United States General Accounting Office

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Report to Congressional Requesters

August 1993

B-2 BOMBER

Comparison of Operational Capabilities and Support Costs for 15 Versus 20 Aircraft

GAO/NSIAD-93-209

GAO

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

National Security and
International Affairs Division

B-253553

August 20, 1993

The Honorable Ronald V. Dellums
Chairman, Committee on Armed Services
House of Representatives

The Honorable Patrick Leahy
United States Senate

In response to your requests, we evaluated the operational and support plans for the B-2 bomber. We specifically evaluated differences in the B-2's conventional operational capabilities, military construction funding, and operations and maintenance costs for purchasing 20 aircraft instead of 15 aircraft.

At $45.3 billion for acquisition of 20 aircraft, including initial spares, support equipment, technical data, and construction of facilities, the B-2 bomber is one of the most costly Department of Defense (DOD) acquisition programs. We previously reported[1] that DOD's plans for acquiring the final five B-2 bombers could not be justified based on strategic nuclear missions.

Results in Brief

The size of the B-2 force will limit its conventional missions primarily to striking targets with precision-guided munitions rather than delivering large payloads of unguided weapons. Regardless of the type of payload, DOD calculated that the additional 5 aircraft would increase the B-2 operational capability by 45 percent, from 11 assigned aircraft (in a force of 15 aircraft), to 16 assigned aircraft (in a force of 20 aircraft).

The full capabilities of the B-2 force will not be realized until 1998 at the earliest, or about 5 years after the first aircraft is scheduled to be delivered to the operating base in December 1993. Precision weapons, essential for effective use of the B-2 in most conventional missions, must be developed, tested, and produced in sufficient quantities. Further, improvements planned in the B-2's ability to avoid detection by certain radars are needed to ensure its ability to survive the most demanding missions. Those improvements are scheduled to be incorporated in eight aircraft by 1998 and in all B-2s by the year 2000.

[1]Triad Summary (GAO/PEMD-92-36R, Sept. 28, 1992).

According to the Air Force, about $2.3 billion of $5.2 billion needed for spare parts, military construction, and other initial B-2 logistics support has been made available from appropriations through fiscal year 1993. Of the $2.9 billion the Air Force believes is still needed, about $42 million of military construction costs and $100 million of spares costs are for the last five aircraft. These costs could be avoided if only 15 aircraft are bought. Such cost avoidance would be in addition to the $1.1 billion in reduced manufacturing cost associated with reduction in the number of B-2s to be acquired from 20 to 15.[2] Some logistics cost estimates have not been finalized because the Air Force has not decided the extent that the B-2 will be repaired and maintained by contractors. Once the overall support concept is decided, logistics costs will likely be reduced if 15 instead of 20 aircraft are acquired.

Once deployed, operation and maintenance costs for 20 aircraft are expected to total, in constant 1993 dollars, $61.9 million more a year than 15 aircraft, or $1.55 billion more over the expected 25-year life of B-2s. These costs are based on Air Force estimates that operation and maintenance of each B-2 assigned to an operating base will cost $34.79 million a year for a 20 aircraft program and $44.98 million a year for a 15 aircraft program. Partly because of the smaller quantities of aircraft and a planned increase in the number of flying hours per aircraft, these costs are significantly higher per aircraft than estimates prepared 2 years ago based on a 75 aircraft program. At that time, operation and maintenance costs were estimated at $7.6 million per aircraft, which was about the same as the actual operation and maintenance costs of a B-1B aircraft.

Background

The Air Force began full-scale development of the B-2 bomber in 1981 and planned to acquire 132 operational bombers. In April 1990, the Secretary of Defense, as the result of a major aircraft review, announced a reduction in the B-2 quantities, from 132 to 75. In January 1992, the President announced that the total number of B-2s acquired would be further reduced from 75 to 20. At that time, 15 operational aircraft were under contract, and advance procurement and long lead effort[3] was ongoing for 5 additional operational aircraft. The Air Force estimated the acquisition cost of 20 B-2 bombers at $45.3 billion, including military construction

[2]See GAO/NSIAD-93-253R, B-2 Costs, July 23, 1993.

[3]Advance procurement involves buying parts that need to be ordered the year before the production effort is expected to start, while long lead effort entails beginning production work before a definitized contract has been negotiated.

costs. The 20 operational B-2s are scheduled for delivery to Whiteman Air Force Base, Missouri, between 1993 and 1998.

The B-2 is to have both nuclear and conventional roles. Due to changes in world conditions, the Air Force no longer has bombers on 24-hour alert for nuclear deterrence and is emphasizing conventional roles and capabilities of its bomber force. Operationally, the Air Force has advertised the B-2 as being capable of launching a conventional strike from the United States to any place in the world. This role is unique because military commanders would not have to wait 2 days or more for ships and other aircraft to be positioned before attacking heavily defended targets. The B-2 has been viewed by some outside DOD as an alternative to maintaining aircraft carriers at some locations.

Operational Capabilities

Reaching targets from bases in the United States and using stealth technology and precision-guided weapons are intended to give the B-2 a revolutionary advantage in combat operations. The B-2 could be the leading edge of the initial U.S. response in a conflict; however, the size of the projected force will likely limit its conventional mission to precision-guided strikes of critical targets. A recent Air Force study, assuming a time frame of the year 2010, concluded that an all bomber force of 16 B-2s, 8 B-1Bs, and 5 B-52s could have struck 67 of 85 critical targets that were struck by nearly 200 aircraft (F-117As, B-52s, F-111s, and AH-64s) and cruise missiles during the first night of Operation Desert Storm.

Because of the quantity of B-2s being acquired, the Air Force asserts that B-2s would be used primarily to deliver precision weapons to high-priority targets rather than deliver large payloads of unguided weapons. A B-2 force of 20 or 15 aircraft operating from near, but not within, the theater of operations in a scenario such as Operation Desert Storm, has a capability to deliver about 160 or 110 tons per day, respectively. In comparison, the Air Force, using 20 B-52s operating from an island near, but not within the theater of operations, delivered 146 tons per day on average during Operation Desert Storm, comparable to the payload capability of 20 B-2s.

The F-117's primary mission, similar to that of the B-2's, is to deliver precision munitions to high-priority targets. We compared the Air Force's projected B-2 sorties and payload to actual sortie data for the 56 F-117As assigned to Operation Desert Storm. The F-117s flew missions from within the theater of operations. For our comparison, we assumed the B-2s would

operate from a location near, but not within, the theater of operations because Air Force officials informed us that the B-2s would probably not be based very close to the area of the conflict. Table 1 shows that 15 B-2s operating from near, but not within, the theater of operations could potentially strike almost twice the number of targets as the 56 F-117s and that 20 B-2s could strike 2.6 times the number of targets as the F-117s.

Table 1: Comparison of 20 and 15 B-2 Aircraft Precision Weapon Capabilities With 56 F-117As

	56 F-117As	20 B-2s	15 B-2s
Sortie rate per day[a]	0.757	0.5	0.5
Aircraft available	42	16	11
Total sorties per day	32	8	5.5
Maximum Targets:			
Per day	50	128	88
Per 30 days	1,500	3,840	2,640
Ratio to F-117A targets	1.0	2.6	1.8

[a]A sortie represents one aircraft takeoff and landing.

Peacetime crashes or combat losses under either a 20 aircraft program or a 15 aircraft program would reduce the effectiveness and capabilities of the force.

DOD is conducting analyses of the capabilities of B-2 bombers to satisfy the requirements of the National Defense Authorization Acts of 1992 and 1993. To meet the requirements of those acts, the Secretary of Defense must certify, among other things, that the B-2 demonstrated high confidence in mission accomplishment of critical performance characteristics, including detection and survivability, air vehicle performance, strength and durability of structure, offensive and defensive avionics, and weapons separation testing. The acts require our office to issue a report on the Secretary's certification.

Full-Performance Conventional Capability

The B-2 force will not reach its full potential for performing the most demanding conventional missions until 1998 or after. Precision weapons, essential for effective B-2 conventional missions, must be developed, tested, and produced in sufficient quantities. In addition, improvements that are to be made to the B-2's ability to avoid detection by certain radars will not be installed in the entire force until the year 2000.

Maximum effectiveness of B-2s in a conventional role requires that it carry and deliver advanced, precision-guided weapons. Table 2 shows the estimated initial installation date of the conventional precision-guided weapons planned for the B-2 program. On June 21, 1993, DOD informed the Congress of its intent to proceed with a demonstration of a Global Positioning Satellite (GPS) Aided Targeting System/GPS Aided Munition, also called GATS/GAM. The plan is to provide an operational capability in 1996. Initial installation of the precision-guided Tri-Service Standoff Attack Missile (TSSAM) on a B-2 is scheduled for 1996. The missiles will be test assets from the TSSAM program. The Air Force also plans to add the Joint Direct Attack Munitions (JDAM) I and III to the B-2s precision-guided munitions. JDAM I is a 2,000-pound weapon that the Air Force estimates will achieve accuracy of 45 feet or less. JDAM III is a more advanced 2,000-pound weapon with estimated accuracy of 10 feet or less.

Table 2: Initial Installation of Precision Guided Conventional Weapons on the B-2s

Weapon planned	Initial installation
GATS/GAM	1996
TSSAM	1996
JDAM I	1998
JDAM III	2001

Source: U.S. Air Force.

The initial installation date is the first date that the weapon is scheduled to be installed. It does not mean the Air Force has full-operational capability. Accordingly, the date at which full-operational capability of precision-guided weapons is achieved with the B-2 will likely extend beyond the year 2000. According to Air Force officials, development problems and delays with the precision-guided weapons have already occurred. For example, table 2 incorporates the impact of JDAM I encountering acquisition problems and the Air Force extending the TSSAM program 31 months. Future delays in these weapons programs could affect the planned dates of their initial installation on B-2s.

Most B-2s will also require modification to correct an anomaly involving its ability to avoid detection by certain radars at certain altitudes. Until these fixes are made, changes in mission planning will be required to overcome the shortfalls in the B-2's ability to avoid certain radars. These changes involve routing and altitude adjustments to avoid threat radars. The first aircraft with corrections is scheduled for delivery in mid-1997, and the modification is scheduled to be completed on all B-2s by the year

2000. According to the Air Force, the B-2s will be delivered in three different configurations, each with increasing capabilities.

Logistics Support Costs Differences Between 15 and 20 Aircraft

Logistics support includes facilities and equipment for servicing the aircraft, trained maintenance personnel and flight crews, and adequate supplies of parts. Providing initial logistics support is a costly and integral part of deploying any weapon system. Ongoing operations require additional funds to operate and maintain the aircraft. We reviewed Air Force plans and cost estimates to identify differences in initial and follow-on logistics costs between 15 and 20 aircraft.

Initial B-2 Logistics Support Costs

Air Force figures show that, through fiscal year 1993, about $2.3 billion appropriated for the B-2 program was to be used for initial B-2 logistics support. From 1994 through 1998, the Air Force estimates an additional $2.9 billion is needed for B-2 logistics support. The total $5.2 billion cost, shown in table 3, is included in the Air Force's total B-2 acquisition cost estimate of $45.3 billion. The Secretary of Defense is required by the National Defense Authorization Act of 1993 to submit a cost report for 20 aircraft, which includes research, development, test and evaluation, and procurement. The cost report is to address planned modifications and retrofits, tooling, preplanned product improvements, support equipment, interim contractor support, initial spares, any government liability associated with termination, and any other government costs. The act also requires that we review the acquisition cost report submitted by the Secretary of Defense. As of July 14, 1993, the Secretary had not issued the cost report.

Table 3: Air Force's Estimated Initial Logistics Support Costs

Dollars in billions

Cost element	Funds available	Additional amount needed	Total
Initial spares	$0.692	$0.827	**$1.519**
Support	1.210	1.967	**3.177**
Construction	0.438	0.094	**0.532**
Total	**$2.340**	**$2.888**	**$5.228**

Source: U.S. Air Force.

Some initial logistics cost estimates have not been finalized because the overall support concept for 20 aircraft has not been decided. According to

the Air Force, the decision will be made before submitting its fiscal year 1995 budget request. Therefore, the full extent of the differences in support costs between 15 and 20 aircraft cannot be determined at this time. However, we found some quantifiable differences in military construction, initial spares, and annual operating and maintenance costs between 15 and 20 aircraft.

The Air Force plans to spend $532.3 million of military construction funds on support facilities for 20 B-2s, including provisions for shelters. The shelters help retard any deterioration of the B-2s composite and low-observable features due to prolonged exposure to the sun and other adverse weather conditions. As of December 31, 1992, $438.7 million of military construction funds had been appropriated. The difference of $93.6 million that has not been appropriated includes $41 million of fiscal years 1995 and 1996 funds to construct four shelters with fuel and aircraft servicing systems at Whiteman Air Force Base, Missouri, and $1 million of fiscal year 1996 funds to convert one depot maintenance facility into a B-2 shelter at Tinker Air Force Base, Oklahoma. These $42 million in costs are specifically related to the last 5 aircraft to be bought under the 20 aircraft program.

As shown in table 3, the Air Force plans to spend $1.5 billion on B-2 initial spares. According to the Air Force, about $100 million of this total is specifically related to the last 5 aircraft to be bought under the 20 aircraft program.

Annual Operating and Maintenance Costs

Operating and maintenance costs include the costs of personnel, material, and facilities, both direct and indirect, incurred while operating and maintaining a weapon system. These costs are not included in the acquisition cost estimate for the B-2 program. B-2 operations and maintenance cost estimates have grown significantly from prior estimates and costs per unit will be high compared to B-1B operations and maintenance costs.

The Air Force estimates that beginning in the year 2000 each of the 16 B-2s assigned to an operating base under a 20 aircraft program will cost, in 1993 dollars, $34.79 million a year to operate and maintain. In 1991, the Air Force estimated annual operating and maintenance costs of a fully capable B-2, in 1991 dollars, at $7.6 million an aircraft under a 75 aircraft program. After eliminating the effect of stating these estimates in different year's constant dollars, the revised Air Force estimate represents a growth in

annual operating costs per aircraft of 300 percent since 1991, when the Air Force planned to acquire 75 aircraft.

After the 1991 estimate was prepared, the President announced plans to acquire 20 aircraft, and the Air Force increased its planned reliance on contractor depot maintenance and increased B-2 flying time to 430 hours an aircraft a year. DOD stated that allocating fixed operating costs of about $400 million a year over fewer aircraft and increasing flying hours for conventional training were major factors in the increase in projected annual operating and maintenance costs per aircraft.

Based on annual operating and maintenance costs of about $34.79 million an aircraft assigned to an operating base, the 20 aircraft program is estimated to cost, in 1993 dollars, $556.64 million a year (16 assigned aircraft). Based on annual operating costs of $44.98 million an aircraft, the 15 aircraft program is estimated to cost $494.78 million a year (11 assigned aircraft). Thus, the annual operating and maintenance costs for the 20 aircraft program would be $61.86 million a year more than they would be for the 15 aircraft program. Over a 25-year period, the 20 B-2s are projected to cost, in constant 1993 dollars, $1.55 billion more to operate and maintain than 15 aircraft.

Agency Comments

In commenting on this report, DOD agreed that it will cost more to operate and maintain 20 aircraft than 15 aircraft. However, DOD pointed out that the operation and maintenance cost for 20 aircraft is greater than for 15 aircraft by only 12 percent, compared to an increase in weapon system capability of 45 percent, representing, in DOD's opinion, a prudent investment in the nation's defense. DOD's comments are addressed in the body of this report where appropriate, and are reprinted in their entirety in appendix I, along with our evaluation.

Scope and Methodology

We interviewed Air Force officials and reviewed reports and other documents pertaining to logistics support, operational roles and capabilities, and weapons deployment for the B-2. We obtained the most recent cost estimates available for B-2 logistics and military construction. We did not independently verify these estimates.

We visited proposed sites for depot facilities at Tinker Air Force Base, Oklahoma. We also visited Whiteman Air Force Base, Missouri, and reviewed facility construction plans and projects to determine if

construction plans were changed to meet changes in aircraft delivery schedules.

We reviewed various studies done by independent contractors and the Air Force and interviewed Air Force officials to identify the operational role planned for the B-2. We also obtained various documents from the Air Force that identified the weapons planned for the B-2.

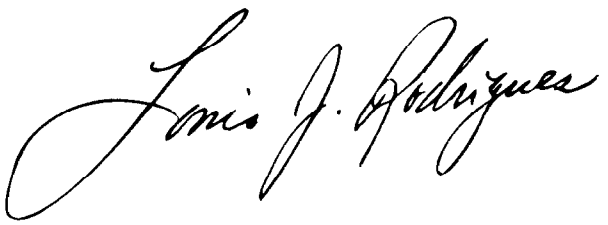
We made our review and contacted officials at the following locations:

- Headquarters, Department of the Air Force, Washington, D.C.;
- Headquarters, Air Combat Command, Langley Air Force Base, Virginia;
- B-2 System Program Office, Air Force Systems Command, Aeronautical Systems Division, Wright-Patterson Air Force Base, Ohio;
- B-2 System Program Manager, Oklahoma City Air Logistics Center, Tinker Air Force Base, Oklahoma;
- Whiteman Air Force Base, Missouri;
- Center For Naval Analyses, Office of the Chief of Naval Operations, Alexandria, Virginia; and
- Rand Corporation, Santa Monica, California.

We conducted our review between May 1992 and February 1993 in accordance with generally accepted government auditing standards.

We are sending copies of this report to the Chairmen, Senate Committee on Armed Services and the Subcommittees on Defense, House and Senate Committees on Appropriations; the Secretaries of Defense and the Air Force; the Director, Office of Management and Budget; and other interested parties.

Please contact me at (202) 512-4841 if you or your staff have any questions concerning this report. The major contributors to this report are listed in appendix II.



Louis J. Rodrigues
Director, Systems Development
and Production Issues

Comments From the Department of Defense

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

OFFICE OF THE UNDER SECRETARY OF DEFENSE

WASHINGTON, DC 20301-3000

ACQUISITION

July 21, 1993

Mr. Frank C. Conahan
Assistant Comptroller General
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 entitled "B-2 BOMBER: Logistics,Operation and Maintenance Cost," dated June 25, 1993 (GAO Code 392695/OSD Case 9182-A). The Department only partially concurs with the report.

The Department agrees that bringing the total number of B-2s to twenty will increase the operating cost of the B-2 weapon system. However, it should be recognized that when a 12 percent increase in cost yields a 45 percent increase in weapon system capability it is a prudent investment in the nation's defense. The Department disagrees with the GAO that a force of 20 B-2s has a limited capability. A fleet of twenty B-2s has the potential to deliver more precision weapons, on a daily basis, than were actually dropped during Desert Storm.

The Department also disagrees with the GAO that full mission capability will not be available until after the year 2000. Although all twenty aircraft will not be fully configured by the year 2000, the Air Combat Command requirement for a fully mission capable system, consisting of eight aircraft at Block 30 configuration, will be met in 1998.

The detailed DoD comments on the report findings are provided in the enclosure. (Additional technical comments were separately provided to the GAO staff.) The Department appreciates the opportunity to comment on the draft report.

George R. Schneiter
Director
Strategic and Space Systems

Enclosure

GAO DRAFT REPORT - DATED JUNE 25, 1993
(GAO CODE 392695) OSD CASE 9182-A

"B-2 BOMBER - LOGISTICS, OPERATION AND MAINTENANCE COST"

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

Now on pp. 1-6.

FINDING A: The B-2 Conventional Mission is Limited by the Number of Aircraft to be Acquired. The GAO reported that the Air Force plans to procure 20 B-2 bombers. The GAO pointed out that the Air Force currently has 15 aircraft under contract, with advance procurement and long lead effort ongoing for five additional aircraft. The GAO observed that the small size of the projected force (whether 15 or 20) will likely limit the Air Force conventional mission to precision guided strikes of critical targets -- and that the relative contribution of the five additional aircraft will largely depend on (1) the number and types of targets to be destroyed, (2) the types of weapons employed, and (3) the number of B-2s that will be operationally capable at one time. (pp. 1-2, pp. 5-7/GAO Draft Report)

See comment 1.

DoD RESPONSE: *Partially concur.* The Department disagrees with the GAO assessment of the B-2s operational capability. Sixteen B-2s will deliver more precision munitions than the 154 F-111s, F-117s, and F-15Es did during the air war of Desert Storm. The primary conventional mission for the B-2 is the precision strike of critical targets. However, the GAO understates the contribution of five additional B-2s for that mission. With a total force of 20 B-2s, there would be 16 available for operational use at any one time. With 15 B-2s, the number of operationally available aircraft is only 11. The addition of five aircraft increases total weapon system capability by 45 percent. That percentage increase in capability remains constant when using precision conventional weapons, "dumb" conventional weapons, or nuclear weapons.

See comment 2.

The GAO also makes an invalid comparison between ten B-2s delivering 16 precision guided weapons each per day and the total tonnage dropped by the Navy during Desert Storm of approximately 1,400 tons per day. The vast majority of the weapons used during Desert Storm were "dumb" conventional bombs whose performance does not compare favorably at all to the capability of precision weapons. A more meaningful comparison would be between the B-2 and the three Air Force aircraft that utilized the majority of precision weapons during Desert Storm--the F-117, the F-111, and the F-15E. During the 43 day air war, 154 of those aircraft delivered 4,790 precision weapons averaging 111 precision weapons per day among the three. Eight B-2's can deliver 128 precision weapons per day. To sustain eight sorties per day,

between 12 and 15 B-2s would need to be available. In addition, less than one-tenth the number of aircrews are put at risk when B-2s are used in lieu of fighters in such a scenario.

Now on pp. 1, 4-6.

FINDING B: Full Performance Capability Is Years Away. The GAO asserted that the B-2 force will not be fully capable of performing its conventional mission until after the year 2000, because (1) precision weapons, essential for effective B-2 conventional missions, must first be developed, tested, and available in sufficient quantities, and (2) improvements, which are to be made to the B-2s ability to avoid detection by certain radars, will not be installed in the entire force until the year 2000. (p. 2, pp. 7-9/GAO Draft Report)

See comment 1.

DoD RESPONSE: Nonconcur. The Department disagrees with the GAO statement, "The B-2 force will not reach its full potential for performing the most demanding conventional missions until after the year 2000." The Joint Direct Attack Munition 1 will be available in 1998. The Tri-Service Standoff Attack Missile will also be available to the B-2 in 1998. Only the Joint Direct Attack Munition 3 will be available to the B-2 after the year 2000. The B-2 will have a significant precision capability (Tri-Service Standoff Attack Missile) well prior to the year 2000.

See comment 1.

In addition, the Department of Defense has informed the Congressional Defense Committees of the intent to proceed with a Global Positioning Satellite Aided Targeting System/Global Positioning Satellite Aided Munition. The Global Positioning Satellite Aided Targeting System/Global Positioning Satellite Aided Munition will provide a 15-30 foot circular error probable for both the Global Positioning Satellite Aided Munition and the Joint Direct Attack Munition 1. Also, the Cluster Bomb Unit-97 will be delivered in Block 20, giving the B-2 a precision capability against armor. Finally, the B-2 will have a limited Tri-Service Standoff Attack Missile capability in 1996, using test assets provided by the Tri-Service Standoff Attack Missile program. The combination of those three weapons will provide the B-2 with a full performance capability well before the year 2000.

See comment 1.

In the area of low observable performance, the GAO again understates the early B-2 capability. The first delivered B-2, arriving in December 1993, will have significant low observable performance. Full capability (Block 30) will be available on the first aircraft in 1997. A full squadron (8 aircraft) will have the Block 30 configuration in 1998, while all twenty aircraft will be so equipped during the year 2000. Prior to full Block 30 configuration, mission planning and tactics will be used to accommodate the interim radar cross section.

FINDING C: Logistics Support Costs Could Be Avoided. The GAO reported that the Congress had appropriated about $2.3 billion of the $5.2 billion needed for spare parts, military construction, and other initial

B-2 logistics support. The GAO also reported that, of the $2.9 billion the Air Force indicates is still needed, about $42 million of military construction costs and $100 million of spares costs are for the last five aircraft -- and could be avoided if only the 15 aircraft were purchased. The GAO also indicated that once deployed, 20 aircraft are expected to cost (in 1993 dollars) $1.55 billion more over 25 years to operate and maintain than 15 aircraft. The GAO also found the costs are based on Air Force estimates that operation and maintenance of each B-2 assigned to an operating base will cost $34.79 million a year for a 20-aircraft program, and $44.98 million a year for a 15-aircraft program, which are significantly higher per aircraft than estimates prepared two years ago based on a 75-aircraft program. The GAO observed that, at the time, operation and maintenance costs were estimated at $7.6 million per aircraft, which was about the same as for the B-1B aircraft. (pp. 2, pp. 7-10/GAO Draft Report)

Now on pp. 2, 6-8.

See comment 1.

DoD RESPONSE: Partially concur. Several factors have not been reflected in the GAO discussion of the increased cost for five additional B-2s. The increase in annual costs for five B-2s is $61.9 million, which represents approximately a 12 percent increase in the total annual cost of operating the B-2 program. The 12 percent increase in cost, however, yields a 45 percent increase in the operational effectiveness of the B-2 weapon system.

See comment 2.

The GAO also notes the increase in cost per aircraft from the 75-aircraft program of two years ago. Approximately $400 million in annual operating costs remains constant regardless of the number of aircraft. Most of the cost increase per aircraft results from a combination of spreading the fixed cost over fewer aircraft, and the increase in flying hours for training associated with conventional missions.

The following are GAO's comments on the Department of Defense's letter dated July 21, 1993.

GAO Comments

1. We have revised our report to include this information.

2. We have addressed this comment in the report text.

3. We have deleted this information from the report.

Major Contributors to This Report

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