Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Army										Date: March 2019	

| Appropriation/Budget Activity
2040: *Research, Development, Test & Evaluation, Army I* BA 7: *Operational Systems Development* | | | | | R-1 Program Element (Number/Name)
PE 0305206A *I Airborne Reconnaissance Systems* | | | | | | |

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	-	20.080	26.416	11.177	14.000	25.177	13.296	17.483	18.707	21.348	0.000	142.507
EH2: *EMARSS ADV DEV (MIP)*	-	0.000	3.205	3.218	-	3.218	2.000	2.011	2.051	5.735	0.000	18.220
EH3: *EMARSS Payloads ADV DEV (MIP)*	-	2.111	6.531	5.959	-	5.959	6.296	6.493	6.622	6.942	0.000	40.954
EH5: *ARL Payloads ADV DEV (MIP)*	-	17.969	15.980	0.000	14.000	14.000	1.000	4.579	5.784	7.171	0.000	66.483
EH7: *Guardrail Common Sensor (GRCS) Payloads (MIP)*	-	0.000	0.700	2.000	-	2.000	4.000	4.400	4.250	1.500	0.000	16.850

A. Mission Description and Budget Item Justification

The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is the Army's newest generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. It provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS is assigned to the U.S. Army Intelligence and Security Command (INSCOM) Aerial Exploitation Battalions, providing Aerial Intelligence, Surveillance and Reconnaissance support to combatant commanders. EMARSS is also assigned to the United States Army Training and Doctrine Command (TRADOC) in support of training at the US Army Intelligence Center of Excellence (USAICoE). The Army Acquisition Objective for EMARSS is 36 systems, with an Army Procurement Objective of 24, to include the following variants: eight (8) EMARSS-G (Geo-INT); four (4) EMARSS-V (Vehicle and Dismount Exploitation Radar, VaDER); eight (8) EMARSS-M (Multi-INT); and four (4) EMARSS-S (SIGINT). Budget Item Justification is addressed in each Project.

Airborne Reconnaissance Low - Enhanced (ARL-E) is a worldwide self-deployable airborne Intelligence Surveillance Reconnaissance (ISR) system designed for timely, accurate, assured support to tactical forces over the full spectrum of operations. This system is a De Havilland DHC-8 aircraft replacing the DHC-7 in accordance with the Aerial ISR (AISR) 2020 Strategy. ARL-E will enhance the ARL-M sensor capability sets through the procurement of new and refurbished sensors to meet the ARL-E Capabilities Production Document (CPD) requirements. It provides a persistent capability to include: Broad-Area Surveillance and/or Focused Stare on Target Areas of Interest (Point or Objective Targets), Electro-Optical/Infrared (EO/IR)/Full-Motion Video (FMV) , Multi-Mode Radar, Robust Communications Intelligence (COMINT), on-Board Collection, Analysis, Sensor Cross Cue and dissemination through Distributed Common Ground System-Army (DCGS-A) Enabled workstations. ARL-E will be assigned to the U.S. Army Intelligence and Security Command's Aerial ISR Brigade providing AISR support to combatant commanders. For the overall system, the Army Acquisition Objective and the Army Procurement Objective, is nine (9). The Mission Equipment Package (MEP) objective is eight (8). Budget Item Justification is addressed in each Project.

The RC-12X Guardrail Common Sensor (GRCS) is a fixed-wing, airborne Communications Intelligence (COMINT) and Electronic Intelligence (ELINT) collection and precision targeting location system. GRCS provides a persistent capability to detect, locate and classify/identify high value targets with a relevant degree of timeliness and accuracy. GRCS is assigned to two (2) U.S. Army Intelligence and Security Command (INSCOM) Aerial Exploitation Battalions providing Aerial Intelligence,

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Army	Date: March 2019
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305206A *I Airborne Reconnaissance Systems*

Surveillance and Reconnaissance (AISR) support to combatant commanders. The Army's Acquisition Objective/Army's Procurement Objective is 19 RC-12X; seven (7) fielded to 3rd MI; and seven (7) fielded to the 204th MI, and five (5) trainers within TRADOC and INSCOM. Budget Item Justification is addressed in each Project.

B. Program Change Summary ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	20.080	26.416	19.177	-	19.177
Current President's Budget	20.080	26.416	11.177	14.000	25.177
Total Adjustments	0.000	0.000	-8.000	14.000	6.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-8.000	14.000	6.000

Change Summary Explanation

FY 2020 Base funds decrease on EH3 funding for EMARSS sensor enhancements.

FY 2020 Base funds zeroed on EH5 OCO funding to support New Signal Development.

FY 2020 Base funds increase on EH7 for Guardrail Common Sensor (GRCS) SIGINT sensor upgrades.

Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019	
Appropriation/Budget Activity 2040 I 7				**R-1 Program Element (Number/Name)** PE 0305206A I *Airborne Reconnaissance Systems*					**Project (Number/Name)** EH2 I *EMARSS ADV DEV (MIP)*		

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
EH2: *EMARSS ADV DEV (MIP)*	-	0.000	3.205	3.218	-	3.218	2.000	2.011	2.051	5.735	0.000	18.220
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is the Army's newest generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. It provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS is assigned to the U.S. Army INSCOM Aerial Exploitation Battalions, providing Aerial Intelligence, Surveillance and Reconnaissance support to combatant commanders. EMARSS is also assigned to the United States Army Training and Doctrine Command (TRADOC) in support of training at the US Army Intelligence Center of Excellence (USAICoE). The Army Acquisition Objective for EMARSS is 36 systems, with an Army Procurement Objective of 24, to include the following variants: eight (8) EMARSS-G (Geo-INT); four (4) EMARSS-V (Vehicle and Dismount Exploitation Radar, VaDER); eight (8) EMARSS-M (Multi-INT); and four (4) EMARSS-S (SIGINT).

This funding line supports non-recurring engineering (NRE), development of type certificates (TC), testing, integration of Modifications in Service of Army Aerial, Intelligence, Surveillance and Reconnaissance (AISR) systems and engineering analysis/structural modifications to substantially increase EMARSS (King Air B300) payload capacity and time on station. Funding provides for the integration of Department of Defense (DoD) mandated safety equipment to meet current and evolving International Standards. It also enhances aircraft communications, navigations and surveillance (CNS); aircraft survivability equipment (ASE) and the integration of the AISR mission equipment package (MEP) as well as obsolescence issues and commonality with EMARSS Program of Record (POR) aircraft.

B. Accomplishments/Planned Programs ($ in Millions)

	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Non-Recurring Engineering	-	3.205	3.218	-	3.218
Description: This funding line supports non-recurring engineering (NRE), development of type certificates (TC), testing, integration of Modifications in Service of Army Aerial, Intelligence, Surveillance and Reconnaissance (AISR) systems and engineering analysis/studies/structural modifications to substantially increase EMARSS (King Air B300) payload capacity and time on station. Funding provides for the integration of Department of Defense (DoD) mandated safety equipment to meet current and evolving International Standards. It also enhances aircraft communications, navigations and surveillance (CNS); aircraft survivability equipment (ASE) and the integration of the AISR mission equipment package (MEP) as well as obsolescence issues and commonality with the EMARSS Program of Record (POR) aircraft. **FY 2019 Plans:**					

Exhibit R-2A, **RDT&E Project Justification:** PB 2020 Army		**Date:** March 2019
Appropriation/Budget Activity 2040 *I* 7	**R-1 Program Element (Number/Name)** PE 0305206A *I Airborne Reconnaissance Systems*	**Project (Number/Name)** EH2 *I EMARSS ADV DEV (MIP)*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2018**	**FY 2019**	**FY 2020 Base**	**FY 2020 OCO**	**FY 2020 Total**
This funding line supports NRE, development of TC, testing and integration of Army AISR systems. Funding provides for the integration of DoD mandated safety equipment to meet current and evolving International Standards. It also enhances aircraft CNS, ASE and the integration of the AISR MEP as well as obsolescence issues involved with the transition from QRC to POR in regards to the Navy AAR-47 changing to Army AAR-57, BFT to BFT-2 and APX-123 Transponder to APX-119 Transponder. *FY 2020 Base Plans:* This funding line will support non-recurring engineering (NRE), development of type certificates (TC), testing, integration of Modifications in Service of Army Aerial, Intelligence, Surveillance and Reconnaissance (AISR) systems and engineering analysis/studies/structural modifications to substantially increase EMARSS (King Air B300) payload capacity and time on station. Funding provides for the integration of Department of Defense (DoD) mandated safety equipment to meet current and evolving International Standards. It also enhances aircraft communications, navigations and surveillance (CNS), aircraft survivability equipment (ASE), future development for modifications in service, and the integration of the AISR mission equipment package (MEP) as well as obsolescence issues and commonality with the EMARSS Program of Record (POR) aircraft. *FY 2019 to FY 2020 Increase/Decrease Statement:* $.013 million increase from FY 2019 to FY 2020 is due to inflation					
Accomplishments/Planned Programs Subtotals	-	3.205	3.218	-	3.218

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• A02112: *EMARSS SEMA Mods (MIP)*	51.279	60.248	3.859	22.180	26.039	24.812	1.903	1.940	2.374	Continuing	Continuing
• AZ2054: *EMARSS Payloads (MIP)*	12.467	18.809	2.146	10.000	12.146	12.176	7.765	7.919	10.521	0.000	81.803
• EH3: *EMARSS Payloads ADV DEV (MIP)*	2.111	6.531	5.959	-	5.959	6.296	6.493	6.622	6.942	0.000	40.954

Remarks

The EMARSS RDTE efforts are found in the following two project lines; 0305206AEH2 EMARSS ADV DEV (MIP) (Fixed Wing Project Office) and 0305206AEH3 EMARSS Payloads ADV DEV (Project Manager Sensors - Aerial Intelligence). The supporting Aircraft Procurement Army (APA lines are A02112 (P-1 Line #26) for Fixed Wing and AZ2054 (P-1 Line #21) for Aerial Intelligence. Separate funding lines support the Army Acquisition Executive's directive, codified in the October 28, 2011

Exhibit R-2A, **RDT&E Project Justification:** PB 2020 Army		**Date:** March 2019
Appropriation/Budget Activity 2040 *I* 7	**R-1 Program Element (Number/Name)** PE 0305206A *I Airborne Reconnaissance Systems*	**Project (Number/Name)** EH2 *I EMARSS ADV DEV (MIP)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost

memorandum, to assign overall acquisition lead for manned airborne intelligence systems to Program Executive Officer for Aviation; and overall sensor, processing, exploitation, and dissemination responsibilities to Program Executive Officer for Intelligence, Electronic Warfare, and Sensors.

D. Acquisition Strategy

The acquisition strategy, supported by the EMARSS CPD, is to design, test and field 24 systems as well as provide enhancements to the following sensor capabilities in order to maintain relevancy to the Warfighter: Electro-optical/Infrared (EO/IR)/Full Motion Video (FMV); Communications Intelligence (COMINT); Wide Area Aerial Surveillance (WAAS); Light Imaging Detection and Ranging (LiDAR) and improved Synthetic Aperture Radar / Moving Target Indicator (SAR/MTI) radar; line-of-site (LOS) and beyond line-of-site (BLOS) communications; and Processing Exploitation and Dissemination (PED) supporting two Distributed Common Ground System - Army (DCGS-A) enabled operator workstations. The EMARSS fleet of 24 systems will consist of the following variants: eight (8) EMARSS-G (Geo-INT); four (4) EMARSS-V (Vehicle and Dismount Exploitation Radar, VaDER); eight (8) EMARSS-M (Multi-INT); and four (4) EMARSS-S (SIGINT).

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army			Date: March 2019

Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305206A / Airborne Reconnaissance Systems	Project (Number/Name) EH2 / EMARSS ADV DEV (MIP)

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PMO	RO	FW PO/ PM SAI : Huntsville, AL/ Aberdeen, MD	0.104	-		0.272	Jan 2019	0.273	Jan 2020	-		0.273	0.000	0.649	-
Subtotal			0.104	-		0.272		0.273		-		0.273	0.000	0.649	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Non-Recurring Engineeering (OEM Design)/FAA Testing and Certification	SS/CPFF	Textron : Wichita, KS	-	-		2.933	May 2019	2.945	May 2020	-		2.945	0.000	5.878	-
Subtotal			-	-		2.933		2.945		-		2.945	0.000	5.878	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Testing	MIPR	AFTD RTC : Eglin, AFB, FL	1.636	-		-		-		-		-	0.000	1.636	-
Subtotal			1.636	-		-		-		-		-	0.000	1.636	N/A

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.740	-		3.205		3.218		-		3.218	0.000	8.163	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Army		**Date:** March 2019
Appropriation/Budget Activity 2040 *I* 7	**R-1 Program Element (Number/Name)** PE 0305206A *I Airborne Reconnaissance Systems*	**Project (Number/Name)** EH2 *I EMARSS ADV DEV (MIP)*

Note

FY18 $0.00   FY19 $3.205   FY20 $3.218   FY21 $2.000   FY22 $2.011   FY23 $2.051   FY24 $5.735

Funding Delta between PB19 and PB20: FY21- $2.00 million added FY24- $5.735 million added

Exhibit R-4A, **RDT&E Schedule Details:** PB 2020 Army		**Date:** March 2019
Appropriation/Budget Activity 2040 *I* 7	**R-1 Program Element (Number/Name)** PE 0305206A *I Airborne Reconnaissance Systems*	**Project (Number/Name)** EH2 *I EMARSS ADV DEV (MIP)*

Schedule Details

Events	Start		End	
	Quarter	**Year**	**Quarter**	**Year**
Non-Recurring Engineering (OEM Design)	3	2019	2	2020
FAA Testing and Certification	3	2020	2	2021
Army Testing	3	2021	2	2022
Developmental Initiatives for Performance Enhancements	3	2022	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019	

Appropriation/Budget Activity 2040 *I* 7				R-1 Program Element (Number/Name) PE 0305206A *I Airborne Reconnaissance Systems*						Project (Number/Name) EH3 *I EMARSS Payloads ADV DEV (MIP)*	

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
EH3: *EMARSS Payloads ADV DEV (MIP)*	-	2.111	6.531	5.959	-	5.959	6.296	6.493	6.622	6.942	0.000	40.954
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

The EMARSS RDTE efforts are found in the following two (2) project lines; 0305206AEH2 EMARSS ADV DEV (MIP) (Fixed Wing Project Office) and 0305206AEH3 EMARSS Payloads ADV DEV (Project Manager Sensors - Aerial Intelligence). The supporting procurement lines are A02112 and AZ2054. Separate funding lines support the Army Acquisition Executive's directive, codified in the October 28, 2011 memorandum, to assign overall acquisition lead for manned airborne intelligence systems to Program Executive Officer for Aviation; and overall sensor, processing, exploitation, and dissemination responsibilities to Program Executive Officer for Intelligence, Electronic Warfare, and Sensors.

A. Mission Description and Budget Item Justification

The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is the Army's newest generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. It provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS is assigned to the U.S. Army Intelligence and Security Command's Aerial Exploitation Battalions, providing Aerial Intelligence, Surveillance and Reconnaissance support to combatant commanders. EMARSS is also assigned to the United States Army Training and Doctrine Command (TRADOC) in support of training at the US Army Intelligence Center of Excellence (USAICoE). The Army Acquisition Objective for EMARSS is 36 systems, with an Army Procurement Objective of 24, to include the following variants: eight (8) EMARSS-G (Geo-INT); four (4) EMARSS-V (Vehicle and Dismount Exploitation Radar, VaDER); eight (8) EMARSS-M (Multi-INT); and four (4) EMARSS-S (SIGINT).

This funding line supports enhancements to the following sensor capabilities in order to maintain relevancy to the Warfighter: Electro-Optical/Infrared (EO/IR)/Full Motion Video (FMV); Communications Intelligence (COMINT); Signals Intelligence (SIGINT); Wide Area Aerial Surveillance (WAAS); Light Imaging Detection and Ranging (LiDAR) and improved Synthetic Aperture Radar / Moving Target Indicator (SAR/MTI) Radar; Line-Of-Site (LOS) and Beyond Line-Of-Sight (BLOS) communications; and Processing Exploitation and Dissemination (PED) supporting two Distributed Common Ground System - Army (DCGS-A) enabled operator workstations.

Fiscal Year (FY) 2020 funding in the amount of $5.959 million continues the development of sensor enhancements and provides PED sensor engineering support. The EMARSS sensor enhancements will replace the existing SIGINT and LiDAR capabilities with an improved sensor system which provides greater standoff range and significantly improved area coverage rate for the EMARSS platform. This enhancement addresses the approved EMARSS Capability Production Document (CPD) performance requirements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: EMARSS - Sensor Enhancement	1.893	5.577	5.577	-	5.577

Exhibit R-2A, RDT&E Project Justification: PB 2020 Army		Date: March 2019	
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0305206A / *Airborne Reconnaissance Systems*	**Project (Number/Name)** EH3 / *EMARSS Payloads ADV DEV (MIP)*	

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Description: Research, Development, Test, and Evaluation (RDTE) funded LiDAR, SIGINT and Airborne Wide Area Persistent Surveillance System (AWAPSS) sensor enhancement. *FY 2019 Plans:* Funded Advanced LiDAR Preliminary Design. *FY 2020 Base Plans:* Complete preliminary design of Advanced LiDAR. Initiate sensor enhancements to upgrade existing EMARSS sensors.					
Title: EMARSS - Sensor Engineering Support *Description:* Matrix Government and Matrix Contractor engineering support for sensor enhancements. *FY 2019 Plans:* Funded matrix government engineering support for sensor enhancements. *FY 2020 Base Plans:* Continue matrix government engineering support for sensor enhancements.	0.126	0.301	0.301	-	0.301
Title: Program Management Support *Description:* Program Management Office (PMO) support and travel, as well as Systems Engineering and Technical Assistance (SETA) support. *FY 2019 Plans:* Funded Program Management Office government support and travel as well as Systems Engineering and Technical Assistance (SETA) support. *FY 2020 Base Plans:* Continue Program Management Office government support and travel as well as Systems Engineering and Technical Assistance (SETA) support. *FY 2019 to FY 2020 Increase/Decrease Statement:* $0.572 million decrease from FY 2019 to FY 2020 is due to completed Advanced LiDAR preliminary design.	0.092	0.653	0.081	-	0.081
Accomplishments/Planned Programs Subtotals	2.111	6.531	5.959	-	5.959

Exhibit R-2A, **RDT&E Project Justification:** PB 2020 Army		**Date:** March 2019
Appropriation/Budget Activity 2040 *I* 7	**R-1 Program Element (Number/Name)** PE 0305206A *I Airborne Reconnaissance Systems*	**Project (Number/Name)** EH3 *I EMARSS Payloads ADV DEV (MIP)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• A02112: *EMARSS SEMA Mods (MIP)*	51.279	60.248	3.859	22.180	26.039	24.812	1.903	1.940	2.374	Continuing	Continuing
• AZ2054: *EMARSS Payloads (MIP)*	12.467	18.809	2.146	10.000	12.146	12.176	7.765	7.919	10.521	0.000	81.803
• EH2: *EMARSS ADV DEV (MIP)*	-	3.205	3.218	-	3.218	2.000	2.011	2.051	5.735	0.000	18.220

Remarks

The EMARSS RDTE efforts are found in the following two (2) project lines; 0305206AEH2 EMARSS ADV DEV (MIP) (Fixed Wing Project Office) and 0305206AEH3 EMARSS Payloads ADV DEV (Project Manager Sensors - Aerial Intelligence). The supporting procurement lines are A02112 and AZ2054. Separate funding lines support the Army Acquisition Executive's directive, codified in the October 28, 2011 memorandum to assign overall acquisition lead for manned airborne intelligence systems to Program Executive Officer for Aviation and overall sensor, processing, exploitation, and dissemination responsibilities to Program Executive Officer for Intelligence, Electronic Warfare, and Sensors.

D. Acquisition Strategy

The acquisition strategy, supported by the EMARSS CPD, is to provide enhancements to the following sensor capabilities in order to maintain relevancy to the Warfighter: EO/IR FMV; COMINT; WAAS; LiDAR and improved SAR/MTI radar; LOS and BLOS communications; and PED supporting two DCGS-A enabled operator workstations. The EMARSS fleet of 24 systems consists of the following variants: eight EMARSS-G (Geo-INT); four EMARSS-V (Vehicle and Dismount Exploitation Radar, VaDER); eight EMARSS-M (Multi-INT); and four EMARSS-S (SIGINT).

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0305206A / Airborne Reconnaissance Systems	**Project (Number/Name)** EH3 / EMARSS Payloads ADV DEV (MIP)

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO	C/CR	PEO IEW&S, PM SAI : APG, MD	0.298	0.092	Mar 2018	0.653	Dec 2018	0.081	Nov 2019	-		0.081	Continuing	Continuing	-
		Subtotal	0.298	0.092		0.653		0.081		-		0.081	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
LiDAR sensor enhancement	SS/CPFF	JHU APL : Laurel, MD	1.500	-		-		-		-		-	0.000	1.500	-
AWAPSS sensor enhancement	C/CPIF	BAE : Nashua, CT	0.200	-		-		-		-		-	0.000	0.200	-
SIGINT sensor enhancement	C/CPFF	CACI/Boeing : APG, MD	0.114	-		-		-		-		-	0.000	0.114	-
SIGINT sensor enhancement	C/CPFF	Lockheed Martin Integrated Systems : Marlton, NJ	0.948	-		-		-		-		-	0.000	0.948	-
Advanced LiDAR Development	SS/CPFF	Johns Hopkins University Applied Physics Laboratory, LLC : Laurel, Md	-	1.893	Jun 2018	5.577	Jan 2019	0.895	Dec 2019	-		0.895	Continuing	Continuing	-
SIGINT sensor enhancement	C/CPFF	TBD : TBD	-	-		-		4.682	Feb 2020	-		4.682	Continuing	Continuing	-
		Subtotal	2.762	1.893		5.577		5.577		-		5.577	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Government Engineering Support	MIPR	USACERDEC, I2WD : APG, MD	0.390	-		-		0.301	Nov 2019	-		0.301	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0305206A / Airborne Reconnaissance Systems	**Project (Number/Name)** EH3 / EMARSS Payloads ADV DEV (MIP)

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Contractor Engineering Support	C/CPFF	BAH : APG, MD	0.087	0.126	May 2018	0.301	Dec 2018	-		-		-	Continuing	Continuing	-
Subtotal			0.477	0.126		0.301		0.301		-		0.301	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Government Testing	MIPR	CFA : Lakehurst, NJ	0.125	-		-		-		-		-	Continuing	Continuing	-
Subtotal			0.125	-		-		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3.662	2.111	6.531	5.959	-	5.959	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Army		**Date:** March 2019
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0305206A / Airborne Reconnaissance Systems	**Project (Number/Name)** EH3 / EMARSS Payloads ADV DEV (MIP)

Event Name	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
QRC to EMARSS POR Modification and Conversion																												
EMARSS Fielding																												
Advanced LiDAR Development																												
Sensor Upgrades/Enhancements																												

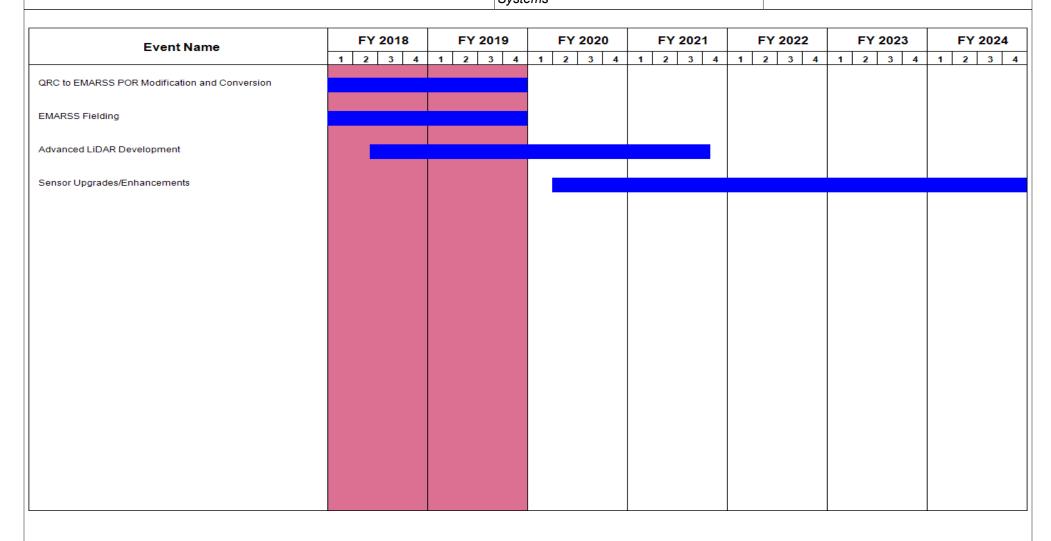| **Exhibit R-4A**, **RDT&E Schedule Details:** PB 2020 Army		**Date:** March 2019
Appropriation/Budget Activity 2040 *I* 7	**R-1 Program Element (Number/Name)** PE 0305206A *I Airborne Reconnaissance Systems*	**Project (Number/Name)** EH3 *I EMARSS Payloads ADV DEV (MIP)*

Schedule Details

Events	Start		End	
	Quarter	**Year**	**Quarter**	**Year**
QRC to EMARSS POR Modification and Conversion	2	2015	4	2019
EMARSS Fielding	3	2017	4	2019
Advanced LiDAR Development	2	2018	4	2021
Sensor Upgrades/Enhancements	2	2020	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2020 Army											Date: March 2019	
Appropriation/Budget Activity 2040 I 7				**R-1 Program Element (Number/Name)** PE 0305206A I *Airborne Reconnaissance Systems*						**Project (Number/Name)** EH5 I *ARL Payloads ADV DEV (MIP)*		

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
EH5: *ARL Payloads ADV DEV (MIP)*	-	17.969	15.980	0.000	14.000	14.000	1.000	4.579	5.784	7.171	0.000	66.483
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Airborne Reconnaissance Low - Enhanced (ARL-E) is a worldwide self-deployable airborne Intelligence Surveillance Reconnaissance (ISR) system designed for timely, accurate, assured support to tactical forces over the full spectrum of operations. This system is a De Havilland DHC-8 aircraft replacing the DHC-7 IAW the Aerial ISR (AISR) 2020 Strategy. ARL-E will enhance the ARL-M sensor capability sets through the procurement of new and refurbished sensors to meet the ARL-E Capabilities Production Document (CPD) requirements. It provides a persistent capability to include: Broad-Area Surveillance and/or Focused Stare on Target Areas of Interest (Point or Objective Targets), Electro-Optical/Infrared (EO/IR)/Full-Motion Video (FMV) , Multi-Mode Radar, Robust Communications Intelligence (COMINT), on-Board Collection, Analysis, Sensor Cross Cue and dissemination through Distributed Common Ground System-Army (DCGS-A) Enabled workstations. ARL-E will be assigned to the U.S. Army Intelligence and Security Command's Aerial ISR Brigade providing AISR support to combatant commanders. For the overall system, the Army Acquisition Objective and the Army Procurement Objective, is nine. The Mission Equipment Package (MEP) objective is eight.

Fiscal Year (FY) 2020 OCO funding of $14.000 million continues the new signal enhancement development effort to develop software to enhance the COMINT collection capabilities and the lab and flight test for Signal 3 and 4 software to see if it meets the requirements in the ARL-E CPD. This funding line supports continued software development to enhance COMINT collection capabilities to effectively prosecute high priority and emerging modern signal emitters.

B. Accomplishments/Planned Programs ($ in Millions)

	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: New Signals (COMINT/Software Upgrades) *Description:* To develop software for Signals 1, 2, 3 and 4 ***FY 2019 Plans:*** Fiscal Year (FY) 2019 Base funding of $1.980 million continues the lab and flight test for Signal 3 and 4 software to see if it meets the requirements in the ARL-E CPD. ***FY 2020 Base Plans:*** Base funding for FY 2020 zeroed. ***FY 2020 OCO Plans:*** Fiscal Year (FY) 2020 OCO funding of $14.000 million continues the new signal enhancement development effort to develop software to enhance the COMINT collection capabilities and the lab and flight test for Signal 3 and 4 software to see if it meets the requirements in the ARL-E CPD. This funding line supports continued	17.969	15.980	0.000	14.000	14.000

Exhibit R-2A, **RDT&E Project Justification:** PB 2020 Army		**Date:** March 2019
Appropriation/Budget Activity 2040 *I* 7	**R-1 Program Element (Number/Name)** PE 0305206A *I Airborne Reconnaissance Systems*	**Project (Number/Name)** EH5 *I ARL Payloads ADV DEV (MIP)*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2018**	**FY 2019**	**FY 2020 Base**	**FY 2020 OCO**	**FY 2020 Total**
software development to enhance COMINT collection capabilities to effectively prosecute high priority and emerging modern signal emitters. ***FY 2019 to FY 2020 Increase/Decrease Statement:*** FY20 decrease due to cost adjustments.					
Accomplishments/Planned Programs Subtotals	17.969	15.980	0.000	14.000	14.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• AZ2050: *ARL PAYLOADS (MIP)*	59.938	80.119	32.895	45.000	77.895	78.588	49.071	45.103	18.342	0.000	409.056
• DX9: *National Integration To Tactical Systems(MIP)*	5.320	9.060	4.490	-	4.490	4.223	5.183	4.425	4.537	0.000	37.238
• A02109: *A02109*	-	12.103	12.294	-	12.294	9.796	-	-	-	0.000	34.193
• A02110: *ARL SEMA Mods (MIP)*	11.650	7.522	6.566	-	6.566	9.786	10.532	5.773	6.409	Continuing	Continuing

Remarks

The Airborne Reconnaissance Low- Enhanced (ARL-E) RDTE efforts are found in the following two (2) project lines; 0305206AEH4 ARL ADV DEV (MIP) (Fixed Wing Project Office) and 0305206AEH5 ARL Payloads ADV DEV (Project Manager Sensors - Aerial Intelligence). The supporting procurement lines are A02110 and AZ2050. Separate funding lines support the Army Acquisition Executive's directive, codified in the October 28, 2011 memorandum, to assign overall acquisition lead for manned airborne Intelligence systems to Program Executive Officer for Aviation; and overall sensor, processing, exploitation, and dissemination responsibilities to Program Executive Officer for Intelligence, Electronic Warfare, and Sensors.

D. Acquisition Strategy

ARL-E will enhance the ARL-M sensor capability sets through the procurement of new and refurbished sensors to meet the ARL-E CPD requirements. It provides a persistent capability to include: Broad-Area Surveillance and/or Focused Stare on Target Areas of Interest (Point or Objective Targets), EO/IR FMV, COMINT, on-Board Collection, Analysis, Sensor Cross Cue and dissemination through DCGS-A Enabled workstations. This includes software development to enhance COMINT collection capabilities. The software will be added to existing COMINT systems to effectively prosecute high priority and emerging modern signal emitters.

E. Performance Metrics

N/A

Exhibit R-3, **RDT&E Project Cost Analysis:** PB 2020 Army													**Date:** March 2019	
Appropriation/Budget Activity 2040 *I* 7						**R-1 Program Element (Number/Name)** PE 0305206A *I Airborne Reconnaissance Systems*						**Project (Number/Name)** EH5 *I ARL Payloads ADV DEV (MIP)*		

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
New Signals (COMINT/ Software Upgrades)	C/CPFF	Boeing Argon : Mountain View, CA	11.969	14.969	Nov 2017	14.000		0.000		12.000	Nov 2019	12.000	0.000	52.938	-
Subtotal			11.969	14.969		14.000		0.000		12.000		12.000	0.000	52.938	N/A

Remarks
New Signals Contract: W56KGY-16-D-0001/ 0006. Fiscal Year (FY) 2020 Base funding of $14.000 million continues the new signal enhancement development effort for Signal 3 and 4 to develop software to enhance the COMINT collection capabilities. This funding line supports continued software development to enhance COMINT collection capabilities to effectively prosecute high priority and emerging modern signal emitters.

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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
New Signals (COMINT/ Software Upgrades)	C/CPFF	Boeing Argon : Mountain View, CA	4.000	3.000	Nov 2017	1.980	Mar 2019	0.000		2.000	Nov 2019	2.000	0.000	10.980	-
Subtotal			4.000	3.000		1.980		0.000		2.000		2.000	0.000	10.980	N/A

Remarks
New Signals Contract: W56KGY-16-D-0001/ 0006. Fiscal Year (FY) 2020 Base funding of $1.495 million continues the lab and flight test for Signal 3 and 4 software to see if it meets the requirements in the ARL-E CPD.

	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	15.969	17.969	15.980	0.000	14.000	14.000	0.000	63.918	N/A

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2020 Army		**Date:** March 2019
Appropriation/Budget Activity 2040 *I* 7	**R-1 Program Element (Number/Name)** PE 0305206A *I Airborne Reconnaissance Systems*	**Project (Number/Name)** EH5 *I ARL Payloads ADV DEV (MIP)*

Exhibit R-4A, **RDT&E Schedule Details:** PB 2020 Army			**Date:** March 2019
Appropriation/Budget Activity 2040 *I* 7	**R-1 Program Element (Number/Name)** PE 0305206A *I Airborne Reconnaissance Systems*		**Project (Number/Name)** EH5 *I ARL Payloads ADV DEV (MIP)*

Schedule Details

Events	Start		End	
	Quarter	**Year**	**Quarter**	**Year**
ARL-E MEP Integration	1	2016	4	2018
ARL-E System FOT&E	4	2019	4	2019
ARL-E New Signals Development and Test	2	2016	2	2022
ARL-E Signals 3 and 4 Development and Test	2	2016	2	2022
ARL-E Continued Signal 1 and 2 Development and Test	4	2017	2	2022

Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019	

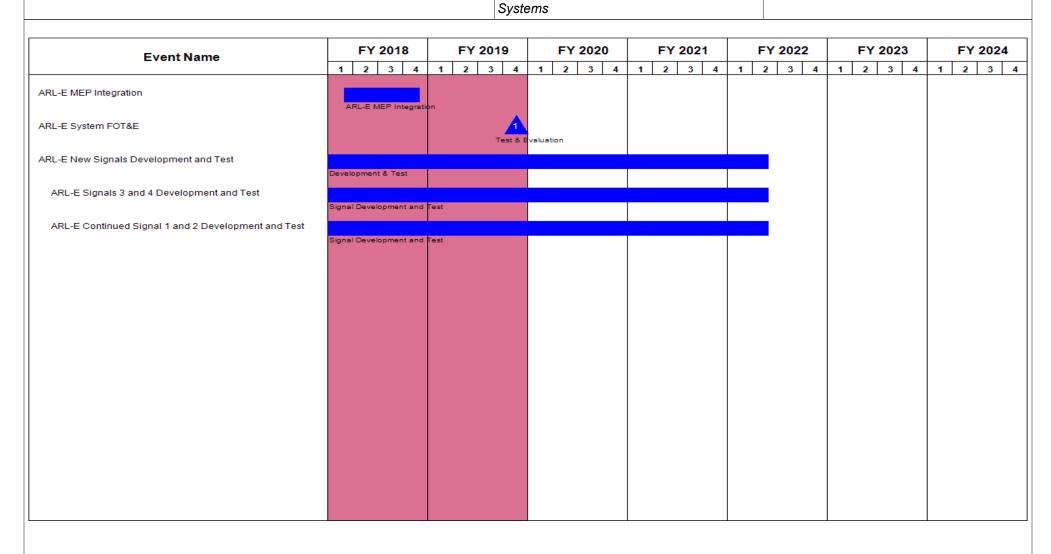| Appropriation/Budget Activity 2040 I 7	R-1 Program Element (Number/Name) PE 0305206A I Airborne Reconnaissance Systems	Project (Number/Name) EH7 I Guardrail Common Sensor (GRCS) Payloads (MIP)

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
EH7: *Guardrail Common Sensor (GRCS) Payloads (MIP)*	-	0.000	0.700	2.000	-	2.000	4.000	4.400	4.250	1.500	0.000	16.850
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Guardrail Common Sensor (GRCS) is an airborne Signals Intelligence (SIGINT) Collection and Location System capable of providing Tactical Commanders Near-Real Time intelligence. It provides a persistent capability to detect, locate and classify/identify critical targets with a relevant degree of timeliness and accuracy. GRCS is assigned to two (2) U.S. Army Intelligence and Security Command's Aerial Exploitation Battalions, providing Aerial Intelligence, Surveillance and Reconnaissance (AISR) support to combatant commanders. In accordance with the Army's AISR 2020 strategy, the Army's Acquisition Objective/Army's Procurement Objective (AAO/APO) is 19 RC-12X; seven (7) fielded to 3rd MI BN; seven (7) fielded to the 204th MI BN, and five (5) pilot trainers to support Force Generation. The five (5) trainers are not equipped with Primary Mission Equipment (PME).

GRCS FY 2020 RDT&E dollars in the amount of $2.000 million supports GRCS advanced signal enhancement efforts, development and testing of the signal enhancement infrastructure for GRCS updated SIGINT sensor capabilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: USFK ONS Development/JICD 4.2 Compliance	-	0.700	-	-	-
Description: Development and Testing for Signal Enhancement efforts. **FY 2019 Plans:** Development and Testing for JICD 4.2 Compliance **FY 2019 to FY 2020 Increase/Decrease Statement:** Decrease from $.700 million in FY 2019 to $0 in FY 2020 due to completion of effort.					
Title: GRCS SIGINT Sensor Upgrades	-	-	2.000	-	2.000
Description: Funding line supports GRCS advanced signal enhancement efforts and software development and testing of signal enhancement infrastructure for GRCS updated SIGINT sensor development. **FY 2020 Base Plans:**					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Army		Date: March 2019
Appropriation/Budget Activity 2040 *I* 7	**R-1 Program Element (Number/Name)** PE 0305206A *I Airborne Reconnaissance Systems*	**Project (Number/Name)** EH7 *I Guardrail Common Sensor (GRCS) Payloads (MIP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
This funding line supports GRCS advanced signal enhancement efforts and software development and testing of signal enhancement infrastructure for GRCS updated SIGINT sensor development. *FY 2019 to FY 2020 Increase/Decrease Statement:* Increase from $0 to $2.000 million due to advanced signal enhancement efforts and software development and testing of signal enhancement infrastructure for GRCS updated SIGINT sensor development.					
Accomplishments/Planned Programs Subtotals	-	0.700	2.000	-	2.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• AZ2052: *Guardrail Payloads (MIP)*	34.370	18.346	0.148	25.260	25.408	25.389	18.998	37.447	16.446	0.000	176.404

Remarks

D. Acquisition Strategy

The acquisition strategy is to provide technical refresh to the GRCS SIGINT Sensors. Pending competitive contract award.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army		Date: March 2019

Appropriation/Budget Activity 2040 *I* 7	R-1 Program Element (Number/Name) PE 0305206A *I Airborne Reconnaissance Systems*	Project (Number/Name) EH7 *I Guardrail Common Sensor (GRCS) Payloads (MIP)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
USFK ONS Development/ JICD 4.2 Compliance	C/CPFF	PEO IEW&S : Aberdeen Proving Ground, MD	-	-		0.700	Nov 2018	-		-		-	0.000	0.700	0.700
Subtotal			-	-		0.700		-		-		-	0.000	0.700	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GRCS SIGINT Sensor Upgrades	C/Various	PEO IEW&S : Aberdeen Proving Ground, MD	-	-		-		2.000	Mar 2020	-		2.000	0.000	2.000	2.000
Subtotal			-	-		-		2.000		-		2.000	0.000	2.000	N/A

	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-	0.700	2.000	-	2.000	0.000	2.700	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Army		**Date:** March 2019
Appropriation/Budget Activity 2040 *I* 7	**R-1 Program Element (Number/Name)** PE 0305206A *I Airborne Reconnaissance Systems*	**Project (Number/Name)** EH7 *I Guardrail Common Sensor (GRCS) Payloads (MIP)*

Event Name	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
USFK ONS Development/JICD 4.2 Compliance																												
GRCS SIGINT Tech Refresh Development & Testing																												

Exhibit R-4A, **RDT&E Schedule Details:** PB 2020 Army		**Date:** March 2019
Appropriation/Budget Activity 2040 *I* 7	**R-1 Program Element (Number/Name)** PE 0305206A *I Airborne Reconnaissance Systems*	**Project (Number/Name)** EH7 *I Guardrail Common Sensor (GRCS) Payloads (MIP)*

Schedule Details

Events	Start		End	
	Quarter	**Year**	**Quarter**	**Year**
USFK ONS Development/JICD 4.2 Compliance	1	2019	2	2019
GRCS SIGINT Tech Refresh Development & Testing	2	2020	4	2024