Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army											Date: March 2014	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604201A / *AIRCRAFT AVIONICS*							
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	-	60.472	76.547	37.246	-	37.246	1.870	1.451	5.630	6.079	Continuing	Continuing
C97: *ACFT Avionics*	-	11.987	25.802	22.494	-	22.494	1.870	1.451	5.630	6.079	Continuing	Continuing
VU3: *Networking And Mission Planning*	-	48.485	50.745	14.752	-	14.752	-	-	-	-	-	113.982

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

Note

FY13 Congressional Mark -$28.5M/+$17.3M to BORES/DVE, Sequestration $5.501M
POM/BES 15-19 reduced FY15 to $37.246M

A. Mission Description and Budget Item Justification

The FY 2015 budget request funds the development of Aircraft Avionics systems required to horizontally and vertically integrate the battlefield and the integration of those systems into Army aircraft. Tasks in this Project support research, development, and test efforts in the Engineering and Manufacturing Development phases of these systems.

The Joint Tactical Radio System (JTRS) is the transformational system that provides Army Aviation interoperability capability for Future Force and Joint Force operations. The JTRS integration effort provides for the non-recurring engineering required to integrate and qualify the JTRS certified radios with Link 16 and/or other advanced networking waveforms into the AH-64E and Unmanned Aircraft Systems (UAS). Funding in FY 2015 continues integration activities to install and qualify JTRS certified networking radios on the AH-64E and Shadow UAS platforms and also supports continued development of common radio control software and qualified airborne JTRS antennas for use on multiple platforms. The Shadow UAS solution will be incorporated into the Shadow Communications Relay Payload (CRP) mission equipmment package.

The Improved Data Modem (IDM) is the common solution for digitizing Army Aviation. It performs as an internet controller and gateway to the Tactical Internet and Fire Support internet for Army aircraft. With interfaces supporting a transmit/receive terminal, the IDM provides radio connectivity to the ARC-201D/231, ARC-186, ARC-164, and the Blue Force Tracker transceivers. IDM provides a flexible, software driven digital messaging system that is interoperable with existing Army and Joint forces battlefield operating systems. The IDM provides Situational Awareness and Variable Message Format messages capability to the cockpit.

The Doppler Global Positioning System Navigation System (DGNS) Upgrade program completes system engineering trade studies to reduce space, weight, and power with the introduction of new navigation support capabilities such as inertial sensor, MIL-STD-1553 interface card, and Instrument Flight Rules map display. It also prepares Engineering Change Proposals (ECP) to the existing DGNS ASN-128D Line Replaceable Units (LRU) as a result of those trade studies. The effort also derives DGNS compliance matrices for current and planned Global Air Traffic Management (GATM) capabilities for the upcoming decade. The DGNS upgrade continues with execution of Non-Recurring Engineering (NRE) for Computer Display Unit (CDU) and Signal Data Converter (SDC) LRU ECP packages. The ASN-128D CDU

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army	Date: March 2014
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604201A *I AIRCRAFT AVIONICS*

Upgrade replaces the current CDU faceplate with a touch screen display, provides a moving navigation map capability and optimized pilot interface to augment existing Instrument Flight Rules (IFR) capability and promote safer flight operations.

The Future Airborne Capability Environment (FACE), previously referred to as Apache Block III, is a set of standards jointly developed by government and industry consortium members; conformance to this standard is Army Aviation's conduit to compliance with the Common Operating Environment (COE) directive. This will be accomplished through the integration of the selected middleware into Army Aviation Platforms. This includes the non-recurring engineering for integration, test, and air worthiness qualification. As part of the Army's migration to a net-centric fighting force, it is necessary for aircraft to access certain critical services that enable seamless access and operation on the future force network.

The Aviation Data Exploitation Capability (ADEC) is an Army Aviation program to develop, integrate, and test specific capabilities needed at the Aviation unit level to implement and support improvements within aviation maintenance, operations, safety and training. ADEC will standardize data and information formats and provide a comprehensive and fully integrated automated information system. ADEC provides a common and interoperable capability required to implement Military Flight Operations Quality Assurance processes.

The Aircraft Notebook (ACN) will provide users with an aviation centric suite of software used to streamline the completion of aviation maintenance activities and its documentation. ACN will include The Army Maintenance Management System - Aviation (TAMMS-A) digital logbook functionality and will host and integrate with platform applications, such as Interactive Electronic Technical Manuals (IETM) and Ground Station Software (GSS) application. ACN will reduce the Information Technology footprint within an aviation unit by integrating multiple software tools onto one hardware platform.

The Brownout Rotorcraft Enhancement System (BORES), previously referred to as Degraded Visual Environment (DVE), is required to reduce personnel and rotocraft losses while conducting both tactical and training missions in environments that restrict or severely reduce the aircrews visibility due to atmospheric obscurants. BORES will improve safety, reduce risk and add flexibility to aviation units by enhancing situational awareness through real-time detection and warning of terrain, obstacles and hazards. BORES will consist of integrated rotorcraft pilotage augmentation systems; sensor(s); software; software related hardware; and pilot to system interfaces and cueing devices. BORES will fuse a synthetic vision avionics backbone with aircraft state data and obscurant penetrating sensor(s) to provide a single rotorcraft capability for ground taxi, hover, takeoff and landing modes of flight.

The Aviation Logistics Enterprise - Platform (ALE-P) will replace the Unit Level Logistics System-Aviation (Enhanced), which has transitioned into sustainment, and the Unmanned Aviation Systems-Initiative, which currently only provides automated logistics capabilities for the UAS community, providing a single Aviation Logistics Information System for all of Army aviation. ALE-P will provide the interface to the Global Combat Support System-Army and other enterprise systems at Logistics Support Activity (LOGSA), Aviation Missile Command (AMCOM), and Program Executive Office (PEO) Aviaton, as well as the ACN and ADEC at the unit level. ALE-P will be a system of software and hardware that maintains platform airworthiness records and delivers a Logistics Management and Decision Support System for commanders.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army					Date: March 2014
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604201A / *AIRCRAFT AVIONICS*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	78.538	76.588	97.762	-	97.762
Current President's Budget	60.472	76.547	37.246	-	37.246
Total Adjustments	-18.066	-0.041	-60.516	-	-60.516
• Congressional General Reductions	-0.068	-0.041			
• Congressional Directed Reductions	-11.200	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-5.501	-			
• SBIR/STTR Transfer	-1.297	-			
• Adjustments to Budget Years	-	-	-60.516	-	-60.516

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604201A / *AIRCRAFT AVIONICS*	Project (Number/Name) C97 / *ACFT Avionics*	

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
C97: *ACFT Avionics*	-	11.987	25.802	22.494	-	22.494	1.870	1.451	5.630	6.079	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 FY 2015 budget request funds the development of Aircraft Avionics systems required to horizontally and vertically integrate the battlefield and the integration of those systems into Army aircraft. Tasks in this Project support research, development, and test efforts in the Engineering and Manufacturing Development phases of these systems.

The Joint Tactical Radio System (JTRS) is the transformational system that provides Army Aviation interoperability capability for Future Force and Joint Force operations. The JTRS integration effort provides for the non-recurring engineering required to integrate and qualify the JTRS certified radios with Link 16 and/or other advanced networking waveforms into the AH-64E and Unmanned Aircraft Systems (UAS). Funding in FY 2015 continues integration activities to install and qualify JTRS certified networking radios on the AH-64E and Shadow UAS platforms and also supports continued development of common radio control software and qualified airborne JTRS antennas for use on multiple platforms. The Shadow UAS solution will be incorporated into the Shadow Communications Relay Payload (CRP) mission equipment package.

The Doppler Global Positioning System Navigation System (DGNS) Upgrade program completes system engineering trade studies to reduce space, weight, and power with the introduction of new navigation support capabilities such as inertial sensor, MIL-STD-1553 interface card, and Instrument Flight Rules map display. It also prepares Engineering Change Proposals (ECP) to the existing DGNS ASN-128D Line Replaceable Units (LRU) as a result of those trade studies. The effort also derives DGNS compliance matrices for current and planned Global Air Traffic Management (GATM) capabilities for the upcoming decade. The DGNS upgrade continues with execution of Non-Recurring Engineering (NRE) for Computer Display Unit (CDU) and Signal Data Converter (SDC) LRU ECP packages. The ASN-128D CDU Upgrade replaces the current CDU faceplate with a touch screen display, provides a moving navigation map capability and optimized pilot interface to augment existing Instrument Flight Rules (IFR) capability and promote safer flight operations.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Joint Tactical Radio System (JTRS) integration and qualification for Apache AH-64E, and Unmanned Aircraft Systems (UAS) platforms.	11.987	16.245	18.116
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604201A / *AIRCRAFT AVIONICS*	**Project (Number/Name)** C97 / *ACFT Avionics*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: The JTRS integration effort provides for the non-recurring engineering required to integrate and qualify the JTRS compliant radios and/or other advanced networking waveforms into the AH-64E, and UAS platforms for both production cut-in and retrofit activities. ***FY 2013 Accomplishments:*** Continued Link 16 integration activities for AH-64E to support ground and flight tests. Continued JTRS integration onto the Shadow platform and conducted final JTRS engineering change proposal qualification activities for UAS Shadow. Continued development of JTRS antennas for use on all platforms. Continued to use antenna co-site effort to determine platform JTRS antenna locations and associated co-site analysis. Continued JTRS Radio Control Software Development. ***FY 2014 Plans:*** Initiate JTRS integration activities on AH-64E for implementation of a networking radio with Soldier Radio Waveform (SRW) and/or other advanced networking waveform. Continue Link 16 integration and qualification activities for AH-64E. Continue development of JTRS Antennas and associated co-site analysis tasks. Complete JTRS Radio Control Software Development. Complete JTRS integration onto the Shadow platform (CRP). ***FY 2015 Plans:*** Continue integration activities to install and qualify JTRS Link 16 and certified networking radios on the AH-64E. Continue development of qualified airborne JTRS antennas for use on multiple platforms.			
Title: Doppler Global Positioning System Navigation System (DGNS) Upgrade	-	9.557	4.378
Articles:	-	-	-
Description: The DGNS Upgrade effort provides for the non-recurring engineering required to develop and qualify new navigation capabilities that meets emerging GATM navigation requirements and promotes safer flight operations. The DGNS Upgrade consists of engineering changes to the CDU and SDC avionics components of the DGNS. The CDU Upgrade replaces the current CDU faceplate with a touch screen display, provides a moving navigation map capability and optimized pilot interface to augment existing Instrument Flight Rules (IFR) capability and promote safer flight operations. The SDC Upgrade replaces the current GPS receiver to support Wide Area Augmentation System (WAAS) and GPS precision approach as well as implementing emerging GATM Area Navigation (RNAV) requirements. ***FY 2014 Plans:*** Initiate CDU Upgrade non-recurring engineering effort with hardware and software development from requirements definition through Critical Design Review (CDR). ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604201A / *AIRCRAFT AVIONICS*	**Project (Number/Name)** C97 / *ACFT Avionics*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue CDU Upgrade non-recurring engineering effort with software implementation, hardware fabrication, DGNS system integration, and full airworthiness component level qualification testing.			
Accomplishments/Planned Programs Subtotals	11.987	25.802	22.494

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
• COMMS, NAV Surveillance: *COMMS, NAV Surveillance*	88.815	92.779	115.795	-	115.795	127.720	116.828	153.268	217.498	Continuing	Continuing
• GATM Rotary Wing: *GATM Rotary Wing*	29.709	53.541	41.821	-	41.821	48.952	48.119	55.800	61.066	Continuing	Continuing

Remarks

D. Acquisition Strategy

This project is comprised of multiple systems supporting aircraft avionics. While the detailed acquisition strategy varies from program to program, the general strategy is for each individual program to complete the development and testing efforts in coordination with the aircraft platforms on integration issues, use the various contracts of the aircraft platforms original equipment manufacturers on integration efforts, and utilize the Aviation & Missile Research, Development, and Engineering Center for software development. This requires the use of various contract methods and types to accomplish the aircraft avionics development efforts. All required acquisition program documentation is prepared.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604201A / *AIRCRAFT AVIONICS*	Project (Number/Name) C97 / *ACFT Avionics*	

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
PM Services (JTRS)	Reqn	PM AME : Redstone Arsenal, AL	0.000	0.600	Nov 2012	0.622	Nov 2013	0.654	Oct 2014	-		0.654	Continuing	Continuing	Continuing
		Subtotal	0.000	0.600		0.622		0.654		-		0.654	-	-	-

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
JTRS Common Radio Control Software Development	Various	AMRDEC Software Engineering Directorate : Redstone Arsenal, AL	2.673	2.725	Mar 2013	2.867	Mar 2014	-		-		-	-	8.265	8.265
JTRS Antenna Development and Co-Site Analysis	C/CPFF	AMRDEC, Prototype Integration Facility : Redstone Arsenal, AL	1.886	1.772	Feb 2013	0.650	Mar 2014	0.500	Mar 2015	-		0.500	Continuing	Continuing	Continuing
JTRS Shadow Communication Relay Package (CRP)	C/FFP	AMS : Huntsville, AL	1.272	2.084	Dec 2012	1.774	Aug 2014	-		-		-	-	5.130	9.958
DGNS Upgrade	C/CPFF	BAE Systems : Wayne, NJ	11.091	-		9.557	Feb 2014	4.378	Dec 2014	-		4.378	Continuing	Continuing	Continuing
JTRS Link-16 and Networking Waveform Integration and Qualification onto AH-64E	SS/CPFF	Boeing : Mesa, AZ	25.183	4.806	Dec 2012	10.332	Dec 2013	16.962	Mar 2015	-		16.962	Continuing	Continuing	Continuing
		Subtotal	42.105	11.387		25.180		21.840		-		21.840	-	-	-

	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	42.105	11.987		25.802		22.494		-		22.494	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604201A / *AIRCRAFT AVIONICS*	**Project (Number/Name)** C97 / *ACFT Avionics*

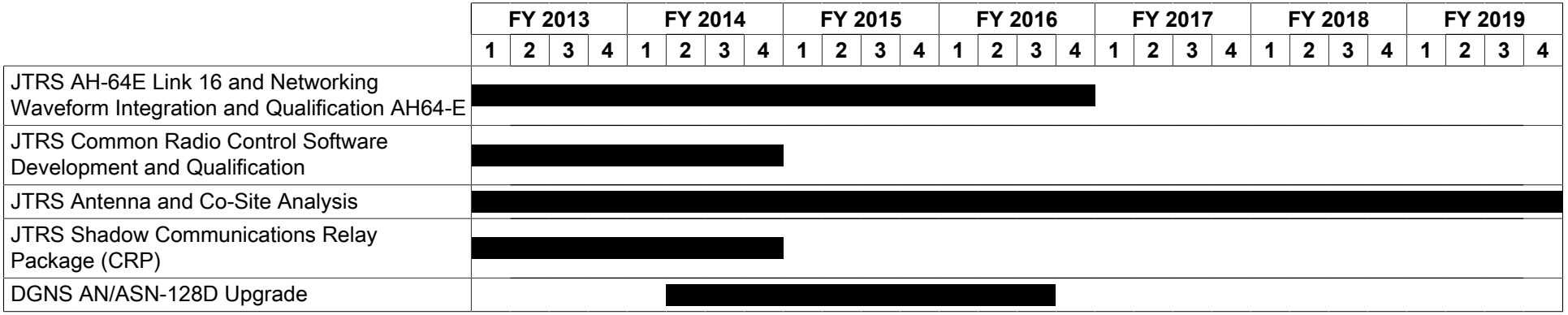

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604201A / *AIRCRAFT AVIONICS*	**Project (Number/Name)** C97 / *ACFT Avionics*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JTRS AH-64E Link 16 and Networking Waveform Integration and Qualification AH64-E	1	2011	4	2016
JTRS Common Radio Control Software Development and Qualification	1	2011	4	2014
JTRS Antenna and Co-Site Analysis	2	2011	4	2019
JTRS Shadow Communications Relay Package (CRP)	1	2012	4	2014
DGNS AN/ASN-128D Upgrade	2	2014	3	2016

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army												Date: March 2014
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604201A / *AIRCRAFT AVIONICS*				Project (Number/Name) VU3 / *Networking And Mission Planning*			
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**
VU3: *Networking And Mission Planning*	-	48.485	50.745	14.752	-	14.752	-	-	-	-	-	113.982
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 FY 2015 budget request funds the development of Networking and Mission Planning systems required to horizontally and vertically integrate the battlefield and the integration of those systems into Army aircraft. Tasks in this Project support research, development, and test efforts in the Engineering and Manufacturing Development (EMD) phases of these systems.

The Improved Data Modem (IDM) is the common solution for digitizing Army Aviation. It performs as an internet controller and gateway to the Tactical Internet and Fire Support internet for Army aircraft. With interfaces supporting a transmit/receive terminal, the IDM provides radio connectivity to the ARC-201D/231, ARC-186, ARC-164, and the Blue Force Tracker transceivers. IDM provides a flexible, software driven digital messaging system that is interoperable with existing Army and Joint forces battlefield operating systems. The IDM provides Situational Awareness and Variable Message Format messages capability to the cockpit.

The Future Airborne Capability Environment (FACE), previously referred to as Apache Block III, is a set of standards jointly developed by government and industry consortium members; conformance to this standard is Army Aviation's conduit to compliance with the Common Operating Environment (COE) directive. This will be accomplished through the integration of the selected middleware into Army Aviation Platforms. This includes the non-recurring engineering for integration, test, and air worthiness qualification. As part of the Army's migration to a net-centric fighting force, it is necessary for aircraft to access certain critical services that enable seamless access and operation on the future force network.

The Aviation Data Exploitation Capability (ADEC) is an Army Aviation program to develop, integrate, and test specific capabilities needed at the Aviation unit level to implement and support improvements within aviation maintenance, operations, safety and training. ADEC will standardize data and information formats and provide a comprehensive and fully integrated automated information system. ADEC provides a common and interoperable capability required to implement Military Flight Operations Quality Assurance processes.

The Aircraft Notebook (ACN) will provide users with an aviation centric suite of software used to streamline the completion of aviation maintenance activities and its documentation. ACN will include The Army Maintenance Management System - Aviation (TAMMS-A) digital logbook functionality and will host and integrate with platform applications, such as Interactive Electronic Technical Manuals (IETM) and Ground Station Software (GSS) application. ACN will reduce the Information Technology footprint within an aviation unit by integrating multiple software tools onto one hardware platform.

The Brownout Rotorcraft Enhancement System (BORES), previously referred to as Degraded Visual Environment (DVE), is required to reduce personnel and rotocraft losses while conducting both tactical and training missions in environments that restrict or severely reduce the aircrews visibility due to atmospheric obscurants. BORES

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604201A / *AIRCRAFT AVIONICS*	**Project (Number/Name)** VU3 / *Networking And Mission Planning*

will improve safety, reduce risk and add flexibility to aviation units by enhancing situational awareness through real-time detection and warning of terrain, obstacles and hazards. BORES will consist of integrated rotorcraft pilotage augmentation systems; sensor(s); software; software related hardware; and pilot to system interfaces and cueing devices. BORES will fuse a synthetic vision avionics backbone with aircraft state data and obscurant penetrating sensor(s) to provide a single rotorcraft capability for ground taxi, hover, takeoff and landing modes of flight.

The Aviation Logistics Enterprise - Platform (ALE-P) will replace the Unit Level Logistics System-Aviation (Enhanced), which has transitioned into sustainment, and the Unmanned Aviation Systems-Initiative, which currently only provides automated logistics capabilities for the UAS community, providing a single Aviation Logistics Information System for all of Army aviation. ALE-P will provide the interface to the Global Combat Support System-Army and other enterprise systems at Logistics Support Activity (LOGSA), Aviation Missile Command (AMCOM), and Program Executive Office (PEO) Aviaton, as well as the ACN and ADEC at the unit level. ALE-P will be a system of software and hardware that maintains platform airworthiness records and delivers a Logistics Management and Decision Support System for commanders.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Improved Data Modem (IDM)	2.072	-	-
Articles:	-	-	-
Description: The IDM is the common solution for digitizing Army Aviation. It performs as an internet controller and gateway to Tactical internet and Fire Support internet for Army Aviation. The IDM provides radio connectivity to the ARC-201D/231, ARC-186, ARC-164 and the Blue Force Tracker transceivers. Funds are required to continue development of an Open Systems Architecture (OSA) and Joint Battle Command -Platform (Aviation) (JBC-P(A)) solution compatible with the AH-64D, CH-47F, HH/UH-60M, OH-58D. This effort provides the foundation to develop and qualify a new hardware architecture to host IDM and Army Common Operating Environment applications to ensure interoperability on the future digital battlefield. ***FY 2013 Accomplishments:*** Delivered engineering releases of IDM OSA hardware and software to aircraft platforms to aid integration efforts. Continued development, integration, and testing of JBC-P(A) products.			
Title: Future Airborne Capability Environment (FACE)	8.700	-	-
Articles:	-	-	-
Description: FACE, previously referred to as Apache Block III, is a set of standards jointly developed by government and industry consortium members; conformance to this standard is Army Aviation's conduit to compliance with the Common Operating Environment (COE) directive. This will be accomplished through the integration of the selected middleware into Army Aviation Platforms. This includes the non-recurring engineering for integration, test, and air worthiness qualification. As part of the Army's migration to a net-centric fighting force, it is necessary for aircraft to access certain critical services that enable seamless access and operation on the future force network. ***FY 2013 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604201A / *AIRCRAFT AVIONICS*	**Project (Number/Name)** VU3 / *Networking And Mission Planning*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continued integration of the selected middleware into the Army Aviation Platforms to support the Army Common Operating Environment convergence via FACE.			
Title: Aviation Data Exploitation Capability (ADEC)	2.061	9.534	5.001
Articles:	-	-	-
Description: The ADEC is an Army Aviation program to develop, integrate, and test specific capabilities needed at the Aviation unit level to implement and support improvements within aviation maintenance, operations, safety and training. ADEC will standardize data and information formats and provide a comprehensive and fully integrated automated information system. ADEC provides a common and interoperable capability required to implement Military Flight Operations Quality Assurance processes.			
FY 2013 Accomplishments: Continued design, development, integration, and testing of the hardware and software needed to realize the ADEC system. Continued the advanced component development of Phase I applications.			
FY 2014 Plans: Continue design, development, integration, and testing of the hardware and software needed to realize the ADEC system. Continue the advanced component development of Phase I applications.			
FY 2015 Plans: Complete design, development, integration, and testing of the hardware and software needed to realize the ADEC system and conduct OT&E activities.			
Title: Brownout Rotorcraft Enhancement System (BORES)	27.241	29.558	-
Articles:	-	-	-
Description: The BORES, previously referred to as Degraded Visual Environment (DVE), is required to reduce personnel and rotocraft losses while conducting both tactical and training missions in environments that restrict or severely reduce the aircrews visibility due to atmospheric obscurants. BORES will improve safety, reduce risk and add flexibility to aviation units by enhancing situational awareness through real-time detection and warning of terrain, obstacles and hazards. BORES will consist of integrated rotorcraft pilotage augmentation systems; sensor(s); software; software related hardware; and pilot to system interfaces and cueing devices. BORES will fuse a synthetic vision avionics backbone with aircraft state data and obscurant penetrating sensor(s) to provide a single rotorcraft capability for ground taxi, hover, takeoff and landing modes of flight.			
FY 2013 Accomplishments: Continued development of BORES hardware and software.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604201A / *AIRCRAFT AVIONICS*	**Project (Number/Name)** VU3 / *Networking And Mission Planning*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Conduct technical design and development of BORES.			
Title: Aviation Logistics Enterprise-Platform (ALE-P)	3.272	8.199	6.752
Articles:	-	-	-
Description: The ALE-P will replace the Unit Level Logistics System-Aviation (Enhanced), which has transitioned into sustainment, and the Unmanned Aviation Systems-Initiative, which currently only provides automated logistics capabilities for the UAS community, providing a single Aviation Logistics Information System for all of Army aviation. ALE-P will provide the interface to the Global Combat Support System-Army and other enterprise systems at LOGSA, AMCOM, and PEO Aviaton, as well as the ACN and ADEC at the unit level. ALE-P will be a system of software and hardware that maintains platform airworthiness records and delivers a Logistics Management and Decision Support System for commanders. ***FY 2013 Accomplishments:*** Began design and development of ALE-P hardware and software. ***FY 2014 Plans:*** Continue development, test, and integration of ALE-P hardware and software and conduct OT&E activities. ***FY 2015 Plans:*** Complete development, test, and integration of ALE-P hardware and software and OT&E activities.			
Title: Aircraft Notebook (ACN)	5.139	3.454	2.999
Articles:	-	-	-
Description: The ACN will provide users with an aviation centric suite of software used to streamline the completion of aviation maintenance activities and its documentation. ACN will include The Army Maintenance Management System - Aviation (TAMMS-A) digital logbook functionality and will host and integrate with platform applications, such as IETM and GSS application. ACN will reduce the Information Technology footprint within an aviation unit by integrating multiple software tools onto one hardware platform. ***FY 2013 Accomplishments:*** Continued design, development, integration, and testing of the hardware and software needed to realize the ACN system. Continued the advanced component development of Phase IV applications, the development of platform specific software, ADEC and ALE-P integration and Initial Operational Test and Evaluation. ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604201A / *AIRCRAFT AVIONICS*	**Project (Number/Name)** VU3 / *Networking And Mission Planning*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue design, development, integration, and testing of the hardware and software needed to realize the ACN system. Continue the advanced component development of Phase IV applications, the development of platform specific software, ADEC and ALE-P integration and Initial Operational Test and Evaluation. ***FY 2015 Plans:*** Complete development and integration of ACN hardware and software and Operational Test and Evaluation activities.			
Accomplishments/Planned Programs Subtotals	48.485	50.745	14.752

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
• Network and Mission Plan: *Network and Mission Plan*	130.527	92.326	114.182	-	114.182	110.667	118.330	171.708	144.804	Continuing	Continuing

Remarks

D. Acquisition Strategy

This project is comprised of multiple systems supporting aircraft avionics. While the detailed acquisition strategy varies from program to program, the general strategy is for each individual program to complete the development and testing efforts in coordination with the aircraft platforms on integration issues, use the various contracts of the aircraft platforms original equipment manufacturers on integration efforts, and utilize the Aviation & Missile Research, Development, and Engineering Center for software development. This requires the use of various contract methods and types to accomplish the aircraft avionics development efforts. All required acquisition program documentation is prepared.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604201A / *AIRCRAFT AVIONICS*	Project (Number/Name) VU3 / *Networking And Mission Planning*	

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
PM Support (IDM)	Various	AMCOM : Redstone Arsenal, AL	0.000	0.321	Oct 2012	-		-		-		-	-	0.321	-
PM Support (ADEC)	Various	AMCOM : Redstone Arsenal, AL	0.000	0.062	Oct 2012	2.272	Oct 2013	2.239	Oct 2014	-		2.239	-	4.573	-
PM Support (ACN)	Various	AMCOM : Redstone Arsenal, AL	0.000	1.799	Oct 2012	1.223	Oct 2013	0.775	Oct 2014	-		0.775	-	3.797	-
PM Support (ALE-P)	Various	AMCOM : Redstone Arsenal, AL	0.000	-		1.427	Oct 2013	1.354	Oct 2014	-		1.354	-	2.781	-
PM Support (BORES)	Various	AMCOM : Redstone Arsenal, AL	0.000	1.396	Oct 2012	2.828	Oct 2013	-		-		-	-	4.224	-
		Subtotal	0.000	3.578		7.750		4.368		-		4.368	-	15.696	-

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
Middleware integration via FACE	Various	TBD : TBD	0.000	8.700	Jan 2013	-		-		-		-	-	8.700	-
Develop and qualify the software and hardware for ALE-P.	Various	Various : Various	0.000	3.272	Feb 2013	3.647	Feb 2014	3.134	Feb 2015	-		3.134	-	10.053	-
Develop and qualify OSA hardware to host IDM	Various	Various : Various	0.000	0.500	Jan 2013	-		-		-		-	-	0.500	-
Qualify ADEC software and hardware	Various	Various : Various	0.000	1.546	Jan 2013	5.200	Apr 2014	1.422	Apr 2015	-		1.422	-	8.168	-
Develop and qualify BORES hardware and software	Various	Various : Various	0.000	25.845	Jan 2013	-		-		-		-	-	25.845	-
Qualify ACN software and hardware	TBD	Various : Various	0.000	1.078	Jul 2013	0.735	Jul 2014	1.246	Mar 2015	-		1.246	-	3.059	-
		Subtotal	0.000	40.941		9.582		5.802		-		5.802	-	56.325	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604201A / *AIRCRAFT AVIONICS*	Project (Number/Name) VU3 / *Networking And Mission Planning*	

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
System Engineering, Logistics, and Technical Support (BORES)	Various	Various : Various	0.000	-		7.904	Jan 2014	-		-		-	-	7.904	-
System Engineering, Logistics, and Technical Support (ADEC)	Various	Various : Various	0.000	0.144	Feb 2013	0.491	Feb 2014	0.399	Feb 2015	-		0.399	-	1.034	-
System Engineering, Logistics, and Technical Support (ACN)	Various	Various : Various	0.000	0.206	Feb 2013	0.129	Feb 2014	0.425	Mar 2015	-		0.425	-	0.760	-
System Engineering, Logistics, and Technical Support (ALE-P)	Various	Various : Various	0.000	-		1.387	Feb 2014	0.897	Feb 2015	-		0.897	-	2.284	-
		Subtotal	0.000	0.350		9.911		1.721		-		1.721	-	11.982	-

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
Aviation Systems Integration Facility Test Lab (IDM)	Various	AMCOM : Redstone Arsenal, AL	0.000	1.251	Jan 2013	-		-		-		-	-	1.251	-
SVT and LUE for BORES	TBD	TBD : TBD	0.000	-		18.826	Jun 2014	-		-		-	-	18.826	-
ADEC	Various	AMCOM : Redstone Arsenal, AL	0.000	0.309	Feb 2013	1.571	Feb 2014	0.941	Feb 2015	-		0.941	-	2.821	-
ACN	TBD	AMCOM : Redstone Arsenal, AL	0.000	2.056	Apr 2013	1.367	Apr 2014	0.553	Mar 2015	-		0.553	-	3.976	-
ALE-P	TBD	AMCOM : Redstone Arsenal, AL	0.000	-		1.738	Feb 2014	1.367	Feb 2015	-		1.367	-	3.105	-
		Subtotal	0.000	3.616		23.502		2.861		-		2.861	-	29.979	-

	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	0.000	48.485		50.745		14.752		-		14.752	-	113.982	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604201A / *AIRCRAFT AVIONICS*	Project (Number/Name) VU3 / *Networking And Mission Planning*	

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604201A / *AIRCRAFT AVIONICS*	**Project (Number/Name)** VU3 / *Networking And Mission Planning*

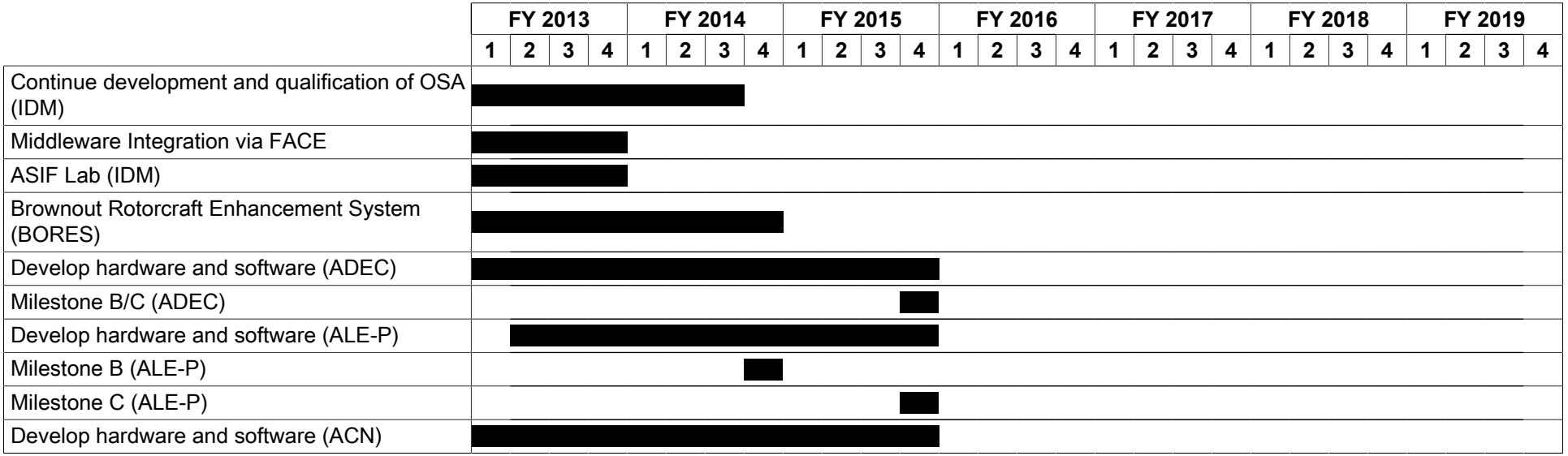

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604201A / *AIRCRAFT AVIONICS*	**Project (Number/Name)** VU3 / *Networking And Mission Planning*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Continue development and qualification of OSA (IDM)	2	2006	3	2014
Middleware Integration via FACE	2	2012	4	2013
ASIF Lab (IDM)	2	2011	4	2013
Brownout Rotorcraft Enhancement System (BORES)	4	2011	4	2014
Develop hardware and software (ADEC)	2	2011	4	2015
Milestone B/C (ADEC)	4	2015	4	2015
Develop hardware and software (ALE-P)	2	2013	4	2015
Milestone B (ALE-P)	4	2014	4	2014
Milestone C (ALE-P)	4	2015	4	2015
Develop hardware and software (ACN)	1	2012	4	2015