

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0307207A: Aerial Common Sensor (ACS)							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	0.000	115.430	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	115.430
024: AERIAL COMMON SENSOR (MIP)	0.000	115.430	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Note Prior year funding contained in 0207344A/028; Funding in FY11 and beyond contained in 0605626A/AC5.											
A. Mission Description and Budget Item Justification The Aerial Common Sensor program has ben restructured and renamed the Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS). EMARSS is the Army's future force airborne intelligence collection, processing, and targeting support system. EMARSS is a manned multi-INT Airborne Intelligence Surveillance and Reconnaissance (AISR) system that provides a persistent capability to detect, locate, classify/identify, and track surface targets in day/night, near-all-weather conditions with a high degree of timeliness and accuracy. EMARSS aircraft will be located within Aerial Exploitation Battalions (AEB), which are assigned to the U.S.Army Intelligence and Security Command (INSCOM). The EMARSS system will consist of a commercial derivative aircraft equipped with Electro-optic/Infrared (EO/IR) Full Motion Video (FMV) sensor, a COMINT collection system, an aerial precision Geolocation system, line-of-site (LOS) tactical and beyond line-of-site (LOS/BLOS) communications suites, two operator workstations and a self-protection suite. EMARSS will operate as a single platform in support of tactical missions. Mission altitude and flight tracks are chosen to optimize sensor data collection on the target area of interest while avoiding known threats. Flight tracks may be selected to strike a balance among the capabilities of multiple sensors, or to optimize collection from individual sensors based upon the daily collection tasking dictated by the tactical commanders Priority Intelligence Requirements (PIRs). EMARSS will provide efficient response to Combat Forces ISR tasking with centralized Processing, Exploitation & Dissemination (PED) of ISR while simultaneously transmitting critical FMV and intelligence products to engaged tactical forces. The National Security Agency's Military Intelligence Program (MIP) provides funding to support enhanced SIGINT capabilities. FY11 Base - No Request for this PE line.FY11 OCO - No Request for this PE line.Funding in FY11 and beyond has been shifted to PE 0605626A, project AC5, Aerial Common Sensor SDD.											

UNCLASSIFIED

R-1 Line Item #181

Page 1 of 10

856 of 897

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army				DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0307207A: Aerial Common Sensor (ACS)			
B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	0.000	210.035	300.321	0.000	300.321
Current President's Budget	0.000	115.430	0.000	0.000	0.000
Total Adjustments	0.000	-94.605	-300.321	0.000	-300.321
• Congressional General Reductions		-94.605			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Adjustments to Budget Years	0.000	0.000	-300.321	0.000	-300.321
Change Summary Explanation					
Change Summary Explanation: FY 2011: OSD directed that this MIP program be moved to it's own separate program element, 0605626A.					

UNCLASSIFIED

R-1 Line Item #181

Page 2 of 10

857 of 897

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0307207A: <i>Aerial Common Sensor (ACS)</i>				PROJECT 024: <i>AERIAL COMMON SENSOR (MIP)</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
024: <i>AERIAL COMMON SENSOR (MIP)</i>	0.000	115.430	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification <p>The Aerial Common Sensor program has been restructured and renamed the Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS). EMARSS is the Army's future force airborne intelligence collection, processing, and targeting support system. EMARSS is a manned multi-INT Airborne Intelligence Surveillance and Reconnaissance (AISR) system that provides a persistent capability to detect, locate, classify/identify, and track surface targets in day/night, near-all-weather conditions with a high degree of timeliness and accuracy. EMARSS aircraft will be located within Aerial Exploitation Battalions (AEB), which are assigned to the U.S. Army Intelligence and Security Command (INSCOM). The EMARSS system will consist of a commercial derivative aircraft equipped with Electro-optic/Infrared (EO/IR) Full Motion Video (FMV) sensor, a COMINT collection system, an aerial precision Geolocation system, line-of-site (LOS) tactical and beyond line-of-site (LOS/BLOS) communications suites, two operator workstations and a self-protection suite. EMARSS will operate as a single platform in support of tactical missions. Mission altitude and flight tracks are chosen to optimize sensor data collection on the target area of interest while avoiding known threats. Flight tracks may be selected to strike a balance among the capabilities of multiple sensors, or to optimize collection from individual sensors based upon the daily collection tasking dictated by the tactical commanders Priority Intelligence Requirements (PIRs). EMARSS will provide efficient response to Combat Forces ISR tasking with centralized Processing, Exploitation & Dissemination (PED) of ISR while simultaneously transmitting critical FMV and intelligence products to engaged tactical forces. The National Security Agency's Military Intelligence Program (MIP) provides funding to support enhanced SIGINT capabilities. FY11 Base - No Request for this PE line. FY11 OCO - No Request for this PE line. Funding in FY11 and beyond has been shifted to PE 0605626A, project AC5, Aerial Common Sensor SDD.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1							0.000	14.199	0.000	0.000	0.000
Supports Material Development Decision (MDD), EMD Source Selection activities, test support, Program Management Office (PMO)											

UNCLASSIFIED

R-1 Line Item #181

Page 3 of 10

858 of 897

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0307207A: Aerial Common Sensor (ACS)	PROJECT 024: AERIAL COMMON SENSOR (MIP)			
B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #2 Start EMD contract, purchases 3 EMD aircraft, purchase GFE and technical support, DCGS-A on board processing.	0.000	101.231	0.000	0.000	0.000
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Accomplishments/Planned Programs Subtotals	0.000	115.430	0.000	0.000	0.000

UNCLASSIFIED

R-1 Line Item #181

Page 4 of 10

859 of 897

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0307207A: Aerial Common Sensor (ACS)				PROJECT 024: AERIAL COMMON SENSOR (MIP)			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• Ord. #1: Army PE 0605626A Project AC5	0.000	0.000	211.500	0.000	211.500	31.400	3.200	0.000	0.000	0	246.100
• Ord. #2: ACS NSA MIP	3.690	2.022	1.350	0.000	1.350	10.634	9.554	7.395	7.395	Continuing	Continuing
• Ord. #3: GRCS NSA MIP	6.790	2.780	0.685	0.000	0.685	5.246	4.697	3.601	3.601	Continuing	Continuing
• Ord. #4: Army PE 0203744A Project 028	20.828	0.074	0.068	0.000	0.068	0.069	0.071	0.072	0.074	0	21.256
D. Acquisition Strategy											
The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is a program of record based on an Army G-3/5/7 Directed Requirement (DR) signed 11 December 2009. The decision to pursue EMARSS is a direct result of relooking the Army's approach to the Airborne Intelligence Surveillance and Reconnaissance (ISR) construct and applying the lessons learned from current overseas operations. The Army plans to convene a Material Development Decision (MDD) review in 2Q FY10. The program will enter the acquisition process in the Engineering and Manufacturing Development (EMD) phase. The EMARSS EMD contract will be competitively awarded to a single contractor. An option for LRIP is anticipated to be part of this effort. MS C is scheduled for 4QFY11 and FRP in 3QFY12.											
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.											

UNCLASSIFIED

R-1 Line Item #181

Page 5 of 10

860 of 897

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0307207A: <i>Aerial Common Sensor (ACS)</i>				PROJECT 024: <i>AERIAL COMMON SENSOR (MIP)</i>					
Product Development (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
EMARSS EMD	C/CPIF	TBD Location could not be determined.	0.000	88.101		0.000		0.000		0.000	Continuing	Continuing	0
Vortex Data Links/PALS/ DBOS	C/FFP	L3COMM Warner Robins AFB	0.000	5.890		0.000		0.000		0.000	Continuing	Continuing	0
Other GFE/COMSEC Equipment	C/TBD	TBD Location could not be determined.	0.000	0.870		0.000		0.000		0.000	Continuing	Continuing	0
Airborne Precision Geo- Location (APG) System	C/TBD	NSA Location could not be determined.	0.000	1.270		0.000		0.000		0.000	Continuing	Continuing	0
Cost Category Item is empty.	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Subtotal			0.000	96.131		0.000		0.000		0.000			0.000
Remarks													

UNCLASSIFIED

R-1 Line Item #181

Page 6 of 10

861 of 897

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army											DATE: February 2010																																																																								
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0307207A: <i>Aerial Common Sensor (ACS)</i>				PROJECT 024: <i>AERIAL COMMON SENSOR (MIP)</i>																																																																											
<p>Support (\$ in Millions)</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4"></th> <th colspan="2">FY 2010</th> <th colspan="2">FY 2011 Base</th> <th colspan="2">FY 2011 OCO</th> <th>FY 2011 Total</th> <th colspan="3"></th> </tr> <tr> <th>Cost Category Item</th> <th>Contract Method & Type</th> <th>Performing Activity & Location</th> <th>Total Prior Years Cost</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Cost To Complete</th> <th>Total Cost</th> <th>Target Value of Contract</th> </tr> </thead> <tbody> <tr> <td>DCGS-A & Orion S/W processing on Board</td> <td>C/TBD</td> <td>Various Location could not be determined.</td> <td align="right">0.000</td> <td align="right">5.100</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td>Continuing</td> <td>Continuing</td> <td align="right">0</td> </tr> <tr> <td align="right" colspan="3">Subtotal</td><td align="right">0.000</td><td align="right">5.100</td><td></td><td align="right">0.000</td><td></td><td align="right">0.000</td><td></td><td align="right">0.000</td><td></td><td></td><td align="right">0.000</td> </tr> </tbody> </table> <p><u>Remarks</u></p>																		FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	DCGS-A & Orion S/W processing on Board	C/TBD	Various Location could not be determined.	0.000	5.100		0.000		0.000		0.000	Continuing	Continuing	0	Subtotal			0.000	5.100		0.000		0.000		0.000			0.000														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total																																																																									
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract																																																																						
DCGS-A & Orion S/W processing on Board	C/TBD	Various Location could not be determined.	0.000	5.100		0.000		0.000		0.000	Continuing	Continuing	0																																																																						
Subtotal			0.000	5.100		0.000		0.000		0.000			0.000																																																																						
<p>Test and Evaluation (\$ in Millions)</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4"></th> <th colspan="2">FY 2010</th> <th colspan="2">FY 2011 Base</th> <th colspan="2">FY 2011 OCO</th> <th>FY 2011 Total</th> <th colspan="3"></th> </tr> <tr> <th>Cost Category Item</th> <th>Contract Method & Type</th> <th>Performing Activity & Location</th> <th>Total Prior Years Cost</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Cost To Complete</th> <th>Total Cost</th> <th>Target Value of Contract</th> </tr> </thead> <tbody> <tr> <td>Test Support</td> <td>C</td> <td>Gov't/various Location could not be determined.</td> <td align="right">0.000</td> <td align="right">0.900</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td>Continuing</td> <td>Continuing</td> <td align="right">0</td> </tr> <tr> <td>Test Flight Ranges</td> <td>C</td> <td>Gov't/various Location could not be determined.</td> <td align="right">0.000</td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td>Continuing</td> <td>Continuing</td> <td align="right">0</td> </tr> <tr> <td align="right" colspan="3">Subtotal</td><td align="right">0.000</td><td align="right">0.900</td><td></td><td align="right">0.000</td><td></td><td align="right">0.000</td><td></td><td align="right">0.000</td><td></td><td></td><td align="right">0.000</td> </tr> </tbody> </table> <p><u>Remarks</u></p>																		FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	Test Support	C	Gov't/various Location could not be determined.	0.000	0.900		0.000		0.000		0.000	Continuing	Continuing	0	Test Flight Ranges	C	Gov't/various Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0	Subtotal			0.000	0.900		0.000		0.000		0.000			0.000
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total																																																																									
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract																																																																						
Test Support	C	Gov't/various Location could not be determined.	0.000	0.900		0.000		0.000		0.000	Continuing	Continuing	0																																																																						
Test Flight Ranges	C	Gov't/various Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0																																																																						
Subtotal			0.000	0.900		0.000		0.000		0.000			0.000																																																																						

UNCLASSIFIED

R-1 Line Item #181

Page 7 of 10

862 of 897

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0307207A: <i>Aerial Common Sensor (ACS)</i>				PROJECT 024: <i>AERIAL COMMON SENSOR (MIP)</i>					
Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO Staff/travel/O/H expenses	C	PM AC Sensors: Ft. Monmouth, NJ; Aberdeen, MD	0.000	2.399		0.000		0.000		0.000	Continuing	Continuing	0
Program SETA Support	C	CACI BAH, USFalcon, LM: NJ/ DC	0.000	4.500		0.000		0.000		0.000	Continuing	Continuing	0
SETA Mgmt Support	SS/CPFF	Mitre: various Location could not be determined.	0.000	1.400		0.000		0.000		0.000	Continuing	Continuing	0
Gov't Matrix Support	C	Multiple: Ft. Monmouth NJ	0.000	2.400		0.000		0.000		0.000	Continuing	Continuing	0
Gov't Matrix Support - 2	C/CPFF	PMFW AMRDEC: Redstone, AL	0.000	2.600		0.000		0.000		0.000	Continuing	Continuing	0
Subtotal			0.000	13.299		0.000		0.000		0.000			0.000
Remarks													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	115.430		0.000		0.000		0.000			0.000
Remarks													

UNCLASSIFIED

R-1 Line Item #181

Page 8 of 10

863 of 897

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0307207A: <i>Aerial Common Sensor (ACS)</i>	PROJECT 024: <i>AERIAL COMMON SENSOR (MIP)</i>

[illegible]

UNCLASSIFIED

R-1 Line Item #181

Page 9 of 10

864 of 897

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0307207A: <i>Aerial Common Sensor (ACS)</i>	PROJECT 024: <i>AERIAL COMMON SENSOR (MIP)</i>	

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Material Development Decision (MDD)	1	2010	1	2010
Contract Award IPR	2	2010	2	2010
Engineering Manufacturing & Development	2	2010	3	2011
SRR/SFR	3	2010	3	2010
System Design Review	1	2011	1	2011
CT/DT	1	2011	2	2011
DT/OT & LUT	2	2011	3	2011
MS C	3	2011	3	2011
LRIP	3	2011	2	2012
IOT&E	1	2012	1	2012
Full Rate Production	2	2012	2	2012
Production	2	2012	3	2015

UNCLASSIFIED

R-1 Line Item #181

Page 10 of 10

865 of 897