**R-1 ITEM NOMENCLATURE** 

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army

APPROPRIATION/BUDGET ACTIVITY

2040: Research, Development, Test & Evaluation, Army

PE 0307207A: Aerial Common Sensor (ACS)

BA 7: Operational Systems Development

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	115.432	-	-	-	-	-	-	-	-	0.000	115.432
024: AERIAL COMMON SENSOR (MIP)	115.432	-	-	-	-	-	-	-	-	0.000	115.432

#### Note

Change Summary Explanation: FY 2011 and FY 2012: OSD directed that this MIP program be moved to its own separate program element, 0605626A.

#### 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 next generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. EMARSS provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS aircraft will be assigned to the U.S. Army Intelligence and Security Command?s (INSCOM) Aerial Exploitation Battalions (AEB). EMARSS is an improvement over the existing MARSS QRC in that it hosts an on board DCGS-A capability, improved satellite communications, and improved aircraft performance.

EMARSS will consist of a commercial derivative aircraft equipped with an Electro-optical/Infrared (EO/IR) Full Motion Video (FMV) sensor, a Communications Intelligence (COMINT) collection system, an aerial precision geolocation (APG) system, tactical line-of-site (LOS) and beyond line-of-site (BLOS) communications suites, two Distributed Common Ground System? Army (DCGS-A) enabled operator workstations and a self-protection suite.

EMARSS will operate as a single platform in direct support of tactical missions. EMARSS, working with and incorporating elements of the DCGS-A, will provide efficient response to Combat Forces Intelligence, Surveillance and Reconnaissance (ISR) tasking with centralized Processing, Exploitation & Dissemination (PED) of ISR products while simultaneously transmitting critical FMV and other intelligence products to engaged tactical forces.

The National Security Agency's Military Intelligence Program (MIP) provides funding to support enhanced SIGINT capabilities.

There is no FY12 funding request for EMARSS in this funding line. That request is found in PE 0605626A, project AC5, Aerial Common Sensor SDD.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
2040: Research, Development, Test & Evaluation, Army	PE 0307207A: Aerial Common Sensor (ACS)	
BA 7: Operational Systems Development		

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	<b>FY 2012 Base</b>	FY 2012 OCO	FY 2012 Total
Previous President's Budget	115.430	-	-	-	-
Current President's Budget	115.432	-	-	-	-
Total Adjustments	0.002	-	-	-	<del>-</del>
<ul> <li>Congressional General Reductions</li> </ul>		-			
<ul> <li>Congressional Directed Reductions</li> </ul>		-			
<ul> <li>Congressional Rescissions</li> </ul>	-	-			
<ul> <li>Congressional Adds</li> </ul>		-			
<ul> <li>Congressional Directed Transfers</li> </ul>		-			
Reprogrammings	-	-			
SBIR/STTR Transfer	-	-			
Other Adjustments 1	0.002	-	-	-	-

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Exhibit R-2A, RDT&E Project Just	ification: PE	3 2012 Army	′						<b>DATE</b> : Feb	ruary 2011					
APPROPRIATION/BUDGET ACTIV 2040: Research, Development, Test BA 7: Operational Systems Develop	& Evaluation	n, Army		<b>R-1 ITEM N</b> PE 030720		TURE ommon Sens	sor (ACS)	PROJECT 024: AERIA	<b>PROJECT</b> )24: <i>AERIAL COMMON SENSOR (M</i>						
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost				
024: AERIAL COMMON SENSOR (MIP)	115.432	-	-	-	-	-	-	-	-	0.000	115.432				
Quantity of RDT&E Articles															

#### 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 next generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. EMARSS provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS aircraft will be assigned to the U.S. Army Intelligence and Security Command?s (INSCOM) Aerial Exploitation Battalions (AEB). EMARSS is an improvement over the existing MARSS QRC in that it hosts an on board DCGS-A capability, improved satellite communications, and improved aircraft performance.

EMARSS will consist of a commercial derivative aircraft equipped with an Electro-optical/Infrared (EO/IR) Full Motion Video (FMV) sensor, a Communications Intelligence (COMINT) collection system, an aerial precision geolocation (APG) system, tactical line-of-site (LOS) and beyond line-of-site (BLOS) communications suites, two Distributed Common Ground System? Army (DCGS-A) enabled operator workstations and a self-protection suite.

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The National Security Agency's Military Intelligence Program (MIP) provides funding to support enhanced SIGINT capabilities.

There is no FY12 funding request for EMARSS in this funding line. That request is found in PE 0605626A, project AC5, Aerial Common Sensor SDD.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Title: EMARSS DEVELOPMENT		100.695	-	-
	Articles:	0		
Description: Funding is provided for the following effort				
FY 2010 Accomplishments: Start EMD contract, purchases 4 EMD aircraft, purchase GFE and technical support, DCGS-A on board processing.				
Title: SUPPORT SERVICES		14.737	-	-
	Articles:	0		

Army Page 3 of 8 R-1 Line Item #186

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY **R-1 ITEM NOMENCLATURE PROJECT** 

2040: Research, Development, Test & Evaluation, Army PE 0307207A: Aerial Common Sensor (ACS) 024: AERIAL COMMON SENSOR (MIP)

BA 7: Operational Systems Development

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Supports Material Development Decision (MDD), EMD Source Selection activities, test support, Program Management Office (PMO)			
Accomplishments/Planned Programs Subtotals	115.432	_	_

## C. Other Program Funding Summary (\$ in Millions)

		•	FY 2012	FY 2012	FY 2012					<b>Cost To</b>	
<u>Line Item</u>	FY 2010	FY 2011	<b>Base</b>	OCO	<u>Total</u>	FY 2013	FY 2014	FY 2015	FY 2016	<b>Complete</b>	<b>Total Cost</b>
• EMARSS: <i>EMARSS</i>		211.500	31.544		31.544		30.349	28.934	28.853	Continuing	Continuing
• ACS NSA MIP: ACS NSA MIP	2.022	1.350	10.634		10.634		7.395	7.395		Continuing	Continuing
• GRCS NSA MIP: GRCS NSA	2.780	0.685	5.246		5.246		3.601	3.601		Continuing	Continuing
MIP											
Aircraft Mods: Aircraft Mods	0.074									0.000	0.074

### 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 Material Development Decision (MDD) review was completed in 2Q FY10. The program entered the acquisition process in the Engineering and Manufacturing Development (EMD) phase with 4Q10 contract award. This award was competitively awarded to a single contractor. An option for LRIP is anticipated to be part of this effort. MS C is scheduled for 4QFY12 and FRP in 3QFY13.

#### 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army

APPROPRIATION/BUDGET ACTIVITY

2040: Research, Development, Test & Evaluation, Army

R-1 ITEM NOMENCLATURE

PE 0307207A: Aerial Common Sensor (ACS)

**DATE:** February 2011

PROJECT

024: AERIAL COMMON SENSOR (MIP)

Management Services	s (\$ in Millio	ns)				FY 2	-	FY 2		FY 2012			
	Contract		Total Prior	FY 2		Ва		00		Total			Target
Cost Category Item	Method & Type	Performing Activity & Location	Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Value of Contract
PMO Staff/travel/O/H expenses	Various	PM, AC Sensors::Aberdeen, MD	2.399	-		-		-		-	Continuing	Continuing	Continuin
Program SETA Support	Various	CACI,BAH, USFalcon, LM::NJ/ DC	4.500	-		-		-		-	Continuing	Continuing	Continuing
SETA Mgmt Support	Various	Mitre::Various	1.400	-		-		-		-	Continuing	Continuing	Continuin
Matrix Support	Various	Multiple::Ft. Monmouth, NJ	2.400	-		-		-		-	Continuing	Continuing	Continuing
Gov't Matrix Support	Various	PMFW, AMRDEC::Redstone, AL	2.600	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	13.299	-		-		-		-			
			_										
<b>Product Development</b>	(\$ in Millio	ns)		FY 2	2011	FY 2 Ba		FY 2		FY 2012 Total			
	Contract Method	Performing Activity & Location	Total Prior Years Cost	FY 2	2011 Award Date						Cost To	Total Cost	Target Value of Contract
Cost Category Item EMARSS EMD	Contract	Performing	Years		Award	Ва	se Award	00	O Award	Total		Total Cost Continuing	Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Years Cost		Award	Ва	se Award	00	O Award	Total	Complete		Value of Contract Continuing
Cost Category Item EMARSS EMD Vortex Data Links/PALS/	Contract Method & Type Various	Performing Activity & Location TBD:TBD L3COMM,:Warner	Years Cost 88.101	Cost -	Award	Ba Cost	se Award	00	O Award	Total	Complete Continuing	Continuing Continuing	Value of Contract Continuing Continuing
Cost Category Item EMARSS EMD Vortex Data Links/PALS/ DBOS Other GFE/COMSEC	Contract Method & Type Various Various	Performing Activity & Location TBD:TBD L3COMM,:Warner Robins AFB	Years Cost 88.101 5.890	Cost -	Award	Cost -	se Award	00	O Award	Total	Complete Continuing Continuing	Continuing Continuing Continuing	Value of
Cost Category Item  EMARSS EMD  Vortex Data Links/PALS/ DBOS  Other GFE/COMSEC Equipment  Airborne Precision Geo-	Contract Method & Type Various Various Various	Performing Activity & Location TBD:TBD L3COMM,:Warner Robins AFB TBD:TBD	Years Cost 88.101 5.890 0.870	Cost - -	Award	Cost -	se Award	Cost -	O Award	Total	Complete Continuing Continuing Continuing	Continuing Continuing Continuing	Value of Contract Continuing Continuing
Cost Category Item  EMARSS EMD  Vortex Data Links/PALS/ DBOS  Other GFE/COMSEC Equipment  Airborne Precision Geo-	Contract Method & Type Various Various Various Various	Performing Activity & Location TBD:TBD L3COMM,:Warner Robins AFB TBD:TBD NSA:Washington	Years Cost 88.101 5.890 0.870	Cost	Award Date	Cost	Award Date	Cost	Award Date	Total  Cost	Complete Continuing Continuing Continuing	Continuing Continuing Continuing	Value of Contract Continuing Continuing Continuing
Cost Category Item  EMARSS EMD  Vortex Data Links/PALS/ DBOS  Other GFE/COMSEC Equipment  Airborne Precision Geo- Location (APG) System	Contract Method & Type Various Various Various Various	Performing Activity & Location TBD:TBD L3COMM,:Warner Robins AFB TBD:TBD NSA:Washington	Years Cost 88.101 5.890 0.870	Cost	Award Date	Cost FY 2	Award Date	Cost FY 2	Award Date	Total  Cost	Complete Continuing Continuing Continuing	Continuing Continuing Continuing	Value of Contract Continuing Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army

R-1 ITEM NOMENCLATURE

**DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY

PROJECT

2040: Research, Development, Test & Evaluation, Army

PE 0307207A: Aerial Common Sensor (ACS)

024: AERIAL COMMON SENSOR (MIP)

Support (\$ in Millions)				FY 2	2011		2012 ase		2012 CO	FY 2012 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
		Subtotal	5.100	-		-		-		-			
Test and Evaluation (\$	in Millions	5)		FY 2	2011		2012 ase		2012 CO	FY 2012 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	Various	Gov't/various:Various	0.900	-		-		-		-	Continuing	Continuing	Continuin
		Subtotal	0.900	-		-		-		-			
			Total Prior Years Cost	FY 2	2011		2012 ase		2012 CO	FY 2012 Total	Cost To	Total Cost	Target Value of Contract
		Project Cost Totals	115.430										

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE
PE 0307207A: Aerial Common Sensor (ACS)
PROJECT
024: AERIA

2040: Research, Development, Test & Evaluation, Army

024: AERIAL COMMON SENSOR (MIP)

BA 7: Operational Systems Development

		FY	201	0		FY	2011			FY 2	2012	2		FY	201:	3		FY	201	4		FY	2015	5		FY 2	2016	3
	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
Material Development Decision (MDD)					,	,	,				•	•		,	,	,		,	,						,			
Contract Award IPR																												
Engineering Manufacturing & Development																												
SRR/SFR																												
System Design Review																												
CT/DT																												
DT/OT & LUT																												
MS C																												
LRIP																												
IOT&E																												•
Full Rate Production																												
Production																												-

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army

APPROPRIATION/BUDGET ACTIVITY

2040: Research, Development, Test & Evaluation, Army
BA 7: Operational Systems Development

DATE: February 2011

R-1 ITEM NOMENCLATURE
PE 0307207A: Aerial Common Sensor (ACS)
024: AERIAL COMMON SENSOR (MIP)

# Schedule Details

	Si	Er	nd	
Events	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

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