



UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

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NATIONAL SECURITY AND  
INTERNATIONAL AFFAIRS DIVISION

JUN 16 1983

B-206570

The Honorable Joseph P. Addabbo  
Chairman, Subcommittee on Defense  
Committee on Appropriations  
House of Representatives



The Honorable Ted Stevens  
Chairman, Subcommittee on Defense  
Committee on Appropriations  
United States Senate

Subject: Analysis of the Department of Defense's Request  
for Multiyear Contract Authority for the B-1B  
Weapon System (GAO/PLRD-83-86)

This is our first report in response to your requests for our analysis of projects proposed by the Defense Department for multiyear contracting. As requested, this report concentrates on the results of our analysis of Defense's request for multi-year procurement authority for the B-1B weapon system and the impact of economic order quantity buying. Other proposed multi-year projects will be considered during our analysis of Defense's fiscal year 1984 budget request.

As you requested, we did not obtain formal comments from Defense officials on this report. We have, however, discussed the issues raised herein with Air Force program office personnel responsible for the B-1B program. We briefed your staff on several occasions as our work progressed and assisted them in preparing for hearings held by your Subcommittee.

OBJECTIVES, SCOPE AND METHODOLOGY

Our work was directed at assessing whether Defense's fiscal year 1983 supplemental request and its fiscal year 1984 budget request to initiate multiyear contracts under the B-1B program met the legislative criteria for benefit to the government (savings), degree of cost confidence (reliable estimates) and stability of design. We discussed each of the foregoing areas with Air Force program office officials and reviewed underlying supporting documentation that was made available. Information supporting cost savings and contract costs was limited to budgetary data and program office estimates. Although the B-1B Program Office has received contractor proposals, analysis and negotiations are incomplete.

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The program office provided some summary information concerning the proposals but refused to make the proposals or analysis of the proposals available prior to completion of negotiations. The Program Office believes that release of the proposals and analysis would be harmful to the negotiation process. Access to both the proposals and the Air Force's analysis of the proposals is essential to a conclusive assessment of the proposed multiyear contracts.

Our audit was performed in accordance with generally accepted government auditing standards.

APPROPRIATENESS OF THE B-1B  
PROGRAM FOR MULTIYEAR CONTRACTING

Sufficient data was not available to us during our review to enable us to reach firm conclusions on the appropriateness of the B-1B program for multiyear contracting. We have some observations, however, which should assist the Committee in assessing the extent to which the legislative criteria have been met in the areas of reliable estimates of costs and savings and the stability of design.

--The B-1B program cost baseline of \$20.5 billion assumes a \$800 million savings through multiyear contracting. The Air Force currently estimates the savings at \$600 million (which would be about \$300 million if the savings are discounted) and believes these savings will continue to diminish if economic order quantity (EOQ) purchasing is not expeditiously authorized. (See p. 3.)

--The B-1B multiyear justification is based on budgetary data rather than firm contractor proposals analyzed by the Air Force. As a result, there is not a firm basis for confidence in the budgeted contract cost or savings estimates at this time. Not until the Air Force completes its analysis of proposals from all four contractors on a multiyear and annual contract basis will there be clear answers on these issues. (See p. 5.)

--The Air Force believes the B-1B weapon system has a stable design. The first B-1B aircraft, however, has not been completed and extensive operational testing remains to be done. We, therefore, are not in a position to affirm or reject the Air Force's belief that the design is stable. (See p. 7.)

Estimated Savings

On November 4, 1981 the Deputy Secretary of Defense directed the Air Force to proceed with a vigorous multiyear

contracting program in order to achieve an estimated \$800 million (1981 dollars) savings as compared to annual contracting. The B-1B program cost estimate and program plan provided for use of multiyear contracts covering fiscal years 1984, 1985 and 1986 (production lots III-V, respectively).

We <sup>1/</sup> and independent cost analysts in the Office of the Secretary of Defense questioned the projected savings because of the use of an unreliable estimating methodology. In addition, an Air Force and contractor study made during the summer of 1982 indicated that \$734 million savings (1981 dollars) was achievable but only if Economic Order Quantity (EOQ) purchases began in fiscal year 1983. The Air Force projected that savings would begin to decrease around April 1983, and that half of the savings would be lost if authority for EOQ contracting is delayed until fiscal year 1984. Therefore, the Air Force concluded that the contractors should be authorized to begin EOQ procurement by April 1, 1983 or as soon thereafter as possible.

In December 1982 the Air Force received multiyear and comparative annual contract proposals from three of the four associate B-1B contractors. Only a multiyear proposal was received from the associate contractor providing the engines. Air Force officials advised us that the proposals, which were predicated on an April 1, 1983 start for EOQ, supported an estimated \$800 million savings (1981 dollars). To initiate the EOQ procurement, the Air Force planned to issue contractual authority with "not-to-exceed" ceilings which would limit the Government's liability to \$195 million (then year dollars) if the contracts were terminated. The Air Force requested specific authority from the Congress for this action, in March 1983.

Since the Congress had not approved the Air Force's request to begin EOQ procurement starting April 1983, the Air Force revised its savings estimate. Air Force officials have stated that if EOQ purchases were to begin by June 1, 1983 and multiyear contracting was approved for the program as planned, savings of \$600 million (about \$300 million discounted), <sup>2/</sup> in lieu of \$800 million, could be achieved. Further, savings will continue to erode as EOQ approval is delayed beyond June 1, 1983.

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<sup>1/</sup>"The B-1 Bomber Program--A New Start" (GAO/MASAD-83-21, April 13, 1983).

<sup>2/</sup>Air Force estimated savings would be \$600 million if EOQ not awarded by June 1, 1983, and \$400 million if not awarded by October 1, 1983.

EOQ procurement - A large part of multiyear contract savings for the B-1B program are expected to be achieved by acquisition of subcontracted items and materials on a more economical or EOQ basis.

As planned by the Air Force, the associate contractors would be authorized to enter into multiyear subcontracts with suppliers for the purpose of achieving better prices through the purchase of larger quantities rather than only buying enough to protect the contract delivery schedule. The items involved are not specifically identified or priced in the prime contracts and are funded only for the amount needed to cover termination liability. That is, the EOQ contracts specify a "not-to-exceed" amount which represents the maximum government liability if the contract were terminated. The proposed funding for termination liability of EOQ contracting follows.

| <u>Fiscal year</u>              |             |             |
|---------------------------------|-------------|-------------|
| <u>1983</u>                     | <u>1984</u> | <u>1985</u> |
| (then year dollars in millions) |             |             |
| \$195.0                         | \$507.9     | \$205.3     |

The final prices for EOQ items will be included in the negotiated prices for fiscal year 1983, 1984, and 1985 aircraft. There is no practicable way to determine the savings to be realized by EOQ buying when the initial funds are committed. This determination must wait until the multiyear contract price is negotiated and would require a special study. The theoretical advantages of EOQ buying are evident and it is that concept upon which multiyear procurement is largely based. Disadvantages are also evident. If a program is not stable, if the total end item quantities are not acquired, if they are not acquired on about the same schedule as planned, or if the design changes make EOQ items obsolete the expected savings not only erode but costs can increase.

#### Confidence in Cost Estimates

Public Law 97-86 requires a reasonable assurance that cost avoidance estimates and contract cost estimates are realistic. The House Appropriations Committee in its fiscal year 1983 report stated:

"The Department's estimated savings for fiscal year 1983 were based primarily on soft budgetary data. The Committee believes that the resolution of this problem most likely will require a 2-step process. To achieve this objective, the Department is directed to solicit proposals on both a multiyear and an annual contract basis, with the ultimate decision reserved until the firm proposals are analyzed. It is important that

annual proposals must include options that would cover the quantities and time frame set forth in the MYP proposal \* \* \*." (Underscoring added for emphasis.)

The B-1B multiyear justification is based on budgetary data rather than firm contractor proposals analyzed by the Air Force. As a result, there is not a firm basis for confidence in the budgeted contract cost or savings estimates at this time.

The Air Force is currently analyzing only the Lot III (fiscal year 1984) annual proposals for three of the contractors. One contractor (engine) did not submit proposals on an annual basis, so the Air Force is analyzing the multiyear proposal for that contractor. The multiyear proposals received by the Air Force covered Production Lots III, IV and V (92 aircraft) except for the airframe contractor. The airframe contractor proposed an annual buy for Lot III (10 aircraft under the fiscal year 1984 buy) and a fiscal year 1985, multiyear buy for Lots IV and V (34 aircraft in fiscal year 1985 and 48 aircraft in fiscal year 1986). Analysis of the multiyear proposals, except for the engines, will not be started until after congressional approval of multiyear procurement which the Air Force interprets as the date the pending fiscal year 1983 supplemental request is approved.

The Air Force does not plan to negotiate the 82 airframe multiyear contract until fiscal year 1985, one year later than for the engine, offensive avionics and defensive avionics. Since the airframe represents the major cost portion of the program, the analysis of annual and multiyear proposals for that effort would be essential to establishing overall confidence in both multiyear contract savings and cost projections for the total B-1B program.

The Air Force advised us that combined target prices in the contractor multiyear proposals are \$3 billion (31 percent) over Air Force budgeted amounts for the multiyear contracts. Air Force officials stated they are confident they can negotiate the proposed contract prices down to the budgeted target price by various techniques which include eliminating or reducing certain work. They said their experience on B-1 related contracts showed negotiation reductions ranging from 8 percent to 48 percent of target price.

Negotiating a reduction of 31 percent of target price may be a difficult goal to achieve. The average reduction for full-scale development on Lot I and II production contracts was about 22 percent of proposed target prices. Also, there could be a loss in negotiation leverage caused by negotiating the major 2-year multiyear contract for 82 airframes a year after the Government is locked into the three multiyear contracts for the

engines, defensive avionics and offensive avionics for 92 aircraft. Further, \$507.9 million will have been committed to economic order quantity purchasing including \$161.8 million for the proposed airframe multiyear contract as well as \$1 billion committed to initiate long lead time purchasing for the fiscal year 1985 and 1986 airframes. Additionally, eliminating or reducing certain work from multiyear contracts in order to reduce up front costs raises some risk that the Air Force may only be deferring costs or increasing life cycle costs (maintenance, etc.).

The Air Force plans to award multiyear contracts for engines, offensive avionics, and defensive avionics beginning in fiscal year 1984, but not begin multiyear procurement on the airframe (which represents over half of the remaining procurement program), until fiscal year 1985. As previously discussed this delay would put the Congress in the position of making a substantial dollar commitment to a 100 aircraft multiyear contract program before confidence in either the projected \$600 million <sup>3/</sup> multiyear cost savings or the total program baseline costs of \$20.5 billion is established.

#### Design Stability

Public Law 97-86 requires a multiyear candidate to have a stable design with technical risks that are not excessive. The Office of the Secretary of Defense expanded this criteria to state:

"Stable Configuration. The item should be technically mature, have completed RDT&E (including development testing or its equivalent) with relatively few changes in item design anticipated and underlying technology should be stable \* \* \*."

In our opinion stable design, technical maturity, and completion of research, development, test, and evaluation generally describe systems that have previously been produced for delivery to the active forces. We expressed this view in testimony before the House Committee on Appropriations, Subcommittee on Defense on June 16, 1981.

The Air Force believes the B-1B is a design stable aircraft because of the experience and testing in the B-1A program and because the offensive avionics systems are based on subsystems in the B-52 and F-16 aircraft. Air Force officials also stated that only items known to be stable will be included in EOQ multiyear contracts thereby reducing the risk of changing design.

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<sup>3/</sup>Present value discounting would reduce the real savings to less than \$300 million.

The first B-1B aircraft, however, has not been completed and extensive operational testing remains to be done. As noted in our April 13, 1983 report, full-scale development effort is planned into fiscal year 1987 and about half of the research development, test and evaluations effort required on the program is to take place during fiscal year 1984 through 1987. Further, avionics flight testing will not start until July 1984 with planned integrated flight testing not to begin until early 1985.

Since operational testing is only beginning there is no basis to specifically identify potential design problems or assess their impact on the program. We, therefore, are not in a position to affirm or reject the Air Force belief that the risk of design change is acceptable.

#### MATTERS FOR CONSIDERATION

While the Air Force has estimated substantial savings available from multiyear procurement and insists the design of the aircraft and major subsystems are stable, the inherent uncertainty of using budgetary data to estimate savings and contract cost and the absence of meaningful production experience raise questions about this position.

When the Committee is satisfied that the Air Force has provided sufficient information to demonstrate confidence in the design stability of all B-1B systems, and determines that the B-1B program is an acceptable candidate for multiyear contracting, it may want to consider quickly approving EOQ for fiscal year 1983 because the Air Force states that delay is jeopardizing claimed savings. We believe, however, that approval of fiscal year 1983 EOQ authority and the fiscal year 1984 budget request for multiyear contracting authority should carry certain conditions. We suggest the Committee require the Air Force to:

- make a detailed analysis of both multiyear and annual proposals for all associate contractors based on a fiscal year 1984 start before any multiyear contracts can be awarded;
- provide a detailed assessment that demonstrates the extent to which the negotiated multiyear target prices plus work already on contract and work not yet on contract compares with the \$20.5 billion program baseline.

In addition, if the Committee wants our assessment of savings and total program cost based on negotiated multiyear contract prices prior to final congressional approval it should consider requiring the Air Force to provide all proposals and analyses for GAO review when the initial negotiation objectives under either multiyear and/or annual contract basis are established.

Timely access to this data would be essential for us to be responsive to the Committee needs. Such access would require that adequate assurance be given to the Air Force that the confidentiality of the materials is maintained until price agreements are reached.

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We appreciate the assistance you provided in our attempt to obtain access to essential Air Force data. We are continuing to perform requested work on other multiyear programs proposed by defense.

Copies are also being sent to the Secretary of Defense and other interested parties.

Sincerely yours,



Frank C. Conahan  
Director