United States General Accounting Office

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Report to Congressional Requesters

August 1992

MILITARY AIRCRAFT

C-17 Supplier Management Problems Are Not Related to Budget Reductions

GAO/NSIAD-92-207

GAO

United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

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August 26, 1992

The Honorable Sam Nunn
Chairman, Committee on Armed Services
United States Senate

The Honorable Daniel K. Inouye
Chairman, Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Les Aspin
Chairman, Committee on Armed Services
House of Representatives

The Honorable John P. Murtha
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives

In 1990, Congress significantly reduced the Air Force's fiscal year 1991 budget request for the C-17 program because of congressional concern, based on our testimony, that the C-17's prime contractor—the Douglas Aircraft Company—was behind schedule and was not ready to increase production. As a result, the Air Force and Douglas were concerned that significant budget reductions would damage the program's subcontractor base and cause many suppliers to leave the program. Also in 1990, the Defense Plant Representative Office disapproved Douglas' supplier management purchasing system because of problems or weaknesses in six areas and required Douglas to implement corrective action plans to address these areas.

As part of our continuing oversight of the program, we examined the impact of congressional reductions in the C-17's fiscal year 1991 budget on the subcontractor base. We also reviewed the actions taken by the Air Force and Douglas to correct supplier management problems.

Background

The Air Force is developing the C-17 aircraft to improve its long-range airlift capability. The Air Force awarded the development contract to the Douglas Aircraft Company of the McDonnell Douglas Corporation in 1982, and full-scale development of the C-17 began in 1985. The Air Force planned to acquire a total of 210 aircraft between fiscal years 1988 and 1998. In April 1990, however, the Secretary of Defense, based on the Major Aircraft Review, concluded that only 120 aircraft were needed because of, among other things, changes in the strategic environment. As of May 1992, the first three production lots—a total of 10 aircraft—were under contract to Douglas.

The Air Force requested $2,146 million for the C-17 program in fiscal year 1991: $1,705 million for the fourth production lot of six aircraft, $204 million for advance procurement, and $237 million for initial spares. In briefings to congressional staff and a June 1990 testimony[1] to the Subcommittee on Projection Forces and Regional Defense, Senate Committee on Armed Services, we recommended that Congress consider reducing the fiscal year 1991 request because of schedule delays and the resulting buildup of uncommitted funds. Congress ultimately authorized two aircraft and appropriated only $460 million for production and advance procurement. At the time of our recommendations, Air Force and Douglas officials contended that any budget reductions would cause numerous C-17 suppliers to leave the program. The Air Force did not contract for any additional production aircraft because it believed the authorized funds for fiscal year 1991 were not sufficient to acquire two aircraft.

At the time of our review, about 3,500 subcontractors (suppliers) furnished parts for the C-17. Douglas considered 33 of these suppliers critical to the program because the components they supplied (e.g., engines) were so crucial that the program would be seriously damaged if the suppliers experienced significant problems in producing the components or if they chose not to supply them for the program. According to Douglas officials, the subcontracted effort accounts for about 42 percent of a typical C-17's cost. Contracts with the 33 major/critical suppliers accounted for about 36 percent of the cost of production lot III. Appendix I lists the 33 major/critical suppliers and the component(s) they provided to the C-17 program.

[1]Status of the Air Force's C-17 Aircraft Program (GAO/T-NSIAD-90-48, June 19, 1990).

According to Defense Plant Representative Office (DPRO)[2] officials responsible for monitoring the Douglas contract, several warnings were issued to Douglas to resolve problems in its purchasing system; however, the actions taken by Douglas proved to be ineffective in fully resolving the problems. Therefore, in June 1990, DPRO withdrew its approval of Douglas' supplier management purchasing system. DPRO required Douglas to (1) submit a formal corrective action plan to remedy the deficiencies and (2) institute a reporting system to track progress on the corrective actions.

Results in Brief

The reduced fiscal year 1991 budget has had little discernible effect on the subcontractor base. Only 6 of the 33 major suppliers reported any adverse effects, and none has left the C-17 program. Similarly, the major suppliers told us that none of their subcontractors complained of being affected by the budget reductions. The Air Force and Douglas told us that their earlier concerns that suppliers would leave the C-17 program—or otherwise suffer adverse consequences because of the budget reductions—may have been overstated.

While Douglas' actions to correct supplier management problems since June 1990 have resulted in some improvements, progress has been slow and areas of concern remain that will require additional effort, including a number of overage, undefinitized contracts; inadequate cost and price analyses of purchase orders; and slow release of purchase orders to the suppliers. Douglas officials requested a review of the purchasing system to identify remaining weaknesses. This review took place in July 1992, 2 years after the system was initially disapproved. Douglas is currently analyzing the results.

Suppliers Report Limited Effects, and None Have Left the C-17 Program

We contacted all 33 suppliers Douglas identified as critical. All but six said that the reductions had no negative effect on them. Twenty one stated that they were not materially affected by the budget reductions because

- their production lines were still running, building non-C-17 components,
- the supplier filled production gaps by building spare parts, or
- five or fewer employees were reassigned or laid off.

[2]Historically, contract management oversight of Douglas was provided by the local Air Force Plant Representative Office. On July 1, 1990, all Defense contract management was centralized under the Defense Logistics Agency's Defense Contract Management Command and oversight of Douglas is now provided by the local DPRO. To avoid confusion, we refer only to DPRO in this report.

Six other suppliers indicated that they benefitted from the budget reductions because the stretchout of their delivery schedules accommodated schedule slippages they had already experienced. When the Air Force chose not to contract for any aircraft using fiscal year 1991 funds, Douglas and the Air Force agreed to a production schedule slip of 13 aircraft months.[3] In turn, Douglas sent letters to most of its major suppliers informing them of the Air Force's decision and asking them to work with Douglas to minimize any resulting impacts. According to a Douglas official, the majority of the major/critical suppliers agreed to a schedule slippage or proposed filling production gaps by building spare parts ahead of schedule.

Only six of the suppliers we talked to reported effects that they attributed directly to the budget reductions, and Douglas and Air Force officials agreed that the negative effects were limited. The six reported the following:

- Most production lines were shut down in the third quarter of 1991 for an expected year, and some price increases on future proposals were anticipated.
- A break in production, which was expected to occur between lots III and IV, would probably raise the prices when production resumes.
- A 9-month production break would probably result in higher prices for production lot IV, although the amount of increase was unknown.
- A schedule stretchout to avoid a break in production caused proposed prices to increase for production lots III and IV.
- A 4-month break in production caused staff to be relocated within one company and probably would cause price increases on production lot IV.

In addition, in September 1991, Douglas and its largest supplier for the C-17 program renegotiated their contract, increasing its dollar value by $5.7 million. The supplier said that because of the congressional budget cut for fiscal year 1991, it would have to lay off some employees. A Douglas official stated that the supplier was to use part of the increase to retain key employees whose skills would be needed once production increased and who otherwise might have been laid off. The balance was to be used to cover increased costs for materials, finance raises to retain employees, and pay suppliers at the higher rates.

[3]The 13-aircraft month schedule slip is the cumulative number of months slipped for individual production aircraft P1 through P6.

No suppliers told us that they were leaving the C-17 program because of the fiscal year 1991 budget reductions. They also said that none of their subcontractors had given notice of their intention to leave the program or had complained about the impact of the budget reductions.

The Congress' fiscal year 1992 authorization of four aircraft versus the Air Force's requested six was made during our discussions with the 33 major/critical suppliers. We, therefore, asked 15 suppliers about the effect of this decreased authorization. While none indicated that the decrease would cause a major impact, most said that they were still involved in contract negotiations with Douglas and would be unable to comment. Two suppliers said that the decrease caused the companies to submit a revised bid for production lot IV, causing one supplier to increase bid and proposal costs. Another supplier pointed out that reducing production lot IV from six to four aircraft would cause an insignificant increase in unit cost as certain fixed costs would have to be spread over four units rather than six. However, the 15 suppliers did not provide other examples of negative effects, and none told us that they were planning to leave the program due to the decreased authorization.

rlier Air Force and uglas Concerns May ve Been Overstated

Air Force and Douglas officials were not able to support their contention that the budget cut would damage the C-17 supplier base or cause numerous suppliers to depart the C-17 program, and they now say that their concerns may have been overstated.

The Air Force was not able to provide any evidence of an impact. Initially, the Assistant Director of the Air Force's C-17 System Program Office said that he had heard about complaints, from at least four major suppliers, that they would suffer extended breaks in production leading to financial burdens. He referred us to Douglas for further details. However, Douglas' Vice President and General Manager for Supplier Management told us that Douglas had not heard of such complaints. Similarly, the DPRO at Douglas could not provide any examples of affected suppliers.

Douglas officials provided only one example where the budget cuts adversely affected a supplier—that of the $5.7 million contract renegotiation with its largest supplier. They said that no major suppliers had dropped out of competition for the contracts for production lot III or IV. Further, they said that, at most, possibly one or two nonmajor/noncritical suppliers may have dropped out, though they were unable to name these suppliers.

Other Douglas and Air Force officials expressed the opinion that any major damage to the supplier base would more likely have resulted from the decision to decrease the program acquisition quantity from 210 to 120 aircraft than from the fiscal year 1991 budget reductions. However, suppliers did not leave the program when that decision was made.

After we briefed the Air Force's C-17 Assistant Program Director on our findings, he said that "the Air Force's concern may have been overstated." A Douglas official said that, at the time of the fiscal year 1991 budget reductions, suppliers perceived that the C-17 program might be canceled by Congress. However, he stated that suppliers are no longer worried that the program will be canceled.

Supplier Management Deficiencies Remain Despite Improvements and DPRO Oversight

After the disapproval of its purchasing system in June 1990 and the DPRO requirement for an action plan to correct the deficiencies, Douglas made some improvements. However, according to DPRO officials, progress has been relatively slow, and they believe additional effort is needed to resolve the remaining deficiencies.

DPRO officials said that Douglas had experienced problems with its purchasing system for several years before June 1990. DPRO had issued several warnings to resolve the problems, but Douglas took no action. On June 4, 1990, following a review of Douglas' procurement system, DPRO issued Douglas a contractor deficiency report, citing deficiencies in (1) management control (ineffective previous corrective action plans), (2) price and cost analysis of purchase orders, (3) post-award management of subcontracts, (4) administration of subcontract progress payments, (5) extent of price competition, and (6) accountability regarding contracts with sister companies. In addition, DPRO withdrew its approval of Douglas' supplier management purchasing system. As a result, a DPRO official said that DPRO must approve all Douglas subcontractor purchase orders in excess of $100,000 since the contract is a fixed-price incentive type. DPRO also required Douglas to submit a formal corrective action plan outlining actions to remedy the deficiencies and institute a reporting system to track progress in correcting deficiencies.

DPRO officials told us that because Douglas had not yet produced an acceptable corrective action plan, DPRO began to withhold progress payments for supplier management overhead in January 1991, and the withheld amounts eventually amounted to about $42 million. In addition to

the absence of an acceptable plan, DPRO cited continuing problems, such as failure to

- submit subcontracts adequate for government consent;
- adequately enforce subcontractor delivery dates;
- provide adequate lead time for subcontract placement;
- reduce excess amount of overage, unsigned contracts;
- adequately justify noncompetitive awards; and
- properly administer subcontractor progress payments.

DPRO accepted Douglas' corrective action plan on April 4, 1991, and released about 75 percent of the withheld funds. DPRO officials said that Douglas has since taken several steps to implement the plan and to change the management of its suppliers such as revising and clarifying several of its written supplier management procedures. The plan addresses 13 areas that Douglas and DPRO consider in need of improvement, supplies root causes and solutions for these problems, and provides milestones for implementing the solutions. Some of the causes and solutions included the following.

- Management control, internal surveillance, and organization. DPRO had cited a lack of management attention and commitment to resolving the deficiencies. In response, Douglas has now established the position of vice president for supplier management. That position was split into two when the company separated management of government-funded programs from its commercial ventures. Douglas also created an internal audit group to review procurement packages going to DPRO for approval, audit Douglas' procurement system, examine progress payments to suppliers, and assist Douglas' buyers with subcontracting problems.
- Price and cost analysis. DPRO reported that several of the purchase orders it had reviewed lacked evidence of or did not have adequate analyses, as required by the Federal Acquisition Regulation. Douglas now plans to expand employee training and testing in this area.
- Vendor rating systems. DPRO cited Douglas for awarding contracts to suppliers who were rated on Douglas' internal Supplier Performance Measurement System as unsatisfactory in terms of quality or delivery times. Buyers have also been awarding contracts to unsatisfactory suppliers without requiring the suppliers to submit corrective action plans or obtaining required approvals. Douglas' response was to expand training and augment the buyer guidelines to clarify proper procedures.

DPRO also found multiple cases in which subcontracts had never been definitized. Douglas' internal procedures require that the terms, conditions, and price of subcontracts be negotiated and definitized within 180 days of issuance or before 40 percent of the work is completed, whichever comes first. According to a DPRO contracting official, compliance is considered crucial because definitized contracts establish constraints on scope, schedule, and expenditures as well as help to control unauthorized or excessive efforts by suppliers, which could result in uneconomical prices to the government. Thus, Douglas must pay a supplier the contract price that is agreed to when the contract is definitized, which also could affect the government's costs. Douglas' planned solution has been to establish controls and guidelines on the decision to issue undefinitized contracts, to develop a system to report reasons for issuing undefinitized contracts, and to actively track the status of undefinitized contractual actions. According to a Douglas official, the company has recently created an elite corps of subcontract negotiators to improve its negotiations on contracts greater than $1 million by placing the most competent staff on those procurement actions.

As part of its action plan, Douglas devised and implemented a set of tracking reports called key management indicators. The indicators, which are updated weekly by Douglas, track progress in all of the problem areas identified by DPRO. They measure such areas as the number and value of overage, undefinitized contractual actions, the percentage of supplier deliveries meeting schedule and quality requirements, and the acceptance rate on Douglas' procurement packages reviewed by the internal audit group and DPRO.

Douglas officials told us that, in July 1991, Douglas' internal audit group found that verification of software was not complete for several of the indicators and some data were missing in Douglas' computer system. Thus, as DPRO required, Douglas reprogrammed and validated the data by October 1991. As a result of the improvements, in November 1991, DPRO released to Douglas the balance of the supplier management overhead monies that had been withheld earlier. However, the DPRO Commander stated that he informed Douglas that the progress payment withhold would be reinstituted if the company did not continue to show progress.

Half of the 33 major/critical suppliers we contacted complained about Douglas' supplier management system. Among the problems identified were

- late engineering change orders, resulting in suppliers having to rush to meet schedules;
- poor flow-down of engineering requirements;
- undefinitized contractual actions, causing late deliveries;
- late payments on invoices;
- buyers' lack of responsiveness, causing loss of savings on materials;
- components built and in storage before purchase order is even definitized; and
- oral versus formalized engineering changes, leading to claims against Douglas and work having to be done out of normal sequence or position.

DPRO officials told us that Douglas has made a good faith effort to correct the supplier management system problems and that reliable mechanisms to correct its supplier management deficiencies have been implemented. Also, the quality and the acceptance rate of the procurement packages submitted to DPRO for review have increased, according to DPRO officials. However, these officials told us that Douglas' overall progress has been slow. DPRO officials also said they still have concerns and believe some areas require additional effort, including

- resolving the remaining overage, undefinitized contracts;
- substantiating the reasonableness of subcontractor cost and prices;
- enforcing subcontract terms and conditions; and
- using the vendor rating system to identify and not contract with suppliers who routinely do not deliver their products on time or meet quality requirements.

In the past, the DPRO's primary concern has been the quantity of undefinitized contractual actions. Douglas has decreased the number of undefinitized transactions from 428 at a value of $1.4 billion (as of June 1, 1990) to the current 96 at a value of $202 million (as of June 28, 1992). However, DPRO officials point out that several of the remaining undefinitized contracts comprise the oldest, most complex cases. For example, as of June 28, 1992, 34 transactions were over 180 days old, at a value of $106 million. Of these 34 transactions, 9 were over 1 year old and 3 were over 2 years old.

Douglas officials requested DPRO to conduct a special review, which was completed in July 1992, of their progress in fixing the contractor purchasing system problems. Douglas is analyzing the results of that review to determine when to request a formal review. According to the DPRO Commander, the formal review will assess Douglas' compliance with

the Federal Acquisition Regulation and the effectiveness of the improvements Douglas has made and determine whether to reinstate approval of Douglas' purchasing system.

Agency Comments and Our Evaluation

The Department of Defense generally concurred with our findings. In one case, the Department was concerned that we did not recognize that Douglas had responded to warnings to resolve its purchase system problems but that its actions were not sufficient to resolve the problems. We modified our report to accommodate that concern. The Department's comments on a draft of this report are in appendix II.

Scope and Methodology

To assess the effect of the fiscal year 1991 budget reductions and to obtain suppliers' comments on Douglas' supplier management practices, we conducted a telephone survey of 33 major/critical suppliers (see app. I) and the responsible Defense Contract Management Command plant representative offices or area offices. When requested by the suppliers, we sent a standardized survey containing the same questions we had asked on the telephone. We also examined correspondence between Douglas and the suppliers pertinent to the budget reductions and discussed the effects on the suppliers with Air Force and Douglas officials.

In reviewing corrective actions related to Douglas' supplier management problems, we examined Air Force contractor deficiency reports, Douglas' cost reports and consent review packages, supplier management historical files, Douglas' program status reports and assessments; and correspondence with Douglas. We reviewed Douglas' Procurement System Corrective Action Plan, key management indicators, internal audit reports, status and progress reports, and supplier management policies and procedures. We discussed supplier management issues with responsible officials from the Air Force, the Douglas Company, the Defense Logistics Agency, and the Defense Contract Audit Agency. We did our work primarily at the Douglas Aircraft Company, McDonnell Douglas Corporation, Long Beach, California.

We conducted our review from May 1991 to February 1992 in accordance with generally accepted government auditing standards.

We are sending copies of this report to the Chairmen of the House Committee on Government Operations and the Senate Committee on Governmental Affairs. Copies are also being sent to the Secretaries of Defense and the Air Force, the Director of the Defense Logistics Agency, the Director of the Office of Management and Budget, and other interested parties. Copies will be made available to others on request.

Please contact me at (202) 275-4268 if you or your staff have an questions concerning this report. Major contributors to this report are listed in appendix III.

Nancy R. Kingsbury
Director
Air Force Issues

Contents

Abbreviation

DPRO Defense Plant Representative Office

C-17 Major Critical Suppliers

Supplier	Component
AeroTrans Corp.	Air deflector
Allied Signal, Garret Auxilary Power Division	Auxiliary power unit
Allied Signal, Tucson AirResearch	Cabin pressure control system
Allied Signal, Los Angeles AirResearch	Integrated environmental control system
Allied Signal, Bendix/King Air	Weather radar
Auto Air Composites	Wing tips, dorsal fairings
BAE Hamble Aerostructures	Panels and flap hinge fairing
Beech Aircraft	Landing gear doors
British Aerospace, Preston	Strakes
Brunswick Corp., Defense Division	Flap panels and radomes
Cleveland Pneumantic	Main landing gear
Delco Electronics	Mission computer
GE Aerospace	Electronic flight control system
GEC Avionics	Heads up display
Grumman	Ailron, rudder, elevator
Hamilton Standard	Air propulsion data management system
Heath Tecna Aerospace	Wing to fuselage fillet
Honeywell, Albuquerque	Air data computer
Honeywell Military Avionics Division	Inertial reference unit
Litton Systems	Warning annunciator panel
LTV Sierra Research	Station keeping equipment
LTV Aircraft Products Group	Vertical and horizontal stabilizer
Martin Marietta	Tailcone fairing, rudder fairing
Menasco, Canada	Nose landing gear
National Waterlift	Thrust reverser actuators
Northwest Composites	Pod panels, strut doors
Pratt and Whitney	F-117 engines
Sundstrand	Electrical power generating system
Teledyne	Warning and caution system
Telephonics	Integrated radio management system
TRE Composite Structures	Aft cargo door skins
Vickers Electromechanical	Mechanical flight controls
Westland Aerospace	Flap vanes

Comments From the Department of Defense

THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, DC 20301-8000

20 JUL 1992

Mr. Frank C. Conahan
Assistant Comptroller General
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, DC 20508

Dear Mr. Conahan:

Enclosed is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report "MILITARY AIRLIFT: C-17 Subcontractor Management Problems Are Not Related to Fiscal Year 1991 Budget Reductions," Dated June 9, 1992, (GAO Code 392622, OSD Case 8895-F). In general, the Department agrees with the report.

Since there were no recommendations with this report, no specific actions are being proposed within the Department. It should be noted that the Department is closely following Douglas Aircraft Company's progress in bringing its supplier management system up to acceptable standards. Detailed comments on the report's findings are enclosed.

Sincerely,

David J. Berteau
Principal Deputy

Enclosure

GAO DRAFT REPORT - DATED JUNE 9, 1992
(GAO CODE 392622) OSD CASE 8895-F

"MILITARY AIRLIFT: C-17 SUBCONTRACTOR MANAGEMENT PROBLEMS ARE NOT RELATED TO FISCAL YEAR 1991 BUDGET REDUCTIONS"

DEPARTMENT OF DEFENSE COMMENTS

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FINDINGS

- **FINDING A: Status of the C-17 Aircraft Program.** The GAO reported that the Air Force requested $2,146 million for the C-17 program in FY 1991, i.e., $1,705 million for the fourth production lot of 6 aircraft, $204 million for advanced procurement, and $237 million for initial spares. At that time, the GAO recommended the Congress consider reducing the FY 1991 request because of schedule delays and the resultant buildup of uncommitted funds. The GAO report that as a result, the Congress authorized only two aircraft and $460 million for production and advanced procurement. The GAO pointed out that Air Force and Douglas officials contended that budget reductions would cause numerous C-17 suppliers to leave the program. The GAO also noted that the Air Force did not contract for any additional production aircraft because it believed the authorized funds for FY 1991 were not sufficient to acquire two aircraft.

  The GAO also reported that about 3,500 subcontractors (or suppliers) furnish parts for the C-17, and Douglas considers 33 of them to be critical because the components they supply are so crucial. Also, the GAO observed that the subcontract effort accounts for about 42 percent of a typical C-17's cost, and that the 33 critical suppliers account for about 36 percent of the cost of production lot III. According to the GAO, several warnings were issued to Douglas to resolve problems in its purchasing system, but Douglas took no action. Consequently, the GAO reported that Defense Plant Representative officials withdrew approval of the Douglas supplier management purchasing system in June 1990, and required Douglas to (1) submit a formal corrective action plan to remedy the deficiencies, and (2) institute a reporting system to track progress on the corrective actions. (pp. 2-3/GAO Draft Report)

  DoD Response: Partially concur. Air Force and Douglas Aircraft Company concerns regarding the potential adverse impact that program budget reductions would have on C-17 suppliers were not unreasonable. Fortunately, various events have resulted in the key suppliers electing to remain with the program. In addition, the Air Force fully understood that "authorized funds for fiscal year 1991 were not

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sufficient to acquire two aircraft" as well as the essential support, such as support equipment, technical orders, and training devices. Lastly, Douglas did respond to the several warnings to resolve its purchase system problems; however, the corrective actions were not sufficient to resolve the problems.

- **FINDING B: The Suppliers Reported Limited Effects and None Have Left the C-17 Program.** The GAO reported that, of the The GAO found that six suppliers reporting adverse effects stated that (1) most production lines were shut down in the third quarter of 1991, and some price increases on future proposals were anticipated; (2) a break in production, expected to occur between lots III and IV, would probably raise the prices when production resumes; (3) a 9-month production break would probably result in higher prices for production lot IV, although the amount was unknown; (4) a schedule stretchout to avoid a break in production caused proposed prices to increase for production lots III and IV; and (5) a 4-month break in production caused staff to be relocated within one company and would probably cause price increases on production lot IV. In addition, the GAO observed that Douglas and its largest supplier renegotiated their contract, increasing its dollar value by $5.7 million, to pay for retaining key personnel whose skills would be needed once production increased, and to cover increased costs for materials, employee raises, and higher rates to suppliers. Finally, the GAO reported that no suppliers were planning to leave the program and none of their subcontractors had given notice or had complained. (pp. 3-6/GAO Draft Report)

Now on pp. 3-5.

DoD Response: Concur. The inability of the Air Force to execute a FY 1991 buy did necessitate the smoothing of production schedules for production lots I, II, and III to preclude production line breaks or gaps (i.e., between production lot III, FY 1990 and production lot IV, FY 1992). The revised schedules were contractually implemented with a contract modification (P00384) to the -2108 contract (production lots I, II), and award of the -0001 contract (production lot III). Subsequently, in August 1991, after Douglas missed the contractual delivery date for T-1, the Air Force and Douglas forecasted that a cumulative slip of 13 aircraft months would occur on aircraft P-1 through P-6. There is no connection between the zero FY 1991 buy decision and the forecasted 13 aircraft month schedule adjustment.

- **FINDING C: Earlier Air Force and Douglas Concerns May Have Been Overstated.** The GAO reported that Air Force and Douglas officials, unable to support their contention that the budget reductions would damage the C-17 supplier base or cause numerous suppliers to depart the C-17 program, now say that their concerns may have been overstated. According to the GAO, the Air Force was not able to provide any evidence to

Now on pp. 5-6.

support complaints from at least four major suppliers that they would suffer extended breaks in production or financial burdens. Similarly, the GAO observed that Douglas and Defense Plant Representative officials could not provide any examples of affected suppliers. The GAO indicated that Douglas provided only one example--the $5.7 million contract renegotiation with its largest supplier. The GAO noted that Douglas officials stated no major suppliers had dropped out of competition for the production lots III and IV contracts, and that at most, possibly one or two non-major/critical suppliers may have dropped out, though they were unable to name the suppliers. The GAO also observed that other Douglas and Air Force officials indicated any major damage to the supplier base would more likely occur from decreasing the program acquisition quantity from 210 to 120 aircraft than from the FY 1991 budget reductions. (pp. 7-8/GAO Draft Report)

DoD Response: Concur.

- **FINDING D: Supplier Management Deficiencies Remain Despite Improvements and Defense Plant Representative Office Overisight.** The GAO reported that, after the Defense Plant Representative Office disapproved the Douglas purchasing system and required an action plan to correct the deficiencies, Douglas made a few improvements, but progress has been slow and significant deficiencies remain. The GAO found that, because Douglas had not yet produced an acceptable corrective action plan, Plant Representative officials began to withhold progress payments for supplier management overhead in January 1991 that eventually amounted to about $42 million. The GAO observed that Plant Representative officials accepted the Douglas corrective action plan on April 4, 1991, and released about 75 percent of the withheld funds.

  The GAO noted that the plan addresses 13 areas that Douglas and Plant Representative officials consider in need of improvement, such as (1) management control, internal surveillance and organization, (2) price and cost analysis, and (3) vendor rating systems. The GAO indicated that Douglas has established the position of Vice President for Supplier Management and has created an internal audit group to review procurement packages, audit the procurement system, examine progress payments to suppliers, and assist buyers with subcontracting problems. Also, the GAO observed that Douglas plans to expand employee training and testing in price and cost analysis and vendor rating systems, and augment the buyer guidelines to clarify procedures. In addition, the GAO observed that Plant Representative officials found multiple cases in which subcontracts had never been signed or definitized; however, the GAO noted that Douglas plans to (1) develop controls and guidelines for

issuing undefinitized contracts, and (2) report and track the status of contractual actions.

The GAO also found that in July 1991 the Douglas internal audit group found several procurement indicators were based on invalid data in the Douglas computer system. Consequently, the GAO reported that Douglas reprogrammed and validated the data by October 1991, and Plant Representative officials released the balance of the supplier management overhead monies in November 1991 with the caveat that the withhold would be reinstituted if Douglas did not continue to show progress. According to the GAO, Douglas plans to request another contractor purchasing system review in July 1992. The GAO concluded, however, that because of the McDonnell Douglas reorganization and the impact of shifting staff and resources among programs, C-17 supplier management may not be ready or able to successfully pass the review. (pp. 8-13/GAO Draft Report)

Now on pp. 6-10.

DoD Response: Concur. Although supplier management deficiencies remain, Douglas has taken steps to improve the process by abandoning its single, omnibus corrective action plan and has, instead, developed 18 separate corrective action plans, each focusing on specific deficiency areas. Also, due to the continuing and unexpected delays in the Douglas Aircraft Company corrective action process, the DoD increased its direct involvement in those efforts. To date, two corrective action plan reviews have been conducted; the most recent on June 16, 1992. In addition, a progress review was conducted during the period July 6-14, 1992.

* * * * *

RECOMMENDATIONS

None.

Major Contributors to This Report

National Security and International Affairs Division, Washington, D.C.

Brad Hathaway, Associate Director
Thomas Denomme, Assistant Director
William Graveline, Assignment Manager

Los Angeles Regional Office

Samuel S. Van Wagner, Regional Management Representative
Cassandra I. Gudaitis, Evaluator-in-Charge
David G. Hubbell, Evaluator
Frank Moore, Jr., Evaluator