

UNCLASSIFIED

PE NUMBER: 0401134F

PE TITLE: Large Aircraft InfraRed Counter Measures (LAIRCM)

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2008
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BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0401134F Large Aircraft InfraRed Counter Measures (LAIRCM)
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Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	35.349	19.201	32.100	12.073	7.120	7.258	7.406	Continuing	TBD
4942 Large Aircraft Infrared Counter Measures (LAIRCM)	35.349	19.201	32.100	12.073	7.120	7.258	7.406	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

The Large Aircraft Infrared Countermeasures System (LAIRCM) provides significantly improved defensive systems capability for Air Force 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 laser transmitter assembly, control interface unit and processors to detect, track, jam and counter incoming IR missiles. The number of sensors and 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 an evolutionary acquisition program.

The Baseline program installs the laser transmitter assembly, ultra-violet MWS, processor, and Control Interface Unit (CIU) and a repeater (on some aircraft) to meet the need for advanced IR countermeasures. The Guardian Laser Transmitter Assembly (GLTA) is an upgrade to the baseline transmitter equipment. Initial procurement of GLTA is late FY07.

Development of the Next Generation Missile Warning System (NexGen MWS) is new hardware that improves capability. Baseline equipment (ultra-violet MWS) will be retrofitted with the NexGen MWS as it becomes available. Initial procurement of the NexGen MWS: mid/late FY08.

Continued hardware and software upgrades and testing of the LAIRCM system will ensure new and emerging threats will be defeated.

Integration and testing as well as integration support to incorporate LAIRCM on new platforms including C-130J, AC-130H, AC-130U, MC-130H and other C-130 variants as defined by AMC and AFSOC will be accomplished.

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

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(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	40.463	19.324	32.369
(U) Current PBR/President's Budget	35.349	19.201	32.100
(U) Total Adjustments	-5.114	-0.123	
(U) Congressional Program Reductions			
Congressional Rescissions		-0.123	
Congressional Increases			
Reprogrammings	-4.000		
SBIR/STTR Transfer	-1.114		
(U) <u>Significant Program Changes:</u>			
- \$4M Reprogramming for higher Air Force priorities.			
- Congress appropriated \$5.7M specifically for AFSOC aircraft LAIRCM integration.			

Exhibit R-2a, RDT&E Project Justification

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Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
4942 Large Aircraft Infrared Counter Measures (LAIRCM)	35.349	19.201	32.100	12.073	7.120	7.258	7.406	Continuing	TBD
Quantity of RDT&E Articles	0	2	1	1	1	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 laser transmitter assembly, control interface unit and processors to detect, track, jam and counter incoming IR missiles. The number of sensors and 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.

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Integration and testing as well as integration support to incorporate LAIRCM on new platforms including C-130J, AC-130H, AC-130U, MC-130H and other C-130 variants as defined by AMC and AFSOC will be accomplished.

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

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Group A Contracts	18.762	5.747	16.200
(U) Nex Gen MWS Contracts	4.897	0.150	0.000
(U) Guardian Laser Transmitter Assembly (GLTA) Program	3.907	0.661	0.000
(U) LAIRCM Upgrades	0.621	4.572	10.447

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(U) <u>B. Accomplishments/Planned Program (\$ in Millions)</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Test	2.300	4.471	5.253
(U) PMA	4.862	3.600	0.200
(U) Total Cost	35.349	19.201	32.100

(U) <u>C. Other Program Funding Summary (\$ in Millions)</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) C-130 (AFRC) Procurement (BP1100)		17.500	55.114	1.055	1.048	1.068	1.090		76.875
(U) C-17 Procurement (BP1100)	259.348	75.061	80.747	144.643	69.031	46.369	179.556		854.755
(U) C-130 Procurement (BP1100)	235.513	25.921	4.393						265.827
(U) C-5 Procurement (BP1100)	58.844	18.622	41.671	24.532	5.268	5.359	5.451		159.747
(U) C-130J Procurement (BP1100)				37.922	42.914	44.100	8.792		133.728

(U) **D. Acquisition Strategy**

The LAIRCM SDD contract was awarded on 28 Sep 01 as a CPAF contract. An IDIQ contract for LAIRCM production hardware and support was awarded in May 06. Hardware and software upgrades will be awarded as separate delivery orders under the IDIQ contract.

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 have developed, tested, and integrated NexGen MWS prototypes during the SDD competition. A NexGen MWS production contractor will be selected during a competitive source selection with production buys following milestone C. Integration of the NexGen MWS production hardware will be accomplished with the NexGen MWS production contractor and the platform Group A integrator for the various LAIRCM equipped platforms.

Integration of the LAIRCM subsystems on C-130 variants is accomplished by Northrop Grumman. The contract for AC-130H integration was awarded in FY07. The contract for AC-130U integration will be awarded in FY09. The contract for MC-130H integration will be awarded in FY10. Contracts were awarded to Lockheed Martin and Northrop Grumman for a C-130J LAIRCM integration study in FY07. Contracts for the design, integration and test of LAIRCM on the C-130J will be awarded to Lockheed Martin and Northrop Grumman in FY08.

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Exhibit R-3, RDT&E Project Cost Analysis

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<u>(U) Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u> SDD Phase I	Various	Various	111.158								111.158	111.158
MC-130 Integration	TBD	Northrop Grumman, Rolling Meadows, IL								6.000	6.000	6.000
AC-130 Integration	CPFF	Northrop Grumman, Rolling Meadows, IL	3.700	5.523	Jun-07	0.400		6.000	Apr-09		15.623	15.623
Next Generation Missile Warning Sensor Integration	CPAF/FFP	Northrop Grumman, Rolling Meadows, IL	17.083								17.083	17.083
Next Generation Missile Warning Sensor Development	CPFF	Northrop Grumman, Rolling Meadows, IL	31.608	2.306		0.150					34.064	33.914
Next Generation Missile Warning Sensor Development	CPFF	Lockheed Martin, Orlando, FL	9.043	2.591							11.634	11.055
GLTA Development	CPFF	Northrop Grumman, Rolling Meadows, IL	37.781	3.907		0.661					42.349	42.065
C-5B Development & Integration	CPFF	Lockheed Martin, Marietta, GA	13.671	12.425		0.272					26.368	24.808
C-130J Development & Integration	CPFF	Lockheed Martin, Marietta, GA		0.814	Feb-07	5.075		10.200	Apr-09		16.089	17.675
LAIRCM Hardware and Software upgrades	CPFF	Northrop Grumman, Rolling Meadows, IL		0.621		4.572		10.447			15.640	
Subtotal Product Development			224.044	28.187		11.130		26.647		6.000	296.008	279.381
Remarks:												
(U) <u>Support</u> 654 AESS	Various	Various	16.265	4.862		3.600		0.200		0.800	25.727	

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Subtotal Support			16.265	4.862	3.600	0.200	0.800	25.727	0.000		
Remarks:											
(U) <u>Test & Evaluation</u>											
Various Gov't Test Organizations	Various	Various	5.196	2.300	4.471	5.253	23.413	40.633			
Subtotal Test & Evaluation			5.196	2.300	4.471	5.253	23.413	40.633	0.000		
Remarks:											
(U) <u>Total System Cost</u>											
(U) Total Cost			245.505	35.349	19.201	32.100	30.213	362.368	279.381		
Remarks:											

Exhibit R-4, RDT&E Schedule Profile

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LAIRCM

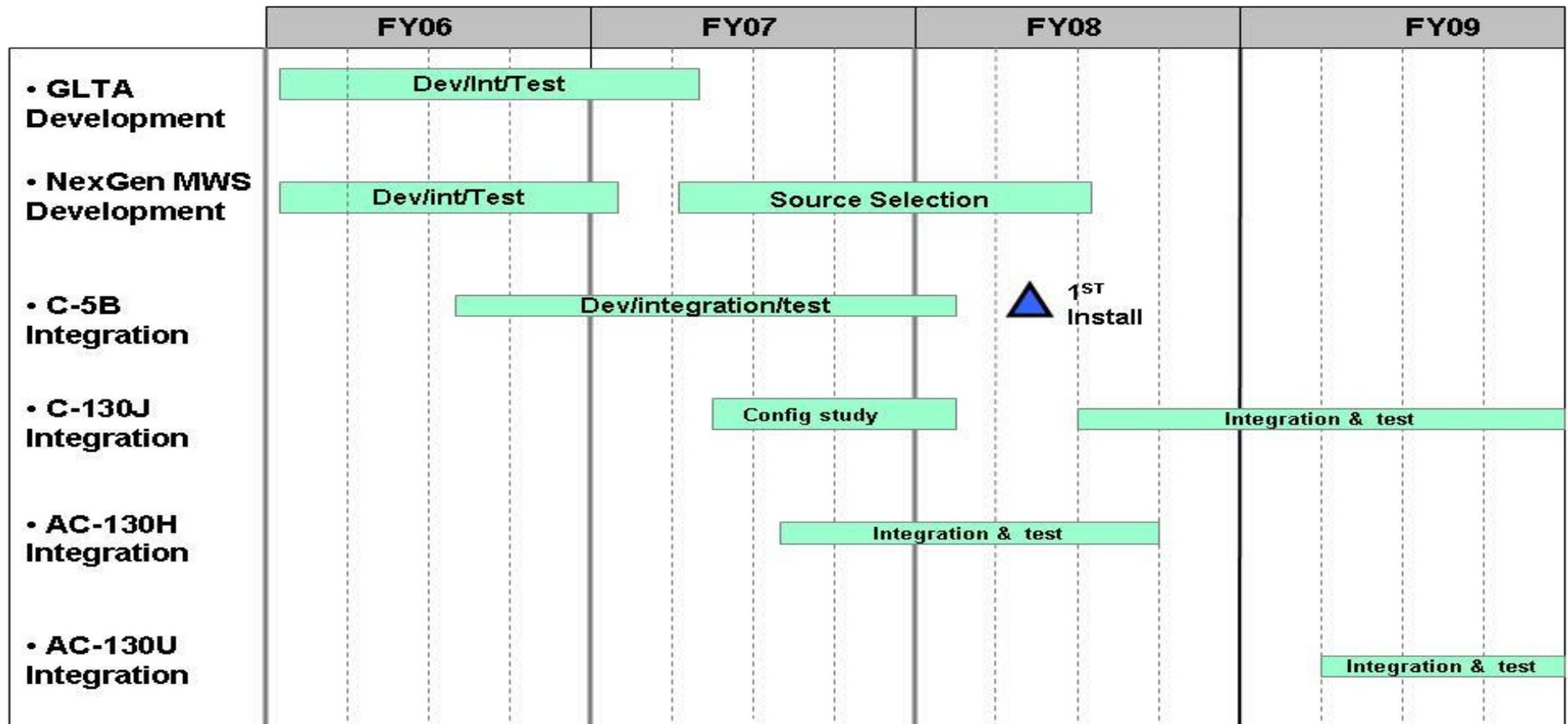


Exhibit R-4a, RDT&E Schedule Detail

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(U) <u>Schedule Profile</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) GLTA Development	1-2Q		
(U) Next Generation Missile Warning System Development	2-4Q	1-3Q	
(U) C-5B Integration	1-4Q	1Q	
(U) C-130J Integration	2-4Q	1-4Q	1-4Q
(U) AC-130H Integration	3-4Q	1-3Q	
(U) AC-130U Integration			2-4Q