detection, and provides location information and performs cross-cue with the Electro-Optic/Infrared (EO/IR) sensors. STARLite is increasing its software (S/W) capabilities based on IOT&E results which will increase automation and upgrade to a common Graphical User Interface (GUI) to align with the Common Operating Environment (COE) requirement to enable Sensor Processing and Exploitation (SPE).

Common Sensor Payload (CSP) - Electro Optical / Infra Red / Laser Designator (EO/IR/LD) provides High Definition (HD) Full Motion Video (FMV) in both the Electro Optical and Mid Wave IR spectrums with day/night capability to collect and display continuous imagery with the ability to designate targets of interest for attack by laser guided precision weapons. It is the EO/IR/LD sensor for Gray Eagle UAS which supports force applications, battlespace awareness, force protection, and net-centric operations across the battlefield to provide wide area, near real time RSTA capabilities. Additional initiatives will continue to focus on the transition of technologies directly supporting emerging requirements and the Army's Current and Future Force. CSP is being procured for the Gray Eagle UAS program and has potential application to other platforms.

Project 11B: The Tactical Signals Intelligence (SIGINT) Payload (TSP) is a SIGINT sensor, currently under development for the Gray Eagle that detects radio frequency (RF) emitters. The TSP system will provide a SIGINT capability to the tactical commander. The TSP system will be a modular, scalable payload using an architecture that is software reconfigurable to allow for growth and flexibility as technology, and as the adversaries use of technology, changes. This flexible architecture allows for

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army	Date: March 2014
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305204A / *Tactical Unmanned Aerial Vehicles*

third party software applications to be integrated into the TSP system. The TSP system processing, control and data dissemination is integrated into the Distributed Common Ground System - Army (DCGS-A) via the Operational Ground Station. It supports Manned/Unmanned (MUM) teaming with Brigade Combat Team ground SIGINT Terminal Guidance (STG) teams and manned airborne assets. The TSP system improves situational awareness and shortens the targeting cycle by detecting and identifying emitters associated with high value targets (HVTs). The TSP system is capable of processing conventional signals, standard military signals, and modern signals of interest. This includes detection, recognition, identification, direction finding, and high confidence geo-location. The TSP system operates in two modes, passive and active to provide an enhanced Aerial Precision Geolocation (APG) capability.

Project 123: The Unmanned Aircraft System (UAS) Joint Technology Center/Systems Integration Laboratory (JTC/SIL) is a Joint facility that develops, integrates, and supports the enhancement of its Multiple Unified Simulation Environment (MUSE) capability for Army systems and operational concepts. The JTC/SIL conducts prototype hardware and software development, builds the UAS Institutional Mission Simulator (IMS) trainers for the Shadow, Hunter, and Gray Eagle programs, and provides modeling and simulation support. The MUSE is a real-time, operator in-the-loop simulation that may be integrated with larger simulations in support of Army and Joint training and exercises. The MUSE is also employed as a Mission Rehearsal Tool for ongoing combat operations. This project funds the management of the JTC/SIL and MUSE enhancements. This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	31.303	33.533	26.261	-	26.261
Current President's Budget	28.466	33.515	22.870	-	22.870
Total Adjustments	-2.837	-0.018	-3.391	-	-3.391
• Congressional General Reductions	-2.837	-0.018			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	-3.391	-	-3.391

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305204A / *Tactical Unmanned Aerial Vehicles*	Project (Number/Name) 11A / *Advanced Payload Develop & Spt (MIP)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
11A: *Advanced Payload Develop & Spt (MIP)*	-	6.239	5.554	5.271	-	5.271	5.036	3.050	3.265	3.304	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The Advanced Payloads Development project is a shared funding line between multiple Payload programs. These Payload programs support the Army's transformation by developing Reconnaissance, Surveillance and Target Acquisition (RSTA) and Intelligence, Surveillance and Reconnaissance (ISR) payload systems for Brigade Combat Teams, Divisions, and Corps Unmanned Aircraft Systems (UAS). This is in accordance with Headquarters Department of the Army (HQDA) and Training and Doctrine Command (TRADOC) UAS priorities.

Small Tactical Radar - Lightweight (STARLite) Synthetic Aperture Radar/Ground Moving Target Indicator (SAR/GMTI) is a lightweight, high performance, all weather, multi-functional radar system for the Gray Eagle Unmanned Aircraft System (UAS). The STARLite system provides wide area, near real time Reconnaissance, Surveillance and Target Acquisition (RSTA) capabilities. It operates throughout the UAS flight mission profile in adverse weather and through battlefield obscurants. The SAR mode generates quality images for the battlefield commander for detection, classification and location of stationary commercial wheeled vehicle-size targets. The GMTI mode detects moving ground targets, to include man-sized detection, and provides location information and performs cross-cue with the Electro-Optic/Infrared (EO/IR) sensors. STARLite is increasing its software (S/W) capabilities based on IOT&E results which will increase automation and upgrade to a common Graphical User Interface (GUI) to align with the Common Operating Environment (COE) requirement to enable Sensor Processing and Exploitation (SPE).

Common Sensor Payload (CSP) - Electro Optical / Infra Red / Laser Designator (EO/IR/LD) provides High Definition (HD) Full Motion Video (FMV) in both the Electro Optical and Mid Wave IR spectrums with day/night capability to collect and display continuous imagery with the ability to designate targets of interest for attack by laser guided precision weapons. It is the EO/IR/LD sensor for Gray Eagle UAS which supports force applications, battlespace awareness, force protection, and net-centric operations across the battlefield to provide wide area, near real time RSTA capabilities. Additional initiatives will continue to focus on the transition of technologies directly supporting emerging requirements and the Army's Current and Future Force. CSP is being procured for the Gray Eagle UAS program and has potential application to other platforms.

FY 2015 base development dollars in the amount of $5.271 million is for software development to improve STARLite SPE.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0305204A / *Tactical Unmanned Aerial Vehicles*	**Project (Number/Name)** 11A / *Advanced Payload Develop & Spt (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: CSP High Definition (HD) - EO/IR/LD	3.567	-	-
Articles:	-	-	-
Description: Development, testing and integration			
FY 2013 Accomplishments: CSP HD Development, testing and integration			
Title: CSP HD Target Location Accuracy (TLA) - EO/IR/LD	2.672	-	-
Articles:	-	-	-
Description: Target Location Accuracy (TLA) - Non Recurring Engineering (NRE), design, integrate and test of TLA			
FY 2013 Accomplishments: Contract Prep Work - RFP, SOW and contract award for FY14 TLA Development			
Title: Software Development to improve CSP and STARLite Sensor Processing and Exploitation (SPE)	-	5.554	5.271
Articles:	-	-	-
Description: Development, Testing and Integration			
FY 2014 Plans: Software Development to improve CSP and STARLite Sensor Processing and Exploitation			
FY 2015 Plans: Software Development to improve STARLite SPE			
Accomplishments/Planned Programs Subtotals	6.239	5.554	5.271

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• A00020: *MQ-1 PAYLOAD - UAS - A00020*	173.911	97.781	-	-	-	-	-	-	-	-	271.692
• A01003: *SAR/MTI (MIP)*	-	-	3.686	-	3.686	2.451	1.348	-	-	-	7.485
• A01005: *CSP FMV (MIP)*	-	-	8.409	-	8.409	4.813	4.485	-	-	-	17.707

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0305204A / *Tactical Unmanned Aerial Vehicles*	**Project (Number/Name)** 11A / *Advanced Payload Develop & Spt (MIP)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost

Remarks

MQ-1 PAYLOAD - UAS - A00020: Shared Aircraft Procurement, Army (APA) procurement funding line for CSP, STARLite, Tactical Signals Intelligence (SIGINT) Payload (TSP) and Advanced Payloads.
SAR/MTI (MIP) - A01003: Procurement funding line for STARLite; under parent line MQ-1 Payloads (MIP) - A01001.
CSP FMV (MIP) - A01005: Procurement funding line for CSP; under parent line MQ-1 Payloads (MIP) - A01001.

D. Acquisition Strategy

STARLite SAR/GMTI is a threshold requirement for the Gray Eagle UAS. The acquisition strategy for STARLite program was based on a full and open competition for the Army. A five year competitive production contract was awarded in April 2008 to Northrop Grumman for the build, integration, test and delivery of STARLite systems with preplanned improvements for Extended Range and Increased Reliability. FRP was successfully achieved in June 2013. A follow-on production contract is planned for award in February 2014 for 3 years that will procure all remaining STARLite Payloads required for the Gray Eagle platform. A STARLite system support contract was awarded in September 2013 to provide system sustainment. STARLite is increasing its S/W capabilities based on IOT&E results which will increase automation and upgrade to a common Graphical User Interface (GUI) to align with the Common Operating Environment (COE) requirement to enable Sensor Processing and Exploitation (SPE).

Common Sensor Payload (CSP) EO/IR/LD is a KPP (Key Performance Parameter) requirement for the Gray Eagle UAS. The acquisition strategy for the CSP program was based on a full and open competition for the Army. It was briefed and approved at the Army Systems Acquisition Review Council (ASARC) in Dec 2006. A competitive contract was awarded in Nov 2007 to Raytheon for the build, integration, test and delivery of the CSP. FRP was completed June 2013. CSP program was approved by HQDA for fifty-five (55) High Definition (HD) payloads. Forty-One (41) systems are being upgraded via retrofit to HD while fourteen (14) are being procured in FY14 as HD.

The acquisition strategy for FY15 is software development to improve the STARLite SPE capability by utilizing existing contract vehicles.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305204A / *Tactical Unmanned Aerial Vehicles*	Project (Number/Name) 11A / *Advanced Payload Develop & Spt (MIP)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mgmt Personnel	Various	PM ABS / PM ARES : Aberdeen, MD	7.957	0.567	Dec 2012	0.500	Dec 2013	0.500	Dec 2014	-		0.500	Continuing	Continuing	Continuing
PM ARES Funding for TSP	Allot	PM, ARES : Aberdeen, MD	11.255	-		-		-		-		-	-	11.255	11.255
		Subtotal	19.212	0.567		0.500		0.500		-		0.500	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STARLite Extended Range (ER) (SAR/GMTI)	C/CPFF	Northrop Grumman : Linthicum, MD	6.786	-		-		-		-		-	-	6.786	6.786
CSP EO/IR/LD	C/FFP	Raytheon : McKinney, TX	48.500	-		-		-		-		-	-	48.500	48.500
CSP HD (High Definition)	MIPR	NSWC Crane : Crane, IN	10.850	-		-		-		-		-	-	10.850	10.850
CSP TLA - NRE, Build and Test - Contract Closeout	MIPR	NSWC Crane : Crane, IN	22.000	2.672		-		-		-		-	-	24.672	Continuing
Improvements to Sensor Processing and Exploitation	MIPR	Northrop Grumman : Linthicum, MD	0.000	-		5.054	Mar 2014	4.771	Mar 2015	-		4.771	Continuing	Continuing	Continuing
		Subtotal	88.136	2.672		5.054		4.771		-		4.771	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Gray Eagle Integration Support (STARLite, CSP, HD & TLA)	MIPR	PM UAS / General Atomics : Huntsville, AL	24.535	1.500		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	24.535	1.500		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305204A / *Tactical Unmanned Aerial Vehicles*	Project (Number/Name) 11A / *Advanced Payload Develop & Spt (MIP)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STARLite ER (Extended Range) - SAR/GMTI	MIPR	Various : Linthicum, MD	12.250	-		-		-		-		-	-	12.250	12.250
CSP (EO/IR/LD)	MIPR	Various : Various	13.779	-		-		-		-		-	-	13.779	13.779
CSP HD	MIPR	TBD : TBD	2.998	1.500		-		-		-		-	-	4.498	4.498
		Subtotal	29.027	1.500		-		-		-		-	-	30.527	30.527

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	160.910	6.239		5.554		5.271		-		5.271	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0305204A / *Tactical Unmanned Aerial Vehicles*	**Project (Number/Name)** 11A / *Advanced Payload Develop & Spt (MIP)*

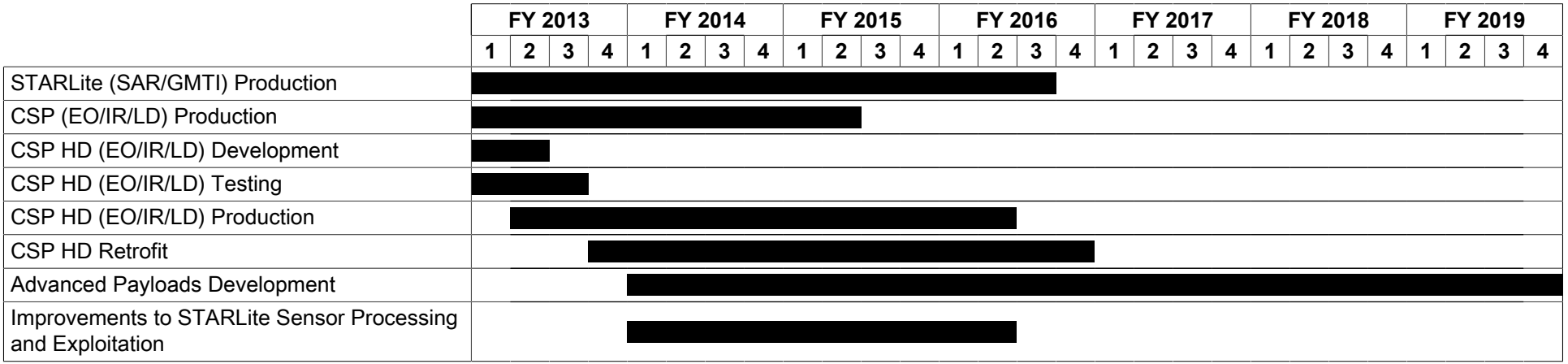

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0305204A / *Tactical Unmanned Aerial Vehicles*	**Project (Number/Name)** 11A / *Advanced Payload Develop & Spt (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
STARLite (SAR/GMTI) Production	3	2008	3	2016
CSP (EO/IR/LD) Production	1	2008	2	2015
CSP HD (EO/IR/LD) Development	2	2012	2	2013
CSP HD (EO/IR/LD) Testing	1	2013	3	2013
CSP HD (EO/IR/LD) Production	2	2013	2	2016
CSP HD Retrofit	4	2013	4	2016
Advanced Payloads Development	1	2014	4	2021
Improvements to STARLite Sensor Processing and Exploitation	1	2014	2	2016

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305204A / *Tactical Unmanned Aerial Vehicles*	Project (Number/Name) 11B / *Tsp Development (MIP)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
11B: *Tsp Development (MIP)*	-	17.906	24.678	12.904	-	12.904	7.138	4.375	4.685	-	-	71.686
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

TSP efforts in FY11 and prior years were carried in both Projects 11A (Advanced Payload Development) and 11B (TSP Development). All TSP funding in FY12 and beyond is carried in Project 11B.

A. Mission Description and Budget Item Justification

The Tactical Signals Intelligence (SIGINT) Payload (TSP) is a SIGINT sensor, currently under development for the Gray Eagle that detects radio frequency (RF) emitters. The TSP system will provide a SIGINT capability to the tactical commander. The TSP system will be a modular, scalable payload using an architecture that is software reconfigurable to allow for growth and flexibility as technology, and as the adversaries use of technology, changes. This flexible architecture allows for third party software applications to be integrated into the TSP system. The TSP system processing, control and data dissemination is integrated into the Distributed Common Ground System - Army (DCGS-A) via the Operational Ground Station. It supports Manned/Unmanned (MUM) teaming with Brigade Combat Team ground SIGINT Terminal Guidance (STG) teams and manned airborne assets. The TSP system improves situational awareness and shortens the targeting cycle by detecting and identifying emitters associated with high value targets (HVTs).

The TSP system is capable of processing conventional signals, standard military signals, and modern signals of interest. This includes detection, recognition, identification, direction finding, and high confidence geo-location. The TSP system operates in two modes, passive and active to provide an enhanced Aerial Precision Geolocation (APG) capability.

FY2015 Base funding in the amount of $12.904 Million supports engineering corrective actions, regression testing, Government Developmental testing and Initial Operational Test and Evaluation (IOT&E).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: TSP Engineering Manufacturing Development (EMD) and Low Rate Initial Production Research and Development (R&D) Support	17.906	24.678	12.904
Articles:	-	-	-
Description: EMD Development and Equipment; LRIP R&D: Logistics, Training, corrective action engineering support and test activities.			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0305204A / *Tactical Unmanned Aerial Vehicles*	**Project (Number/Name)** 11B / *Tsp Development (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continues TSP Block 1, Commences Increment 1 Test and Evaluation including Contractor Flight Test. ***FY 2014 Plans:*** Complete TSP Block 1, Increment 1 Engineering Manufacturing Development (EMD) Phase and supports corrective actions, and regression testing. Also, includes completion of Operational Ground Station and MQ-1C Integration and Test. ***FY 2015 Plans:*** Continues TSP Block 1. Includes Contractor/ Government Developmental Testing, MQ-1C air worthiness release, System Support Package development, Key Personnel Training, Logistics Demonstration, and prepares for the IOT&E. Begins preparation for TSP Block 2 activities.			
Accomplishments/Planned Programs Subtotals	17.906	24.678	12.904

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• A00020: *A00020 - MQ-1 Payload (MIP)*	173.911	97.871	-	-	-	-	-	-	-	-	271.782
• A01004: *A01004 - SIGINT (MIP)*	-	-	14.818	-	14.818	51.506	49.388	31.878	-	-	147.590
• TSP Theater Net-Centric Geolocation: *TSP Theater Netcentric Geolocation (TNG)*	-	-	0.550	-	0.550	0.050	0.050	0.050	0.050	-	0.750

Remarks

MQ-1 PAYLOAD - UAS - A00020: Shared Aircraft Procurement, Army (APA) procurement funding line for CSP, STARLite, TSP, and Advanced Payloads.

SIGINT (MIP) - A01004: Procurement funding line for TSP Payloads. Under Parent Line MQ-1 Payloads (MIP) - A01001.

TSP Theater Net-Centric Geolocation (TNG) - TNG funding included in Tactical Exploitation of National Capabilities (TENCAP) funding line.

D. Acquisition Strategy

TSP is a threshold requirement for the MQ-1C Gray Eagle UAS. The TSP program entered the Engineering and Manufacturing Development (EMD) phase with a Milestone B decision in September 2011. The TSP Program EMD contract award was based on full-and-open competition and was focused on integration and test onto the Gray Eagle platform and integration and test of TSP software into the Operational Ground Station. The TSP EMD program is a derivative of systems that were fielded as a Quick Reaction Capability on the MQ-1C UAS and a variety of other manned platforms. The demonstrated scalability of these fielded materiel solutions allows the TSP EMD program to leverage effort that directly supports the TSP EMD program.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0305204A / *Tactical Unmanned Aerial Vehicles*	**Project (Number/Name)** 11B / *Tsp Development (MIP)*

The TSP program Acquisition Strategy was modified to accommodate the FY 2012 Appropriation that reduced the 11B Funding Line by $14.100 Million. The modified TSP program followed an incremental Acquisition Strategy with a TSP Block 0, Block 1 and Block 2. Schedule adjusted in accordance with the TSP Acquisition Decision Memorandum dated 22 Mar 2012. Block 0 was to be the QRC system to provide an early operational capability for the MQ-1C. The TSP Block 1 is the current Program of Record that entered EMD in FY 2011 to meet all the threshold requirements in the approved Capability Production Document (CPD). Block 2 was to address future objective needs.

Based on available funding, the TSP acquisition strategy has been revised to merge Block 0 and current Block 1 capabilities into a single Block of capability. Current capabilities that have not been integrated into the Block 1 are deferred and included in the Block 2 suite of requirements.

Block 1 is the initial production capability, with Block 2 being a continuation of the TSP program of record and will integrate the remaining CPD threshold requirements.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305204A / *Tactical Unmanned Aerial Vehicles*	Project (Number/Name) 11B / *Tsp Development (MIP)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management-Gov	RO	PM SAI : APG	6.222	0.837	Dec 2012	0.641	Dec 2013	0.406	Dec 2014	-		0.406	-	8.106	-
Program Management Support	MIPR	Various : APG	3.180	0.675	Mar 2013	0.720	Mar 2014	-		-		-	-	4.575	Continuing
FFRDC Support	FFRDC	MITRE : APG	0.644	0.557	Mar 2013	0.647	Mar 2014	-		-		-	-	1.848	-
		Subtotal	10.046	2.069		2.008		0.406		-		0.406	-	14.529	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TSP EMD	C/CPIF	BAE Systems, : Nashua, NH	6.385	13.821	Sep 2013	-		-		-		-	-	20.206	-
TSP Engineering Changes	SS/CPFF	BAE Systems : Nashua, NH	0.000	-		7.495	Apr 2014	0.800	Dec 2014	-		0.800	-	8.295	-
MQ-1C and OGS Integration	SS/CPFF	Various : Various	0.000	-		4.630	Feb 2014	-		-		-	-	4.630	-
TSP System Support (Logistics, Training, & Test)	SS/CPFF	Various : Various	0.000	-		6.870	Apr 2014	3.143	Dec 2014	-		3.143	-	10.013	-
		Subtotal	6.385	13.821		18.995		3.943		-		3.943	-	43.144	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support	MIPR	Various : Various	1.790	1.276	Mar 2013	0.975	Mar 2014	0.579	Mar 2015	-		0.579	-	4.620	-
		Subtotal	1.790	1.276		0.975		0.579		-		0.579	-	4.620	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305204A / *Tactical Unmanned Aerial Vehicles*	Project (Number/Name) 11B / *Tsp Development (MIP)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test and Activities	MIPR	ATEC/APG : Various	4.819	0.092	Sep 2013	0.300	Mar 2014	2.304	Dec 2014	-		2.304	-	7.515	-
Operational Testing	MIPR	ATEC : Various	0.500	-		-		3.372	Jun 2015	-		3.372	-	3.872	-
Test Range & Aircraft Support	MIPR	CECOM Flight Activity : Lakehurst, NJ	0.000	0.648	Jul 2013	2.400	Apr 2014	2.300	Nov 2014	-		2.300	-	5.348	-
		Subtotal	5.319	0.740		2.700		7.976		-		7.976	-	16.735	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	23.540	17.906		24.678		12.904		-		12.904	-	79.028	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0305204A / *Tactical Unmanned Aerial Vehicles*	**Project (Number/Name)** 11B / *Tsp Development (MIP)*

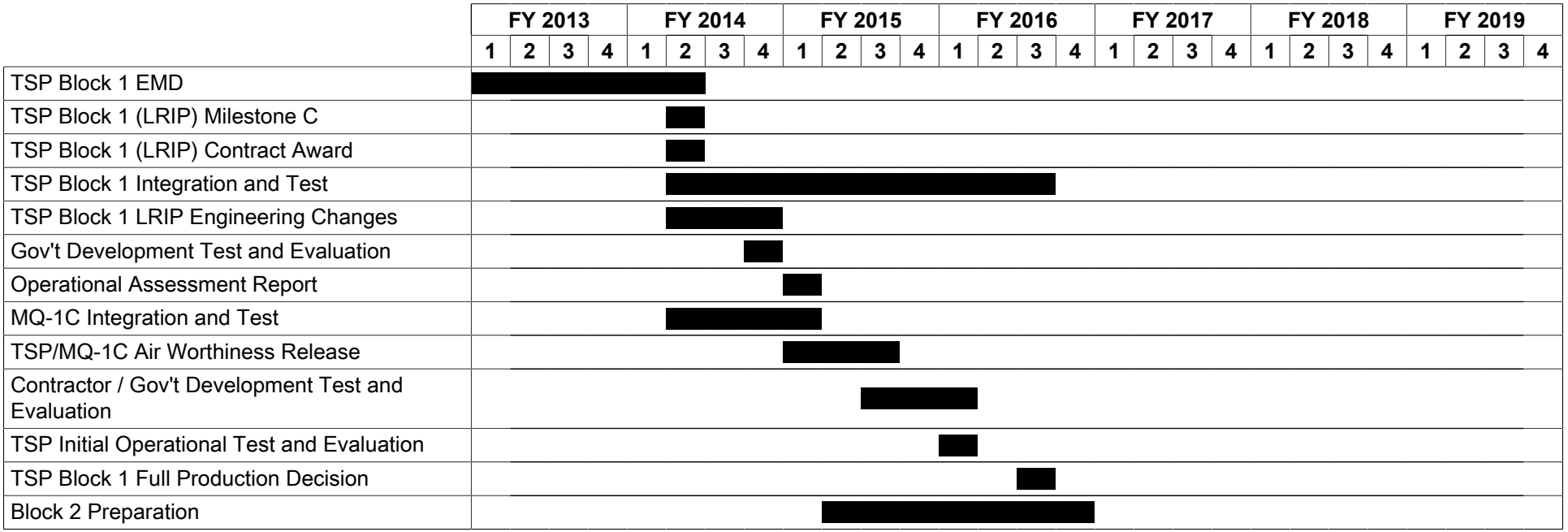

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0305204A / *Tactical Unmanned Aerial Vehicles*	**Project (Number/Name)** 11B / *Tsp Development (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
TSP Block 1 EMD	4	2011	2	2014
TSP Block 1 (LRIP) Milestone C	2	2014	2	2014
TSP Block 1 (LRIP) Contract Award	2	2014	2	2014
TSP Block 1 Integration and Test	2	2014	3	2016
TSP Block 1 LRIP Engineering Changes	2	2014	4	2014
Gov't Development Test and Evaluation	4	2014	4	2014
Operational Assessment Report	1	2015	1	2015
MQ-1C Integration and Test	2	2014	1	2015
TSP/MQ-1C Air Worthiness Release	1	2015	3	2015
Contractor / Gov't Development Test and Evaluation	3	2015	1	2016
TSP Initial Operational Test and Evaluation	1	2016	1	2016
TSP Block 1 Full Production Decision	3	2016	3	2016
Block 2 Preparation	2	2015	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army												Date: March 2014
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0305204A / *Tactical Unmanned Aerial Vehicles*				Project (Number/Name) 123 / *Joint Technology Center System Integration*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
123: *Joint Technology Center System Integration*	-	4.321	3.283	4.695	-	4.695	4.516	4.141	4.760	4.867	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Unmanned Aircraft System (UAS) Joint Technology Center/Systems Integration Laboratory (JTC/SIL) is a Joint facility that develops, integrates, and supports the enhancement of its Multiple Unified Simulation Environment (MUSE) capability for Army systems and operational concepts. The JTC/SIL conducts prototype hardware and software development, builds the UAS Institutional Mission Simulator (IMS) trainers for the Shadow, Hunter, and Gray Eagle programs, and provides modeling and simulation support. The MUSE is a real-time, operator in-the-loop simulation that may be integrated with larger simulations in support of Army and Joint training and exercises. The MUSE is also employed as a Mission Rehearsal Tool for ongoing combat operations. This project funds the management of the JTC/SIL and MUSE enhancements.

This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Product Development	1.826	1.500	2.313
Articles:	-	-	-
Description: Funding is provided for the following efforts.			
FY 2013 Accomplishments: Integration of a government owned visualization package. Develop more ease of use enhancements including standardized set up packages for the aircraft simulation. Evaluate Ground Control Station simulation improvements for fidelity and realism. Design, develop, implement, and release Build 8.8.			
FY 2014 Plans: Move to smart phone or more protable computing capabilities. Evaluate the adaptable environment that gives the user more flexibility by choosing which components to use for a more customized environment. Incorporate new sensor technologies. Incorporate new aircraft and avionics. Design, develop, implement, and release Build 9.04			
FY 2015 Plans: Continue Development of application based software for portable devices. Enhance mission planning software to facilitate ease of use and currency with UAS mission planning application capabilities. Develop and enhance Service Oriented Architecture			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0305204A / *Tactical Unmanned Aerial Vehicles*	**Project (Number/Name)** 123 / *Joint Technology Center System Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
to support Cloud computing for US military exercises. Develop new sensors simulation capabilities to reflect Service UAS capabilities.			
Title: Support OSD Joint UAS Interoperability Requirements and Activities ***Articles:*** ***Description:*** Funding is provided for the following efforts. ***FY 2013 Accomplishments:*** Develop UCS Architecture environment and compliance tools. Develop and publish multiple new USIPs based on OSD prioritization. Provide technical and administrative support to I IPT and associated WGs. ***FY 2014 Plans:*** Continue development of UCS Architecture environment and compliance tools. Continue to develop and publish multiple new USIPs based on OSD prioritization. Continue to provide technical and administrative support to I IPT and associated WGs. ***FY 2015 Plans:*** Continue development of UCS Architecture environment and compliance tools. Continue to develop and publish multiple new USIPs based on OSD prioritization. Continue to provide technical and administrative support to I IPT and associated WGs.	1.995 -	1.465 -	2.000 -
Title: Management Services ***Articles:*** ***Description:*** Funding is provided for the following efforts. ***FY 2013 Accomplishments:*** Continue coordination and oversight of MUSE product development and OSD Interoperability Requirements and tool development. ***FY 2014 Plans:*** Continue coordination and oversight of MUSE product development and OSD Interoperability Requirements and tool development. ***FY 2015 Plans:*** Continue coordination and oversight of MUSE product development.	0.500 -	0.318 -	0.382 -
Accomplishments/Planned Programs Subtotals	4.321	3.283	4.695

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0305204A / *Tactical Unmanned Aerial Vehicles*	**Project (Number/Name)** 123 / *Joint Technology Center System Integration*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PE 0603261N Navy: *PE 0603261N Navy*	2.000	2.000	2.000	-	2.000	-	-	-	-	Continuing	Continuing
• PE 0305206F Air Force: *PE 0305206F Air Force*	3.159	2.472	3.983	-	3.983	4.044	3.445	3.507	3.570	Continuing	Continuing

Remarks

The JTC/SIL and the MUSE receive funding from the Air Force and Navy through their POM processes. This effort is a continuing effort in support of Service UAS programs.

D. Acquisition Strategy

Continued MUSE development will be accomplished through a combination of Government in-house functional directorate support using a variety of existing contract vehicles.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305204A / *Tactical Unmanned Aerial Vehicles*	Project (Number/Name) 123 / *Joint Technology Center System Integration*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	MIPR	AMC, AMCOM, AMRDEC, SED : Redstone Arsenal, AL	1.312	0.500	Nov 2012	0.318	Dec 2013	0.382	Dec 2014	-		0.382	Continuing	Continuing	Continuing
		Subtotal	1.312	0.500		0.318		0.382		-		0.382	-	-	-

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MUSE Development	MIPR	AMC, AMCOM, AMRDEC, SED : Redstone Arsenal, AL	5.487	1.826	Jan 2013	1.500	Feb 2014	2.313	Jan 2015	-		2.313	Continuing	Continuing	Continuing
		Subtotal	5.487	1.826		1.500		2.313		-		2.313	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Interoperability Support	MIPR	AMC, RDECOM, AMRDEC : Redstone Arsenal, AL	4.000	1.995	Dec 2012	1.465	Feb 2014	2.000	Jan 2015	-		2.000	Continuing	Continuing	-
		Subtotal	4.000	1.995		1.465		2.000		-		2.000	-	-	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	10.799	4.321		3.283		4.695		-		4.695	-	-	-

Remarks