



# Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-327



## **C-5 RERP**

As of December 31, 2010

Defense Acquisition Management  
Information Retrieval  
(DAMIR)

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**UNCLASSIFIED**

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## Program Information

**Designation And Nomenclature (Popular Name)**

C-5 Reliability Enhancement and Reengining Program (RERP)

**DoD Component**

Air Force

## Responsible Office

**Responsible Office**

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## References

**SAR Baseline (Production Estimate)**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated June 24, 2008

**Approved APB**

DAE Approved Acquisition Program Baseline (APB) dated October 7, 2010

## **Mission and Description**

The C-5 Reliability Enhancement and Reengining Program (RERP) is the second phase of a two-phase modernization program for the C-5. The Avionics Modernization Program (AMP) was Phase I and is the baseline for RERP. Following completion of Phase II, the aircraft is designated a C-5M. RERP is a comprehensive modernization effort that will improve aircraft reliability, maintainability, and availability. RERP will enable the C-5M to achieve wartime mission requirements by increasing fleet availability (mission capable rates and departure reliability), reducing Total Ownership Costs (TOC), and improving aircraft performance. This effort centers on replacing the current TF-39 engine with a more reliable, Commercial Off-the-Shelf (COTS) General Electric (GE) CF6-80C2 (F138-GE-100 military designation) turbofan engine with increased takeoff thrust, stage-3 noise compliance, and Federal Aviation Regulation pollution compliance. In addition to new engines/pylons, C-5 RERP will provide upgrades to wing attachment fittings; new thrust reversers and Auxiliary Power Units (APUs); upgrades to the electrical, hydraulic, fuel, fire suppression, landing gear, and pressurization/air conditioning systems; and airframe structural modifications. These aircraft improvements increase payload capability and access to Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) airspace. C-5 RERP also decreases aircraft time to climb, increases engine-out climb gradient for takeoff, improves transportation system throughput, and decreases engine removals.

The procurement tempo to deliver a C-5 RERP aircraft is a three year process. The first year is advance procurement of material with longer than 12 months duration to buy and deliver, the second year involves material procurement and fabrication, while the third and final year is installation on the aircraft.

## Executive Summary

All Qualification Operational Test and Evaluation (QOT&E) flight testing of the C-5M was completed by January 5, 2010. The Air Force Operational Test and Evaluation Center's (AFOTEC) QOT&E Final Report dated March 8, 2010 declared the C-5M System to be "effective, suitable, and overall mission capable (Green)". While the report noted shortfalls in, "civil navigation performance compliance, integrated diagnostics, logistics departure reliability, mission capable rate, and support equipment", it acknowledged that "Despite the observed shortfalls, the C-5M significantly increases the strategic capability of the C-5 fleet." The C-5 RERP has no flight or mission restrictions and continues to fully support the strategic airlift mission in a superb manner. In addition, interim mitigation processes, procedures, and programs to resolve the "noted shortfalls" are being developed and/or have been put in place, to include an updated RERP Operational Flight Program (OFP) 3.5 and Avionics Modernization Program (AMP) Block Cycle Change 03 (BCC03) software update.

An update to the RERP OFP 3.5 and the AMP BCC03 software addresses the Air Mobility Command (AMC) prioritized software anomalies from the Qualification Test and Evaluation/Qualification Operational Test and Evaluation programs and the Enhanced Surveillance System (EHS), continues.

Air Mobility Command (AMC) Test and Evaluation Squadron (TES) conducted a Force Development Evaluation (FDE) of flare effectiveness on the C-5M from May 3-8, 2010. On August 30, 2010 AMC/A3D released the C-5Ms for operation into locations requiring defensive systems based on the resulting AMC TES August 25, 2010 final report.

A joint General Electric (GE), Lockheed Martin Aeronautics (LM Aero), Honeywell, GE Middle River Aircraft Systems (MRAS), and Government team completed root cause analysis on May 28, 2010 of the Reliability Enhancement and Re-Engining Program (RERP) engine thrust reverser's poor performance in cold soak conditions. Thrust reverser modification recommendations were presented to the C-5 Enterprise Management on June 18, 2010. Contract action is in work to achieve Development Test and Evaluation (DT&E) of recommended solution in the third quarter of FY 2011.

The second aircraft of Production Lot 2 (third aircraft inducted) arrived at LM Aero on June 8, 2010, the third aircraft of Production Lot 2 (fourth aircraft inducted) arrived at LM Aero on September 30, 2010, and the first aircraft of Production Lot 3 (fifth aircraft inducted) arrived on January 6, 2011 for induction into the RERP installation line.

Ogden Air Logistics Center (OO-ALC) awarded a contract to CAE on July 27, 2010 to add the RERP modification to the C-5 Weapon System Trainer. The Contractor is working to a schedule that will achieve a Ready for Training (RFT) date of August 27, 2011.

The first RERP-modified Production aircraft was delivered to the Air Force on October 5, 2010.

The RERP Full Rate Production (FRP) was approved by the Defense Acquisition Board (DAB) on October 7, 2010. An Acquisition Decision Memorandum (ADM) was issued documenting the decision.

Air Force Materiel Command/Logistics (AFMC/A4) committed to conducting a Business Case Analysis (BCA) before making the C-5 RERP CF6 (F-138-GE-100) Engine Source of Repair Assignment Program (SORAP) decision. The 9-18 month BCA effort began on November 2, 2010 at Tinker Air Force Base, OK.

There are no significant software issues with this program at this time.

**Threshold Breaches****APB Breaches**

<b>Schedule</b>		<input type="checkbox"/>
<b>Performance</b>		<input type="checkbox"/>
<b>Cost</b>	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
<b>Unit Cost</b>	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

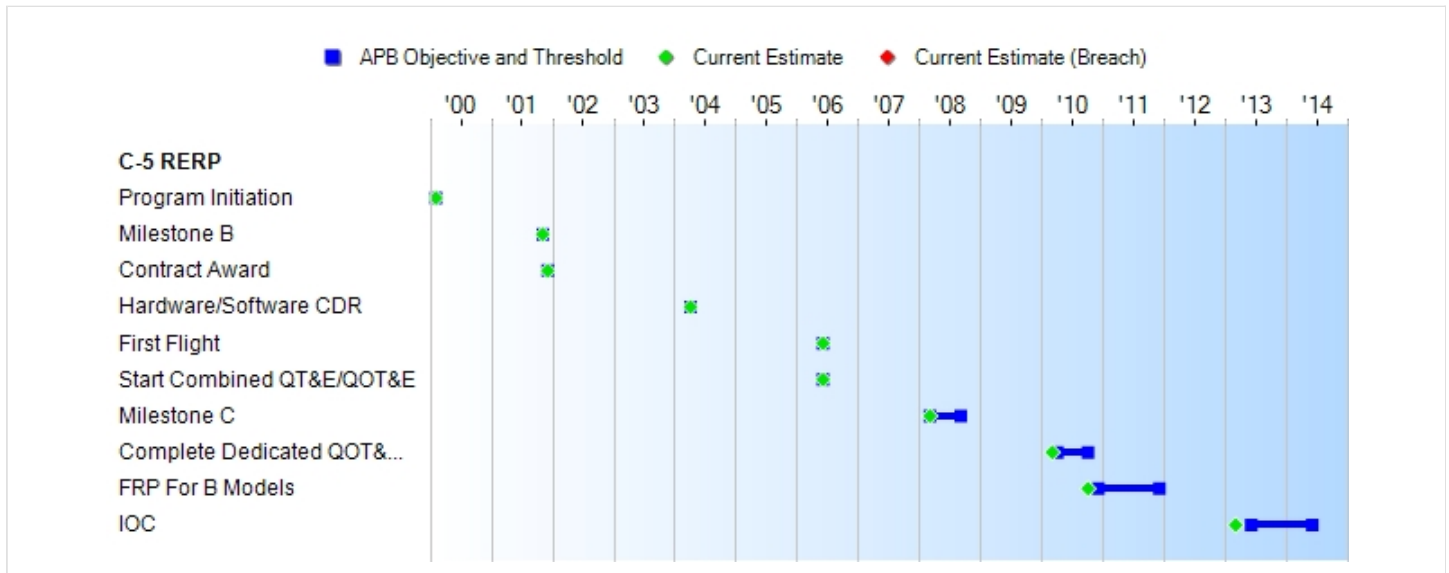
**Nunn-McCurdy Breaches****Current UCR Baseline**

PAUC	None
APUC	None

**Original UCR Baseline**

PAUC	None
APUC	None

### Schedule



Milestones	SAR Baseline Prod Est	Current APB Production		Current Estimate	
		Objective/Threshold			
Program Initiation	FEB 2000	FEB 2000	FEB 2000	FEB 2000	
Milestone B	NOV 2001	NOV 2001	NOV 2001	NOV 2001	
Contract Award	DEC 2001	DEC 2001	DEC 2001	DEC 2001	
Hardware/Software CDR	APR 2004	APR 2004	APR 2004	APR 2004	
First Flight	JUN 2006	JUN 2006	JUN 2006	JUN 2006	
Start Combined QT&E/QOT&E	JUN 2006	JUN 2006	JUN 2006	JUN 2006	
Milestone C	MAR 2008	MAR 2008	SEP 2008	MAR 2008	
Complete Dedicated QOT&E (AFOTEC Report complete)	APR 2010	APR 2010	OCT 2010	MAR 2010	
FRP For B Models	DEC 2010	DEC 2010	DEC 2011	OCT 2010	(Ch-1)
IOC	JUN 2013	JUN 2013	JUN 2014	MAR 2013	(Ch-2)

#### Acronyms And Abbreviations

AFOTEC - Air Force Operational Test and Evaluation Center  
 CDR - Critical Design Review  
 FRP - Full Rate Production  
 IOC - Initial Operational Capability  
 QOT&E - Qualification Operational Test and Evaluation  
 QT&E - Qualification Test and Evaluation

#### Change Explanations

(Ch-1) FRP changed from September 2010 to October 2010 to reflect actual date.

(Ch-2) IOC changed from February 2013 to March 2013 based on latest aircraft delivery schedule.



## Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Time To Climb/Initial Level Off	837,000 lbs take-off gross weight; RCR 23; climb condition: 77 deg F; SL to 31,000 ft in less than 25 min	837,000 lbs take-off gross weight; RCR 23; climb condition: 77 deg F; SL to 31,000 ft in less than 25 min	769,000 lbs take-off gross weight; RCR 23; climb condition: 77 deg F; SL to 31,000 ft in less than 25 min	Demonstrated during SDD. 837,000 lbs take-off gross weight; RCR 23; climb condition: 77 deg F; SL to 31,000 ft in less than 25 min	Will meet or exceed Current APB Threshold
Aircraft Take-off Climb Gradient	One engine out climb gradient $\geq 3.3\%$ beginning at departure end of runway / 837,000 lbs take-off weight / hot day (103 deg F) / 10,000 ft runway / SL / RCR 23	One engine out climb gradient $\geq 3.3\%$ beginning at departure end of runway / 837,000 lbs take-off weight / hot day (103 deg F) / 10,000 ft runway / SL / RCR 23	One engine out climb gradient $\geq 2.5\%$ beginning at departure end of runway / 837,000 lbs take-off weight / hot day (103 deg F) / 10,000 ft runway / SL / RCR 23	Demonstrated during SDD. One engine out climb gradient $\geq 3.3\%$ beginning at departure end of runway / 837,000 lbs takeoff weight; hot day (103 deg F) / 10,000 ft runway / SL / RCR 23	Will meet or exceed Current APB Threshold
Mission Capable Rate (MCR)	Wartime $\geq 82\%$ and Peacetime $\geq 75\%$	Wartime $\geq 82\%$ and Peacetime $\geq 75\%$	Wartime $\geq 75\%$	Demonstrated during SDD. Wartime $\geq 82\%$ and Peacetime $\geq 75\%$	Will meet or exceed Current APB Threshold
Noise Compliance	Certifiable under FAR Part 36 Stage 4 noise standards	Certifiable under FAR Part 36 Stage 4 noise standards	Certifiable under FAR part 36 Stage 3 noise standards	Demonstrated under SDD. Certifiable under FAR Part 36 Stage 4	Will meet or exceed Current APB Threshold

				noise standards	
Emission Compliance	Certiﬁable under FAR Part 34 emission requirements	Certiﬁable under FAR Part 34 emission requirements	Certiﬁable under FAR Part 34 emission requirements	Demonstrated during SDD. Certiﬁable under FAR Part 34 emission requirements	Will meet or exceed Current APB Threshold

**Requirements Source:**

Capability Production Document (CPD), change 1, C-5 Reliability Enhancement and Re-Engining Program (RERP), December 1, 2009

**Acronyms And Abbreviations**

deg - degrees  
 F - Fahrenheit  
 FAR - Federal Aviation Regulation  
 ft - feet  
 lbs - Pounds  
 min - minutes  
 RCR - Runway Condition Reading  
 SDD - System Design and Development  
 SL - Sea Level

**Change Explanations**

None

**Memo**

Demonstrated performance reflects the outcome of Flight Test completed on August 18, 2008.

## Track To Budget

### General Memo

Program Element 0401119F (C-5 Airlift Squadrons) is shared by both the C-5 Avionics Modernization Program (AMP) and the C-5 Reliability Enhancement & Reengining Program (RERP).

### RDT&E

APPN 3600	BA 07	PE 0401119F	(Air Force)
	Project 4835	C-5 Airlift Squadrons/C-5 Reliability Enhancement & Reengining Program (RERP)	

### Procurement

APPN 3010	BA 07	PE 0401119F	(Air Force)
	ICN 000075	C-5 Reliability Enhancement and Reengining Program (RERP)	(Shared)
APPN 3010	BA 06	PE 0401119F	(Air Force)
	ICN 000999	C-5 Reliability Enhancement and Reengining Program (RERP)	(Shared)
APPN 3010	BA 05	PE 0401119F	(Air Force)
	ICN C00500	C-5 Reliability Enhancement and Reengining Program (RERP)	(Shared) (Sunk)
	ICN C005M0	C-5 Reliability Enhancement and Reengining Program (RERP)	

### MILCON

APPN 3300	BA 01	PE 0401896F	(Air Force)
	Project 103003	C-5 Reliability Enhancement and Reengining Program (RERP)	(Sunk)
	Dover AFB		

C-5 RERP MILCON funding is included in the President's Budget (PB); however, it is budgeted and managed by Air Mobility Command (AMC).

## Cost and Funding

### Cost Summary

#### Total Acquisition Cost and Quantity

Appropriation	BY2008 \$M			BY2008 \$M	TY \$M		
	SAR Baseline Prod Est	Current APB Production Objective/Threshold	Current Estimate	Current Estimate	SAR Baseline Prod Est	Current APB Production Objective	Current Estimate
RDT&E	1722.9	1734.3	1907.7	1684.3	1643.5	1645.0	1593.3
Procurement	5415.9	5396.3	5935.9	5391.5	6042.1	5860.4	5847.2
Flyaway	4441.7	--	--	4550.9	4961.8	--	4940.2
Recurring	4441.7	--	--	4550.9	4961.8	--	4940.2
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	974.2	--	--	840.6	1080.3	--	907.0
Other Support	433.8	--	--	306.4	480.5	--	329.6
Initial Spares	540.4	--	--	534.2	599.8	--	577.4
MILCON	7.8	5.1	5.6	5.1	8.5	5.3	5.3
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	7146.6	7135.7	N/A	7080.9	7694.1	7510.7	7445.8

Independent Cost Estimate is at the 52% Confidence Level based on a Department of the Air Force, Air Force Cost Analysis Agency memo dated August 6, 2010. The development effort is 98% complete and development and operational testing completed successfully. The remaining development tasks are for residual training equipment development that will be performed using Fixed-Price contracts. The Government mitigated production risk through Fixed Price Economic Price Adjustment (FPEPA) contracts for Lots 1-3 and not-to-exceed (NTE) FPEPA contract options for the remaining production lots. The recommendation to baseline the program to these cost estimates aims to provide sufficient resources to execute the program under normal conditions, assuming the Government executes the production options as planned.

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E		3	3
Procurement		49	49
Total		52	52

Unit of measure is number of aircraft being modified.

**Cost and Funding****Funding Summary**

**Appropriation and Quantity Summary**  
**FY2012 President's Budget / December 2010 SAR (TY\$ M)**

<b>Appropriation</b>	<b>Prior</b>	<b>FY2011</b>	<b>FY2012</b>	<b>FY2013</b>	<b>FY2014</b>	<b>FY2015</b>	<b>FY2016</b>	<b>To Complete</b>	<b>Total</b>
RDT&E	1533.7	34.7	24.9	0.0	0.0	0.0	0.0	0.0	1593.3
Procurement	1190.7	863.0	1089.7	1229.1	1143.8	330.9	0.0	0.0	5847.2
MILCON	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2012 Total	2729.7	897.7	1114.6	1229.1	1143.8	330.9	0.0	0.0	7445.8
PB 2011 Total	2741.2	897.6	1150.3	1221.5	1136.4	324.9	0.0	0.0	7471.9
Delta	-11.5	0.1	-35.7	7.6	7.4	6.0	0.0	0.0	-26.1

<b>Quantity</b>	<b>Undistributed</b>	<b>Prior</b>	<b>FY2011</b>	<b>FY2012</b>	<b>FY2013</b>	<b>FY2014</b>	<b>FY2015</b>	<b>FY2016</b>	<b>To Complete</b>	<b>Total</b>
Development	3	0	0	0	0	0	0	0	0	3
Production	0	9	7	11	11	11	0	0	0	49
PB 2012 Total	3	9	7	11	11	11	0	0	0	52
PB 2011 Total	3	9	7	11	11	11	0	0	0	52
Delta	0	0	0	0	0	0	0	0	0	0

## Cost and Funding

### Annual Funding By Appropriation

#### Annual Funding TY\$

#### 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
2000	--	--	--	--	--	--	16.3
2001	--	--	--	--	--	--	39.6
2002	--	--	--	--	--	--	83.7
2003	--	--	--	--	--	--	191.4
2004	--	--	--	--	--	--	260.2
2005	--	--	--	--	--	--	278.2
2006	--	--	--	--	--	--	222.9
2007	--	--	--	--	--	--	137.6
2008	--	--	--	--	--	--	161.6
2009	--	--	--	--	--	--	80.9
2010	--	--	--	--	--	--	61.3
2011	--	--	--	--	--	--	34.7
2012	--	--	--	--	--	--	24.9
<b>Subtotal</b>	<b>3</b>	--	--	--	--	--	<b>1593.3</b>

**Annual Funding BY\$****3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 2008 \$M</b>	<b>Non End Item Recurring Flyaway BY 2008 \$M</b>	<b>Non Recurring Flyaway BY 2008 \$M</b>	<b>Total Flyaway BY 2008 \$M</b>	<b>Total Support BY 2008 \$M</b>	<b>Total Program BY 2008 \$M</b>
2000	--	--	--	--	--	--	19.0
2001	--	--	--	--	--	--	45.6
2002	--	--	--	--	--	--	95.4
2003	--	--	--	--	--	--	215.2
2004	--	--	--	--	--	--	285.4
2005	--	--	--	--	--	--	297.5
2006	--	--	--	--	--	--	231.4
2007	--	--	--	--	--	--	139.2
2008	--	--	--	--	--	--	160.3
2009	--	--	--	--	--	--	79.2
2010	--	--	--	--	--	--	59.4
2011	--	--	--	--	--	--	33.2
2012	--	--	--	--	--	--	23.5
<b>Subtotal</b>	<b>3</b>	--	--	--	--	--	<b>1684.3</b>

## Annual Funding TY\$

## 3010 | Procurement | Aircraft Procurement, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
2007	--	52.5	--	--	52.5	9.0	61.5
2008	1	140.3	--	--	140.3	57.9	198.2
2009	3	297.2	--	--	297.2	42.6	339.8
2010	5	504.5	--	--	504.5	86.7	591.2
2011	7	688.7	--	--	688.7	174.3	863.0
2012	11	890.1	--	--	890.1	199.6	1089.7
2013	11	1070.1	--	--	1070.1	159.0	1229.1
2014	11	980.9	--	--	980.9	162.9	1143.8
2015	--	315.9	--	--	315.9	15.0	330.9
<b>Subtotal</b>	<b>49</b>	<b>4940.2</b>	<b>--</b>	<b>--</b>	<b>4940.2</b>	<b>907.0</b>	<b>5847.2</b>



**Annual Funding BY\$**  
**3010 | Procurement | Aircraft Procurement, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 2008 \$M</b>	<b>Non End Item Recurring Flyaway BY 2008 \$M</b>	<b>Non Recurring Flyaway BY 2008 \$M</b>	<b>Total Flyaway BY 2008 \$M</b>	<b>Total Support BY 2008 \$M</b>	<b>Total Program BY 2008 \$M</b>
2007	--	52.3	--	--	52.3	9.0	61.3
2008	1	137.7	--	--	137.7	56.8	194.5
2009	3	287.4	--	--	287.4	41.2	328.6
2010	5	480.7	--	--	480.7	82.6	563.3
2011	7	646.3	--	--	646.3	163.6	809.9
2012	11	821.9	--	--	821.9	184.3	1006.2
2013	11	971.6	--	--	971.6	144.4	1116.0
2014	11	875.7	--	--	875.7	145.5	1021.2
2015	--	277.3	--	--	277.3	13.2	290.5
<b>Subtotal</b>	<b>49</b>	<b>4550.9</b>	<b>--</b>	<b>--</b>	<b>4550.9</b>	<b>840.6</b>	<b>5391.5</b>

**Cost Quantity Information****3010 | Procurement | Aircraft Procurement, Air Force**

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 2008 \$M</b>
2007	--	--
2008	1	151.3
2009	3	315.7
2010	5	490.0
2011	7	737.1
2012	11	955.0
2013	11	989.3
2014	11	912.5
2015	--	--
<b>Subtotal</b>	<b>49</b>	<b>4550.9</b>

**Annual Funding TY\$**  
**3300 | MILCON | Military Construction, Air**  
**Force**

<b>Fiscal Year</b>	<b>Total Program TY \$M</b>
2010	5.3
<b>Subtotal</b>	<b>5.3</b>

**Annual Funding BY\$**  
**3300 | MILCON | Military Construction, Air Force**

<b>Fiscal Year</b>	<b>Total Program BY 2008 \$M</b>
2010	5.1
<b>Subtotal</b>	<b>5.1</b>

### Low Rate Initial Production

	<b>Initial LRIP Decision</b>	<b>Current Total LRIP</b>
<b>Approval Date</b>	11/5/2001	3/14/2008
<b>Approved Quantity</b>	12	16
<b>Reference</b>	November 5, 2001 ADM	March 25, 2008 Milestone C (MS C) ADM
<b>Start Year</b>	2006	2007
<b>End Year</b>	2010	2012

Although above 10 percent of the total quantity, the C-5 RERP MS C Acquisition Decision Memorandum (ADM) approves an LRIP quantity of 16 systems as being necessary to maintain a steady ramp to Full Rate Production (FRP).

The start year changed from the Initial LRIP Decision to the Current Total LRIP during the Nunn-McCurdy restructure.

The procurement tempo to deliver a C-5 RERP aircraft is a three year process. The first year is advance procurement of material with longer than 12 months duration to buy and deliver, the second year involves material procurement and fabrication, while the third and final year is installation on the aircraft.

### Foreign Military Sales

None

### Nuclear Cost

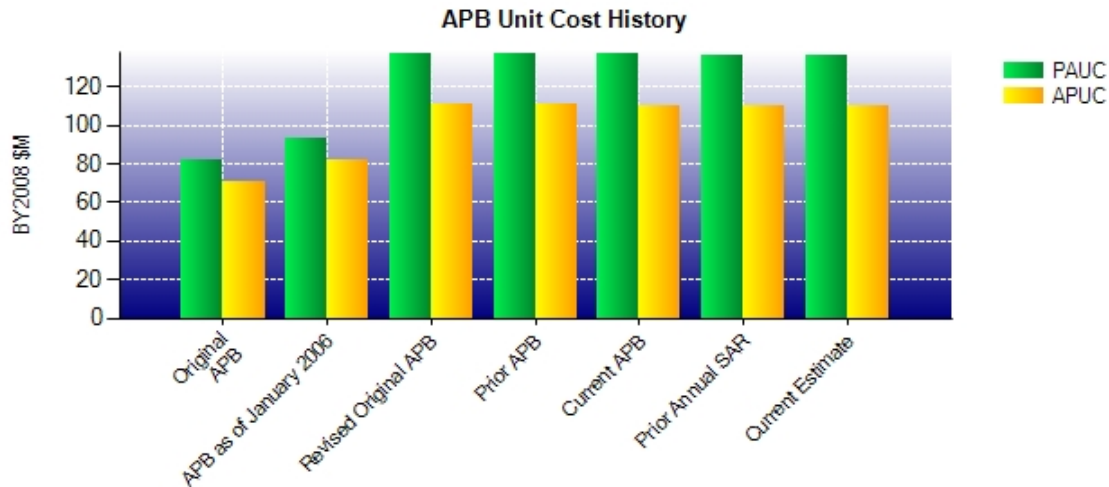
None

**Unit Cost****Unit Cost Report**

	BY2008 \$M	BY2008 \$M	
Unit Cost	Current UCR Baseline (OCT 2010 APB)	Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	7135.7	7080.9	
Quantity	52	52	
Unit Cost	137.225	136.171	-0.77
Average Procurement Unit Cost (APUC)			
Cost	5396.3	5391.5	
Quantity	49	49	
Unit Cost	110.129	110.031	-0.09

	BY2008 \$M	BY2008 \$M	
Unit Cost	Revised Original UCR Baseline (JUN 2008 APB)	Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	7146.6	7080.9	
Quantity	52	52	
Unit Cost	137.435	136.171	-0.92
Average Procurement Unit Cost (APUC)			
Cost	5415.9	5391.5	
Quantity	49	49	
Unit Cost	110.529	110.031	-0.45

### Unit Cost History



	Date	BY2008 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
<b>Original APB</b>	NOV 2001	81.955	71.010	88.047	78.293
<b>APB as of January 2006</b>	FEB 2005	92.829	81.564	98.252	88.355
<b>Revised Original APB</b>	JUN 2008	137.435	110.529	147.963	123.308
<b>Prior APB</b>	JUN 2008	137.435	110.529	147.963	123.308
<b>Current APB</b>	OCT 2010	137.225	110.129	144.437	119.600
<b>Prior Annual SAR</b>	DEC 2009	136.483	110.041	143.690	119.543
<b>Current Estimate</b>	DEC 2010	136.171	110.031	143.188	119.331

### SAR Unit Cost History

#### Initial SAR Baseline to Current SAR Baseline (TY \$M)

Initial PAUC Dev Est	Changes								PAUC Prod Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
88.047	0.635	49.468	7.860	-1.056	12.604	0.000	4.740	74.251	147.963

#### Current SAR Baseline to Current Estimate (TY \$M)

PAUC Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
147.963	-3.478	0.000	0.000	0.000	1.475	0.000	-2.771	-4.775	143.188

**Initial SAR Baseline to Current SAR Baseline (TY \$M)**

Initial APUC Dev Est	Changes								APUC Prod Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
78.293	0.680	36.171	2.980	0.000	14.890	0.000	2.471	57.191	123.308

**Current SAR Baseline to Current Estimate (TY \$M)**

APUC Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
123.308	-3.473	0.000	0.000	0.000	2.437	0.000	-2.941	-3.978	119.331

**SAR Baseline History**

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone I	N/A	FEB 2000	FEB 2000	FEB 2000
Milestone B	N/A	NOV 2001	NOV 2001	NOV 2001
Milestone C	N/A	DEC 2006	MAR 2008	MAR 2008
IOC	N/A	MAR 2010	JUN 2013	MAR 2013
Total Cost (TY \$M)	N/A	11093.9	7694.1	7445.8
Total Quantity	N/A	126	52	52
Prog. Acq. Unit Cost (PAUC)	N/A	88.047	147.963	143.188

**Cost Variance****Cost Variance Summary**

<b>Summary Then Year \$M</b>				
	<b>RDT&amp;E</b>	<b>Proc</b>	<b>MILCON</b>	<b>Total</b>
SAR Baseline (Prod Est)	1643.5	6042.1	8.5	7694.1
Previous Changes				
Economic	-10.4	-160.1	-0.3	-170.8
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-24.1	+150.9	-2.9	+123.9
Other	--	--	--	--
Support	--	-175.3	--	-175.3
Subtotal	-34.5	-184.5	-3.2	-222.2
Current Changes				
Economic	--	-10.1	--	-10.1
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-15.7	-31.5	--	-47.2
Other	--	--	--	--
Support	--	+31.2	--	+31.2
Subtotal	-15.7	-10.4	--	-26.1
Total Changes	-50.2	-194.9	-3.2	-248.3
CE - Cost Variance	1593.3	5847.2	5.3	7445.8
CE - Cost & Funding	1593.3	5847.2	5.3	7445.8



<b>Summary Base Year 2008 \$M</b>				
	<b>RDT&amp;E</b>	<b>Proc</b>	<b>MILCON</b>	<b>Total</b>
SAR Baseline (Prod Est)	1722.9	5415.9	7.8	7146.6
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-22.9	+137.1	-2.7	+111.5
Other	--	--	--	--
Support	--	-161.0	--	-161.0
Subtotal	-22.9	-23.9	-2.7	-49.5
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-15.7	-27.9	--	-43.6
Other	--	--	--	--
Support	--	+27.4	--	+27.4
Subtotal	-15.7	-0.5	--	-16.2
Total Changes	-38.6	-24.4	-2.7	-65.7
CE - Cost Variance	1684.3	5391.5	5.1	7080.9
CE - Cost & Funding	1684.3	5391.5	5.1	7080.9

Previous Estimate: December 2009

<b>RDT&amp;E</b>	<b>\$M</b>	
<b>Current Change Explanations</b>	<b>Base Year</b>	<b>Then Year</b>
Decrease due to Congressional rescission/payback, funding realignment, and Air Force withholds. (Estimating)	-15.7	-15.7
<b>RDT&amp;E Subtotal</b>	<b>-15.7</b>	<b>-15.7</b>
<b>Procurement</b>	<b>\$M</b>	
<b>Current Change Explanations</b>	<b>Base Year</b>	<b>Then Year</b>
Revised escalation indices. (Economic)	N/A	-10.1
Adjustment for current and prior escalation. (Estimating)	+1.7	+1.6
Increase due to Above Threshold Reprogramming (ATR). (Estimating)	+28.3	+29.5
Decrease due to Department of Defense withhold. (Estimating)	-57.9	-62.6
Adjustment for current and prior escalation. (Support)	+0.2	+0.4
Increase in Other Support due to realigning funds from flyway costs to Other Weapon System Support Cost per FY 2010 Cost Assessment Program Evaluation (CAPE) Independent Cost Estimate (ICE). (Support)	+37.9	+42.1
Decrease in Initial Spares. (Support)	-10.7	-11.3
<b>Procurement Subtotal</b>	<b>-0.5</b>	<b>-10.4</b>

## Contracts

### Appropriation: Procurement

Contract Name **C-5 RERP LRIP Lot 1**  
 Contractor Lockheed Martin Corporation (Lockheed Martin Aero Co - Marietta, GA)  
 Contractor Location Marietta, GA 39963-0290  
 Contract Number, Type FA8625-07-C-6471/1, FPEPA  
 Award Date April 30, 2007  
 Definitization Date April 14, 2008

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
23.0	N/A	1	168.0	N/A	1	168.0	168.0

### Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FPEPA contract.

### Contract Comments

Requirements for Earned Value reporting on the C-5 RERP production contract were removed in accordance with the Full Rate Production (FRP) Acquisition Program Baseline (APB) memorandum dated October 7, 2010.

Initial Contract Price of \$23M reflects the first year of the three year process for Lot 1 (one aircraft) long lead. Current Contract Price of \$168M for Lot 1 includes: long lead, material/fabrication, installation, initial spares, procurement of Diminishing Manufacturing Sources (DMS) items, and various studies.

C-5 RERP LRIP Lot 1 is more than 90% complete and will no longer be reported.

**Appropriation: Procurement**

Contract Name **C-5 RERP LRIP Lot 2**  
 Contractor Lockheed Martin Corporation (Lockheed Martin Aero Co - Marietta, GA)  
 Contractor Location Marietta, GA 39963-0290  
 Contract Number, Type FA8625-07-C-6471/2, FPEPA  
 Award Date April 18, 2008  
 Definitization Date April 18, 2008

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
49.7	N/A	3	330.6	N/A	3	330.6	330.6

**Cost And Schedule Variance Explanations**

Cost and Schedule variance reporting is not required on this FPEPA contract.

**Contract Comments**

Requirements for Earned Value reporting on the C-5 RERP production contract were removed in accordance with the Full Rate Production (FRP) Acquisition Program Baseline (APB) memorandum dated October 7, 2010.

Initial Contract Price of \$49.7M reflects the first year of the three year process for Lot 2 (three aircraft) long lead. Current Contract Price of \$330.6M for Lot 2 includes: long lead, material/fabrication, installation, initial spares, Rapid Repair & Response, Pylon Shipping Containers, Readiness Spares Packages (RSP), and support equipment.

**Appropriation: Procurement**

Contract Name **C-5 RERP LRIP Lot 3**  
 Contractor Lockheed Martin Corporation (Lockheed Martin Aero Co - Marietta, GA)  
 Contractor Location Marietta, GA 39963-0290  
 Contract Number, Type FA8625-07-C-6471/3, FPEPA  
 Award Date February 06, 2009  
 Definitization Date February 06, 2009

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
79.1	N/A	5	466.8	N/A	5	466.8	466.8

**Cost And Schedule Variance Explanations**

Cost and Schedule variance reporting is not required on this FPEPA contract.

**Contract Comments**

Requirements for Earned Value reporting on the C-5 RERP production contract were removed in accordance with the Full Rate Production (FRP) Acquisition Program Baseline (APB) memorandum dated October 7, 2010.

Initial Contract Price of \$79.1M reflects the first year of the three year process for Lot 3 (five aircraft) long lead, initial spares, and support equipment. Current Contract Price of \$466.8M for Lot 3 includes: long lead, material/fabrication, initial spares, support equipment, Rapid Repair & Response, Contractor Acquired Property, and Starter Air Valve Duct Drain.

**Appropriation: Procurement**

Contract Name **C-5 RERP LRIP Lot 4**  
 Contractor Lockheed Martin Corporation (Lockheed Martin Aero Co - Marietta, GA)  
 Contractor Location Marietta, GA 30063  
 Contract Number, Type FA8625-07-C-6471/4, FPEPA  
 Award Date December 21, 2009  
 Definitization Date December 21, 2009

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
77.0	N/A	7	499.7	N/A	7	499.7	499.7

**Cost And Schedule Variance Explanations**

Cost and Schedule variance reporting is not required on this FPEPA contract.

**Contract Comments**

Requirements for Earned Value reporting on the C-5 RERP production contract were removed in accordance with the Full Rate Production (FRP) Acquisition Program Baseline (APB) memorandum dated October 7, 2010.

Initial Contract Price of \$77M reflects the first year of the three year process for Lot 4 (seven aircraft) long lead. Current Contract Price of \$499.7M for Lot 4 includes: long lead, material/fabrication, support equipment, readiness spares package, Environmental Control System, improved duct retention, and serialized tracking.

**Appropriation: Procurement**

Contract Name **C-5 RERP FRP Lot 5**  
 Contractor Lockheed Marting Corporation (Lockheed Martin Aero Co - Marietta, GA)  
 Contractor Location Marietta, GA 30063  
 Contract Number, Type FA8625-07-C-6471/5, FPEPA  
 Award Date October 20, 2010  
 Definitization Date October 20, 2010

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
162.9	N/A	11	162.9	N/A	11	162.9	162.9

**Cost And Schedule Variance Explanations**

Cost and Schedule variance reporting is not required on this FPEPA contract.

**Contract Comments**

Requirements for Earned Value reporting on the C-5 RERP production contract were removed in accordance with the Full Rate Production (FRP) Acquisition Program Baseline (APB) memorandum dated October 7, 2010.

Initial Contract Price of \$162.9M reflects the first year of the three year process for Lot 5 (eleven aircraft) long lead.

This is the initial report for this contract.

**Deliveries and Expenditures**

<b>Deliveries To Date</b>	<b>Plan To Date</b>	<b>Actual To Date</b>	<b>Total Quantity</b>	<b>Percent Delivered</b>
Development	3	3	3	100.00%
Production	2	2	49	4.08%
Total Program Quantities Delivered	5	5	52	9.62%

<b>Expenditures and Appropriations (TY \$M)</b>			
Total Acquisition Cost	7445.8	Years Appropriated	12
Expenditures To Date	2040.9	Percent Years Appropriated	75.00%
Percent Expended	27.41%	Appropriated to Date	3627.4
Total Funding Years	16	Percent Appropriated	48.72%



## Operating and Support Cost

### Assumptions And Ground Rules

O&S costs are not tracked separately for C-5 RERP. O&S costs are included in the overall operational costs for the existing C-5 fleet managed by Warner-Robins Air Logistics Center (WR-ALC). There is no antecedent system for this program.

Cost Element	Costs BY2008 \$M	
	C-5 RERP	N/A
Unit-Level Manpower	--	--
Unit Operations	--	--
Maintenance	--	--
Sustaining Support	--	--
Continuing System Improvements	--	--
Indirect Support	--	--
Other	--	--
Total Unitized Cost (Base Year 2008 \$)	--	--

Total O&S Costs \$M	C-5 RERP	N/A
Base Year	--	--
Then Year	--	--