GAO

January 1992

DEFENSE ACQUISITION

The Special Operations Forces Aircrew Training System at One Year

145761

GAO

United States
General Accounting Office
Washington, D.C. 20548
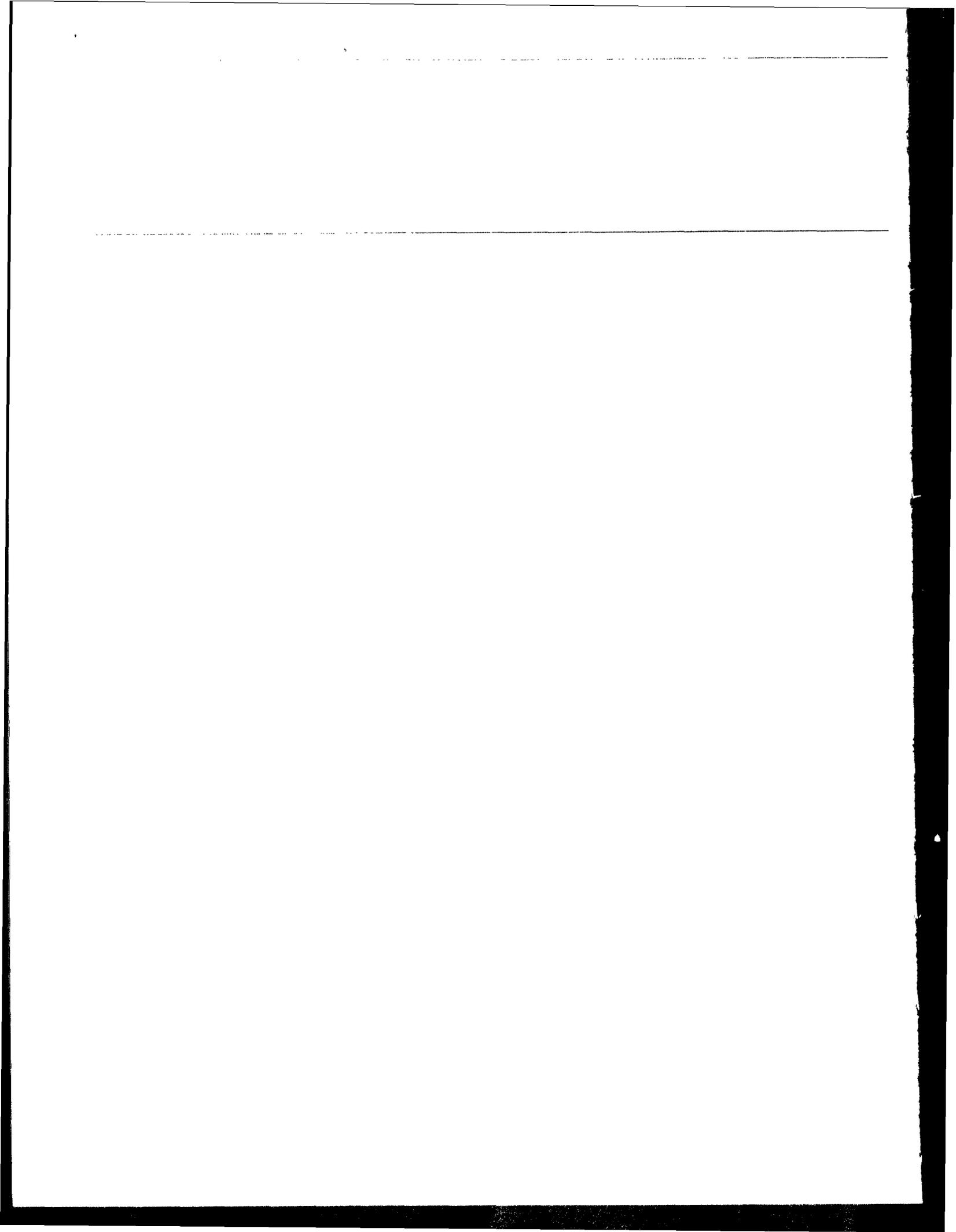
National Security and International
Affairs Division

B-246478

January 31, 1992

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

Dear Mr. Chairman:

As requested by your office, we reviewed the status of the Air Force's program to acquire a training system for its Special Operations Forces. Your Subcommittee has been concerned about the cost and eventual performance of the system, particularly as these aspects are affected by software development. As a result, the Senate Committee on Appropriations denied the fiscal year 1991 funding request for the system, although it subsequently agreed to restore the funding in conference. This report follows up on briefings given to your office in May and August 1991.

Background

The Special Operations Forces Aircrew Training System (ATS) is intended to integrate classroom, simulator, and in-flight aircraft training for seven different types of aircraft.[1] The ATS has a weapons system training component and a mission rehearsal component. The weapons system component will provide a full range of aircrew, mission qualification, and upgrade training. The mission rehearsal component will simulate combat scenarios anywhere in the world, involving multiple types of aircraft, within 48 hours of a specific tasking by the National Command Authority.[2]

The mission rehearsal component requires the development of a computer-generated, interactive model that simulates in-flight images of what might exist in actual combat environments flown at low altitudes. It will depict out-of-the-window air and ground support as well as enemy forces and allow a crew member to communicate or engage in battle, respectively. This interaction will allow crew coordination in a simulated hostile environment performed under night vision, flying over various terrains, and in different weather conditions. To achieve this level of effort will require the development of complex software.

---

[1] The ATS will provide training for transports (MC-130H and MC-130E), gunships (AC-130H and AC-130U), tankers (HC-130), and helicopters (MH-60G and MH-53J).

[2] The National Command Authority consists of the President and Secretary of Defense or their duly deputized alternates or successors.

The Special Operations Forces' missions often require complete surprise. They have only one chance to accomplish their mission. The underlying requirement of mission rehearsal is to allow, as much as possible, aircrews to practice and assess probabilities of success, failure, detection, and survivability.

The ATS has a total cost estimated at approximately $400 million if all contract options are exercised. The contract includes multiple options, with each aircraft being a separate option. Options are exercised as funding is appropriated. We reviewed the two options funded to date, which call for the development and support of two weapons system trainers and two mission rehearsal devices for the transport aircraft. Work on these options started in July 1990 and had a contractor-estimated cost at completion of about $72 million.[3]

Results in Brief

Even though the Air Force has taken steps to ensure the program is run effectively, the contractor is experiencing cost growth and a schedule delay. To minimize risk, the Air Force used a two-phased acquisition approach involving contractor competition and also retained key personnel to build program continuity. In addition, the program office obtained coordination and cooperation commitments from key agencies within and outside the Air Force at the beginning stages of the contract.

However, as of July 1991, the contractor had a cumulative overrun of 29 percent (about $6 million) above the $20.5 million it had estimated spending to that point and was about 2 months behind schedule on a preliminary software design review. According to the program office, if the overrun continues, costs for the first two options could rise to $94 million, or a $22 million increase above the originally estimated cost of $72 million.

Also, the prime contractor rather than an outside firm is performing independent verification and validation of software. Independent verification and validation is intended to provide a high level of assurance that the software being developed will work. In the past, we have stated[4] that true independence requires that this effort not be performed by the same con-

---

[3]According to contract documents, the first mission rehearsal device is being provided at no cost to the government by the prime contractor. It will cost the contractor an estimated $24 million.

[4]Space Shuttle: NASA Should Implement Independent Oversight of Software Development (GAO/IMTEC-91-20, Feb. 22, 1991).

tractor that develops the software. The Department of Defense (DOD) Inspector General has taken a similar position.[5]

Use of Past Experiences

The ATS program has incorporated four successful elements from other aircrew training system acquisitions, which are discussed in a recent Air Force Inspector General's report.[6] First, the program used a two-phased acquisition approach, which the Air Force Inspector General reported has produced solutions to aircrew training system problems. Phase I consisted of firm fixed-price contracts, awarded in June 1989, to three firms for system design studies to be completed over an 11-month period. These studies supported the ATS Phase II competition for a follow-on contract, awarded in July 1990, to complete full-scale development, production, and deployment.

Second, the program used a contract incentive to enhance the performance of and increase cooperation by the contractor. The prime contractor can be awarded up to an additional $1 million the first year and over $1.5 million in each of the following 3 years under a cost-plus-award-fee payment schedule. The amounts are based on a weighted performance evaluation in the areas of cost control (30 percent), management (25 percent), quality emphasis (10 percent), and technical engineering and support (35 percent). The first evaluation period ended on June 30, 1991, with the contractor receiving an overall rating of "very good," which resulted in a $700,000 award. The Air Force elected to carry over the remaining $300,000 to the next review period. This increases the potential maximum award fee for the second year to $1.8 million.

Third, key Air Force personnel will be retained through a critical design review milestone in early 1992, adding stability and continuity to the program. The program manager was eligible for reassignment in January 1991, but his assignment was extended 18 months. Also, the Air Force program monitor, who has been assigned to the program since the beginning of Phase I, has transferred to the U.S. Special Operations Command, where he is scheduled to monitor the program until the total system is deployed.

Fourth, Air Force program managers involved the end-users of the aircrew training system early on to make certain that what was to be procured would meet the users' needs. The issuance of the request for proposals for

---

[5]Acquisition of the C-17A Aircraft (DOD IG Audit Report No. 89-059, Mar. 20, 1989).

[6]Acquisition and Use of Training Devices (Air Force IG Report FMI PN 89-641, Dec. 5, 1989 - Dec. 20, 1990).

the Phase I contract was delayed by 5 months to make certain requirements were firm and agreed upon, according to the program office. Also, the five primary Air Force program offices, the Defense Mapping Agency, the Defense Intelligence Agency, and the National Security Agency signed an agreement of cooperation on July 20, 1990.

Cost Overrun and Schedule Slippage

Costs have exceeded budgeted amounts since March 1991 for the first two options of the contract. According to the program office, the overrun could reach 30 percent, or $22 million, bringing the total cost for these options to approximately $94 million. The prime contractor has attributed the majority of this overrun to subcontractors' actual costs being higher than estimated. Also, a lack of programming expertise in the contractor's and subcontractors' staffs required use of more senior software personnel than had been anticipated.

There has been a 2-month schedule slippage because problems in preliminary software design, development of in-class training curricula and materials, and cockpit configuration changes require more work than anticipated. The prime contractor is working with the subcontractors to develop and implement a new schedule for some tasks to meet all major milestones.

Independent Verification and Validation

Independent verification and validation of software during its development is a management tool used to help ensure performance, integrity, reliability, safety, supportability, and quality of the final software product. These benefits are gained from the verification of software requirements, designs, codes, and documents. A DOD standard[7] points out that, to the extent specified in a contract, independent verification and validation is to be performed by a contractor or federal government agency that is not responsible for developing the product or performing the activity being evaluated. According to Air Force guidelines,[8] independent verification and validation should support the program's software development plan if, among other factors, that development is considered medium to high risk because of "technical reasons" (e.g., complexity, state-of-the-art, system integration, and maturity of tools). The ATS program office assessed the developmental risk as moderate to high, primarily in the mission rehearsal areas of image generation and data base development.

---

[7]Military Standard: Defense System Software Development (DOD-STD-2167A, Feb. 29, 1988).

[8]Software Independent Verification and Validation (IV&V) (AFSC/AFLC Pamphlet 800-5, May 20, 1988).

However, the program manager determined that the program did not warrant a separate independent verification and validation effort. Instead, he elected to have a unit within the prime contractor's software quality assurance organization perform these functions and is in the process of procuring equipment needed to monitor the contractor's performance. The basis of his decision was an Air Force regulation[9] that gives the program manager the option of having independent verification and validation performed by a prime contractor or a subcontractor when the unit to perform this task is autonomous from the software development unit.

Also, the program manager, citing Air Force guidelines,[10] stated that separate independent verification and validation was not required because the software did not meet the criteria of its failure causing death or personnel injury, primary mission failure, or catastrophic equipment loss or damage. However, the program manager did not mention the program's risk level, a criterion in the same section of the guidelines. In addition, we believe the nature of the Special Operations Forces' missions requires as precise and accurate a mission rehearsal as possible because, if attempted, Special Operation Forces get only one chance to safely and successfully accomplish their mission. This factor would also support the need for a separate independent verification and validation effort.

Recommendation

We recommend that the Secretary of Defense direct the Secretary of the Air Force to amend the Special Operations Forces Aircrew Training System Program contract to incorporate an independent verification and validation component as specified in DOD Standard 2167A. These tasks would be conducted by a contractor or federal government agency that is independent of the prime contractor and not responsible for developing the product or performing the activities being evaluated.

Agency Comments

DOD officials agreed with our findings on cost growth and schedule slippage as they were measured against the ATS contract. However, they stated that they had anticipated and budgeted for such cost growth. Also, they explained that the schedule slippage did not affect major milestone completions.

---

[9]Lifecycle Management of Computer Resources In Systems (AFSC/AFLC Supplement 1 AFR 800-14, Sept. 14, 1987).

[10]Software Independent Verification And Validation (IV&V) (AFSC/AFLC Pamphlet 800-5, May 20, 1988).

DOD officials also partially concurred with our recommendation and agreed to reconsider the inclusion of independent verification and validation in the ATS program to ensure software performance and integrity. DOD's written comments are presented in appendix I.

Scope and Methodology

We visited the program office at Wright-Patterson Air Force Base, Dayton, Ohio; the prime contractor, Loral Defense Systems, Akron, Ohio; the end user, Headquarters, Air Force Special Operations Command, Hurlburt Field, Florida; the U.S. Special Operations Command, Washington, D.C., Office; and the Offices of the Assistant Secretary of Defense, Special Operations/Low Intensity Conflict, and the Secretary of the Air Force. Our work consisted of interviewing personnel, reviewing contract documentation, and analyzing related reports and records.

We conducted our review from January 1991 to October 1991 in accordance with generally accepted government auditing standards, except that we did not independently verify cost and schedule data or evaluate the basis for the award-fee rating.

We are sending copies of this report to the Chairmen, Senate Committees on Armed Services and Governmental Affairs and House Committees on Appropriations, Armed Services, and Government Operations; the Secretaries of Defense, the Army, the Navy, and the Air Force; and the Director, Office of Management and Budget. Please contact me at (202) 275-4268 if you or your staff have any questions concerning this report. The major contributors to this report are listed in appendix II.

Sincerely yours,
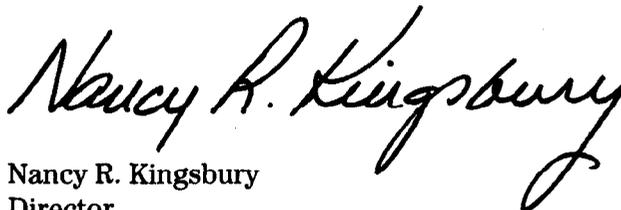
Nancy R. Kingsbury
Director
Air Force Issues

Comments From the Department of Defense

THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301-2500

DEC 30 '991

SPECIAL OPERATIONS/
LOW-INTENSITY CONFLICT

Mr. Frank C. Conahan
National Security and International Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "DEFENSE ACQUISITION: The Special Operations Forces Aircrew Training System at the One-Year Mark," dated November 18, 1991 (GAO Code 392606/OSD Case 8893). The DoD partially concurs with the report.

The GAO correctly reported a contract cost overrun. That growth was anticipated by the DoD at the time of contract award and was provided for in the original program acquisition baseline. Accordingly, the overall Special Operations Forces Aircrew Training System program is presently within the cost and schedule limits originally estimated and established by the DoD acquisition baseline.

With regard to independent verification and validation, the DoD agrees that can be an effective management tool. The Department is satisfied that the Special Operations Forces Aircrew Training System program conforms to DoD regulations and guidance and does not require independent verification and validation of the software. The DoD is confident the Special Operations Forces Aircrew Training System program is structured appropriately to deliver training systems that will meet the demanding requirements of the U.S. Special Operations Command. However, in response to the GAO concerns, by January 1992, the Assistant Secretary of Defense (Special Operations and Low-Intensity Conflict) will direct U.S. Special Operations Command to reconsider incorporating an independent verification and validation requirement to enhance program execution and further reduce program risk.

The Department is pleased to note the favorable GAO comments regarding management of the program and appreciates the professional manner in which the audit was conducted. Additional DoD comments on the report findings and recommendations are provided in the enclosure. (Suggested technical changes to the report have been provided separately.) The DoD appreciates the opportunity to comment on the GAO draft report.

Sincerely,

James R. Locher III

JAMES R. LOCHER, III
Assistant Secretary of Defense
(Special Operations and Low-
Intensity Conflict)

Enclosure

GAO DRAFT REPORT - DATED NOVEMBER 18, 1991
(GAO CODE 392606) OSD CASE 8893

"DEFENSE ACQUISITION: THE SPECIAL OPERATIONS FORCES
AIRCREW TRAINING SYSTEM AT THE ONE-YEAR MARK"

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

• FINDING A: Status Of The Special Operations Forces Aircrew Training System. The
GAO observed that the Special Operations Forces Aircrew Training System is intended
to integrate classroom, simulator, and in-flight aircraft training for seven different
types of aircraft. The GAO explained that the System has both a weapons system
training component and a mission rehearsal component. The GAO further explained
that the rehearsal component will simulate combat scenarios anywhere in the world, and
will require the development of a computer generated, interactive model. The GAO
noted that, to achieve the level of effort intended, the development of complex
software will be required.

The GAO reported that the Special Operations Forces Aircrew Training System involves
a total contract cost of about $400 million. According to the GAO, the acquisition
contract includes multiple options, with each of the aircraft being a separate option.
The GAO reported that two options have been funded to date--for the development
and support of two weapons system trainers and two mission rehearsal devices for
transport aircraft. The GAO further reported that work on those two options
started in July 1990, with an estimated cost of about $72 million. (pp. 1-3/GAO
Draft Report)

DoD Response: Partially concur. The DoD agrees, except for the estimated program
cost. Work on the first two Special Operations Forces Aircrew Training System
options began in July 1990, with the signing of a contract with Loral for $72 million.
However, the DoD estimated and budgeted for a most probable cost, which exceeds the
contract cost. The development effort is funded under a cost-plus award fee contract.
Under such a contract, all allowable costs incurred by the contractor, even those over
and above original contract value, must be paid by the Government. Since, in the
estimation of the source selection evaluators, all competing contractors underbid the
program, the program office used standard DoD practices to adjust all contractor bids
to obtain a most probable cost number, which was then used in the source selection
decision.

Enclosure

The DoD determined the Loral best-and-final offer of $72 million was less than necessary to complete the development effort. Accordingly, the acquisition baseline established by the DoD acknowledged the need for additional funds and committed the required funds to execute the first two options of the contract.

- **FINDING B:** The Use Of Past Experience In The Aircrew Training System Acquisition. The GAO reported that the Special Operations Forces Aircrew Training System program has incorporated four successful elements from other aircrew training system acquisitions, as discussed in a recent Air Force Inspector General report (No. FMI PN 89-641). First, the GAO observed that the program has used a two-phased acquisition approach, which approach the Air Force Inspector General determined had produced solutions to aircrew training system problems. The GAO further reported that Phase I of the Aircrew Training System consisted of firm fixed price contracts for system design studies, awarded to three firms in June 1989. According to the GAO, those studies supported the Phase II competition for a follow-on contract to complete full-scale development, production, and deployment, awarded in July 1990.

  The GAO noted that the second element used in the System acquisition was the use of a contract incentive to enhance performance of, and increase cooperation by, the contractor. The GAO reported that, under the contract, the prime contractor can be awarded up to an additional $1 million the first year, and over $1.5 million in each of the following three years. The GAO found that for the first evaluation period, ending June 30, 1991, the contractor was awarded $700,000, and the remaining $300,000 was carried over to the next review period. The GAO observed that, as a result, the potential maximum award fee for the second year has increased to $1.8 million.

  The third element reported by the GAO is the retention of key Air Force personnel. The GAO explained that under that element, key personnel will be retained through a critical design review milestone scheduled for early 1992--thus, adding stability and continuity to the program.

  The GAO reported that, under the fourth element, end users of the Aircrew Training System are to be involved early on to make certain users needs are met. The GAO observed that, according to Air Force officials, the request for proposals for Phase I was delayed by 5 months to make certain requirements were firm and agreed upon. The GAO learned that, in addition, an agreement of cooperation among the various DoD components was signed on March 20, 1990. (pp. 4-6/GAO Draft Report)

  DoD Response: Concur. The DoD agrees that the use of past program experience, the comprehensive management plan, and effective program execution have been crucial to the success of this program.

- **FINDING C:** Cost Growth And Schedule Slippage In The Aircrew Training System Acquisition. The GAO found that, even though the Air Force has taken steps to

ensure the program is run effectively (see Finding B), the program is already experienc-
ing cost growth and schedule delays. The GAO found that, since March 1991, costs
have exceeded budgeted amounts for the first two contract options. The GAO noted
that, as of July 1991, there was a cumulative overrun of 29 percent (or about
$6 million) above the amount budgeted. The GAO reported that, according to the
program office, the overrun could reach 30 percent (or about $22 million), bringing
the total cost for these options to about $94 million. The GAO reported that the
prime contractor attributed the majority of the overrun to subcontractor costs being
higher than estimated. The GAO indicated that, in addition, the lack of subcontractor
and prime contractor programming expertise required the use of more senior software
personnel than anticipated.

The GAO also found that the program is 2 months behind schedule, due to
(1) problems in preliminary software design and development of training curriculum,
and (2) to cockpit configuration changes requiring more work than anticipated.
According to the GAO, the prime contractor is working with the subcontractors to
develop and implement a new schedule to meet all the original milestones.

(p. 3, pp. 6-7/GAO Draft Report)

DoD Response: Partially concur. As discussed in the DoD response to Finding A, the
DoD budgeted adequate funds to execute the cost-plus award fee contract. The GAO
correctly reported the contractor cost/schedule/control system reports reflect
overruns to the original underscoped contract price. However, the growth in the
latest contractor estimate at completion now accurately reflects much of the effort
the Government believed was underscoped at contract award in July 1990. Although
the contract price has been exceeded with allowable, and mostly expected costs, the
budgeted program cost at completion, which is the DoD acquisition baseline, remains
unchanged. The program office closely tracks contract costs on a monthly basis with
analysis of contract cost performance reports, and looks for variances which could lead
to a baseline breach. Any breach to the acquisition program baseline would be
reported by the Air Force using established DoD procedures.

While the contractor documents do indicate a two-month slip on one effort, the
overall program remains on schedule. At the advice of the Government program
engineering office, the Government purposely slipped an electronic combat environment
software development effort to clarify key prime-item development specification issues
with the using comand prior to the contractor proceeding with that portion of
software development work. The contractor cost accounting system correctly showed
that as work not being accomplished. The two-month delay in the sub-system
software development effort has caused no program slip because the development
effort is not on the critical path. Minor rescheduling efforts of this nature occur
regularly throughout any development program and, in this case, are being appropri-
ately used by the Government and contractor managers to ensure the program meets
the user needs and also stays within cost and schedule.

The problems cited in developing the in-class training curriculum and in developing cockpit configuration changes have not caused any overall program schedule slips and are unrelated to the preliminary software design.

* **FINDING D: Approach To Independent Verification And Validation For The Aircrew Training System.** The GAO observed that independent verification and validation of software during development is a management tool to help ensure performance, integrity, reliability, safety, supportability, and quality of the final software product. The GAO noted that, according to Air Force guidelines, independent verification and validation should support the software development plan for a program if, among other factors, the development is considered medium to high risk because of technical reasons. The GAO noted that, in the case of the Aircrew Training System, the program office assessed the development risk as medium to high--primarily concerning areas in mission rehearsal.

The GAO found, however, that the program manager determined the Aircrew Training System did not warrant a separate independent verification and validation effort. The GAO reported that instead, a unit within the software quality assurance organization of the prime contractor was to perform those functions. According to the GAO, the basis for that decision was an Air Force regulation (Supplement 1/ Air Force Regulation 800-14), which gives the program manager the option of having independent verification and validation performed by a prime contractor or subcontractor. The GAO asserted, however, that DoD Standard 2167A indicates that independent verification and validation should be performed by a contractor or Federal agency not responsible for developing the product or performing the activity being evaluated.

The GAO further reported that the program manager also cited an Air Force pamphlet (Pamphlet 800-5) as a reason independent verification and validation was not required, since the program did not meet the criteria of software problems causing (1) personnel injury, (2) primary mission failure, or (3) catastrophic equipment loss or damage--as cited in the pamphlet. The GAO pointed out, however, that the program manager did not mention the risk level of the program--a criterion also contained in the same pamphlet. The GAO cited its February 1991 report on software development for the Space Shuttle (GAO/IMTEC-91-20), in which the GAO stated that true independence requires that the effort not be performed by the same contractor that develops the software. The GAO reported that the DoD Inspector General took a similar position in a March 1989 report (DoD Inspector General Report 89-059) concerning acquisition of the C-17A. The GAO concluded that the nature of the Special Operations Forces missions requires as precise and accurate a mission rehearsal as possible, since the Special Operation Forces get only one chance to accomplish their mission safely and successfully. (p. 4, pp. 7-8/GAO Draft Report)

DoD Response: Partially concur. The DoD agrees that independent verification and validation is an effective management tool when circumstances dictate. Although the Department is satisfied that the Aircrew Training System program office properly applied DoD directives and Air Force guidance in determining that no independent

verification and validation of software is required for the Aircrew Training System
program, because of GAO concern, incorporation of independent verification and
validation will be reconsidered to ensure software performance and integrity. (Also see
the DoD responses to Recommendations 1 and 2.)

The determination not to require independent verification and validation was based in
part on criteria in Chapter 2 of Air Force Systems Command/Air Force Logistics
Command Pamphlet 800-5, Software Independent Verification and Validation. Since
none of the criteria (including risk) apply to this program, the program office
determined that independent verification and validation was not required or cost
effective. In particular, although the overall Special Operations Forces Aircrew
Training System technical development effort is medium to high risk, as the GAO
acknowledged it is due to the mission rehearsal aspects of image generation and data
base development, not software development. It is critical to distinguish between
overall system technical risk versus software development risk.

Applicable DoD Standard 2167A does not mandate independent verification and
validation; it requires contractor interface with the software independent verification
and validation agent, if independent verification and validation is specified in the
contract. The Aircrew Training System contract contains no provision for independent
verification and validation.

The existing software development program was determined not to have inherent risks
that would warrant the unprogrammed expense of $3-4 million for a separate software
independent verification and validation. Adequate oversight of the software develop-
ment effort is in place to protect the interests of the DoD and to ensure successful
software development. The independent software quality assurance organization of the
prime contractor inspects, audits, and samples process conformance, in accordance with
the provisions of the contract and in compliance with the approved software quality
assurance plan. In addition, the use of networked, compatible software engineering
environments at all the contractor locations and at Wright-Patterson Air Force Base
provides the Air Force on-line access to monitor and review the contractor results as
the software is being developed. Furthermore, the program office routinely consults
the Software Engineering Institute at Carnegie Melon University on the latest
techniques and methods with respect to simulator software. The Software Engineering
Institute collaborates with program personnel during design reviews, by monthly
software working group meetings, and by telephone, as needed. As a final risk
management measure, the program office and Loral track (1) software lines of code,
(2) memory utilization, (3) software manpower, (4) software action items and
(5) software cost/schedule/performance with numerous management indicators. The
program is currently meeting or exceeding goals in all five areas.

The Department originally directed the funding and implementation of this program in
order to provide a responsive mission rehearsal cabability for nationally important
missions. While the GAO correctly notes that Special Operations Forces missions
require as precise and accurate a mission rehearsal as possible, this is principally a
testing and fidelity issue for the mission rehearsal devices. The DoD has planned
extensive testing to verify system performance. Incrementally throughout the the

development process, fully qualified crew members will continue to support contractor
testing to verify the accuracy and fidelity of each aircraft training device prior to final
acceptance testing by the Air Force. For final acceptance, the weapon system trainers
are being tested to Federal Aviation Administration Phase II certification standards,
which are extremely rigorous. The fidelity of the electronic combat environment will
be validated independently by the Air Force Electronic Warfare Center. An operational
test of the Special Operations Forces Aircrew Training System will be planned and
conducted by the U.S. Air Force Airlift Center, Military Airlift Command, and
monitored by the Air Force Operational Test and Evaluation Center.

* * * * *

RECOMMENDATIONS

- RECOMMENDATION 1: The GAO recommended that the Secretary
of Defense direct the Secretary of the Air Force to incorporate an independent
verification and validation requirement in the Special Operations Forces Aircrew
Training System Program. (p. 9/GAO Draft Report)

DoD response: Partially concur. As discussed in the the DoD response to Finding D,
independent verification and validation is not required for the Special Operations Forces
Aircrew Training System program. Software development is being accomplished in full
compliance with applicable DoD policies and procedures. However, due to the GAO
concerns, by January 1992, the Assistant Secretary of Defense (Special Operations and
Low Intensity Conflict) will direct the U.S. Special Operations Command to reconsider
incorporating an independent verification and validation requirement in the Aircrew
Training System program to further reduce program risk.

- RECOMMENDATION 2: The GAO further recommended that the Secretary of Defense
direct the Secretary of the Air Force to ensure those [independent verification and
validation] tasks be conducted by a contractor or Federal agency that is independent of
the prime contractor, and not responsible for developing the product or performing

the activities being evaluated. (p. 9/GAO Draft Report)

DoD response: Partially concur. As discussed in the DoD response to Finding D,
independent verification and validation is not required for the Special Operations Forces
Aircrew Training System program. Software development is being accomplished in full
compliance with applicable DoD policies and procedures. The DoD is confident the
Special Operations Forces Aircrew Training System program is structured appropriately
and the delivered training systems will meet the demanding U.S. Special Operations
Command requirements. However, due to the GAO concerns, by January 1992, the
Assistant Secretary of Defense (Special Operations and Low Intensity Conflict) will
direct the U.S. Special Operations Command to reconsider incorporating an independent
verification and validation requirement in the Aircrew Training System program to
further reduce program risk.

Major Contributors to This Report

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

Brad Hathaway, Associate Director
John K. Harper, Assistant Director
James A. Driggins, Evaluator-in-Charge

Cincinnati Regional Office

Daniel Loesch, Site Senior

Ordering Information

The first copy of each GAO report is free. Additional copies are $2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

U.S. General Accounting Office
P.O. Box 6015
Gaithersburg, MD 20877

Orders may also be placed by calling (202) 275-6241.

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

Official Business
Penalty for Private Use $300