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C-17 AIRCRAFT

Comments on Air Force Request for Approval of Multiyear Procurement Authority

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Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss the proposed multiyear procurement of the C-17 aircraft. This is a particularly critical decision because this multiyear proposal would require legislation to authorize a 7-year multiyear contract. The short time frame for congressional consideration (McDonnell's offer expires on June 1, 1996) also places an unusual burden on decisionmakers. Mr. Chairman, I want to emphasize that we are commenting on a proposal for a contract that has not been drafted. We are, therefore, unable to comment on the specifics of the proposed contract.

Results in Brief

Approval of multiyear procurement authority has historically depended on the ability to obtain significant savings, a sufficiently stable weapon system design, an adequately validated requirement, and a commitment to stable funding over the life of the contract.

The Air Force estimates that approval of its request for multiyear procurement authority to complete the planned C-17 program will save about $896 million. However, the amount of savings likely to occur as a result of a multiyear procurement is overstated. At least some of the savings—about $300 million—could be achieved without entering into a multiyear agreement. The government could have invested a portion of the proposed multiyear funding in additional cost-reduction initiatives such as those that have been funded by the contractor in response to the 1994, C-17 settlement and other cost-reduction initiatives funded by the government. Additional savings have been characterized by the contractor as a "management challenge."

The savings from the engine manufacturer are estimated at $122 million but in reality are likely to be less. The contractor has indicated a willingness to offer an $88-million discount for a multiyear contract.

In January 1994, the C-17 program manager estimated that a 120 aircraft program would cost about $43 billion. At that time DOD reduced the program to 40 C-17's unless McDonnell Douglas significantly improved the cost, schedule, and performance of the aircraft. Since then the Department of Defense (DOD) has reported airframe cost savings of about 20 percent as a result of actions by the government and the contractor. However, this savings along with the savings that will accrue from both the accelerated production rate called for in the multiyear proposal and the estimated multiyear savings are needed to keep costs from exceeding the January 1994, $43 billion estimate.

The next criteria used in judging a multiyear contract is the extent that the design is stable and can be produced at the designated rate. We have several concerns about the stability of the design and the inherent risks in the increase in production which is called for in the multiyear proposal. First, there are several unresolved problems that could require engineering changes to the aircraft that were identified during the C-17 initial operational test and evaluation (IOT&E). Second, the Air Force has identified about $1 billion in research and development funds that will be needed to develop improvements to the aircraft and about $1.8 billion that will be needed to accommodate engineering changes, product improvements, and planned modifications between 1997 and 2004. Finally, the C-17 is about 18 months away from having an aircraft configuration that fully conforms to the required specifications.

In addition to the possible changes to the aircraft that could affect the viability of a multiyear proposal, the contractor is currently implementing changes in aircraft design and production methods that have been identified as cost savings improvements. It is not clear how these changes will affect the contractor's ability to meet the proposed production schedules.

Another criteria for evaluating a multiyear procurement is a assurance that the number of aircraft to be acquired is the correct number. Based on work that we are currently doing at the request of Congresswoman Elizabeth Furse, we do not believe that 120 C-17 aircraft are needed to meet current requirements.

Finally, before approving a multiyear procurement, Congress should be assured that funding to support the contract at the proposed production rates has been included in DOD's planned future procurement. It appears from looking at the Future Years Defense Plan that the Air Force has identified sufficient funds to support the proposal.

Overall, we believe some savings could be achieved from a multiyear procurement of the C-17. However, the savings will likely be less than the current $896 million estimate and will entail both costs and risks. Given the uncertainty regarding the design stability and the risk associated with increasing production, we believe a further assessment of the merits of a

C-17 multiyear program may be warranted and can be accommodated under the current proposal.

Background

The C-17 military transport, being produced for the Air Force by the McDonnell Douglas Corporation, is designed to airlift substantial payloads over long ranges without refueling. The Air Force intends the C-17 to be its core airlifter and the cornerstone of its future airlift force. Through fiscal year 1996, the Congress had appropriated about $20.5 billion for the C-17 program, including $5.9 billion for research and development, $14.6 billion for procurement, and $170 million for military construction. The Congress had approved the acquisition of 40 C-17s.

Multiyear procurement can benefit the government by saving money and improving contractor productivity through a more stable production run. A significant source of multiyear savings results from larger lot buys from vendors and suppliers, or economic order quantities (EOQ). However, multiyear procurement contracts decrease annual budget flexibility. If DOD's budget is reduced and multiyear contracts are maintained, those programs not under multiyear authority would have to be reduced disproportionately. A multiyear procurement contract also entails certain risks if it is changed or terminated.

The C-17 proposal is unique because it requests authority for a 7-year multiyear contract. The current statutory limit is 5 years. In the past, it was not uncommon for multiyear candidates to request even shorter terms, such as 3 or 4 years. It is also unique because it is being proposed out of the normal authorization cycle and the offer expires on June 1, 1996.

The C-17 multiyear procurement proposal calls for an accelerated buy profile as shown in table 1.

Table 1: C-17 Multiyear Proposed Buy Profile

Fiscal year	1997	1998	1999	2000	2001	2002	2003
Number	8	9	13	15	15	15	5

It also calls for the government to provide $300 million in EOQ funds beginning in 1996, to allow for the build up of inventory and for cost-reduction projects. The $300 million, which would be treated as a down payment to be recouped in subsequent years, is a combination of existing funds from a variety of sources from prior fiscal years as follows:

Table 2: Source of Economic Order Quantity Funds

Fiscal year 1994 millions	Fiscal year 1995 millions	Fiscal year 1996 millions
$70 NDAA[a] Funds 30 Lot VI OTP[b]	$50 Lot VII OTP 50 ECO[c] Funds	$100 Affordability Funds

[a]Non Developmental Airlift Aircraft

[b]Over Target Protection

[c]Engineering Change Order

The multiyear contract has not yet been negotiated. However, Air Force officials told us that a multiyear contract would be based on the recently signed Lot VIII contract which contains fixed-price options for lots 9 through 11—30 aircraft. It also contains fixed-price incentive/successive target options for the remaining lots covering the final 50 aircraft of the 120 aircraft buy. The Air Force must negotiate a separate firm fixed-price contract before exercising any of these options. Program officials told us that this arrangement gives them the flexibility to accommodate future uncertainties that could occur in such a lengthy procurement period.

Program officials also negotiated an extensive variation in quantity clause, which included an accelerated production schedule. However, this clause requires that once a production rate has been reached, it cannot be decreased, except for the final lot. Further, once the production rate has exceeded 12 aircraft, it must be increased to the maximum rate of 15 a year. If these conditions are not met, the remaining option prices are invalid and must be renegotiated. The multiyear contract will only include the accelerated schedule from Lot VIII. However, both Air Force and company officials told us that they intend to include a provision in the multiyear contract that would allow the government to revert back to the Lot VIII annual buy contract options without renegotiating those option prices, if neither of the above conditions have been violated. That means a decision would be required before approval of the fiscal year 1999 defense authorization and appropriation acts when the production rate is scheduled to reach 13 aircraft.

The multiyear offer is also contingent upon the use of performance based financing provisions. This is a departure from the normal 75-percent progress payment arrangement based on the amount of budget expended. It entails negotiating pre-determined events and payments for each of the events for the remaining 80 aircraft. These include such events as major component completion, wing joining, roll out, and delivery. The contractor will receive financing based on the agreed to prices, which Air Force officials told us will include profit, after it has completed these events. The events have been identified; however, each event must still be defined as to what would constitute completion and the amount of financing that would be provided for completion of the event. Program officials told us that the effect of this financing arrangement is equivalent to a 90-percent progress payment rate.

C-17 Multiyear Proposal Savings

In the past, the Congress generally required 10-12 percent savings from multiyear procurement. The C-17, at 5 percent, is at the low end of the spectrum when compared to other multiyear programs such as the KC-10, F-16, or B-1B, each of which estimated savings at 9 to 17 percent. Although savings could result from a multiyear procurement of the C-17, the claimed savings are overstated. The C-17 multiyear procurement is estimated by the Air Force to save $896 million in then year dollars. The majority of this savings stems from two sources, the airframe and engine contracts. McDonnell Douglas has offered to reduce its contract price for the remaining 80 aircraft by 5 percent which the Air Force estimates to be about $760 million. The Air Force has estimated that it will achieve another $122 million (6 percent) savings from the Pratt & Whitney engine contract. In addition, the Air Force has estimated an additional $14 million in savings from other sources. An Air Force official were not able to identify the savings from “other sources.”

Airframe Savings

Traditionally, a major portion of the savings from multiyear procurement comes from lower prices on economic order quantity buys from vendors or subcontractors. These savings are generally achieved with the EOQ money provided by the government. In this instance, however, McDonnell Douglas characterizes its offer of five percent savings as a “management challenge.” In fact, its initial offer was closer to 3-percent. Program officials told us that McDonnell Douglas is still struggling to identify how it will use the EOQ funding.

A major part of McDonnell Douglas’ effort to achieve the 5-percent savings will depend on its suppliers. It has given its key suppliers cost-reduction targets; however, according to Air Force officials, the supplier responses have been somewhat disappointing. McDonnell Douglas is still working with suppliers to try to achieve the overall 5-percent reduction.

Air Force officials told us that they expect that roughly $200 million of the EOQ funding will be applied to EOQ opportunities. The remainder may be used to fund affordability projects. The affordability projects which have been identified, are the group that could have been funded by the government with money appropriated from the C-17 Producibility Enhancement/Performance Improvement contract. These projects are estimated to have a 4 to 1 return ratio. That is, for a $100-million investment the return is estimated to be about $400 million. The resulting $300 million savings, although included as part of the multiyear savings, could be available without commitment to the multiyear.

Engine Savings

The F-117 engine contract is a commercial procurement where the government receives most favored customer pricing discounts. The multiyear offer from Pratt & Whitney would increase the discount by 4.3 percent. This represents a savings of $88 million, not $122 million as the Air Force had quoted in its multiyear package.

Design and Producibility Concerns

In approving a multiyear authority for the C-17, the Congress should be assured that the design is stable and can be produced at the designated rate. We have several concerns about the stability of the design and the inherent risk involved in increasing the production rate.

First, IOT&E was completed by the Air Force on December 5, 1995. Air Force officials indicated there were 95 open items from the IOT&E report that could impact the design of the C-17. Air Force officials told us that they are working on 47 of these items and they consider the remaining 48 to be inconsequential. They could not give us an estimated cost or the time frames for implementing the production line changes needed to correct these items.

Second, the Air Force has also identified $1 billion in research and development funds, a large part of which, will be needed for future enhancements to the aircraft and an additional $1.8 billion in procurement funds: $275 million for engineering change orders (ECO), $308 million for product improvements, and $1.2 billion for modifications (retrofit) to mature the aircraft. The C-17 program office refers to ECOs as a management reserve to fund “unknown unknowns”. This money is estimated to cover any unforeseen problems which may occur through the production program. The additional funds are for improvements to the aircraft, many of which have not yet been identified.

Third, there are many outstanding variances from specifications that will have to be resolved. The Air Force plans to have these resolved by the scheduled delivery of production aircraft 33 in August 1997.

Our final concern is the extent of design and production changes that are taking place as a result of cost reduction efforts funded by the contractor under the C-17 settlement or by the government as cost reduction initiatives. These projects were initiated to reduce costs on the C-17 in preparation for the November 1995 DAB. If difficulties occur in implementing these changes, price or schedule problems could result which would be exacerbated if the contractor is at the same time increasing production.

Requirement Stability

The decision to acquire 120 C-17s was the result of a Defense Acquisition Board (DAB) that considered whether to acquire additional C-17s or a mix of C-17s and non-developmental aircraft to accomplish the airlift mission. The analysis leading up to that decision included several predetermined options presented for consideration by the DAB. Our analysis indicates that an option of 100 C-17s could meet the current strategic mobility requirement and also fulfill the need for aircraft with the unique military capabilities of the C-17. That option was not presented to the DAB for consideration. The possible savings from this alternative would be significant.

Funding Stability

The multiyear justification package states that funding for the proposed multiyear buy has been included in the Future Years Defense Plan and the fiscal year 1997 budget, and airlift modernization is a well recognized priority for DOD. At this point in time, we have no specific basis to question future funding stability.

Conclusion

The proposed C-17 Multiyear contract presents the Air Force with the opportunity for savings on the C-17 program. However, the savings are, in our opinion, substantially less than the $896 million that has been advertised. Further, these potential savings are not without both costs and risk. The contractor has asked for EOQ funding of $300 million. In our opinion this should be viewed as $200 million of new funding and $100 million of funds that would most probably have been provided to fund cost reduction initiatives. The contractor has also asked for an event based financing arrangement that will provide a 90 percent equivalent progress payment structure rather than the usual 75 percent included in production contracts. In both instances there is a cost of money to the government that would not exist under annual buy.

There are also risks associated with approving multiyear authority. These risks concern the extent of stability in the design and the potential for problems in implementing the producibility enhancement projects that may create cost and schedule problems.

In our opinion the Congress should require that a provision which would allow reverting to the Lot VIII annual buy contract is included in any multiyear contract. With that provision the government would have until the fiscal year 1999 authorization and appropriation cycle to assess the contractor's ability to produce the aircraft at the required rate. If the contractor's performance is not adequate, the government could revert to the Lot VIII annual buy contract without renegotiating the not-to-exceed option prices for the remaining lots.

The Congress should require the Department to provide assurances along with its 1999 budget request that the contractor is in actuality ready to move to the higher production rate.

Mr. Chairman, this concludes my prepared remarks. I would be pleased to answer any questions you or members of the Subcommittee may have.

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