

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2003

BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0401134F Large Aircraft InfraRed Counter Measures (LAIRCM)

PROJECT

4942

COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4942 Large Aircraft Infrared Counter Measures (LAIRCM)	58,676	46,795	45,946	73,877	52,145	0	0	0	9,448	286,887
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

In FY 2003, Project 674942, Large Aircraft Infrared Countermeasures (LAIRCM), was changed from Project 674885 (same name) to correct an administrative error. This action did not change program content nor the funding.

In FY01, the LAIRCM program was initially funded in the C-17 program (PE 0401130F, RDT&E). In FY02, LAIRCM's RDT&E efforts were transferred from the C-17 (PE 0401130F) and the C-130 (PE 0401115F) into a new PE which consolidates LAIRCM RDT&E and Procurement funds into a single PE (0401134F). In FY 2001, the LAIRCM program was appropriated \$44.883M into PE 0401130F, C-17 RDT&E.

(U) **A. Mission Description**

The Large Aircraft Infrared Countermeasures System (LAIRCM) will provide a significantly improved defensive capability for transport and tanker aircraft against the proliferating IR Man-Portable Air Defense Systems (MANPADS) threat than today's use of flares. LAIRCM will require no operator intervention after the system is activated and will consist of an advanced integrated missile warning system or systems and an active laser turret countermeasures system. The multi-command Operational Requirements Document (ORD) -- LAIRCM ORD 314-92, was validated on 3 Aug 98.

LAIRCM Phase I will meet AMC's Urgent & Compelling Need by equipping 12 C-17s and 8 C-130s with LAIRCM Phase I hardware by end FY04. The LAIRCM Phase I Group B contract was awarded to Northrop Grumman on 28 Sep 01, using FY01 PE 41130F funds discussed in footnote above. On 18 Jan 02, Boeing went on contract to design and develop provisions to integrate LAIRCM on the C-17. On 7 Jun 02, the current LAIRCM contract with Northrop Grumman was modified to include designing and developing provisions to integrate LAIRCM on the C-130. The first LAIRCM-equipped C-17 will be delivered to AMC in May 2003, 12 months earlier than the original programmed date..

Beginning in FY04, LAIRCM Phase II will develop a mini-turret and the Next Generation Advanced Missile Warning System (NGMWS) and modify an additional 59 aircraft, completing 79 aircraft (43 C-17s, 24 C-130s & 12 KC-135s) required to handle JCS's One Small Scale Contingency (1 SSC). Funding to equip the 2nd SSC begins in FY09. The KC-135 funding starts in FY05.

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(U) A. Mission Description Continued(U) FY 2002 (\$ in Thousands)

(U) \$0 Accomplishments/Planned Program

(U) \$26,403 Continue design and software development for basic LAIRCM system plus the integration of LAIRCM on the C-17 which began in FY01 using LAIRCM's initial funding from C-17's PE 41130F.

(U) \$19,548

1. Initial design, drawings, specifications, and development of peculiar support equipment for installation of LAIRCM on the C-130.
2. C-17 Kit buy
 - Group A - one prototype kit
 - Group B - one prototype kit
3. C-130 Kit buy
 - Group A - one prototype kit
 - Group B - one prototype kit
4. Software development for both C-17 and C-130

(U) \$7,277 Government test activity

(U) \$5,448 Program office support (TDY, training, supplies, and A&AS contract support)

(U) \$58,676 Total

(U) FY 2003 (\$ in Thousands)

(U) \$0 Accomplishments/Planned Program

(U) \$6,520 Mature development of Basic LAIRCM system, support equipment, technical orders, etc.

(U) \$20,801 Continue all efforts associated with the integration of the basic LAIRCM system onto the C-17 and C-130 platforms. Modify the first C-17 and begin OT&E. Begin modification of the second C-17 for kitproof. Modify the first C-130 for kitproof.

(U) \$14,447 Gov't test and risk reduction

(U) \$5,027 Program office support (TDY, training, supplies, and A&AS contract support).

(U) \$46,795 Total

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(U) **A. Mission Description Continued**(U) FY 2004 (\$ in Thousands)

(U) \$0 Accomplishments/Planned Program

(U) \$18,800 Start development of Mini-turret and the next generation advanced missile warning system (NGMWS).

(U) \$13,599 Mature development of basic LAIRCM system and support equipment, tech orders, etc.

(U) \$4,736 Completes all efforts associated with the integration of the basic LAIRCM system onto the C-17 and C-130 platforms. Continue C-17 OT&E.

(U) \$521 Complete government testing

(U) \$8,290 Program office support (TDY, A&AS contract support, training, supplies and award fee.

(U) \$45,946 Total

(U) **B. Budget Activity Justification**

Large Aircraft IR Countermeasures Program (LAIRCM): This project is in Budget Activity 7, Operational Systems Development as it is an electronic countermeasures systems upgrade to three existing weapons systems (C-17, C-130 and KC-135).

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	62,530	47,539	46,790	
(U) Appropriated Value	62,530	47,539		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-625	-503		
b. Small Business Innovative Research	-1,691			
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram	-850			
e. Rescissions	-392			
(U) Adjustments to Budget Years Since FY 2003 PBR	-296	-241	-844	286,887
(U) Current Budget Submit/FY 2004 PBR	58,676	46,795	45,946	286,887

LAIRCM funding was moved to this PE from the C-17 and C-130 PEs (PEs 41130F and 41115F) during the preparation of the FY02 budget to allow better tracking of the LAIRCM funding as it is installed on C-17, C-130 and KC-135 aircraft.

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(U) C. Program Change Summary (\$ in Thousands) Continued(U) Significant Program Changes:

LAIRCM deliveries have been accelerated 12 months and will now deliver the first LAIRCM-equipped C-17 in May 2003 under the LAIRCM Lite program. This program will take the first 12 production turrets and install them in the tailcones of the first nine C-17s. The 2 nose-mounted turrets will be retrofitted to the first nine aircraft in FY04 when additional turrets become available. This LAIRCM tail-only interim installation will significantly improve the C-17's survivability in the near-term, but does not meet the ORD requirements. Hence, the two nose turrets will be retrofitted IAW the original LAIRCM design for the C-17.

(U) D. Other Program Funding Summary (\$ in Thousands)

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) Other APPN										
(U) PE 41134F, C-17 Procurement (BP1100)	13,370	31,164	28,990	59,802	176,984	161,978	0	300,000		772,288
(U) PE 41134F, C-130 Procurement (BP1100)	0	24,164	31,010	55,033	5,552	65,185	0	0	0	180,944
(U) PE 41134F, KC-135 Procurement (BP1100)	0	0	0	0	0	50,335	0	0	0	50,335

(U) E. Acquisition Strategy

Integration of the LAIRCM subsystems will be accomplished by Northrop Grumman, who was awarded this CPAF contract on 28 Sep 01. Boeing went on contract to integrate LAIRCM on the C-17s on 18 Jan 02. The contract for integration of LAIRCM on the C-130 was awarded to Northrop Grumman as a modification to the current contract on 7 Jun 02. The contract to install LAIRCM on the KC-135 aircraft will be awarded in FY04.

(U) F. Schedule ProfileFY 2002FY 2003FY 2004

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(U) F. Schedule Profile Continued

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Phase I SDD (Oct 02 - Jun 04)	X										*	
(U) C-17 Aircraft Integration (May 02 - Nov 03)		X							*			
(U) C-17 #1 modification and OT&E (Feb 03 - Nov 03)						X			*			
(U) C-130 Aircraft Integration (April 02 - Jan 04)		X								*		
(U) C-130 # 1 Modification and OT&E (Nov 03 - Feb 04)									X	*		
(U) Operational Assessment: (Jun - Jul 02)		*										
(U) C-17 LRIP decision (Aug 02)			*									
(U) C-130 LRIP decision (Dec 02)			*									
(U) Phase II SDD (FY03-FY06)						X						
(U) Full Rate Production decision												*
X Denotes Start												
* Denotes Completion												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

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(U) A. Project Cost Breakdown (\$ in Thousands)

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>
(U) Continue LAIRCM install design & software development	26,403	6,520	4,736
(U) Prototype kit buys and installs for the C-17 and the C-130	19,548	20,801	13,599
(U) Government test and risk reduction	7,277	14,447	521
(U) Begin development of mini-turret and Next Generation Advanced Missile Warning System (NGAWS).	0	0	18,800
(U) Program office support (A&AS contract support, TDY, etc.)	5,448	5,027	8,290
(U) Total	58,676	46,795	45,946

(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)(U) Performing Organizations:

<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
Total System Cost	CPAF	28 Sep 01	N/A	N/A	0	28,944	13,269	35,378	135,470	213,061
<u>Product Development Organizations</u>										
Northrop Grumman	CPAF	28 Sep 01			0	6,538	9,731	1,756	0	18,025
Boeing	CPAF	18 Jan 02			0	10,660	11,070	2,980		24,710
TBD										
<u>Support and Management Organizations</u>										
ASC/GRI					0	5,441	5,448	5,311		16,200
<u>Test and Evaluation Organizations</u>										
Various Gov't Test Organizations	Various	Various			0	7,093	7,277	521		14,891

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

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(U) Government Furnished Property:

<u>Item</u>	<u>Contract</u> <u>Method/Type</u> <u>or Funding</u>	<u>Award or</u> <u>Obligation</u> <u>Date</u>	<u>Delivery</u> <u>Date</u>	<u>Total Prior</u> <u>to FY 2002</u>	<u>Budget</u> <u>FY 2002</u>	<u>Budget</u> <u>FY 2003</u>	<u>Budget</u> <u>FY 2004</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
<u>Product Development Property</u>									
N/A									
<u>Support and Management Property</u>									
N/A									
<u>Test and Evaluation Property</u>									
VIPER Laser	On loan from								
	USSOCOM								
<u>Subtotals</u>				<u>Total Prior</u> <u>to FY 2002</u>	<u>Budget</u> <u>FY 2002</u>	<u>Budget</u> <u>FY 2003</u>	<u>Budget</u> <u>FY 2004</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
				0	28,944	13,269	35,378	135,470	213,061
Subtotal Product Development				0	17,198	20,801	4,736	0	42,735
Subtotal Support and Management				0	5,441	5,448	5,311		16,200
Subtotal Test and Evaluation				0	7,093	7,277	521		14,891
Total Project				0	58,676	46,795	45,946	135,470	286,887