

UNCLASSIFIED

PE NUMBER: 0401132F
PE TITLE: C-130J PROGRAM

Exhibit R-2, RDT&E Budget Item Justification								DATE February 2005		
BUDGET ACTIVITY 07 Operational System Development					PE NUMBER AND TITLE 0401132F C-130J PROGRAM					
Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	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	12.885	32.910	6.681	35.376	44.758	39.980	43.308	47.528	Continuing	TBD
5061 C-130J	12.885	32.910	6.681	35.376	44.758	39.980	43.308	47.528	Continuing	TBD

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

FY06 C-130J program RDT&E funding provides for:

- 1) Participation in the international Co-operative Systems and Software Upgrade Requirements Management (COSSURM). COSSURM participants include the United Kingdom, Australia, Italy, Denmark, and the United States. COSSURM provides a mechanism to jointly identify, collect, define, analyze and price requirements. By combining requirements and resources under COSSURM, each participating country will save in aircraft upgrade costs.
- 2) Continuation of Block 6.0 Upgrades. Block 6.0 is the first phase of at least four block upgrades. AMC/CC has mandated capability releases on a two-year cycle. These Block Upgrades include:
 - a) 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.
 - b) The development, integration, and testing of aircraft modifications necessary to correct deficiencies identified in qualification and operational testing of this platform.
 - c). 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 C-130J aircraft, with its extended (by 15 ft) fuselage, provides additional cargo carrying capacity for the USAF combat delivery mission compared with legacy C-130E/H and the C-130J (short). 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-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-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 and growth to Mode 5, Automatic Dependent Surveillance-Address (ADS-A), Automatic Dependent Surveillance-Broadcast (ADS-B), satellite

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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 solution set will be common with other USAF/AMC weapon systems performing similar GATM/nav safety upgrades. An updated C-130J ORD is being reviewed by the Joint Requirements Oversight Council (JROC). Expect JROC approval 2 Q FY05.

FY07 C-130J program RDT&E funding provides for:

- 1) Continued participation in COSSURM
- 2) Completion of Block 6.0
- 3) Start of Block 7.0 development. Like Block 6.0, Block 7.0 primarily consists of mandated GATM/nav safety requirements.

This effort is assigned to Budget Activity 7 as it supports an operational system.

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	13.551	36.305	13.545	56.506
(U) Current PBR/President's Budget	12.885	32.910	6.681	35.376
(U) Total Adjustments	-0.666	-3.395		
(U) Congressional Program Reductions				
Congressional Rescissions	-0.115	-0.330		
Congressional Increases				
Reprogrammings	-0.202	-3.065		
SBIR/STTR Transfer	-0.349			

(U) **Significant Program Changes:**

Block 6.0 funding reduced in FY06 due poor execution. Block 6.0 development now extends into FY07.

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Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5061 C-130J	12.885	32.910	6.681	35.376	44.758	39.980	43.308	47.528	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

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

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- 1) Participation in the international Co-operative Systems and Software Upgrade Requirements Management (COSSURM). COSSURM participants include the United Kingdom, Australia, Italy, Denmark, and the United States. COSSURM provides a mechanism to jointly identify, collect, define, analyze and price requirements. By combining requirements and resources under COSSURM, each participating country will save in aircraft upgrade costs.
- 2) Continuation of Block 6.0 Upgrades. Block 6.0 is the first phase of at least four block upgrades. AMC/CC has mandated capability releases on a two-year cycle. These Block Upgrades include:
 - a) 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.
 - b) The development, integration, and testing of aircraft modifications necessary to correct deficiencies identified in qualification and operational testing of this platform.
 - c) 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 C-130J aircraft, with its extended (by 15 ft) fuselage, provides additional cargo carrying capacity for the USAF combat delivery mission compared with legacy C-130E/H and the C-130J (short). 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.

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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 solution set will be common with other USAF/AMC weapon systems performing similar GATM/nav safety upgrades. An updated C-130J ORD is being reviewed by the Joint Requirements Oversight Council (JROC). Expect JROC approval 2 Q FY05.

FY07 C-130J program RDT&E funding provides for:

- 1) Continued participation in COSSURM
- 2) Completion of Block 6.0
- 3) Start of Block 7.0 development. Like Block 6.0, Block 7.0 primarily consists of mandated GATM/nav safety requirements.

This effort is assigned to Budget Activity 7 as it supports an operational system.

(U) <u>B. Accomplishments/Planned Program (\$ in Millions)</u>		<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) COSSURM payment		0.896	1.441	1.524	1.759
(U) Initiate non-recurring engineering design and software development for Block 6.0 GATM/nav safety requirements and aircraft deficiencies/product improvements.		11.323			
(U) Congressional Rescissions		0.115			
(U) Reprogrammings		0.202			
(U) SBIR/STTR Transfer		0.349			
(U) Continue Block 6.0 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.			31.469	3.657	7.000
(U) Flight Test				1.500	0.500
(U) Initiate non-recurring engineering design and software development for Block 7.0 GATM/nav safety requirements and aircraft deficiencies/product improvements.					24.117
(U) Block 8.0 Phase 0					2.000
(U) Total Cost		12.885	32.910	6.681	35.376

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

	<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>FY 2010</u>	<u>FY 2011</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) Other APPN										
(U) PE 0401132F, C-130J										
(U) Procurement (BP1100)										
(U) Mod MN-_1377 Blk 5.4	9.600	25.400	5.988						0.000	40.988

Project 5061

R-1 Shopping List - Item No. 214-4 of 214-8

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

(U) Mod MN-_1701 Blk 6.0	36.551	21.600	2.875			0.000	61.026
(U) Mod MN-_6298 Blk 7.0		10.298	40.128	27.900	4.800	0.000	83.126
(U) Mod MN-_5222 Blk 8.0				22.100	53.200	46.000	121.300
(U) Mod MN-_8629 LAIRCM				38.682	8.315		TBD

(U) **D. Acquisition Strategy**

C-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 began with FY03 RDT&E funding and continues through FY07 RDT&E funding, Block 7.0, which will start in FY07, Block 8.0, which will start in FY09, and Block 9.0, which will start in FY11. 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, will provide production retrofit kits on USAF C-130J aircraft. Installation will be performed by contractor, depot, and Air Force personnel.

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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</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>2004</u> <u>Cost</u>	<u>FY 2004</u> <u>Cost</u>	<u>FY 2004</u> <u>Award</u> <u>Date</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</u> <u>Value of</u> <u>Contract</u>
(U) <u>Product Development</u> Aeronautical Systems Center (AFMC), WPAFB, OH	CPFF	Lockheed Martin Aeronautics, Marietta GA		11.989	Mar-04	31.469	Nov-04	3.657	Nov-05	33.117	Nov-06		80.232	
Subtotal Product Development			0.000	11.989		31.469		3.657		33.117		0.000	80.232	0.000
Remarks:														
(U) <u>Support</u> TBD													0.000	0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
(U) <u>Test & Evaluation</u> Air Force Materiel Command (DT&E)								1.500	Oct-05	0.500	Oct-06		2.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		1.500		0.500		0.000	2.000	0.000
Remarks:														
(U) <u>Management</u> COSSURM				0.896		1.441	Oct-04	1.524	Oct-05	1.759	Oct-06		5.620	
Subtotal Management			0.000	0.896		1.441		1.524		1.759		0.000	5.620	0.000
Remarks:														
(U) <u>Lockheed Martin Aeronautics, Marietta, GA</u>														
(U) Total Cost			0.000	12.885		32.910		6.681		35.376		0.000	87.852	0.000
Remarks:														

Exhibit R-4, RDT&E Schedule Profile

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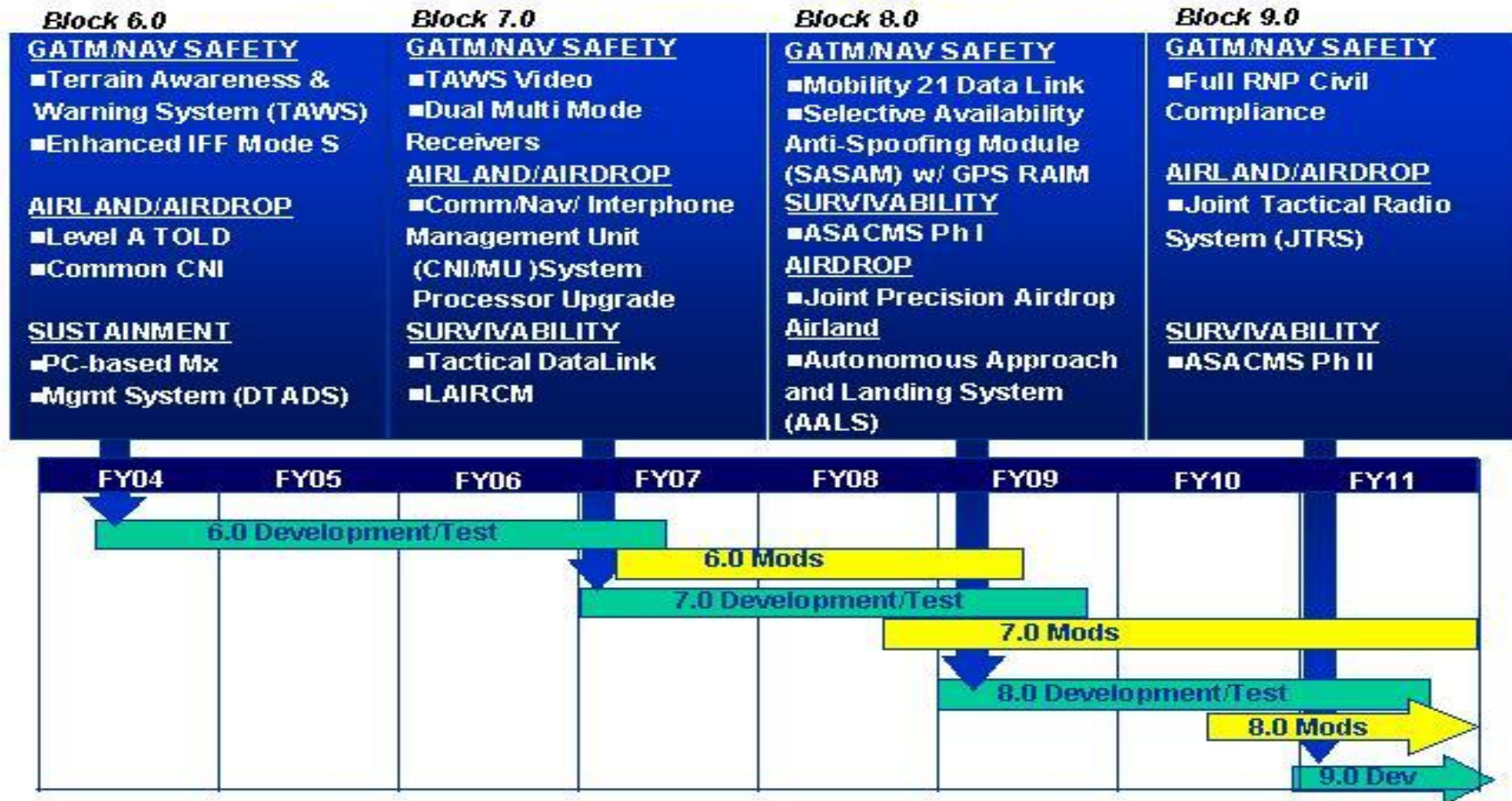
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C-130J Block Upgrade Plan



Note: Block upgrades include variants, so mods will begin on C-130Js while EC-130J and WC-130J development is still underway

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Exhibit R-4a, RDT&E Schedule Detail

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(U) Schedule ProfileFY 2004FY 2005FY 2006FY 2007

(U) Block 6.0 FY04 contract award

2Q

(U) Block 6.0 FY05 award

1Q

(U) Block 6.0 FY06 award

1Q

(U) Block 6.0 DT&E payment to AFFTC

1Q

(U) Start of Block 6.0 DT&E

4Q

(U) Block 6.0 FY07 award

1Q

(U) Block 7.0 FY07 contract award

1Q