

**UNCLASSIFIED**

PE NUMBER: 0401115F  
 PE TITLE: C-130 AIRLIFT SQUADRONS

|   |                              |
|---|------------------------------|
| <b>Exhibit R-2, RDT&amp;E Budget Item Justification</b> | DATE<br><b>February 2006</b> |
|---|------------------------------|

|  |   |
|--|---|
| <b>BUDGET ACTIVITY</b><br><b>07 Operational System Development</b> | <b>PE NUMBER AND TITLE</b><br><b>0401115F C-130 AIRLIFT SQUADRONS</b> |
|--|---|

| Cost (\$ in Millions)                     | FY 2005<br>Actual | FY 2006<br>Estimate | FY 2007<br>Estimate | FY 2008<br>Estimate | FY 2009<br>Estimate | FY 2010<br>Estimate | FY 2011<br>Estimate | Cost to<br>Complete | Total |
|---|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------|
| Total Program Element (PE) Cost           | 158.716           | 232.173             | 248.283             | 173.701             | 89.417              | 39.497              | 0.000               | Continuing          | TBD   |
| 4885 Avionics Modernization Program (AMP) | 158.716           | 232.173             | 248.283             | 173.701             | 89.417              | 39.497              | 0.000               | Continuing          | TBD   |

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

The C-130 Avionics Modernization Program (AMP) consolidates and installs the mandated AF Navigation/Safety mods, the Global Air Traffic Management (GATM) systems [now referred to as Communications Navigation Surveillance/Air Traffic Management [CNS/ATM]] and the C-130 Broad Area Review requirements on the AF's 434 C/AC/EC/HC/LC/MC-130s that are not being replaced with new C/EC/WC-130Js. These mandated mods are incorporated with various other Reliability, Maintainability, and Sustainability (RM&S) upgrades to include: replacement of the radars, compasses, dual autopilots, dual flight management systems and HF/UHF/VHF data links. AMP will allow the AF's 434 C/AC/EC/HC/LC/MC-130s complete access to the CNS/ATM international air space. Also, AMP and USSOCOM's Common Architecture for Penetration (CAAP) have been combined to eliminate any duplication of effort in these avionics programs.

USAF's C-130 fleet consists of 14 different mission design series (MDS) to be modified by the AMP. Within each of these MDSs are multiple variants (C-130H2, etc.) to be modified by AMP. These different models and cockpit configurations create significant logistics support and aircrew training inefficiencies. Also, these differences greatly complicate aircrew and aircraft interoperability at forward operating locations. C-130 AMP standardizes the cockpit configurations and avionics suites for these different variants into a single cockpit configuration by installing a core avionics package, thus eliminating many of these significant logistics, interoperability, and training problems. (Note: C/EC/WC-130J are not included in AMP program).

Shown here are RDT&E funds for C-130 AMP. SOCOM's AC/MC-130s will have additional CAAP equipment installed that will be funded in MFP-11. These SOCOM funds are not shown here.

The Boeing Company was awarded the AMP contract on 30 July 01. Each C-130 variant or group of variants will require a specific kit development and test. Then, each will proceed through development and production serially. This waterfall approach will result in an orderly development and production sequencing for the 14 different C-130 MDSs.

Development activities continue to focus on two areas: AMP's architecture and kit development for the first Combat Delivery aircraft (C-130H2) and the first Special Mission aircraft (MC-130H), as well as software development of the SOF AMP and Common Avionics Architecture for Penetration (CAAP) capabilities.

A Restructure Engineering Change Proposal (ECP) 1302 was awarded to Boeing 20 Aug 03. The ECP rebaselined the program due to funding reductions in FYs 03/04 which resulted in delays in System Development and Demonstration program for up to 2 years.

C-130 Avionics Modernization Program (AMP): This project is in Budget Activity 7, Operational Systems Development as it is a major avionics and cockpit configuration modernization to the AF's C/AC /EC/HC/ LC/MC-130 fleets of aircraft.

## Exhibit R-2, RDT&amp;E Budget Item Justification

DATE

February 2006

BUDGET ACTIVITY

**07 Operational System Development**

PE NUMBER AND TITLE

**0401115F C-130 AIRLIFT SQUADRONS****(U) B. Program Change Summary (\$ in Millions)**

|   | <u>FY 2005</u> | <u>FY 2006</u> | <u>FY 2007</u> |
|---|----------------|----------------|----------------|
| (U) Previous President's Budget         | 150.242        | 233.028        | 217.602        |
| (U) Current PBR/President's Budget      | 158.716        | 232.173        | 248.283        |
| (U) Total Adjustments                   | 8.474          | -0.855         |                |
| (U) Congressional Program Reductions    | -1.457         |                |                |
| Congressional Rescissions               |                |                |                |
| Congressional Increases                 | 2.000          |                |                |
| Reprogrammings                          | 11.999         | -0.855         |                |
| SBIR/STTR Transfer                      | -4.068         |                |                |
| (U) <u>Significant Program Changes:</u> |                |                |                |
| None                                    |                |                |                |

## Exhibit R-2a, RDT&amp;E Project Justification

DATE

February 2006

|   |                |                  |                  |  |                  |                  |  |                  |       |
|---|----------------|------------------|------------------|--|------------------|------------------|--|------------------|-------|
| BUDGET ACTIVITY<br><b>07 Operational System Development</b> |                |                  |                  | PE NUMBER AND TITLE<br><b>0401115F C-130 AIRLIFT SQUADRONS</b> |                  |                  | PROJECT NUMBER AND TITLE<br><b>4885 Avionics Modernization Program (AMP)</b> |                  |       |
| 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 |
| 4885 Avionics Modernization Program (AMP)                   | 158.716        | 232.173          | 248.283          | 173.701  | 89.417           | 39.497           | 0.000  | Continuing       | TBD   |
| Quantity of RDT&E Articles                                  | 0              | 0                | 0                | 0  | 0                | 0                | 0  |                  |       |

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

The C-130 Avionics Modernization Program (AMP) consolidates and installs the mandated AF Navigation/Safety mods, the Global Air Traffic Management (GATM) systems [now referred to as Communications Navigation Surveillance/Air Traffic Management [CNS/ATM]] and the C-130 Broad Area Review requirements on the AF's 434 C/AC/EC/HC/LC/MC-130s that are not being replaced with new C/EC/WC-130Js. These mandated mods are incorporated with various other Reliability, Maintainability, and Sustainability (RM&S) upgrades to include: replacement of the radars, compasses, dual autopilots, dual flight management systems and HF/UHF/VHF data links. AMP will allow the AF's 434 C/AC/EC/HC/LC/MC-130s complete access to the CNS/ATM international air space. Also, AMP and USSOCOM's Common Architecture for Penetration (CAAP) have been combined to eliminate any duplication of effort in these avionics programs.

USAF's C-130 fleet consists of 14 different mission design series (MDS) to be modified by the AMP. Within each of these MDSs are multiple variants (C-130H2, etc.) to be modified by AMP. These different models and cockpit configurations create significant logistics support and aircrew training inefficiencies. Also, these differences greatly complicate aircrew and aircraft interoperability at forward operating locations. C-130 AMP standardizes the cockpit configurations and avionics suites for these different variants into a single cockpit configuration by installing a core avionics package, thus eliminating many of these significant logistics, interoperability, and training problems. (Note: C/EC/WC-130J are not included in AMP program).

Shown here are RDT&E funds for C-130 AMP. SOCOM's AC/MC-130s will have additional CAAP equipment installed that will be funded in MFP-11. These SOCOM funds are not shown here.

The Boeing Company was awarded the AMP contract on 30 July 01. Each C-130 variant or group of variants will require a specific kit development and test. Then, each will proceed through development and production serially. This waterfall approach will result in an orderly development and production sequencing for the 14 different C-130 MDSs.

Development activities continue to focus on two areas: AMP's architecture and kit development for the first Combat Delivery aircraft (C-130H2) and the first Special Mission aircraft (MC-130H), as well as software development of the SOF AMP and Common Avionics Architecture for Penetration (CAAP) capabilities.

A Restructure Engineering Change Proposal (ECP) 1302 was awarded to Boeing 20 Aug 03. The ECP rebaselined the program due to funding reductions in FYs 03/04 which resulted in delays in System Development and Demonstration program for up to 2 years.

C-130 Avionics Modernization Program (AMP): This project is in Budget Activity 7, Operational Systems Development as it is a major avionics and cockpit configuration modernization to the AF's C/AC /EC/HC/ LC/MC-130 fleets of aircraft.

**Exhibit R-2a, RDT&E Project Justification**

DATE

**February 2006**

|   |  |  |
|---|--|--|
| BUDGET ACTIVITY<br><b>07 Operational System Development</b> | PE NUMBER AND TITLE<br><b>0401115F C-130 AIRLIFT SQUADRONS</b> | PROJECT NUMBER AND TITLE<br><b>4885 Avionics Modernization Program (AMP)</b> |
|---|--|--|

| (U) <b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>  | <u>FY 2005</u> | <u>FY 2006</u> | <u>FY 2007</u> |
|--|----------------|----------------|----------------|
| (U) Detailed design work continues for both Group A(wiring, racks, etc) and B (computers, instrumentation, etc.) equipment for the C/AC/EC/HC/LC/MC-130 fleets. Coding and unit testing for the software integration facility continues. | 134.000        | 184.000        | 148.000        |
| (U) Engineering Change Orders (ECO), Govt Furnished Parts and Information (GFP/GFI), and Award Fee.  | 6.302          | 22.894         | 30.371         |
| (U) Developmental Test and Evaluation.   | 9.073          | 14.354         | 12.326         |
| (U) Training System development upgrades.  | 0.000          | 0.000          | 46.599         |
| (U) Program office support ( A&AS, TDY, training and supplies).  | 9.341          | 10.925         | 10.987         |
| (U) Total Cost   | 158.716        | 232.173        | 248.283        |

| (U) <b><u>C. Other Program Funding Summary (\$ in Millions)</u></b> | <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>Complete</u> |                   |
| (U) AF RDT&E  |                |                 |                 |                 |                 |                 |                 |                 |                   |
| (U) Other APPN  |                |                 |                 |                 |                 |                 |                 |                 |                   |
| (U) PE 0401115F, 3010, C-130 AMP, BP1100                            |                | 50.559          | 87.667          | 188.030         | 357.686         | 427.400         | 417.693         | 1,325.150       | 2,854.185         |

(U) **D. Acquisition Strategy**

The C-130 AMP contract was awarded 30 July 2001. This is a Cost-Plus Award Fee contract to develop and install AMP kits for the first group of aircraft within the AF's AC/C/EC/HC/LC/MC-130 fleet. Kit installation for the majority of the 434 aircraft will be competitively bid at a future date.

Revisions to the AF training system is an option under the AMP contract, which will modify the various Training Programs and Weapons Systems Trainers to the AMP configuration.

A Restructure Engineering Change Proposal (ECP) 1302 was awarded to Boeing 20 Aug 2003. The ECP rebaselines the program due to funding reductions in FYs 03/04 which resulted in delays in System Development and Demonstration program by up to 2 years.

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis**

DATE

**February 2006**

|  |   |   |
|--|---|---|
| <b>BUDGET ACTIVITY</b><br><b>07 Operational System Development</b> | <b>PE NUMBER AND TITLE</b><br><b>0401115F C-130 AIRLIFT SQUADRONS</b> | <b>PROJECT NUMBER AND TITLE</b><br><b>4885 Avionics Modernization Program (AMP)</b> |
|--|---|---|

| (U) <u>Cost Categories</u><br>(Tailor to WBS, or System/Item Requirements)<br>(\$ in Millions) | <u>Contract Method &amp; Type</u>  | <u>Performing Activity &amp; Location</u> | <u>Total Prior to FY 2005 Cost</u> | <u>FY 2005</u> | <u>FY 2005</u>    | <u>FY 2006</u> | <u>FY 2006</u>    | <u>FY 2007</u> | <u>FY 2007</u>    | <u>Cost to Complete</u> | <u>Total Cost</u> | <u>Target Value of Contract</u> |
|--|--|---|------------------------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|-------------------------|-------------------|---------------------------------|
|  |  |   |                                    | <u>Cost</u>    | <u>Award Date</u> | <u>Cost</u>    | <u>Award Date</u> | <u>Cost</u>    | <u>Award Date</u> |                         |                   |                                 |
| (U) <u>Product Development</u>   |  |   |                                    |                |                   |                |                   |                |                   |                         |                   |                                 |
| Boeing, Long Beach, CA   | CPAF   |   |                                    | 140.302        | Dec-04            | 206.894        | Dec-06            | 224.970        | Dec-06            | 269.675                 | 841.841           |                                 |
| Subtotal Product Development   |  |   | 0.000                              | 140.302        |                   | 206.894        |                   | 224.970        |                   | 269.675                 | 841.841           | 0.000                           |
| Remarks:   | Note: Funds shown here contain System Design & Development, ECO, Training System Upgrades and the Award Fee. |   |                                    |                |                   |                |                   |                |                   |                         |                   |                                 |
| (U) <u>Support</u>   |  |   |                                    |                |                   |                |                   |                |                   |                         |                   |                                 |
| Program Support Office   | N/A  |   |                                    | 9.341          |                   | 10.925         |                   | 10.987         |                   | 14.016                  | 45.269            |                                 |
| Subtotal Support   |  |   | 0.000                              | 9.341          |                   | 10.925         |                   | 10.987         |                   | 14.016                  | 45.269            | 0.000                           |
| Remarks:   | Award Dates vary throughout the year depending on activity (TDY, Training, Contractor Support)               |   |                                    |                |                   |                |                   |                |                   |                         |                   |                                 |
| (U) <u>Test &amp; Evaluation</u>   |  |   |                                    |                |                   |                |                   |                |                   |                         |                   |                                 |
| Various  |  |   |                                    | 9.073          | Jan-05            | 14.354         | Jan-07            | 12.326         | Jan-07            | 18.924                  | 54.677            |                                 |
| Subtotal Test & Evaluation   |  |   | 0.000                              | 9.073          |                   | 14.354         |                   | 12.326         |                   | 18.924                  | 54.677            | 0.000                           |
| Remarks:   |  |   |                                    |                |                   |                |                   |                |                   |                         |                   |                                 |
| (U) <u>Management</u>  |  |   |                                    |                |                   |                |                   |                |                   |                         |                   |                                 |
| Subtotal Management  |  |   | 0.000                              | 0.000          |                   | 0.000          |                   | 0.000          |                   | 0.000                   | 0.000             | 0.000                           |
| Remarks:   |  |   |                                    |                |                   |                |                   |                |                   |                         |                   |                                 |
| (U) Total Cost   |  |   | 0.000                              | 158.716        |                   | 232.173        |                   | 248.283        |                   | 302.615                 | 941.787           | 0.000                           |

Exhibit R-4, RDT&E Schedule Profile

DATE  
February 2006

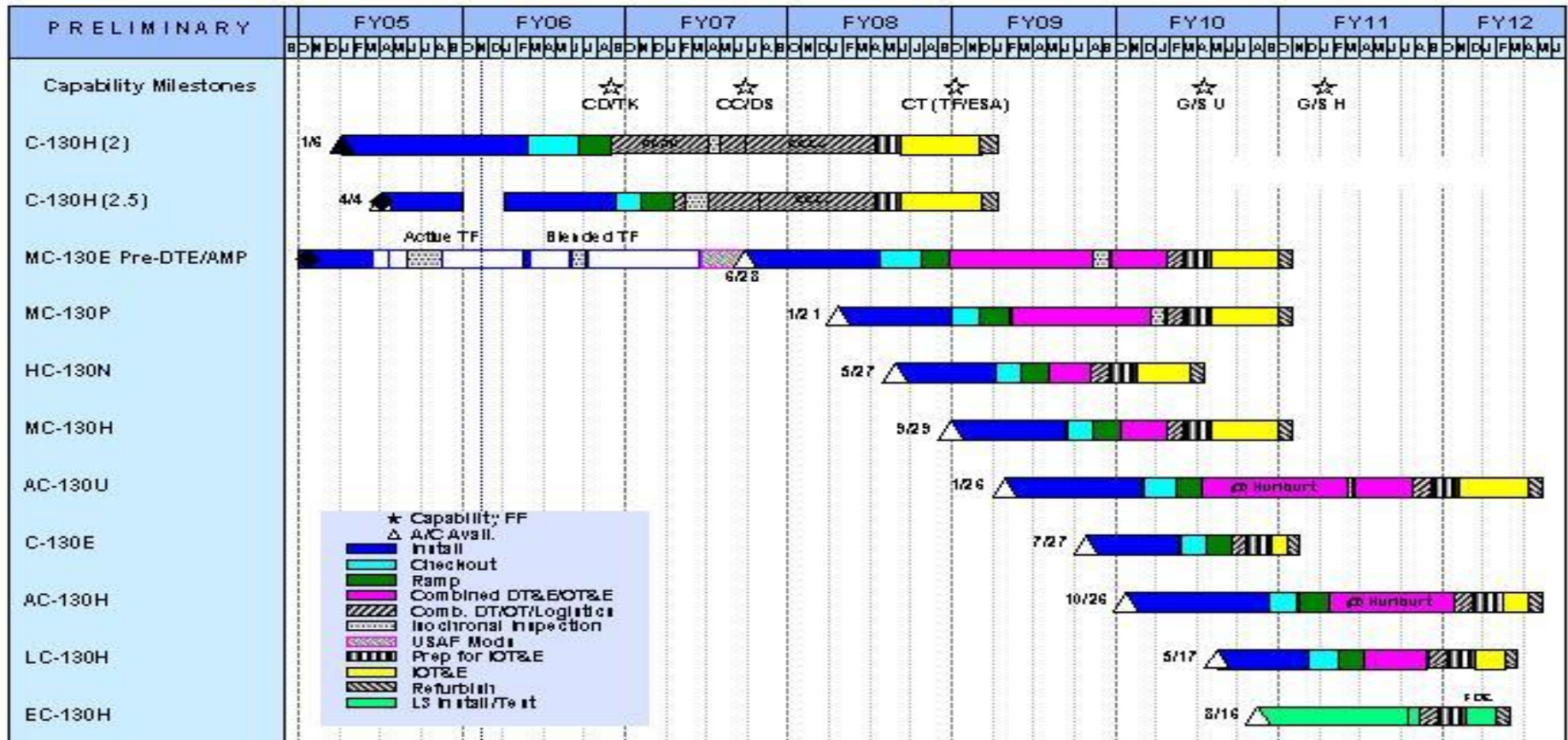
BUDGET ACTIVITY  
07 Operational System Development

PE NUMBER AND TITLE  
0401115F C-130 AIRLIFT  
SQUADRONS

PROJECT NUMBER AND TITLE  
4885 Avionics Modernization  
Program (AMP)

# C-130 AMP Schedule – 2 Dec 05

Version 2q



Competition Sensitive - This document includes competition sensitive information that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed - in whole or in part - for any purpose other than to support the C-130AMP program.  
Copyright © 2005 The Boeing Company Unpublished Work - All Rights Reserved

**UNCLASSIFIED**

|  |  |                              |
|--|--|------------------------------|
| <b>Exhibit R-4a, RDT&amp;E Schedule Detail</b> |  | DATE<br><b>February 2006</b> |
|--|--|------------------------------|

|  |   |   |
|--|---|---|
| <b>BUDGET ACTIVITY</b><br><b>07 Operational System Development</b> | <b>PE NUMBER AND TITLE</b><br><b>0401115F C-130 AIRLIFT SQUADRONS</b> | <b>PROJECT NUMBER AND TITLE</b><br><b>4885 Avionics Modernization Program (AMP)</b> |
|--|---|---|

| <b>(U) <u>Schedule Profile</u></b>           | <u>FY 2005</u> | <u>FY 2006</u> | <u>FY 2007</u> |
|--|----------------|----------------|----------------|
| (U) Core Preliminary Design Review (PDR)     |                | 3Q             |                |
| (U) C-130 SOF/AMP PDR                        |                | 3Q             |                |
| (U) AMP Hardware Concept Design Review (CDR) | 4Q             |                |                |
| (U) AMP Software CDR                         | 4Q             |                |                |
| (U) C-130H2 First Flight                     |                | 4Q             |                |
| (U) M/SC/LRIP Decision                       |                | 2Q             |                |