Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army											Date: March 2014	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603308A / *Army Space Systems 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**
Total Program Element	-	9.038	13.584	13.999	-	13.999	13.450	19.499	22.696	22.210	Continuing	Continuing
990: *Space And Missile Defense Integration*	-	9.038	11.585	10.557	-	10.557	9.412	15.358	18.454	22.205	Continuing	Continuing
EB7: *Army Space System Enhancement/Integration*	-	-	1.999	3.442	-	3.442	4.038	4.141	4.242	0.005	-	17.867

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

A. Mission Description and Budget Item Justification

The program element funds space systems integration efforts performed by the US Army Space and Missile Defense Command/ Army Forces Strategic Command (USASMDC/ARSTRAT) and the Program Executive Office for Intelligence, Electronic Warfare

USASMDC/ARSTRAT: Headquarters, Department of the Army General Order Number 37, dated 16 October 2006, designated USASMDC/ARSTRAT as the Army proponent for space and the Army Service Component Command of U.S. Strategic Command (USSTRATCOM). As such, USASMDC/ARSTRAT is responsible to develop warfighting concepts, conduct warfighting experiments to validate those concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organization, Training, Material, Leadership & Education, Personnel and Facilities (DOTMLPF) solutions to realize those space related capabilities. Army Regulation (AR) 10-87 Army Commands, Army Service Component Commands, and the Direct Reporting Units, dated 4 September 2007 and AR 5-22 The Army Force Modernization Proponent System dated 19 August 2009 designates USASMDC/ARSTRAT as the Army Force Modernization proponent for Space and High Altitude Capabilities.

Project 990 funds USASMDC/ARSTRAT to integrate warfighting concepts and technologies, validate concepts, and identify capabilities needed to implement the validated concepts, and develop DOTMLPF solutions to realize those space and high altitude related capabilities. Provide engineering support to the Joint Friendly Force Tracking (J-FFT) Mission Management Center (MMC) through an associated test-bed for both operational and developmental injection and integration of real-time J-FFT information into the Common Operating Picture (COP) for Combatant Commanders, Joint Task Forces (JTFs), and Coalition Partners. The MMC injects real-time J-FFT information into the Common Operating Picture for COCOMs, JTFs and Coalition partners. USSTRATCOM, in accordance with CJCSI 3910.01 (reference V.4.) is designated one of three coordinating agencies for J-FFT within DoD. CJCSI 3910.01 directs eight Force Modernization tasks to USSTRATCOM. USSTRATCOM SI 534-5 (reference V.6.) and annually published USSTRATCOM operations orders have designated USASMDC/ARSTRAT as the lead USSTRATCOM component command for Friendly Force Tracking (FFT).

Project EB7 funds classified research efforts. The details of the efforts may be provided upon request to appropriately cleared individuals.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army					Date: March 2014
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*		R-1 Program Element (Number/Name) PE 0603308A / *Army Space Systems Integration*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	9.876	13.592	14.602	-	14.602
Current President's Budget	9.038	13.584	13.999	-	13.999
Total Adjustments	-0.838	-0.008	-0.603	-	-0.603
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.019	-			
• Adjustments to Budget Years	-	-	-0.603	-	-0.603
• Other Adjustments 1	-0.819	-0.008	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603308A / *Army Space Systems Integration*	Project (Number/Name) 990 / *Space And Missile Defense 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
990: *Space And Missile Defense Integration*	-	9.038	11.585	10.557	-	10.557	9.412	15.358	18.454	22.205	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

Project 990 funds United States Army Space and Missile Command/Army Strategic Command (USASMDC/ARSTRAT) efforts to develop, analyze and mature warfighting concepts, and conduct warfighting experiments for space and high altitude capabilities. The program also funds development and integration of new data sources and data services into the Joint Friendly Force Tracking Mission Management Center. The Mission Management Center (MMC) injects real-time Joint Friendly Force Tracking (J-FFT) information into the Common Operating Picture for Combatant Commands (COCOMs), Joint Task Forces (JTFs) and Coalition partners. USASMDC/ARSTRAT is the proponent for space / high altitude capabilities and is responsible for determining and integrating Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF) for the Army.

USSTRATCOM, in accordance with CJCSI 3910.01 (reference V.4.) is designated one of three coordinating agencies for J-FFT within DOD. CJCSI 3910.01 directs eight Force Modernization tasks to USSTRATCOM. USSTRATCOM SI 534-5 (reference V.6.) and annually published USSTRATCOM operations orders have designated USASMDC/ARSTRAT as the lead USSTRATCOM component command for J-FFT.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Architecture Development, Wargames and Demonstrations	5.151	5.680	5.377
Articles:	-	-	-
Description: Funding is provided for the following efforts			
FY 2013 Accomplishments: Planned, developed, and executed architectures and combat development solutions for Army integration of space systems, space control capabilities, missile defense and high altitude systems. Represented Army positions and defended Army equities relative to Joint/DoD and inter-Service activities; e.g., Executive Agent for Space Program Assessments, etc. Participated and provided support to wargames and experiments where space and high altitude capabilities and technologies could be integrated and evaluated in the most realistic operating environment possible. This was necessary to ensure that space and high altitude capabilities gaps were identified and capabilities were correctly represented, so that the Army uses of these capabilities were validated. Conducted space and relied on cyber analysis to support the development of current CONPLANS and planning orders and to inform senior decisions on material development critical to the warfighter and homeland defense. Developed space			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603308A / *Army Space Systems Integration*	**Project (Number/Name)** 990 / *Space And Missile Defense Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
modernization strategies and sponsored exploration of future space and high altitude warfighting concepts. The USASMDC/ ARSTRAT continued efforts to enhance the resiliency and effectiveness of critical space-based assets. ***FY 2014 Plans:*** Will plan, develop, and execute architectures and combat development solutions for Army integration of space systems, space control capabilities and high altitude systems. Represent Army positions and defend Army equities relative in Joint/DoD and inter-Service activities; e.g., Executive Agent for Space Program Assessments, etc. Will participate and provide support to wargames and experiments, such as Jericho Thunder, where space and high altitude capabilities and technologies can be integrated and evaluated in the most realistic operating environment possible. This is necessary to ensure that space, high altitude, and cyber capability gaps are identified and capabilities are correctly represented so that the Army's use of these capabilities is explored and where possible, exploited. Develop and maintain One Semi-Automated Force (OneSAF) simulation space updates and provide to PEO STRI to be included in OneSAF baseline. Develop space modernization strategies and sponsor exploration of future space and high altitude warfighting concepts. Continue efforts to enhance the resiliency and effectiveness of critical space-based assets. These efforts will be documented in our FY14 task to develop the Space superiority Capability Development Document, requirements development for JTAGS P3I/Overhead Persistent Infrared; JCIDS requirements for defensive space control and support transition of RED DOT to an Army program of record. Other planned activities include: participation in OSD Space Experiment Review Board to prioritize Space Test Program launch opportunities and the "Army - Air Force Integration Forum 20"; Lead Space Capability Based Analysis on behalf of TRADOC; Participate in USAF Schriever Wargame 2014 focused on deployment in an Anti-Access / Area Denial environment. SMDC/ARSTRAT will lead Army Space 2020 & Beyond wargame seminar as part of Unified Quest 2014 and provide a subject matter expert to NASA's Phantom Eye high altitude / long endurance demonstrator program. Experiment with Global Visual Information System (GVIS), when it is integrated into Stryker vehicles and dismounted, at AEWE Spiral 1, and AFRICOM, USAF and Marine Expeditionary Force experiments. USASMDC/ARSTRAT will participate in Integrated Distributed Operations in Major Combat Operations SIMEX, hosted by the Fires Battlelab and take Winch Assisted Space Platform prototype to Network Integration Experiment 14.2. SMDC/ARSTRAT will transition Combat SkySat to 7th Special Forces Group and continue efforts developing Weather Rock (WxRock) with US Army AFRICOM. ***FY 2015 Plans:*** Will plan, develop, and execute architectures and combat development solutions for Army integration of space systems, space control capabilities, missile defense and high altitude systems. Represent Army positions and defend Army equities relative in Joint/DoD and inter-Service activities; e.g., Executive Agent for Space Program Assessments, etc. Will participate and provide support to wargames and experiments where space and high altitude capabilities and technologies can be integrated and evaluated in the most realistic operating environment possible. This is necessary to ensure that space, high altitude and cyber capability gaps are identified and capabilities are correctly represented so that the Army's use of these capabilities is explored and where possible, exploited. Will develop and maintain One Semi-Automated Force (OneSAF) simulation space updates and provide to PEO STRI to be included in OneSAF baseline. Will develop space modernization strategies and sponsor exploration			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603308A / *Army Space Systems Integration*	**Project (Number/Name)** 990 / *Space And Missile Defense Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
of future space and high and high altitude warfighting concepts. USASMDC/ARSTRAT will continue efforts to enhance the resiliency and effectiveness of critical space-based assets and JCIDS capability development activities for space superiority, high altitude persistent platforms, nano-satellites and tactical launch systems. Products scheduled to be delivered in FY15 include Overhead Persistence Infrared (OPIR) Analysis of Alternatives; Jericho Thunder Analysis Support; Nanosat Program Capability Development Document; Space Superiority Capability Production Document; Army Cyberspace Analysis; Kestrel Eye Military Utility Analysis; Space Superiority Joint Architecture Analysis, and Phase I Space Superiority Program Analysis of Alternatives and Cost-Benefit Analysis.			
Title: High Energy Laser Technolgy Program Support	0.785	0.770	0.750
Articles:	-	-	-
Description: Funding is provided for the following effort. ***FY 2013 Accomplishments:*** Continued to support the Solid State Laser Testbed (SSLT) - Coupled the 100 kW laser with the existing Tactical High Energy Laser (THEL) pointer-tracker subsystem and began the basic lethality program against a variety of static and dynamic targets of interest to the Army, Navy, Air Force, and OSD at tactical ranges of interest. Supported the initiation of propagation experiments with high power at 1.06Î¼m using the SSLT facility. Supported the completion of Option 2 phase of Robust Electric Laser Initiative (RELI) (risk reduction for 100 kW system) and began Option 1, i.e. the fabrication of 50 kW hardware for integration onboard the High Energy Laser Technology Demonstrator (HELMD) vehicle beginning in 2015. Provided technical support for the integration a Commercial off the shelf (COTS) 10kW class fiber laser onboard the HELMD platform to demonstrate high power operation of the HELMD beam control system and engage mortars and Unmanned Aerial Vehicles (UAVs). Supported risk-reduction activities for future upgrades to higher-power Solid State Laser (SSL) devices. Incorporated adaptive optics into the HELMD to improve performance and increase the range. ***FY 2014 Plans:*** Will support SSLT operations at High Energy Laser Systems Test Facility (HELSTF) to evaluate 100kW class SSL performance against a variety of static and dynamic targets of interest to the Army, Navy, Air Force, and OSD at tactical ranges of interest. Will support collection of propagation and lethality data with the SSLT and analyze results for model comparison. Will support the development of tactics, techniques, and procedures (TTPs) in support of future fielding of HEL weapon system. Will support the initiation of one the of RELI contractors to design and fabricate a 60kW laser for installation into the HELMD platform in the FY15/16 timeframe by evaluating and assessing the ruggedized efficient high power laser Preliminary Design Review (PDR) and Critical Design Review (CDR). Will provide technical support for the integrated testing of a COTS 10kW class fiber laser onboard			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603308A / *Army Space Systems Integration*	**Project (Number/Name)** 990 / *Space And Missile Defense Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
the HELMD platform to demonstrate high power operation of the HELMD beam control system and to engage mortars and UAVs. Will incorporate adaptive optics into the HELMD after the first round of tests to improve performance and increase the range. ***FY 2015 Plans:*** Will support the efficient rugged laser program as it goes into the fabrication phase of a 60kW laser system for installation into the HELMD mobile platform; attend efficient rugged laser reviews and technical interchange meetings; conduct trade analysis studies on current and future high power laser concepts; conduct technical assessments of advanced laser technologies; support power and thermal subsystems interface requirements definition and system engineering between the 60 kW class laser, power and thermal subsystem, and the HELMD platform/beam control system; support SSLT operations at High Energy Laser Systems Test Facility (HELSTF) to evaluate 1.06um SSL propagation and lethality experiments; support the development of tactics, techniques, and procedures (TTPs) of future fielding of HEL weapon system.			
Title: Joint Friendly Force Tracking (J-FFT) Testbed	3.102	5.135	4.430
Articles:	-	-	-
Description: Funding is provided for the following efforts ***FY 2013 Accomplishments:*** As enhancements were made to network-enabled command and control systems and other systems including KeyMaker were integrated into Combat Commanders friendly force tracking requirements, the J-FFT Testbed was used to integrate hardware and software prior to its deployment to the field. USASMDC/ARSTRAT continued to support development of FFT capabilities for deployed and collation forces. The Joint Friendly Force Tracking Division coordinated and executed USSTRATCOM-directed FFT tasks in order to assure continuous 24/7 FFT data services support to authorized users to include the Combatant Commands, the Services, agencies, allies, and coalition partners in order to improve their situational awareness (SA), enhance command and control (C2), and reduce fratricide in combat, homeland defense, civil and contingency operations. ***FY 2014 Plans:*** As enhancements are made to network-enabled command and control systems and other systems including KeyMaker are integrated into Combat Commanders friendly force tracking requirements, the J-FFT Testbed will be used to integrate hardware and software prior to its deployment to the field. USASMDC/ARSTRAT will continue to support development of FFT capabilities for deployed and coalition forces. The Joint Friendly Force Tracking Division coordinates and executes USSTRATCOM-directed FFT tasks in order to assure continuous 24/7 FFT data services support to authorized users to include the Combatant Commands, the Services, agencies, allies, and coalition partners in order to improve their situational awareness (SA), enhance command and control (C2), and reduce fratricide in combat, homeland defense, civil and contingency operations. ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603308A / *Army Space Systems Integration*	**Project (Number/Name)** 990 / *Space And Missile Defense Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
As enhancements are made to network-enabled command and control systems and other systems including KeyMaker will be fully integrated into Combat Commanders friendly force tracking requirements the J-FFT Testbed will be used to integrate hardware and software prior to its deployment to the field. USASMDC/ARSTRAT will continue to support development of FFT capabilities for deployed and coalition forces. The Joint Friendly Force Tracking Division coordinates and executes USSTRATCOM-directed FFT tasks in order to assure continuous 24/7 FFT data services support to authorized users to include the Combatant Commands, the Services, agencies, allies, and coalition partners in order to improve their situational awareness (SA), enhance command and control (C2) to reduce fratricide in combat, homeland defense, civil and contingency operations. Will complete transition Force Tracking Advanced Management System (FTAMS) to FFT-MMC.			
Accomplishments/Planned Programs Subtotals	9.038	11.585	10.557

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable for this effort.

E. Performance Metrics

Experiments and projects are aligned to operations concepts and capability gaps.
SMDC/ARSTRAT is influencing the development critical enabling technologies.
Legacy or emerging systems have interoperability solutions identified.

F. Major Performer

BAE, as a Prime on contract W91260-06-D-0005, along with its team of sub-contractors, is responsible for the development of software to support integration of new tracking data services into the J-FFT and support special tracking capabilities. This ensures 24/7 J-FFT data is available to support Combatant Commanders as coalition forces and technology change.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603308A / *Army Space Systems Integration*	Project (Number/Name) 990 / *Space And Missile Defense Integration*	

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
Enhancement of J-FFT	C/CPFF	Colorado Springs : Colorado	20.129	3.102		5.135		4.430		-		4.430	Continuing	Continuing	Continuing
		Subtotal	20.129	3.102		5.135		4.430		-		4.430	-	-	-

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
GOVT SUPPORT & SUPPORT CONTRACTS	C/CPFF	Various in Colorado Springs CO, Washington DC, and Huntsville AL : Various	99.397	5.936		6.450		6.127		-		6.127	Continuing	Continuing	Continuing
		Subtotal	99.397	5.936		6.450		6.127		-		6.127	-	-	-

	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	119.526	9.038		11.585		10.557		-		10.557	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603308A / *Army Space Systems Integration*	**Project (Number/Name)** 990 / *Space And Missile Defense Integration*

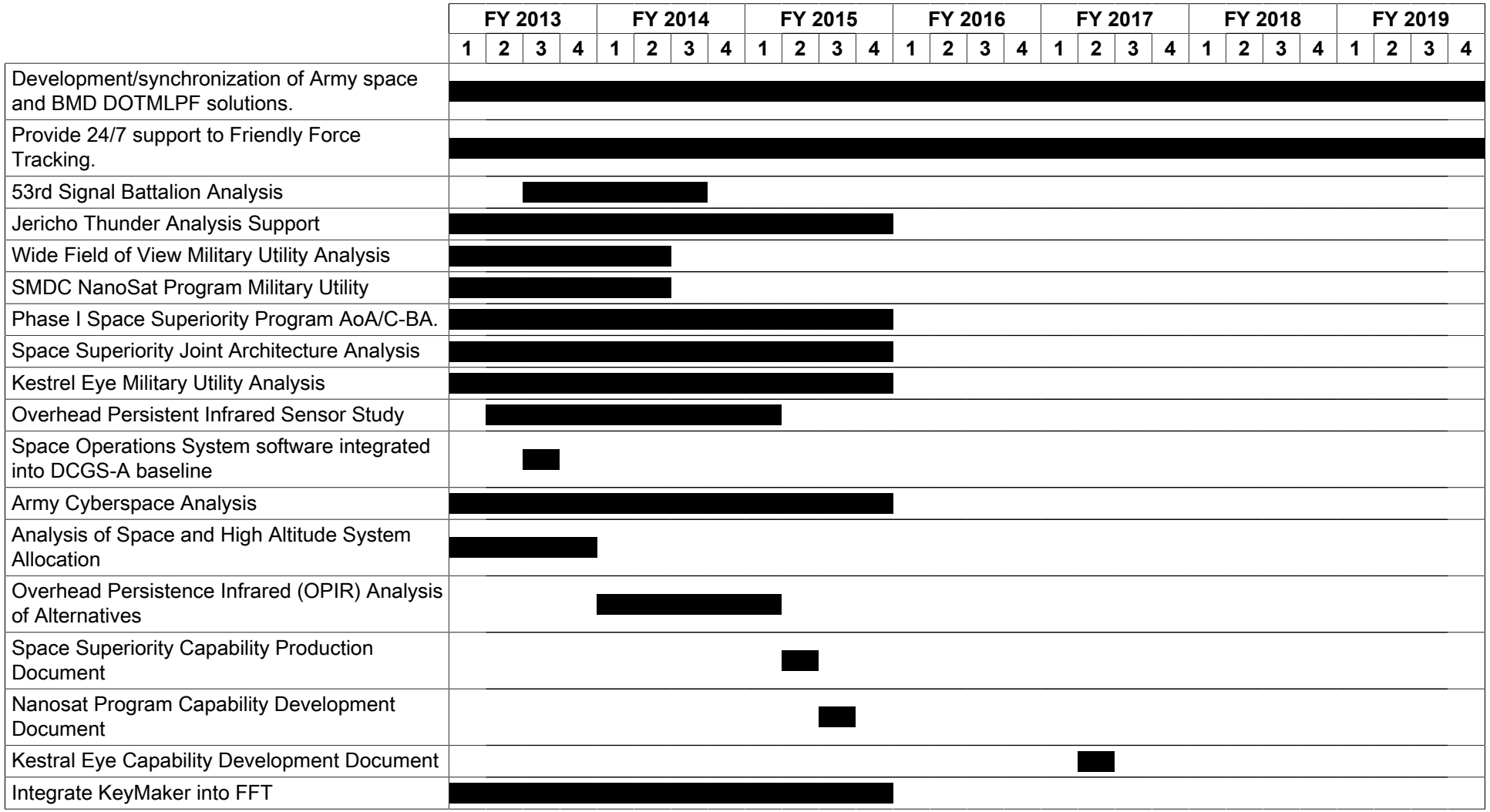

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603308A / *Army Space Systems Integration*	**Project (Number/Name)** 990 / *Space And Missile Defense Integration*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Development/synchronization of Army space and BMD DOTMLPF solutions.	1	2012	4	2019
Provide 24/7 support to Friendly Force Tracking.	1	2012	4	2019
53rd Signal Battalion Analysis	3	2013	3	2014
Jericho Thunder Analysis Support	1	2013	4	2015
Wide Field of View Military Utility Analysis	1	2013	2	2014
SMDC NanoSat Program Military Utility	1	2013	2	2014
Phase I Space Superiority Program AoA/C-BA.	1	2013	4	2015
Space Superiority Joint Architecture Analysis	1	2013	4	2015
Kestrel Eye Military Utility Analysis	1	2013	4	2015
Overhead Persistent Infrared Sensor Study	2	2013	1	2015
Space Operations System software integrated into DCGS-A baseline	3	2013	3	2013
Army Cyberspace Analysis	1	2013	4	2015
Analysis of Space and High Altitude System Allocation	1	2013	4	2013
Overhead Persistence Infrared (OPIR) Analysis of Alternatives	1	2014	1	2015
Space Superiority Capability Production Document	2	2015	2	2015
Nanosat Program Capability Development Document	3	2015	3	2015
Kestral Eye Capability Development Document	2	2017	2	2017
Integrate KeyMaker into FFT	1	2013	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603308A / *Army Space Systems Integration*	Project (Number/Name) EB7 / *Army Space System Enhancement/ 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
EB7: *Army Space System Enhancement/Integration*	-	-	1.999	3.442	-	3.442	4.038	4.141	4.242	0.005	-	17.867
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 purpose of the project is to conduct classified research efforts. The details of the efforts may be provided upon request to appropriately cleared individuals.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Classified	-	1.999	3.442
Articles:	-	-	-
Description: The purpose of this project is to conduct classified research			
FY 2014 Plans: The purpose of this project is to conduct classified research.			
FY 2015 Plans: The purpose of this project is to conduct classified research.			
Accomplishments/Planned Programs Subtotals	-	1.999	3.442

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A