Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*				R-1 ITEM NOMENCLATURE PE 0604633A: *AIR TRAFFIC CONTROL*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	9.559	22.900	9.769	-	9.769	9.913	6.593	6.812	5.244	Continuing	Continuing
586: *AIR TRAFFIC CONTROL*	9.559	22.900	9.769	-	9.769	9.913	6.593	6.812	5.244	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element funds continuous efforts in the development of modernized tactical and fixed base Air Traffic Control (ATC) systems that will enable safety of aircraft landings in both the tactical and strategic ATC domains. ATC systems are required to achieve or maintain compliance with civil, military, domestic and international air traffic control and combat identification requirements and mandates. Funding will be utilized to develop, evaluate and integrate candidate technology mandates. Funded in this program element is the development of the Tactical Airspace Integration System (TAIS) Web Based Architecture and Airspace Improvements Initiative, Advanced Surveillance, Air Traffic Navigation Integration and Coordination System (ATNAVICS) modernization, Mobile Tower System (MOTS), Tactical Terminal Control System (TTCS) Up-Armor Non-Recurring Engineering (NRE), and Fixed Base Precision Approach Radar (FBPAR) PrePlanned Product Improvements (P3I). ATNAVICS provides all weather instrument flight capabilities to include enroute, terminal, radar precision approach and landing services to all Army, Joint, and allied aircraft. The MOTS is a tactical mobile tower designed to meet the deployability and communication requirements of the current to future force. TAIS develops software and required hardware for airspace management web services, to operate effectively in a dynamic net-centric interconnected environment. TAIS also integrates advanced surveillance interfaces to further enhance airspace integration and dynamic management capabilities. FBPAR is the Army's primary ground controlled precision approach capability to provide recovery operations for aircraft to fixed base airfields during adverse weather conditions. TTCS provides enhanced Air Traffic Services (ATS) communications support to aviation assets conducting reconnaissance, maneuver, medical evacuation, logistics, and intelligence operations across the battlefield.

Funded project improvements to ATC systems, including the TAIS and ATNAVICS, will align these programs with advanced networking, communications and interoperability goals, and provide compatibility with the Army Aviation aircraft and avionics upgrade programs including military (Global Air Traffic Management) and civil initiatives (Next Gen). In a networked battlefield, joint service systems and radars provide operational data to ATC missions assuming a communications infrastructure and data processing capability is embedded in ATC systems. ATC systems control and maintain information relevant to higher level organizations or other external systems; advanced networks and communications allow such information to be transmitted, to include aircraft positional information, weather data, landing surface conditions, airspace density, airspace control orders, restricted airspace, and flight plan data. As the Department of Defense transitions military aircraft to positional self-reporting technologies, these various technologies will be demonstrated and tested prior to integration into the ATC systems. Advanced Surveillance integrates aircraft self-reporting technologies which include Automatic Dependent Surveillance Broadcast (ADS-B), Mode 5 and Mode S. Initial testing and integration of these systems are foundational to Advanced Surveillance to increase ATC systems availability to detect, manage, and disseminate aircraft information. ATNAVICS will network its advanced surveillance data (Mode 5 and Mode S) to aviation and joint network nodes starting with TAIS. TAIS, the Army's Program of Record for Enhanced Flight Traffic Management Services and Airspace Command and Control (AC2), requires the development and testing of web-based services. TAIS P3I include, but are not limited to, developing and testing improvements to the air picture including the addition of Blue Force Tracker (BFT) correlation and radar fusion capability. To facilitate increased maintenance and system support, a remote maintenance capability will be developed for robust maintenance and troubleshooting. TTCS Up-Armor NRE includes approval of the final Analysis of Alternative (AoA) concept design, award of a design contract based on this design, and production of an Up-Armor TTCS prototype.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604633A: *AIR TRAFFIC CONTROL*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	9.892	22.922	10.023	-	10.023
Current President's Budget	9.559	22.900	9.769	-	9.769
Total Adjustments	-0.333	-0.022	-0.254	-	-0.254
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.254	-	-0.254
• Other Adjustments 1	-0.333	-0.022	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604633A: *AIR TRAFFIC CONTROL*	PROJECT 586: *AIR TRAFFIC CONTROL*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
586: *AIR TRAFFIC CONTROL*	9.559	22.900	9.769	-	9.769	9.913	6.593	6.812	5.244	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project funds continuous efforts in the development of modernized tactical and fixed base Air Traffic Control (ATC) systems that will enable safety of aircraft landings in both the tactical and strategic ATC domains. ATC systems are required to achieve or maintain compliance with civil, military, domestic and international air traffic control and combat identification requirements and mandates. Funding will be utilized to develop, evaluate and integrate candidate technology mandates. Funded in this program element is the development of the Tactical Airspace Integration System (TAIS) Web Based Architecture and Airspace Improvements Initiative, Advanced Surveillance, Air Traffic Navigation Integration and Coordination System (ATNAVICS) modernization, Mobile Tower System (MOTS), Tactical Terminal Control System (TTCS) Up-Armor Non-Recurring Engineering (NRE), and Fixed Base Precision Approach Radar (FBPAR) PrePlanned Product Improvements (P3I). ATNAVICS provides all weather instrument flight capabilities to include enroute, terminal, radar precision approach and landing services to all Army, Joint, and allied aircraft. The MOTS is a tactical mobile tower designed to meet the deployability and communication requirements of the current to future force. TAIS develops software and required hardware for airspace management web services, to operate effectively in a dynamic net-centric interconnected environment. TAIS also integrates advanced surveillance interfaces to further enhance airspace integration and dynamic management capabilities. FBPAR is the Army's primary ground controlled precision approach capability to provide recovery operations for aircraft to fixed base airfields during adverse weather conditions. TTCS provides enhanced Air Traffic Services (ATS) communications support to aviation assets conducting reconnaissance, maneuver, medical evacuation, logistics, and intelligence operations across the battlefield.

Funded project improvements to ATC systems, including the TAIS and ATNAVICS, will align these programs with advanced networking, communications and interoperability goals, and provide compatibility with the Army Aviation aircraft and avionics upgrade programs including military (Global Air Traffic Management) and civil initiatives (Next Gen). In a networked battlefield, joint service systems and radars provide operational data to ATC missions assuming a communications infrastructure and data processing capability is embedded in ATC systems. ATC systems control and maintain information relevant to higher level organizations or other external systems; advanced networks and communications allow such information to be transmitted, to include aircraft positional information, weather data, landing surface conditions, airspace density, airspace control orders, restricted airspace, and flight plan data. As the Department of Defense transitions military aircraft to positional self-reporting technologies, these various technologies will be demonstrated and tested prior to integration into the ATC systems. Advanced Surveillance integrates aircraft self-reporting technologies which include Automatic Dependent Surveillance Broadcast (ADS-B), Mode 5 and Mode S. Initial testing and integration of these systems are foundational to Advanced Surveillance to increase ATC systems availability to detect, manage, and disseminate aircraft information. ATNAVICS will network its advanced surveillance data (Mode 5 and Mode S) to aviation and joint network nodes starting with TAIS. TAIS, the Airspace Management System of the Army Battle Command System (ABCS), requires the development and testing of web-based services for Airspace Command and Control (AC2) and ATS, and integration of these new web-based services into a common Army Battle Command hardware, ATS and Airspace Integration Improvement Initiatives (AI3) through advanced surveillance interfaces, mission planning interfaces, and providing TAIS dynamic airspace updates to the cockpit. TAIS P3I include, but are not limited to, developing and testing improvements to the air picture including the addition of Blue Force Tracker (BFT) correlation and radar fusion capability. To facilitate increased

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604633A: *AIR TRAFFIC CONTROL*	PROJECT 586: *AIR TRAFFIC CONTROL*

maintenance and system support, a remote maintenance capability will be developed for robust maintenance and troubleshooting. TTCS Up-Armor NRE includes approval of the final Analysis of Alternative (AoA) concept design, award of a design contract based on this design, and production of an Up-Armor TTCS prototype.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Tactical Airspace Integration System (TAIS)	-	7.065	6.758
Articles:		0	
Description: TAIS Block Upgrade: NRE for Block Upgrade will address requirements stemming from new Joint Capabilities Integration Development System (JCIDS) documents. Airspace Information Center (AIC) and Airspace Integration Improvements Initiatives (AI3) enhancements will be addressed through upgrades to the communications suite through new components such as 117G radios, BFT2/KGV-72, and ADS-B. TAIS Software Enhancements: TAIS develops software and required hardware for airspace management web services to operate effectively in a dynamic net-centric interconnected environment. TAIS also integrates advanced surveillance interfaces to further enhance a dynamic airspace management capability. ***FY 2012 Plans:*** Design and develop TAIS service oriented architecture and web services in support of Airspace Command and Control (AC2) and AIC missions. Continue development of airspace deconfliction, flight information/advisory, situational awareness, and rapid clearance of fires capabilities. Continue development of Airspace Integration Improvements Initiative (AI3) initiatives to support dynamic AC2 capabilities and real-time situational awareness. Continue development of TAIS system interfaces to external data sources. Productize Phase III of Air Ground Modernization web services. Develop improvements to TAIS air picture by adding the capability to view Blue Force Tracker-Aviation (BFT-A) air tracks that are integrated into the TAIS display. Continue development of situational awareness to the cockpit capabilities. Continue spiral development activities with coalition partners to enhance TAIS capability to deconflict airspace in a NATO/coalition environment. ***FY 2013 Plans:*** Continue to design and develop TAIS service oriented architecture and web services in support of AC2 and AIC missions. Specifically, provide services to generate, display, and disseminate flight advisories. Display and disseminate High and Low altitude Instrument Flight Rules (IFR) route structures, helicopter route structures, navigation information, communications information, refueling information, and terminal area information. Continue development of airspace deconfliction, flight information/advisory, situational awareness, and rapid clearance of fires capabilities. Continue development of AI3 initiatives to support dynamic AC2 capabilities and real-time situational awareness. Continue development of TAIS system interfaces to external data sources.			
Title: Air Traffic Navigation Integration and Coordination System (ATNAVICS) Modernization	0.500	13.000	-
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604633A: *AIR TRAFFIC CONTROL*	PROJECT 586: *AIR TRAFFIC CONTROL*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Description: ATNAVICS is a highly mobile tactical area surveillance and precision approach air traffic control radar system. It provides the Joint Force Commander (JFC), or Combatant Commander (CCDR), with a mobile, self-contained, and reliable Airport Surveillance Radar (ASR), Precision Approach Radar (PAR), and a Secondary Surveillance Radar (SSR) capability. Product modernizations include Radar interrogator modernization, and radio upgrades. ***FY 2011 Accomplishments:*** The US Army Communications-Electronics Command Engineering Center (CECOM CERDEC) conducted a Mode S Study Support that determined the required operation of the AN/TPX-57 Interrogator for Mode S. ***FY 2012 Plans:*** Begin integration of the TPX-57 transponder permitting international standard Mode 5 and Mode S compatibility of the ATNAVICS system			
Title: TAIS Native New Web Services Dev ***Articles:*** ***Description:*** TAIS develops software and rquired hardware for airspace management web services to operate effectively in a dynamic net-centric interconnected environment. TAIS also integrates advanced surveillance interfaces to further enhance a dynamic airspace management capability. ***FY 2011 Accomplishments:*** Designed and developed TAIS web services in support of AC2 and AIC missions. Developed airspace deconflict and flight information/advisory capabilities. Developed improved situational awareness and rapid clearance of fires capabilities. Developed capability to associate Air Tasking Order (ATO) data with Air Tracks on the TAIS display. Developed prototype web services for Air Ground Modernization initiative. Developed capability to receive and display MayDay Messages generated by aircraft in flight.	4.035 0	-	-
Title: TAIS P3I ***Articles:*** ***Description:*** TAIS P3I include, but are not limited to, developing and providing TAIS dynamic airspace updates to the air picture including the addition of BFT correlation and radar capability. ***FY 2011 Accomplishments:*** Began improvement to TAIS air picture by adding the capability to view Blue Force Tracker-Aviation (BFT-A) air tracks that are integrated into the TAIS display. Executed Dynamic Airspace Updates to the Cockpit.	0.844 0	-	-
Title: Advanced Surveillance	0.621	1.428	1.750

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604633A: *AIR TRAFFIC CONTROL*	PROJECT 586: *AIR TRAFFIC CONTROL*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Articles:	0	0	
Description: Advanced Surveillance technologies integration supports the non-recurring engineering, integration and test tasks required to incorporate the passive reception of self reporting technologies into Air Traffic Control programs. These Advanced Surveillance technologies include Advanced Dependent Surveillance-Broadcast (ADS-B), as well as, Mode 5 Level 2, Mode S and similar self reporting technologies. ***FY 2011 Accomplishments:*** Integrated passive reception devices into a single engineering and development asset; developed engineering release software to utilize these technologies; and tested these integrated technologies in a live fly field experiment. The associated documentation, analysis and integration data developed will accelerate the technology maturization process leveraged to support future block upgrade activities. ***FY 2012 Plans:*** Supports continuing non-recurring engineering, integration and test tasks required to incorporate the passive reception of self reporting technologies in PM ATC programs of record. These technologies include ADS-B, as well as, Mode 5 Level 2, Mode S and similar self reporting technologies. Support the continued software development to utilize these technologies. Test these related technologies in a live fly field experiment. The associated documentation, analysis and integration data developed will accelerate the technology maturization process leveraged to support future block upgrade activities. ***FY 2013 Plans:*** Supports continued evaluation and down select of commercially available Advanced Surveillance receivers, and integration of receivers into PM Air Traffic Control programs of record, to allow reception of aircraft self reported positional data. Formal testing, including Bold Quest 13 and Network Integration Experimentation (NIE), will include ATC systems where the technology will be proven.			
Title: TAIS Battle Command (BC) Collapse	0.708	-	-
Articles:	0		
Description: TAIS BC Collapse efforts are required to develop conflict detection services and BC Thin Client collaboration web services that interface with the BC Collapse environment. ***FY 2011 Accomplishments:*** Completed second phase of the Dynamic Airspace Collaboration Tool (DACT) to operate on the BC Thin Client and developed airspace control means and conflict detection services on the BC Central Repository.			
Title: Common Tactical Simulator	-	0.275	-
Articles:		0	

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604633A: *AIR TRAFFIC CONTROL*	PROJECT 586: *AIR TRAFFIC CONTROL*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Description: The ATC simulator can simulate a start to finish control effort, meaning MOTS simulation at the airfield for take-off/landing under Visual Flight Rules (VFR), radar simulation for surveillance and precision approach (ATNAVICS), and flight following and airspace deconfliction (TAIS). This will address the 3 primary tactical ATC systems. The system will respond to voice commands and allow for controller error that can be captured and provide corrective actions to the operator. Position of the virtual aircraft must be consistent across each platform. The simulator will support aircraft at slow and fast approaches, hovering aircraft, fast climbing and slow climbing aircraft and even some commercial aircraft. ***FY 2012 Plans:*** Prepare the System Specification for the development of an initial prototype ATC Common Simulator.			
Title: Tactical Terminal Control System (TTCS) Up-armor ***Articles:*** ***Description:*** TTCS Up-Armor includes Non-recurring Engineering (NRE) to perform an Analysis of Alternative (AoA) concept design, award a design contract based on this concept, and produce an Up-Armor TTCS prototype. ***FY 2011 Accomplishments:*** Completed closeout of the Up-Armor Non-Recurring Engineering (NRE) efforts. Performed Analysis of Alternatives (AoA)/Trade Study to determine how best to meet the DA survivability requirement for the future TTCS NRE effort. Produced Statement of Work (SOW) as AoA deliverable to support follow-on design effort. Approved final AoA concept design and complete concept model.	0.195 0	-	-
Title: Mobile Tower System (MOTS) ***Articles:*** ***Description:*** MOTS System Development, Demonstration (SDD) and Testing ***FY 2011 Accomplishments:*** Completed Developmental Testing and Initial Operational Test and Evaluation (IOTE). Extended SDD contract period of performance to (1) address IOTE Human Factors and Safety deficiencies and (2) modify system design to mitigate production cost, performance, and schedule risks. Issued Low Rate Initial Production Contract solicitation and evaluated contactor proposal.	1.777 0	-	-
Title: Tech and Log Support ***Articles:*** ***Description:*** Technical and logistics services in support of PM ATC. ***FY 2011 Accomplishments:***	0.763 0	1.019 0	1.154

Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604633A: *AIR TRAFFIC CONTROL*	PROJECT 586: *AIR TRAFFIC CONTROL*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continued technical and logistic services in support of PM ATC. ***FY 2012 Plans:*** Continue technical and logistic services in support of PM ATC. ***FY 2013 Plans:*** Continue technical and logistic services in support of PM ATC.			
Title: Program Management Support	0.116	0.113	0.107
Articles:	0	0	
Description: Program Management Support of PM ATC. ***FY 2011 Accomplishments:*** Continued program management in support of PM ATC. ***FY 2012 Plans:*** Continue program management in support of PM ATC. ***FY 2013 Plans:*** Continue program management in support of PM ATC.			
Accomplishments/Planned Programs Subtotals	9.559	22.900	9.769

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• Air Traffic Control (AA0050): *Air Traffic Control*	82.374	114.844	47.235		47.235		114.165	100.999	101.629	Continuing	Continuing

D. Acquisition Strategy

This project is comprised of multiple systems supporting ATC development and test efforts. While the detailed acquisition strategy varies by program, the general strategy for each program is to complete development testing efforts through contract modifications, engineering service tasks, and new/follow-on contracts. ATC systems are required to achieve or maintain compliance with civil, military, domestic and international air traffic control and upcoming Next Gen requirements and mandates, as well as current aircraft self-reporting transponders.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604633A: *AIR TRAFFIC CONTROL*	PROJECT 586: *AIR TRAFFIC CONTROL*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	PM ATC:Redstone Arsenal, AL	0.116	0.113		0.107		-		0.107	Continuing	Continuing	Continuing
		Subtotal	0.116	0.113		0.107		-		0.107			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TAIS (Includes P3I/Native New Web Services Dev)	SS/T&M	General Dynamics C4S:Huntsville, AL	-	7.065		6.758		-		6.758	Continuing	Continuing	Continuing
TAIS P3I	SS/CPFF	General Dynamics C4S:Huntsville, AL	0.844	-		-		-		-	0.000	0.844	0.000
Advanced Surveillance	Various	Various:Various	0.621	1.428		1.750		-		1.750	Continuing	Continuing	Continuing
ATNAVICS Modernization	SS/CPFF	Raytheon:Marlboro, Mass	0.500	13.000		-		-		-	0.000	13.500	0.000
TAIS Native New Web Services Dev	SS/CPFF	General Dynamics C4S:Huntsville, AL	4.035	-		-		-		-	0.000	4.035	0.000
Common Tactical Simulator	Various	RDEC and:Various	-	0.275		-		-		-	0.000	0.275	0.000
Tech and Log Development Support	Various	PM ATC:Huntsville, AL	0.763	1.019		1.154		-		1.154	Continuing	Continuing	Continuing
TAIS Battle Command Collapse	SS/CPFF	General Dynamics C4S:Huntsville, AL	0.708	-		-		-		-	0.000	0.708	0.000
Tactical Terminal Control System (TTCS)	Various	Various:Various	0.195	-		-		-		-	0.000	0.195	0.000
MOTS System Development and Demo	C/CPFF	Sierra Nevada Corp:Sierra, NV	1.372	-		-		-		-	0.000	1.372	0.000
MOTS	Various	RDEC and Various:Various	0.405	-		-		-		-	0.000	0.405	0.000
		Subtotal	9.443	22.787		9.662		-		9.662			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604633A: *AIR TRAFFIC CONTROL*	PROJECT 586: *AIR TRAFFIC CONTROL*	

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	9.559	22.900		9.769		-		9.769			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604633A: *AIR TRAFFIC CONTROL*	PROJECT 586: *AIR TRAFFIC CONTROL*

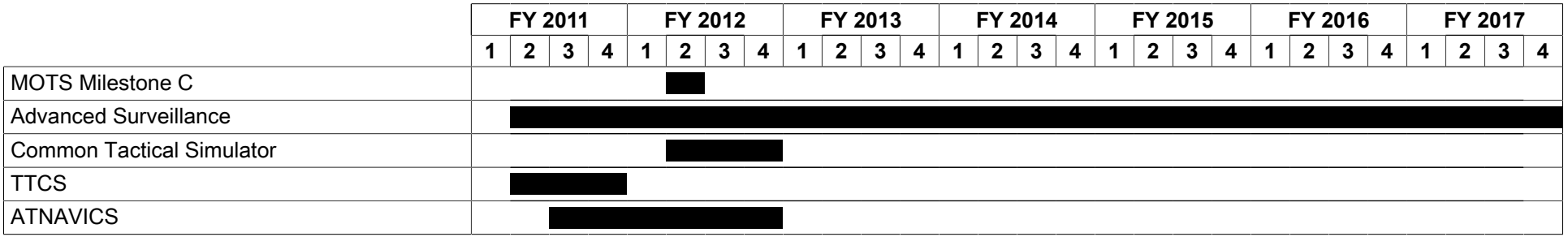

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604633A: *AIR TRAFFIC CONTROL*	**PROJECT** 586: *AIR TRAFFIC CONTROL*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
MOTS Milestone C	2	2012	2	2012
Advanced Surveillance	2	2011	4	2017
Common Tactical Simulator	2	2012	4	2012
TTCS	2	2011	4	2011
ATNAVICS	3	2011	4	2012