

C-5 Reliability Enhancement and Re-engining Program
Nunn-McCurdy Certification
Supporting Explanation
"Such acquisition program is essential to the national security"

The Joint Requirements Oversight Council (JROC)¹ conducted an assessment of the C-5 Reliability Enhancement and Re-engining Program (RERP) to determine its essentiality to national security. The JROC found that attributes of the planned C-5 RERP program contains critical elements associated with capacity, reliability, and performance that are required to achieve the capabilities stated in the 2005 Mobility Capabilities Study (MCS-05). The JROC determined these attributes, including a minimum organic strategic airlift capacity of 33.95 million-ton-miles per day (MTM/D), are essential to national security.

MCS-05 is the most current mobility study and was the foundation of the JROC assessment. MCS-05 included a comprehensive analysis of major airlift missions required to support the National Military Strategy and comprised detailed analysis of lift requirements needed to support both large scale deployment, and rapid delivery of high priority oversized and outsized cargo in support of a full range of operations.

The JROC stated that any reduction in projected strategic airlift capacity, reliability, and performance would increase risk to unacceptable levels and jeopardize the department's ability to adequately support the Combatant Commands.

Finally, the Department determined that modernizing 47 C-5B aircraft and 2 C-5C aircraft best meets the essentiality criteria set forth by the JROC.

¹ JROC Memorandum 004-08, 9 January 2008

**C-5 Reliability Enhancement and Re-engining Program
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Supporting Explanation**

"There are no alternatives to such acquisition program which will provide equal or greater military capability at less cost"

Fourteen alternatives were identified and assessed as part of the Nunn-McCurdy certification process. Each alternative was evaluated on its ability to enable the organic strategic airlift fleet to meet the 33.95 million ton mile per day (MTM/D) capacity the JROC determined as essential to national security, while also meeting the delivery timelines needed to achieve strategic objectives and movement of oversized and outsized equipment identified in the 2005 Mobility Capabilities Study (MCS).

Alternatives that met the established capability thresholds were then evaluated based on the net present value of life cycle costs over the period FY 2008-2040, total program acquisition costs, and affordability in the FYDP.

No other alternative provides greater or equal military capability at less cost than a restructured RERP program which modernizes 47 C-5Bs and two C-5Cs.

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Supporting Explanation**

“The new estimates of the program acquisition unit cost or procurement unit cost for such program are reasonable.”

The Office of Secretary of Defense Cost Analysis Improvement Group (CAIG) completed an evaluation of the restructured C-5 RERP and developed an independent estimate of the Research, Development, Test, and Evaluation (RDT&E) and procurement costs, as well as the Future Years Defense Program (FYDP) resource requirements to support the Nunn-McCurdy certification process. The CAIG estimate of the acquisition costs for the restructured C-5 RERP is \$7,694 million (Then Year Dollars (TY\$)), significantly less than the \$17,506 million estimate reported in the quarterly Selected Acquisition Report (SAR) dated September 30, 2007. The CAIG estimate is based on a reduced procurement quantity (49) of aircraft modernized within the RERP program, from the (108) quantity reported in the SAR. Based on the CAIG independent cost estimate for the restructured C-5 RERP, the Program Acquisition Unit Cost (PAUC) and the Average Procurement Unit Cost (APUC) figures below are reasonable:

CAIG Estimate of the Acquisition Costs for the Restructured C-5 RERP Program

Restructured C-5 RERP	FY 2000 \$	FY \$
Date: Jan 2008		
PAUC (Program Acquisition Unit Cost)		
Cost (\$M)	\$ 6,082.1	\$ 7,694.1
Quantity	52	52
Unit Cost (\$M)	\$ 117.0	\$ 148.0
APUC (Average Procurement Unit Cost)		
Cost (\$M)	\$ 4,607.6	\$ 6,042.1
Quantity	49	49
Unit Cost (\$M)	\$ 94.0	\$ 123.3

Overall, \$294 million in additional resources are required within the FY 2009-13 FYDP for the C-5 RERP program. Resource adjustments necessary to properly fund the RERP program to the annual resource requirements for the restructured program will be accomplished in the development of the FY 2010-15 FYDP.

**C-5 Reliability Enhancement and Re-Engining Program (RERP)
Nunn-McCurdy Certification
Supporting Explanation**

“The management structure for such acquisition program is adequate to manage and control program acquisition unit cost or procurement unit cost”

The management structure evaluation was conducted in four areas to facilitate evaluation and development of recommendations:

- a. Program Execution;
- b. Requirements/Contracts/Funding/Acquisition Strategy/Resources;
- c. Systems Engineering/Risk Management; and
- d. Sustainment/Materiel Readiness.

The evaluation included a review of detailed documentation provided by the Program Management Office and by the prime contractor in response to queries for each of the four evaluation areas. The evaluation included a review of both government management structure and staffing and contractor management structure and staffing. It also included additional documentation reviews, on-site reviews, and interviews.

Based on the team’s evaluation, the management structure for the C-5 RERP acquisition program is adequate to manage and control program acquisition unit cost or procurement unit cost, subject to implementation of the following recommendations:

- a. The Air Force will conduct an Integrated Baseline Review within thirty (30) days after contract award. An Earned Value Management System (EVMS) compliance review will be conducted in accordance with the contractor’s Corrective Action Plan (CAP), and the EVMS Compliance CAP will require approval by the Defense Contract Management Agency.
- b. The Air Force shall ensure that the contractor establishes and measures contract performance against a realistic and executable performance measurement baseline and complies with reporting requirements prescribed by DoD current Earned Value Management (EVM) policy. The Air Force shall use full EVM Cost Reporting and an Integrated Master Schedule. The Air Force shall develop an integrated plan for C-5 upgrades to identify how separate C-5 configurations will be managed in the future.
- c. The Air Force shall commit to personnel stability in key Program Office C-5 RERP positions and increase staffing in key functional areas, such as contracting and financial management.
- d. The restructured C-5 RERP is designated an Acquisition Category ID program.

I have signed out an Acquisition Decision Memorandum that directs the above changes be accomplished for the restructured C-5 RERP program.

C-5 Reliability Enhancement and Re-engining Program
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Supporting Explanation
“Contributing Factors”

The C-5 Reliability Enhancement and Re-engining Program (RERP) experienced critical Average Procurement Unit Cost (APUC) growth of 75.9% from the November 2001 Acquisition Program Baseline (APB) estimate of \$60.5 million (Base Year 2000 Dollars (BY00\$)) to the September 2007 Selected Acquisition Report (SAR) estimate of \$106.4 million (BY00\$). During the Nunn-McCurdy certification process, the Office of Secretary of Defense Cost Analysis Improvement Group (CAIG) completed an evaluation of the baseline C-5 RERP program and developed an independent estimate of the Research, Development, Test, and Evaluation (RDT&E) and procurement costs, resulting in a lower yet still critical APUC growth of 52.7% to \$92.4 million (BY00\$). The CAIG determined four major factors account for the APUC growth:

1. **Material Cost Growth.** The cost of material to the prime contractor in the May 2007 production proposal is significantly greater than that estimated at Milestone B on the basis of the development proposal. The higher material cost reflects price escalation for certain raw materials, especially strategic or specialty metals, at higher than expected levels projected at Milestone B. Material cost growth accounts for \$11.0 million (BY00\$), or 18.2%, growth to the original APUC.
2. **Estimation.** Two elements of program content were significantly underestimated at Milestone B: (1) spares to support initial deployment, and (2) other government costs, especially government furnished equipment and mission support. Increases in the program cost for elements underestimated at Milestone B accounts for \$10.0 million (BY00\$), or 16.5%, growth to the original APUC.
3. **Labor Cost Growth.** Labor cost growth follows from two factors: (1) increased hours to perform installation of prime mission equipment and "over & above" repairs based on experience to modernize three aircraft in the development program, and (2) a significant increase in labor rates reflected in the prime contractor's latest Forward Pricing Rate Agreement. Labor cost growth accounts for \$7.5 million (BY00\$), or 12.3%, growth to the original APUC.
4. **Production Rate.** The annual procurement quantities for the baseline program increases to an economic order quantity of 12 aircraft per year at a slower rate than originally planned at Milestone B. The reduced production rate follows several years of budget cuts and the one-year extension to the development program. Cost growth as a result of the reduced production rate accounts for \$3.4 million (BY00\$), or 5.7%, growth to the original APUC.