

UNCLASSIFIED

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

DATE

February 2003

BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0401132F C-130J PROGRAM

PROJECT

5061

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
5061 C-130J	0	9,784	13,551	37,818	13,582	56,622	27,432	68,573	0	233,650
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**

C-130J program RDT&E funding provides for: 1) the development, integration, and testing of International Civil Aviation Organization (ICAO), Federal Aviation Administration (FAA), and DOD-mandated Global Air Traffic Management (GATM) and navigation safety (nav safety) capabilities for the C-130J weapon system; 2) the development, integration, and testing of aircraft modifications necessary to correct deficiencies identified in qualification and operational testing of this platform; and 3) the development, integration, and testing of C-130J enhancements identified by Air Mobility Command (AMC), which is the USAF lead operating command for the C-130J weapon system.

The C-130J is a medium-size transport aircraft capable of performing a variety of combat delivery (tactical airlift) operations across a broad range of mission environments. The CC-130J aircraft, with its extended (by 15 ft) fuselage, provides additional cargo carrying capacity for the USAF combat delivery mission. Special mission variants of the C-130J conduct airborne psychological operations (EC-130J) and weather reconnaissance (WC-130J). These aircraft must be capable of worldwide operations.

USAF C/CC/EC/WC-130J aircraft, in their present Block 5.3 configuration, are partially GATM/nav safety compliant. Capabilities provided in the Block 5.3 configuration include Required Navigation Performance (RNP)-10 (miles), RNP-5, Basic Area Navigation (BRNAV), Traffic Alert and Collision Avoidance System (TCAS) Version 7.0, FM immunity for Instrument Landing System (aka protected ILS), and the aircraft communications system software necessary to operate VHF communications radios with 8.33 MHz frequency separation. These RDT&E funds will enable development, integration, and testing of the remaining GATM/nav safety requirements needed on USAF C/CC/EC/WC-130J aircraft. These capabilities include RNP-4, RNP-1, Terrain Approach Warning System (TAWS), Selective Availability Anti-Spoofing Module (SAASM) Global Positioning System (GPS), Local Area Augmentation System (LAAS), Wide Area Augmentation System (WAAS), Mode Select (Mode S) Beacon Transponder System with data link capability, Automatic Dependent Surveillance-Address (ADS-A), Automatic Dependent Surveillance-Broadcast (ADS-B), satellite communications (SATCOM) voice and data link capability, high frequency data link (HFDL), Controller-Pilot Data Link Communications (CPDLC), and AMC Mobility 2000 (M2K) communications.

The current C-130J Operational Requirements Document (ORD), validated 17 Apr 99, identifies the GATM/nav safety requirements for the C-130J. Supplemental guidance for the various GATM/nav safety requirements is provided via numerous ICAO, FAA, and DOD standards. Where possible, the C-130J GATM/nav safety

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PE NUMBER AND TITLE

PROJECT

07 - Operational System Development**0401132F C-130J PROGRAM****5061**(U) **A. Mission Description Continued**

solution set will be common with other USAF/AMC weapon systems performing similar GATM/nav safety upgrades.

(U) **FY 2002 (\$ in Thousands)**

(U) \$0 Accomplishment/Planned Program

(U) \$0 No Activity

(U) \$0 Total

(U) **FY 2003 (\$ in Thousands)**

(U) \$0 Accomplishment/Planned Program

(U) \$9,784 Initiate non-recurring engineering design and software development for GATM/nav safety requirements and aircraft deficiencies/product improvements.

(U) \$9,784 Total

(U) **FY 2004 (\$ in Thousands)**

(U) \$0 Accomplishment/Planned Program

(U) \$13,551 Continue non-recurring engineering design and software development. Conduct laboratory testing of GATM/nav safety hardware and software modifications. Procure and install hardware on flight test aircraft and one C-130J weapon system trainer.

(U) \$13,551 Total

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

The C-130J is an operationally deployed weapon system, therefore BA 07 is appropriate. The funds provided in this budget activity are necessary to make USAF C/CC/EC/WC-130J aircraft fully compliant with known and emerging ICAO/FAA/DOD-mandated GATM/nav safety requirements and to correct weapon system deficiencies identified in initial flight testing.

(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	0	10,000	13,551	
(U) Appropriated Value	0	9,784		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	0			
b. Small Business Innovative Research	0			
c. Omnibus or Other Above Threshold Reprogram	0			

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BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0401132F C-130J PROGRAM			PROJECT 5061			
(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>			
d. Below Threshold Reprogram				0						
e. Rescissions				0						
(U) Adjustments to Budget Years Since FY 2003 PBR				0						
(U) Current Budget Submit/FY 2004 PBR				0	9,784	13,551	233,650			
(U) <u>Significant Program Changes:</u>										
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>										
	<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	0	9,784	13,551	37,818	13,582	56,622	27,432	68,573		227,362
(U) Other APPN										
(U) PE 0401132F, C-130J										
Procurement (BP1100)										
(U) Mod MN-_1701 Blk 6.0				23,866	25,118	14,071	8,870	1,125		73,050
(U) Mod MN-_6298 Blk 7.0						18,700	24,500	10,178		53,378
(U) Mod MN-_5222 Blk 8.0								50,765		50,765
(U) <u>E. Acquisition Strategy</u>										
C/CC/EC/WC-130J aircraft will be modified using a 'block upgrade' strategy. The full GATM/nav safety requirement will be met in four block upgrades: Block 6.0, which begins with FY03 RDT&E funding and continues with FY04 RDT&E funding, Block 7.0, which will start in FY05, Block 8.0, which will start in FY07, and Block 9.0, which will start in FY09. The proportion of GATM/nav safety requirements allocated to Blocks 6.0 thru 9.0 was determined via a design trade study conducted by Lockheed Martin (the C-130J prime contractor) and verified by the C-130J system program office and AMC.										
Lockheed Martin will be the prime contractor for these efforts, perform the non-recurring engineering and, following the successful conclusion of flight testing and certification of each block upgrade, install production retrofit kits on USAF C/CC/EC/WC-130J aircraft.										
(U) <u>F. Schedule Profile</u>										
				<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>		

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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
					X						

(U) Block 6.0 CECF on contract

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE February 2003	
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT	
07 - Operational System Development					0401132F C-130J PROGRAM					5061	
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>											
					<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>		
(U) Block 6.0 non-recurring engineering design/software development					0		9,784		6,426		
(U) Procure and install hardware (kits) on flight test aircraft									3,300		
(U) Conduct laboratory and developmental test and evaluation									500		
(U) Develop updates for aircraft technical publications and various data products (e.g., logistics support analyses, system safety analyses, etc.)									500		
(U) Develop weapon system trainer modifications									2,000		
(U) Procure, install, and test hardware on weapon system trainer									825		
(U) Total					0		9,784		13,551		
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
(U) <u>Performing Organizations:</u>											
<u>Contractor or Government</u>		<u>Contract Method/Type</u>		<u>Award or Obligation</u>		<u>Performing Activity</u>		<u>Project Office</u>		<u>Total Prior to FY 2002</u>	
<u>Performing Activity</u>		<u>or Funding Vehicle</u>		<u>Date</u>		<u>EAC</u>		<u>EAC</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>	
Lockheed Martin		CPFF		2Q/FY03							
Aeronautics, Marietta, GA											
<u>Product Development Organizations</u>											
Aeronautical Systems Center										9,784	
(AFMC), WPAFB, OH										13,551	
<u>Support and Management Organizations</u>											
TBD											
<u>Test and Evaluation Organizations</u>											
Air Force Materiel Command											
(QT&E)											
Air Mobility Command											
(FDE)											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2003		
BUDGET ACTIVITY		PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development		0401132F C-130J PROGRAM				5061	
<u>Subtotals</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
		<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				9,784	13,551		23,335
Subtotal Support and Management							
Subtotal Test and Evaluation							
Total Project				9,784	13,551		23,335