

UNCLASSIFIED

PE NUMBER: 0401134F

PE TITLE: Large Aircraft InfraRed Counter Measures (LAIRCM)

Exhibit R-2, RDT&E Budget Item Justification

DATE

February 2006

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0401134F Large Aircraft InfraRed Counter Measures (LAIRCM)

Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	69.069	58.596	34.916	26.893	26.042	6.101	7.097	Continuing	TBD
4942 Large Aircraft Infrared Counter Measures (LAIRCM)	69.069	58.596	34.916	26.893	26.042	6.101	7.097	Continuing	TBD

(U) **A. Mission Description and Budget Item Justification**

The Large Aircraft Infrared Countermeasures System (LAIRCM) provides significantly improved defensive systems capability for the AF's airlift and tanker aircraft to counter the infrared (IR) Man-Portable Air-Defense Systems (MANPADS) missile threat.

The current LAIRCM system configuration [AN/AAQ-24V(13)] consists of an ultra-violet missile-warning sensor (MWS), a missile-tracking system, multi-band laser jammers, control interface unit and processors to detect, track, jam and counter incoming IR missiles. The number of turrets per aircraft is determined by the size and signature of the aircraft. This system is fully automatic following system power-up. LAIRCM requirements are documented in the multi-command Operational Requirements Document (ORD) - LAIRCM ORD 314-92, validated on 3 Aug 98. LAIRCM satisfies AMC's Urgent and Compelling Need for protection of selected AMC aircraft. The system was first fielded in May 03 on the C-17 aircraft.

LAIRCM is a three phased evolutionary acquisition. Phase I installs today's LAIRCM (small laser turret assembly (SLTA), ultra-violet MWS, processor, Control Interface Unit (CIU)) on C-17s and C-130 aircraft to meet AMC's urgent and compelling need for advanced IR countermeasures. Phase II covers development of the Next Generation Missile Warning System (NexGen MWS) and a Guardian Laser Tracking Assembly (GLTA) which replaces the SLTA. Phase II developments increase the effectiveness and affordability of the LAIRCM system. Phase I equipment (SLTAs and MWS) on C-17s will be retrofitted with Phase II equipment (GLTA and NexGen MWS) as Phase II equipment becomes available. Phase II initial procurement is planned for late FY06 (GLTA) and mid FY07 (NexGen MWS) respectively. The SLTAs removed from C-17s will be placed on C-130s. Phase III development is currently unfunded.

The AF plans to equip a minimum of 444 aircraft with LAIRCM across a range of platform types (C-17s, C-130s, C-5s, C-40s, C-37s, C-130Js, the new Light Cargo Aircraft and the new tanker aircraft). The change to aircraft quantities was based on the "Study Report on Current and Future Threats to Mobility Aircraft". This study was directed by the AF's FY06-11 Annual Planning and Program Guidance.

LAIRCM is Budget Activity 7, Operational Systems Development as it is an electronic countermeasures systems upgrade to existing weapons systems.

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0401134F Large Aircraft InfraRed Counter Measures (LAIRCM)(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	73.684	55.743	20.926
(U) Current PBR/President's Budget	69.069	58.596	34.916
(U) Total Adjustments	-4.615	2.853	
(U) Congressional Program Reductions	-2.736	-0.590	
Congressional Rescissions		-0.257	
Congressional Increases		3.700	
Reprogrammings	-1.879		
SBIR/STTR Transfer			

(U) **Significant Program Changes:**

The FY05 Supplemental of \$95M funded the acceleration of 22 additional C-17s with LAIRCM Lite, bringing total to 52 LAIRCM Lite-equipped C-17s when the 52nd aircraft is delivered in Mar 07..

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Exhibit R-2a, RDT&E Project Justification

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PE NUMBER AND TITLE

0401134F Large Aircraft InfraRed
Counter Measures (LAIRCM)

PROJECT NUMBER AND TITLE

4942 Large Aircraft Infrared Counter
Measures (LAIRCM)

Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
4942 Large Aircraft Infrared Counter Measures (LAIRCM)	69.069	58.596	34.916	26.893	26.042	6.101	7.097	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) **A. Mission Description and Budget Item Justification**

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The current LAIRCM system configuration [AN/AAQ-24V(13)] consists of an ultra-violet missile-warning sensor (MWS), a missile-tracking system, multi-band laser jammers, control interface unit and processors to detect, track, jam and counter incoming IR missiles. The number of turrets per aircraft is determined by the size and signature of the aircraft. This system is fully automatic following system power-up. LAIRCM requirements are documented in the multi-command Operational Requirements Document (ORD) - LAIRCM ORD 314-92, validated on 3 Aug 98. LAIRCM satisfies AMC's Urgent and Compelling Need for protection of selected AMC aircraft. The system was first fielded in May 03 on the C-17 aircraft.

LAIRCM is a three phased evolutionary acquisition. Phase I installs today's LAIRCM (small laser turret assembly (SLTA), ultra-violet MWS, processor, Control Interface Unit (CIU)) on C-17s and C-130 aircraft to meet AMC's urgent and compelling need for advanced IR countermeasures. Phase II covers development of the Next Generation Missile Warning System (NexGen MWS) and a Guardian Laser Tracking Assembly (GLTA) which replaces the SLTA. Phase II developments increase the effectiveness and affordability of the LAIRCM system. Phase I equipment (SLTAs and MWS) on C-17s will be retrofitted with Phase II equipment (GLTA and NexGen MWS) as Phase II equipment becomes available. Phase II initial procurement is planned for late FY06 (GLTA) and mid FY07 (NexGen MWS) respectively. The SLTAs removed from C-17s will be placed on C-130s. Phase III development is currently unfunded.

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LAIRCM is Budget Activity 7, Operational Systems Development as it is an electronic countermeasures systems upgrade to existing weapons systems.

(U) **B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Group A Contracts	8.415	24.723	15.346
(U) Nex Gen MWS Contracts	31.114	8.494	6.803
(U) Guardian Laser Turret Assembly (GSLTA) Program	18.140	10.239	0.000
(U) Test	5.159	4.483	4.208
(U) PMA	4.100	3.870	4.310
(U) OGC	2.141	6.787	4.249

Project 4942

R-1 Shopping List - Item No. 220-4 of 220-9

Exhibit R-2a (PE 0401134F)

2005

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Exhibit R-2a, RDT&E Project Justification

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PE NUMBER AND TITLE

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Counter Measures (LAIRCM)

PROJECT NUMBER AND TITLE

4942 Large Aircraft Infrared Counter
Measures (LAIRCM)(U) **B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Total Cost	69.069	58.596	34.916

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

	<u>FY 2005</u> <u>Actual</u>	<u>FY 2006</u> <u>Estimate</u>	<u>FY 2007</u> <u>Estimate</u>	<u>FY 2008</u> <u>Estimate</u>	<u>FY 2009</u> <u>Estimate</u>	<u>FY 2010</u> <u>Estimate</u>	<u>FY 2011</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) AF RDT&E									
(U) Other APPN									
(U) PE 41134F, C-17 Procurement (BP1100)	134.713	83.340	137.849	131.732	287.264	82.426	11.179		868.503
(U) PE 41134F, C-130 Procurement (BP1100)	29.285	7.140	9.932	44.924	10.490	2.685	0.000		104.456
(U) PE 41134F, C-5B Procurement (BP1100)	0.000	0.000	28.952	37.342	38.015	29.350	6.034		139.693
(U) PE 41134F, C-130J Procurement (BP1100)	0.000	0.000	0.000	0.000	0.000	38.682	8.315		46.997
(U) PE 54343F, C-130 (AFRC) Procurement (BP1100)	0.000	0.000	0.000	34.515	54.306	1.040	1.031		90.892
(U) NGREA 0350 (ANG)	32.400	0.000	0.000	0.000	0.000	0.000	0.000		32.400
(U) SOCOM Funding	13.000	0.000	0.000	26.100	0.000	0.000	0.000		39.100
(U) AFRC (0350)	21.658	0.000	0.000	0.000	0.000	0.000	0.000		21.658

(U) **D. Acquisition Strategy**

Integration of the LAIRCM subsystems is accomplished by Northrop Grumman (Group B developer) and Group A integrators. The LAIRCM contract was awarded on 28 Sep 01 as a CPAF contract. Boeing Aerospace was awarded the C-17 LAIRCM integration contract on 18 Jan 02 as the Group A integrator working with Northrop Grumman. The C-130 LAIRCM integration contract was awarded to Northrop Grumman as a modification to the current contract on 7 Jun 02. Contracts to install LAIRCM on C-5B and C-130J will be awarded in FY06 and FY07 respectively. The Next Generation Missile Warning System (Nex Gen MWS) contracts for a System Design and Development (SDD) competition were awarded to Northrop Grumman and Lockheed Martin in Jun 04. Both contractors will develop Nex Gen MWS prototypes during the SDD competition. A Nex Gen MWS production contractor will be selected during a competitive selection in late FY06 with production buys starting in FY07. Integration of the Nex Gen MWS will be accomplished with the Nex Gen MWS production contractor and the platform Group A integrator for the various LAIRCM equipped platforms. The Guardian Laser Tracking Assembly (GLTA) is a Phase II development effort which delivers a smaller, more reliable, and cheaper replacement to the Small Laser Tracking Assembly. The GLTA SDD contract was awarded to Northrop Grumman in Feb 05 as a sole source contract. GLTA goes into production in late FY06/ early FY07 and will be integrated on designated platforms by the Group A integrator with Northrop Grumman integration support.

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R-1 Shopping List - Item No. 220-5 of 220-9

Exhibit R-2a (PE 0401134F)

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Exhibit R-3, RDT&E Project Cost Analysis

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BUDGET ACTIVITY

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Counter Measures (LAIRCM)

PROJECT NUMBER AND TITLE

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Measures (LAIRCM)

(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &</u> <u>Type</u>	<u>Performing</u> <u>Activity &</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target Value</u> <u>of Contract</u>
(U) <u>Product Development</u> Northrop Grumman/2093	CPAF	Equipment manufacturer, Rolling Meadows, IL		2.512		1.690		1.805		14.000	20.007	TBD
Northrop Grumman/2093	CPAF/FFP	NexGen Integration, Rolling Meadows, IL		11.505	Mar-05	4.195		0.428			16.128	
Northrop Grumman	CPFF	NexGen MWS Development, Rolling Meadows, IL		8.810	Feb-05	1.904		13.190		9.386	33.290	TBD
Lockheed Martin	CPFF	NexGen MWS Development, Orlando, FL		11.620	Jun-04	4.670					16.290	TBD
Northrop	CPFF	Mini-turret Development, Rolling Meadows, IL		21.340	Feb-05	12.355		0.531			34.226	TBD
Lockheed	CPFF	C-5B Development & Integration		3.595	May-05	19.051		6.000			28.646	TBD
TBD	TBD	C-130J Development & Integration		0.000		0.000		2.000	May-07	28.000	30.000	TBD
FY01 RDT&E under PE 41130F Subtotal Product Development Remarks: TBD			0.000	59.382		43.865		23.954		51.386	178.587	TBD
(U) <u>Support</u> LAICSS				4.053		7.515		6.754		9.597	27.919	TBD
AFRL				0.297		1.058		0.000			1.355	TBD
Subtotal Support Remarks:			0.000	4.350		8.573		6.754		9.597	29.274	TBD
(U) <u>Test & Evaluation</u> Various Gov't Test Organizations	Various			5.337		6.158		4.208		5.150	20.853	TBD
Subtotal Test & Evaluation Remarks:			0.000	5.337		6.158		4.208		5.150	20.853	TBD
(U) <u>Total System Cost</u> Project 4942												

R-1 Shopping List - Item No. 220-6 of 220-9

Exhibit R-3 (PE 0401134F)

2007

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Exhibit R-3, RDT&E Project Cost Analysis							DATE
							February 2006
BUDGET ACTIVITY				PE NUMBER AND TITLE		PROJECT NUMBER AND TITLE	
07 Operational System Development				0401134F Large Aircraft InfraRed Counter Measures (LAIRCM)		4942 Large Aircraft Infrared Counter Measures (LAIRCM)	
(U)	Total Cost	0.000	69.069	58.596	34.916	66.133	228.714
Remarks:		TBD					
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Exhibit R-4, RDT&E Schedule Profile

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February 2006

BUDGET ACTIVITY

07 Operational System Development

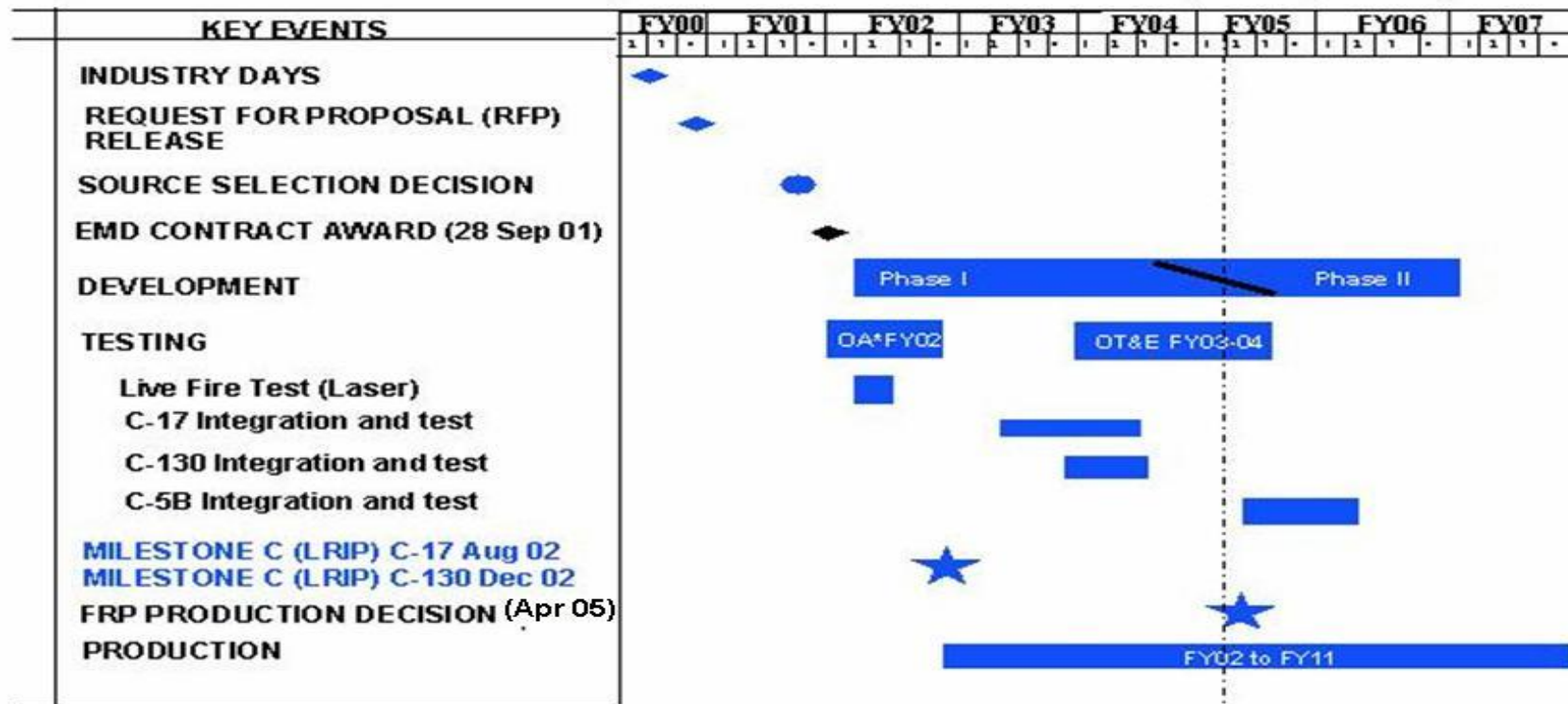
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PROJECT NUMBER AND TITLE

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Exhibit R-4a, RDT&E Schedule Detail

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PROJECT NUMBER AND TITLE

4942 Large Aircraft Infrared Counter
Measures (LAIRCM)(U) Schedule ProfileFY 2005FY 2006FY 2007

(U) C-5B Aircraft Integration (FY05-FY07)

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