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Report to the Secretary of Defense

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AIR FORCE TRAINING

Delaying Pilot Training Could Avert Unnecessary Costs

GAO/NSIAD-94-38

GAO

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

National Security and
International Affairs Division

B-254059

November 3, 1993

The Honorable Les Aspin
The Secretary of Defense

Dear Mr. Secretary:

As part of U.S. efforts to draw down its military forces and operate within new budgetary constraints, the Air Force is reducing the number of pilots in its force structure. The Air Force projects that it will need approximately 15,300 pilots by fiscal year 1995,[1] down from about 22,300 in fiscal year 1989. In view of the $1.3 million, on average, that the Air Force spends to train each pilot, we examined whether the Air Force has been managing its production of new pilots to meet the reduced requirements in a cost-effective manner.

Background

The Air Force Academy and the Reserve Officer Training Corps (ROTC) are the primary sources of Air Force pilot candidates. After completing their undergraduate degrees and entering active duty service, these candidates receive 14 to 20 months of pilot training. The training is divided into two phases. First, the candidates learn to fly during the 1-year Undergraduate Pilot Training (UPT) program. Graduates of this program are certified as pilots. They then receive advanced flight training on a particular weapon system, such as a fighter, bomber, tanker, or transport aircraft. The weapon system training lasts from 2 to 8 months. Pilots who complete this training are fully qualified on a weapon system and are then assigned to an operating air squadron.

The Air Force makes a substantial investment in the training of its pilots, spending an average per pilot of about $500,000 for the UPT program and $800,000 for weapon system training. Weapon system training costs vary with the type of aircraft. For example, fighter aircraft such as the F-16 and F-15 carry substantially higher training costs than transport aircraft such as the C-141 because of their weapons and other advanced systems.

Management and administration of the pilot training "pipeline" is decentralized, involving various offices under the Air Force Chief of Staff and major commands. The key offices include the Directorate of Operations, the Directorate of Personnel Plans, the Air Force Military Personnel Center, and the Air Education and Training Command.

[1]This requirement was as of April 5, 1993.

Results in Brief

Although it has reduced the rate at which new pilots are produced, the Air Force is training more pilots than it needs and is incurring costs unnecessarily. More pilot candidates are being sent through the UPT program than there are cockpit assignments available. As a result, about half of the pilots completing the program are temporarily assigned to nonflying positions before entering weapon system training while they wait for cockpit assignments to open up. These pilots may remain in their nonflying positions for up to 3 years if the Air Force is not able to absorb them into air squadrons sooner.

Under this practice, the Air Force incurs unnecessary costs because (1) the pilots take requalification training before they can proceed to weapon system training and (2) the pilots receive aviation career incentive pay while in their nonflying positions. In addition, the pilots' careers are shortened by about one-third, reducing the benefits from the Air Force's pilot training investment.[2] The Air Force averted these unnecessary costs in fiscal years 1991 and 1992 by delaying pilot candidates from entering the UPT program, but it no longer does this. Our analysis shows that the Air Force will incur up to about $311 million in these costs for 757 pilots that it could have delayed from entering the UPT program but chose not to do so. If the Air Force continues its practice of sending more pilot candidates through the UPT program than there are cockpit assignments available, it will incur additional unnecessary costs. Specifically, it will incur up to approximately $195 million more in these costs for about 500 pilot candidates who, at the time of our review, were expected to enter the UPT program after July 1993 and subsequently be assigned temporarily to nonflying positions. These costs will be incurred over the next 6 years.

Air Force officials told us that the Air Force has discontinued the practice of delaying UPT training because it anticipates a shortage of pilots beginning in fiscal year 1995. They believe that by sending the pilots through the UPT program as soon as they enter active duty service, the Air Force is assured a sufficient number of available pilots in future years. However, the Department of Defense's (DOD) analysis for determining whether a pilot shortfall will occur is not yet complete. DOD expects its analysis of total force aviator personnel requirements, management, and training, including an assessment of Air Force pilot requirements and inventory, to be completed by December 1993. Pilot requirements may drop in this analysis if budget proposals to reduce the force structure are sustained. Further, the current supply of pilots delayed from weapon

[2]Although the loss of benefits does not have a budgetary impact, it does have an associated cost to the extent that the flight training investment is nonproductive when a pilot occupies a nonflying position which has no pilot-related functions.

system training could be tapped to meet a military threat, should the need arise.

Of immediate concern is how to manage best the 500 pilot candidates who have not yet entered the UPT program and, once they have completed the program, were expected to be assigned temporarily to nonflying positions prior to acquiring weapon system training. Recently, the Air Force has planned several actions to assign these candidates to flying positions. However, it is difficult to predict whether these actions, if implemented, will effectively solve the problem.

Air Force Produced More Pilots Than It Could Absorb, Despite Efforts to Reduce Production

Before the Persian Gulf War, Air Force pilot candidates could expect to receive all their flight training—both the basic flight training in the UPT program and weapon system training—upon entering active duty service. This career path, however, was altered for about one-half of the pilot candidates following the end of the war in 1991, when the Air Force accelerated the drawdown of its forces. The accelerated drawdown reduced the number of operating air squadrons and available cockpit assignments for new pilots.

Because the pilot training pipeline was producing more pilots than the squadrons could absorb, the Air Force took a number of steps to reduce its pilot production rate. The two most important steps were to delay the entry of pilot candidates into the UPT program and delay the entry of UPT graduates into weapon system training.[3] The Air Force succeeded in reducing its pilot production rate by about 50 percent. However, the Air Force subsequently discontinued its practice of delaying candidates from entering the UPT program; hence, more pilots are graduating from the program than can be absorbed by the operating air squadrons.

Entry Into UPT Program No Longer Delayed

During fiscal years 1991 and 1992, the Air Force delayed the entry of numerous active duty pilot candidates into the UPT program. This had the effect of lengthening the candidates' stay in the Air Force because they are committed to serving 8 years after they complete the UPT program. Accordingly, the Air Force gave Academy and ROTC graduates who were not selected for direct entry into the UPT program the option to either (1) leave the Air Force with no further active duty obligation or

[3]In other actions, the Air Force eliminated the guarantee to incoming Academy graduates that they would be given a cockpit assignment; delayed the signing of ROTC contracts from the beginning of the junior year in college to the end of the junior year; and delayed the date on which ROTC graduates enter active duty service after graduating from college.

(2) continue their active duty service, be assigned temporarily to nonflying positions, and be placed on a waiting list to enter the UPT program. Most of the graduates chose the latter option.

Beginning in fiscal year 1993, the Air Force stopped delaying pilot candidates from entering the UPT program. According to Air Force officials, this practice was stopped because the Air Force had intended to delay candidates from the UPT program only during the height of the accelerated drawdown and because of its commitment to candidates made during their time in ROTC and the Academy. Of the approximate 925 candidates who had been delayed until this point, a few have since entered the UPT program. Most of the others are scheduled to enter the program during fiscal years 1995 and 1996.

Entry of UPT Graduates Into Weapon System Training Delayed

Since fiscal year 1991, the Air Force has assigned many UPT graduates temporarily to nonflying positions, with the promise that they would receive weapon system training as cockpit assignments opened for them. Top-ranking graduates at each UPT base are offered an available aircraft of his or her choice. About half of UPT graduates directly enter weapon system training because cockpit assignments are available. Those pilots for which no cockpit is available are temporarily assigned to nonflying positions, such as aircraft maintenance and systems acquisition, until an opening in the chosen weapon system becomes available. Under this practice, a UPT graduate can spend almost 3 years in such a nonflying position.

The Air Force, at the time of our review, projected a total of about 1,777 pilots would enter the UPT program through fiscal year 1995 and subsequently be assigned to nonflying positions as they await weapon system training. (See table 1.)

Table 1: Individuals Entering the UPT Program Who Have Been or Were Projected to Be Assigned Temporarily to Nonflying Positions

Fiscal year	Number of pilots entered[a]
1990	323
1991	401
1992	344
1993 (Before July 30, 1993)	206
Subtotal	**1,274**
1993 (After July 30, 1993)	41
1994	229
1995	233
Subtotal	**503**
Total	**1,777**

[a]These estimates were as of July 1993.

As shown in the table, the Air Force estimated that by the end of July 1993, about 1,274 UPT graduates had been or would be temporarily assigned to nonflying positions. Of these graduates, 517 were already in the UPT program when the Air Force accelerated the drawdown of its forces following the Persian Gulf War. No cockpit assignments were available when these pilots graduated from the program between May 10, 1991, and February 21, 1992, so they were assigned to nonflying positions. The other 757 had not entered the UPT program—thus, they were not yet in the pilot training pipeline—and the Air Force had the opportunity to delay their entry. The Air Force, however, did not take this step, even though it knew the accelerated drawdown would limit cockpit assignments. These 757 candidates have since entered the UPT program and are or will be assigned to nonflying positions as they await weapon system training.

At the time of our review, the Air Force projected that 503 pilot candidates would enter the UPT program between August 1993 and the end of fiscal year 1995 and receive temporary assignments to nonflying positions before they enter weapon system training.

Substantial Costs Associated With Air Force's Current Practice

Our analysis shows that the Air Force's practice of temporarily assigning pilots to nonflying positions after they graduate from the UPT program involves additional costs due to the need for requalification training and aviation career incentive pay. In addition, there is a loss of benefits from flight training. We estimated these costs to be up to $311 million for the 757 pilots who could have been delayed from the UPT program but will

have completed or entered the program by July 30, 1993,[4] and up to $195 million for the 503 pilots who were expected to begin the program after July.

We make a distinction between the costs of the two groups of pilots because it is too late to affect the UPT costs and schedule for the 757 pilots. However, the opportunity still exists to avert most of the costs for the other 503 candidates. Appendix I details our approach in calculating the costs of the 503 pilot candidates.

Requalification Training

The Air Force incurs costs for retraining UPT graduates assigned temporarily to nonflying positions. According to Air Force officials and pilots who have been delayed from weapon system training, the pilots' skills degrade during the time they are delayed. The Air Force has established a refresher course in basic flight training which the delayed pilots attend before they can proceed to flight training on a weapon system.

We estimate that the Air Force will spend $49 million, or $64,500 per pilot, to retrain the 757 UPT graduates who will have completed or entered the UPT program by the end of July 1993. It will spend up to another $37 million, or $74,400 per pilot, to retrain the 503 pilot candidates who were expected to enter the UPT program after July 1993. (See table I.2, app. I, for the estimated costs for fiscal years 1997 to 1999.)

Aviation Career Incentive Pay

Graduates of the UPT program receive aviation career incentive pay in addition to their regular military pay. The Air Force is required under 37 U.S.C. 301a to compensate pilots with incentive pay regardless of whether they occupy flying or nonflying positions. Under current pay scales, pilots receive $125 a month in incentive pay during the first 2 years after graduating from the UPT program. They receive $156 a month in incentive pay during the following 10 months of their delayed status.

Our calculations show that the 757 pilots who will have completed or entered the UPT program by the end of July 1993 will receive $3.5 million in incentive pay as they work in nonflying positions that may or may not have pilot-related functions. The 503 pilot candidates who were expected to enter the program after July 1993 will receive about $2.3 million in

[4]Total costs amount to $511 million when these 757 pilot candidates are combined with the 517 candidates who were already in the UPT program when the drawdown was accelerated.

incentive pay during their assignments in nonflying positions. (Estimates of the incentive pay costs for these pilots between fiscal years 1994 and 1998 are presented in table I.3, app. I.)

Loss of Benefits From Flight Training

Although pilots must sign an 8-year commitment with the Air Force which begins when they graduate from the UPT program, the average time spent in service as a pilot is slightly longer—9.3 years (the total time spent in weapon system training and in an operating air squadron).[5] This 9.3-year period, minus the 2 to 8 months spent in weapon system training, then, represents the period over which the Air Force receives the benefits of the pilot's flight training by having the pilot in a flying position. If the pilot is assigned temporarily to a nonflying position, his or her pilot career is reduced and the full benefit of flight training is lost.

The situation is analogous to someone who goes to college to become an electrical engineer, graduates at age 22, works, and retires at age 62. If the college education is viewed as an investment in order to work as an electrical engineer, the student would have 40 years to receive the returns from this investment. If, for example, the student, after graduating, does not work for 5 years as an electrical engineer some time during the 40-year period, then there is only a 35-year period to receive the benefits from the investment in a college education. Thus, the estimated benefit lost is about 13 percent of the cost of the college education.

Under the Air Force's recent practice, a UPT graduate could spend up to 2 years, 10 months (2.8 years) in a nonflying position and attend a 1-1/2-month (0.1 years) basic flight training refresher course before entering weapon system training. Thus, temporarily assigning a pilot to a nonflying position before he or she receives weapon system training can result in as much as a 2.9-year reduction in the time the Air Force can benefit from its investment in the pilot's flight training.

We have estimated the loss of the benefit the Air Force would receive from training a pilot by dividing the maximum time in the temporary, nonflying status and in requalification training (2.9 years) by the period of time the pilot would, under normal conditions, have spent flying in an air squadron or performing other pilot-related duties. As a conservative estimate of lost benefits, we multiplied this fraction (the proportion of time in which the pilot's career is shortened) by the training costs. On the basis of this

[5]The average time spent in service as a pilot is referred to as the Total Active Rated Service (TARS). The 9.3-year figure is the fiscal year 1992 TARS, the most recent year for which data was available.

methodology, these calculations show that the Air Force could lose the benefit of up to about $258 million invested in flight training for the 757 UPT graduates who will have completed or entered the UPT program by the end of July 1993.

If the Air Force continues this practice, it could lose the benefit of up to an additional $155 million invested in flight training for the 503 pilot candidates who were expected to enter the UPT program after July 1993 and receive nonflying assignments upon their graduation. This $155 million includes $95 million for the UPT program and $60 million for weapon system training. (See tables I.4 and I.5, app. I, for a detailed breakout of estimated lost benefits.)

Air Force Did Not Want to Delay 500 Candidates From the UPT Program

Air Force officials cited three reasons why the Air Force did not want to delay the entry of the approximately 500 pilots who were expected to receive UPT training after July 1993. If the Air Force were to delay them, the officials said, (1) the requirements for pilots in a few years would exceed the Air Force's capacity to produce them, (2) the UPT training "infrastructure" would not be fully used, and (3) the number of pilots in each year's group would not be sufficient to provide necessary leadership in the future. Our analysis, however, showed that none of these are valid reasons for sending the pilot through the UPT program without a sufficient number of available cockpits.

Pilot Requirements and Production Capacity

Air Force officials contended that the pilot inventory will fall faster than pilot requirements each year between fiscal years 1993 and 1997. They believe a shortage of pilots will develop due to factors such as losses from the retirement of Vietnam veterans, revitalized hiring by commercial airlines, and the Air Force's reduced pilot production rate. These officials said that by fiscal year 1995, the Air Force will have about 1,600 fewer pilots than the approximately 15,300 required, and that by 1997, the shortfall will exceed 3,000 pilots. The officials said that the Air Force would need a retention rate of 60 percent to sustain its future force but that the retention rate over the past several years has been about 34 percent. Thus, the Air Force was concerned that if it delayed the entry of pilot candidates into the UPT program, it would not be able to produce enough pilots in future years to eliminate the projected shortfall. The Air Force was also concerned that while training capacity is easy to decrease, it is difficult to increase.

We did not attempt to validate the Air Force's projected shortfall because the size and composition of the force structure in fiscal year 1995 and beyond is uncertain and subject to change. Further reductions in force structure, for instance, could result in the reduction of the Air Force's requirements for pilots. Specifically, the President's most recent budget submission calls for a force structure of 24.3 equivalent tactical wings instead of the current 28.4 equivalent tactical wings. The Air Force is testing a computer model designed to analyze its pilot inventory in relation to its requirements. Accordingly, its projected shortfall has not been validated. In addition, DOD has contracted with the RAND Corporation for a study of total force aviator personnel requirements, management, and training, including an assessment of the Air Force's future pilot requirements and inventory. The study is due to be completed in December 1993.

Further, Air Force officials acknowledge that the pilot retention rate is gradually increasing. One reason for this is that commercial airlines, currently under economic strain, are hiring fewer Air Force pilots. The retention rate is also expected to increase due to the implementation of the officer volunteer assignment system[6] and because of the increasing number of Air Force pilots who have agreed to extend their active duty service when offered the pilot's reenlistment bonus.

In addition, the Air Force has a large number of pilots in waiting. Currently, about 950 pilots have graduated from the UPT program and are awaiting weapon system training. This supply of pilots could be tapped to meet an immediate military need or threat. Another 900 delayed candidates could be immediately phased into the UPT program if a need arises. For these reasons, it is difficult to envision a need to increase training capacity in the future.

Data Showing Impact on Infrastructure Is Lacking

Air Force officials told us that by delaying the entry of pilot candidates into the UPT program, the UPT infrastructure would be underused. This infrastructure includes training aircraft, instructors, and other fixed and variable assets. However, the Air Force could not provide data showing what the impact of training fewer pilots would be on the infrastructure. Therefore, it does not know whether the costs of reducing use of the infrastructure are more or less than the savings that could be realized from delaying the entry of pilot candidates into the UPT program.

[6]This system, adopted in fiscal year 1991, is designed to allow officers to determine their assignments to the maximum extent possible and is expected to make pilots more likely to stay in the service longer.

Promotions Do Not Depend on Completing UPT Program

Air Force officials said delaying the entry of candidates into the UPT program would produce a leadership vacuum in these candidate groups. We found that, to the contrary, Air Force officers, including pilots, are promoted whether they are in flying or nonflying positions. Moreover, weapon system training would begin in the fourth year of a pilot's active duty service regardless of whether the pilot is delayed prior to or after the UPT program. It should also be noted that about one-half of the candidates—including the top graduates—are assigned directly to flying positions without delay.

Recommendation

We recommend that you direct the Secretary of the Air Force to reinstate delayed entry into the UPT program for pilot candidates until enough cockpit assignments become available to absorb these pilots. Reinstating this practice will have the effect of lengthening the pilots' stay in the service, unless they choose to exercise other options such as leaving active duty service before entering the UPT program or remaining in a nonflying position. At the time of our review, the Air Force projected that 503 candidates entering the UPT program between August 1993 and the end of fiscal year 1995 would be assigned to nonflying positions. To the extent that the Air Force takes action to increase the number of available cockpits, fewer pilots will have to be delayed from entering the UPT program.

Agency Comments and Our Evaluation

In commenting on a draft of this report, DOD stated that recent Air Force actions to increase the number of cockpit assignments have currently eliminated the need to delay the 503 candidates from entering the UPT program. The increase in cockpit assignments, according to DOD, will also enable those UPT graduates who are currently awaiting weapon system training to enter this training sooner than previously planned.

DOD stated that cockpit availability can change quickly and that if the number of cockpits decreases in the future, it may be prudent to delay some pilot candidates from entering UPT. However, DOD did not rule out the option of sending them through the UPT program and delaying their weapon system training.

According to DOD and Air Force officials, the major Air Force action to increase the number of cockpit assignments is the establishment of a program to add a third pilot to KC-135 tanker aircraft. These pilots are expected to serve initially as navigators on the KC-135. At the air

squadron, they would receive additional training and eventually become co-pilots. DOD and Air Force officials estimated that this action would absorb 200 of the 503 candidates. Other Air Force actions include increases in the number of pilot instructors for F-16, F-15, and bomber aircraft; pilots assigned to fly with Air Force National Guard units; and pilots assigned to Army helicopters. These officials estimated that these actions would be enough to absorb the remaining 303 of the 503 candidates that they would need to delay from entering the UPT program. The officials, however, emphasized that the availability of cockpit assignments is extremely fluid and, thus, difficult to predict.

We believe the Air Force's planned actions have the potential for reducing the number of pilot candidates assigned to nonflying positions following the UPT program. We have modified our recommendation accordingly. However, we also note the Air Force's ability to eliminate this problem depends on several factors, including (1) its success in effectively implementing its actions to create more flying positions without degrading the flight time of active pilots; (2) the effects of planned reductions in the number of air wings; and (3) the results of DOD's study on total force aviator personnel requirements, management, and training. Therefore, we continue to recommend that the Air Force reinstate its policy of delaying pilots from the UPT program to the extent that the number of pilot candidates continue to exceed the flying positions available.

DOD's comments are reprinted in their entirety in appendix II.

Scope and Methodology

To perform our review, we interviewed Air Force officials at the Directorate of Operations and the Directorate of Personnel Plans, Air Force Headquarters, Washington, D.C.; the Air Combat Command, Langley Air Force Base, Norfolk, Virginia; the Air Education and Training Command and the Military Personnel Center, Randolph Air Force Base, San Antonio, Texas; and Luke Air Force Base, Phoenix, Arizona. We also interviewed pilots whose entry into weapon system training or the UPT program had been delayed. In addition, we spoke with representatives of the RAND Corporation concerning the scope of work that it is conducting under contract for the Office of the Secretary of Defense. We obtained and analyzed data on pilot requirements, production, and inventory; estimated costs of flight training programs; and analyzed trends in pilots' retention and expected total active service.

Appendix I discusses our methodology for calculating the costs incurred by the Air Force in delaying weapon system training for UPT graduates.

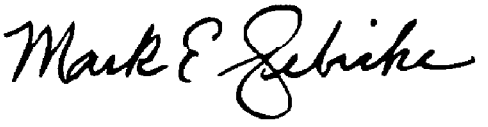
We performed our review from June 1992 to June 1993 in accordance with generally accepted government auditing standards.

As you know, 31 U.S.C. 720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of this report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of this report.

We are sending copies of this report to the chairmen of the above committees; the Chairmen, House and Senate Committees on Armed Services; the Secretary of the Air Force; and the Director, Office of Management and Budget. We will make copies available to others upon request.

I can be reached on (202) 512-5140 if you or your staff have any questions concerning this report. The major contributors to this report are listed in appendix III.

Sincerely yours,



Mark E. Gebicke
Director, Military Operations
and Capabilities Issues

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Abbreviations

DOD	Department of Defense
GAO	General Accounting Office
ROTC	Reserve Officer Training Corps
TARS	Total Active Rated Service
UPT	Undergraduate Pilot Training

Estimating the Unnecessary Costs of the Air Force's Delay of Pilots From Weapon System Training

This appendix discusses our method for estimating the unnecessary costs the Air Force would incur by delaying weapon system training for 503 potential Undergraduate Pilot Training (UPT) graduates, requiring them to requalify as pilots, and providing them aviation career incentive pay while they are in nonflying positions. In then-year dollars,[1] we estimated that the Air Force would incur up to approximately $195 million in these unnecessary costs. (See table I.1.)

Table I.1: Total Estimated Costs If 503 Pilots Are Delayed From Weapon System Training

Then-year dollars in millions

Cost category	Cost
Requalification training	$37.4
Aviation career incentive pay	2.3
Loss of benefit	
UPT	94.5
Weapon system training	60.5
Subtotal	**155.0**
Total	**$194.7**

Factors Considered in Determining Unnecessary Costs

We define "unnecessary costs" in this report as the costs the Air Force could avert if it would not delay the entry of pilots into weapon system training. These costs are associated with requalification training before the delayed pilot proceeds to weapon system training and aviation career incentive pay to the pilot while he or she is serving in a nonflying position. In addition, there is a loss of benefits the Air Force would receive over a period of time from the money spent to train a pilot.

Although the Air Force requires a pilot to serve for 8 years after graduating from the UPT program, it estimated (as of December 1992) that a UPT graduate spends an average of 9.3 years in service as a pilot (the total time spent in weapon system training, an operating squadron, or other pilot-related functions).[2] Weapon system training extends over a 2- to 8-month (0.2- to 0.7-year) period, depending on the type of aircraft. Thus, the average amount of time a pilot spends actually flying in an air squadron or performing pilot-related duties ranges from 8.6 to 9.1 years. This period is the time over which the Air Force receives the full benefits of a pilot's flight training.

[1]Then-year, or nominal, dollars are associated with the purchasing power of the dollar in the year in which the expenditures occur. They include anticipated increases due to inflation.

[2]Pilot-related functions include, for example, pilot instructors, evaluators and testers of aircraft, and air staff positions in rated management and policy administration.

The full benefit of flight training is lost when pilots' time period for flying and performing pilot-related functions is reduced. We assume that lost benefits would be equal to the fraction, or percentage, of training costs which would be lost due to the reduction in the period over which the Air Force would normally benefit from its investment in flight training. We believe this provides a minimum estimate of the lost benefits since the expected benefits of an investment typically exceed the costs.

The Air Force estimated that of the students entering the UPT program after July 30, 1993, and in fiscal years 1994 and 1995, 503 would be delayed from weapon system training up to 2.8 years and would spend another 0.1 years to attend requalification training—a total of up to 2.9 years. Since the pilots would be in a nonflying status during this period, the Air Force would lose this portion of the benefit from their undergraduate pilot and weapon system training.

In calculating our estimates of benefits lost to the Air Force, we were concerned about two factors that could affect our figures. First, the Air Force had not estimated the costs of weapon system training for fiscal years 1997 to 1999.[3] To determine cost estimates for these fiscal years, we multiplied the Air Force's latest estimate (fiscal year 1989) by a DOD inflation factor. Second, the Air Force could change the amount of time UPT graduates would be delayed from weapon system training. Since we could not accurately project the amount of time the 503 pilots would be delayed from weapon system training, we used the maximum 2.8-year delay plus the 0.1 years it would take the pilots to requalify for calculating the percentage of benefit that the Air Force could lose on its investment in the 503 pilots' flight training. At the time of our review, the Air Force expected the maximum delay to occur. If the Air Force changes its practice by either lengthening or shortening the period of delay, then our estimates would also change.

Calculation of Unnecessary Costs

We calculated the Air Force's unnecessary costs from (1) requalification training, (2) aviation career incentive pay for the 503 students who were expected to enter the UPT program between August 1993 and September 1995 and were expected to be in nonflying status for up to 2.9 years, and (3) the loss of benefits from flight training.

[3]The students who have yet to enter the UPT program in fiscal years 1993 to 1995 and who are expected to be assigned non-flying positions before weapon system training will receive this training in fiscal years 1997 to 1999.

Table I.2 shows the cost to requalify the 503 pilots whose weapon system training would be delayed until fiscal years 1997 to 1999. We used the Air Force's estimated costs per pilot for each fiscal year.

Table I.2: Estimated Costs to Requalify 503 Pilots

In then-year dollars

Fiscal year of training	Number of pilots	Costs per pilot	Total
1997	41	$79,000	$3,239,000
1998	229	74,000	16,946,000
1999	233	74,000	17,242,000
Total	**503**		**$37,427,000**

We estimated that the Air Force would provide $2,293,680 in incentive pay to the 503 UPT graduates for the 2.8 years they could be in nonflying positions. For the first 2 years, the cost would be $1,509,000; for the remaining 10 months, the cost would be $784,680. We obtained the pay rates ($125 per month for the first 2 years and $156 per month for the remaining 10 months for each pilot) from DOD's Military Pay and Allowances Entitlements Manual, dated January 18, 1991. Table I.3 shows the estimated incentive pay costs by fiscal year.

Table I.3: Estimated Incentive Pay Costs for 503 Pilots

In then-year dollars

Fiscal year for entering UPT program	Number of pilots	Incentive pay costs by fiscal year					
		1994	1995	1996	1997	1998	Total
1993	41	$61,500	$61,500	$63,960	0	0	**$186,960**
1994	229	0	343,500	343,500	$357,240	0	**1,044,240**
1995	233	0	0	349,500	349,500	363,480	**1,062,480**
Total	**503**	**$61,500**	**$405,000**	**$756,960**	**$706,740**	**$363,480**	**$2,293,680**

To estimate the loss of benefits from the Air Force's investment in undergraduate pilot training, we first calculated the fraction, or percentage, of time in flying and pilot-related duties that would be lost by assigning the 503 pilots to nonflying positions following their graduation from the UPT program. We made separate calculations based on the proportion of pilots expected to be delayed in each weapon system category (fighter, tanker, or transport). For example, the Air Force anticipated that five of the 41 individuals who would enter UPT during the remainder of fiscal year 1993, graduate, and be delayed from weapon system training would begin fighter training after having performed

nonflying duties for 2.9 years. Thus, we calculated the percentage of air squadron flying or pilot-related time that the Air Force would lose by dividing the delayed time by the actual time that the pilot would be involved in air squadron flying or pilot-related duties.[4] We multiplied this percentage times the UPT costs for the five delayed fighter pilots to obtain the estimated total loss of $897,244. (See table I.4.)

Table I.4: Estimated Loss of Benefits From the Air Force's Investment in Undergraduate Pilot Training

In then-year dollars

Fiscal year of training	Type of aircraft	Number of people entering UPT to be delayed	UPT cost per pilot	Percentage of average pilot career lost	Loss of benefit
1993					
	Fighter	5	$538,382	33.3	$897,244
	Tanker	14	538,382	32.2	2,428,615
	Transport	22	538,382	32.2	3,816,395
Subtotal		**41**			**7,142,254**
1994					
	Fighter	25	572,646	33.3	4,771,573
	Tanker	80	572,646	32.2	14,760,523
	Transport	124	572,646	32.2	22,878,811
Subtotal		**229**			**42,410,907**
1995					
	Fighter	25	596,140	33.3	4,967,337
	Tanker	82	596,140	32.2	15,750,256
	Transport	126	596,140	32.2	24,201,613
Subtotal		**233**			**44,919,278**
Total		**503**			**$94,472,239**

To estimate the loss of benefits from the Air Force's investment in weapon system training, we first calculated the fraction, or percentage, of time in flying and pilot-related duties that would be lost by assigning the 503 pilots to nonflying positions. We made separate calculations based on the proportion of pilots expected in each aircraft subgroup of a weapon system category (for example, F-15s, F-16s, and F-111s in the fighter category) who would be delayed from weapon system training until fiscal years 1997, 1998, and 1999[5] by multiplying the percentage of time in flying

[4]For this example, 2.9 years would be divided by 8.7 years (9.3 years of total active service minus 0.6 years of weapon system training). Thus, the time loss would be 33.3 percent of the total.

[5]No loss of benefits is calculated for fiscal year 1996 because no pilot training investment is expected to be made in the 503 pilots in fiscal year 1996.

and pilot-related duties lost times the weapon system training costs for the expected number of aircraft trainees. (See table I.5.)

Table I.5: Estimated Loss of Benefits From the Air Force's Investment in Weapon System Training

In then-year dollars

Fiscal year of training	Type of aircraft	Number of pilots	Training cost per pilot	Percentage of pilot career lost	Loss of benefit
1997					
	Fighter				
	F-15	2	$1,610,334	32.9	$1,061,210
	F-16	3	1,616,075	33.7	1,634,821
Subtotal		**5**			**2,696,031**
	Tanker				
	KC-135	10	276,494	32.2	890,865
	KC-10	4	304,819	32.2	392,851
Subtotal		**14**			**1,283,716**
	Transport				
	C-5	4	213,259	33.2	274,848
	C-130	10	106,430	32.2	342,916
	C-141	8	167,871	31.9	428,004
Subtotal		**22**			**1,045,768**
Total		**41**			**5,025,515**
1998					
	Fighter				
	F-15	10	1,638,428	32.9	5,398,621
	F-16	13	1,644,277	33.7	7,207,854
	F-111	2	1,977,344	33.7	1,333,521
Subtotal		**25**			**13,939,996**
	Tanker				
	KC-135	59	281,318	32.2	5,347,799
	KC-10	21	310,137	32.2	2,098,449
Subtotal		**80**			**7,446,248**
	Transport				
	C-5	24	216,979	32.2	1,677,860
	C-130	58	108,286	32.2	2,023,615
	C-141	42	170,799	31.9	2,286,218
Subtotal		**124**			**5,987,693**
Total		**229**			**27,373,937**

(continued)

In then-year dollars

Fiscal year of training	Type of aircraft	Number of pilots	Training cost per pilot	Percentage of pilot career lost	Loss of benefit
1999					
	Fighter				
	F-15	10	1,666,523	32.9	5,491,193
	F-16	13	1,672,472	33.7	7,331,450
	F-111	2	2,011,250	33.7	1,356,387
Subtotal		**25**			**14,179,030**
	Tanker				
	KC-135	61	286,142	32.2	5,623,895
	KC-10	21	315,455	32.2	2,134,432
Subtotal		**82**			**7,758,327**
	Transport				
	C-5	25	220,700	32.2	1,777,741
	C-130	59	110,143	32.2	2,093,802
	C-141	42	173,728	31.9	2,325,420
Subtotal		**126**			**6,196,963**
Total		**233**			**28,134,320**
Grand total		**503**			**$60,533,772**

Comments From the Department of Defense

THE OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

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PERSONNEL AND READINESS

13 OCT 1993

Mr. Mark E. Gebicke
Director of Military Operations and Capabilities Issues
National Security and International Affairs Division
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Gebicke:

Enclosed is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "AIR FORCE TRAINING: Delaying Pilot Training Could Avert Unnecessary Costs," dated August 24, 1993 (GAO Code 392725/OSD Case 9510). The DoD partially concurs with the report.

The major reason supporting the prior practice of "banking" Undergraduate Pilot Training program graduates was to ensure a judicious experience and year-group profile in the inventory of Air Force pilots over the long term. Given the critical need for pilots with 8 to 14 years of service to fill operational leadership positions, it is imperative that sufficient numbers of new pilots enter the inventory each year. Without that steady input, a severe experience gap would occur in the pilot force before the turn of the century.

The GAO recommended that the Air Force reinstate the practice of delayed entry. After the GAO completed its analysis, however, Air Force actions to increase cockpit vacancies eliminated the need to delay entry in order to avoid "banking" and the associated proficiency training of banked Undergraduate Pilot Training graduates. Pilot positions are expected to be available for all students who will graduate from pilot training in FY 1994. Delayed entry, therefore, is currently not needed. We will continue to monitor Air Force initiatives closely to maintain the required supply of trained and experienced pilots in its force.

The detailed DoD comments on the findings and recommendation are contained in the enclosure. The Department appreciates the opportunity to comment on the report.

Sincerely,

Jeanne B. Fites

Jeanne B. Fites
Acting Deputy Assistant Secretary of Defense
Requirements and Resources

Enclosure:
As stated

GAO DRAFT REPORT - DATED AUGUST 24, 1993
(GAO CODE 392725) OSD CASE 9510

"AIR FORCE TRAINING: DELAYING PILOT TRAINING COULD AVERT UNNECESSARY COSTS"

DEPARTMENT OF DEFENSE COMMENTS

* * * *

FINDINGS

- **FINDING A: The Air Force Produces More Pilots Than Can Be Absorbed, Despite Efforts to Reduce Production.** The GAO reported that, after the Persian Gulf War ended in 1991, the Air Force took a number of steps to reduce its pilot production rate because the pilot training pipeline was producing more pilots than the squadrons could absorb. The GAO concluded that the two most important steps taken were to (1) delay the entry of pilot candidates into the Undergraduate Pilot Training program and (2) delay the entry of undergraduate Pilot Training graduates into weapon system training. The GAO noted that the Air Force succeeded in reducing its pilot production rate by about 50 percent. The GAO found, however, that in FY 1993, the Air Force discontinued its practice of delaying candidates from entering the Undergraduate Pilot Training program, with the result that more pilots are now graduating from the program than can be absorbed by the operating air squadrons.

  The GAO reported that the Air Force expects to assign a total of about 1,777 pilots through FY 1995 to non-flying positions while delaying them from weapon system training. The GAO illustrated (in report table 1) that, by the end of July 1993, the Air Force expects to have about 1,274 Undergraduate Pilot Training graduates--who have been or will be temporarily assigned to non-flying positions. The GAO observed that, of those graduates, 517 were already in the Undergraduate Pilot Training program when the Air Force accelerated the drawdown of its forces following the Persian Gulf War. The GAO determined that no cockpit assignments were available when those pilots graduated from the program between May 10, 1991, and February 21, 1992, so they were assigned to non-flying positions. The GAO also determined that the other 757 had not entered the Undergraduate Pilot Training program--thus, they were not yet in the pilot training pipeline and, therefore, the Air Force had the opportunity to delay their entry.

  The GAO found, however, that the Air Force did not take that step, even though it knew the accelerated drawdown would limit cockpit assignments. The GAO pointed out that those 757 candidates have since entered the Undergraduate Pilot Training program and/or are or will be assigned to non-flying positions as they await weapon system training. The GAO added that another 503 pilot candidates who are scheduled

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Now on pp. 3-5.

to enter the Undergraduate Pilot Training program between August 1993 and the end of FY 1995 also are expected to receive temporary assignments to non-flying positions before they enter weapon system training. (pp. 5-9/GAO) Draft Report)

DOD RESPONSE: Partially concur. Prior to FY 1994, pilot production was reduced to the minimum practical level, which did exceed absorption capacity, resulting in the need to bank pilots. Beginning in FY 1994, however, with programmed force structure recommended in the Bottom-Up Review, there are sufficient cockpits available to place all programmed graduates from pilot training, and to recover all pilots currently in the bank prior to their 3-year limit.

- **FINDING B: There Are Substantial Costs Associated With the Current Practice.** The GAO estimated the costs associated with the current Air Force flight training practices to be $311 million for the 757 pilots who could have been delayed from the Undergraduate Pilot Training Program, but will have completed or entered the program by July 30, 1993--and $195 million for the 503 pilots scheduled to begin the program after July 1993.

- Requalification Training--The GAO observed that, according to Air Force officials and pilots who have been delayed from weapon system training, the skills of pilots degrade during the time they are delayed. The GAO estimated that the Air Force will spend $49 million, or $64,500 per pilot, to retrain the 757 Undergraduate Pilot Training graduates who will have completed or entered the Undergraduate Pilot Training program by the end of July 1993. The GAO further estimated that the Air Force will spend another $37 million, or $74,400 per pilot, to retrain the 503 pilot candidates entering the Undergraduate Pilot Training program after July 1993.

- Flight Pay--The GAO reported that the Air Force is required under 37 U.S. Code 301a to compensate pilots with flight pay regardless of whether they occupy flying or non-flying positions. The GAO calculated that the 757 pilots, who will have completed or entered the Undergraduate Pilot Training Program by the end of July 1993, will receive $3.5 million in flight pay as they work in non-flying positions -- positions that may or may not have pilot-related functions. The GAO further calculated that the 503 pilot candidates entering the program after July 1993 will receive about $2.3 million in flight pay during their assignments in non-flying positions.

- Loss of Benefits From Flight Training--The GAO concluded that, if a pilot is assigned temporarily to a non-flying position, his or her pilot career is reduced and the full benefit of flight training is lost. The GAO observed that, under the current Air Force practice, an Undergraduate Pilot Training graduate may spend up to 2 years, 10 months (2.8 years) in a non-flying position and attend a 1-1/2-month (0.1 years) basic flight training refresher course before entering weapon system training--a

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2.9-year reduction in the time the Air Force can benefit from its investment in the pilot's flight training. The GAO estimated the loss of the benefit the Air Force would receive from training a pilot by dividing the time in the temporary, non-flying status and in requalification training (2.9 years) by the period of time the pilot would, under normal conditions, have spent flying in an air squadron or performing other pilot-related duties. The GAO then multiplied that fraction (the proportion of time in which the pilot's career is shortened) by the training costs.

The GAO calculated that, on the basis of that methodology, the Air Force will lose the benefit of about $258 million invested in flight training for the 757 Undergraduate Pilot Training program graduates who will have completed or entered the program by the end of July 1993. The GAO further calculated that, if the Air Force continues its current practice, it will lose the benefit of an additional $155 million ($95 million for the Undergraduate Pilot Training program and $60 million for weapon system training) invested in flight training for the 503 pilot candidates who are scheduled to enter the Undergraduate Pilot Training program after July 1993 and are expected to receive non-flying assignments upon their graduation. (pp. 9-14/GAO Draft Report)

Now on pp. 5-8.

DOD RESPONSE: Partially Concur. Costs to requalify a banked pilot average about $50,000, and will be incurred for all pilots who are banked. Further costs cannot be avoided, however, because pilots will no longer be banked beginning in FY 1994. In addition, the alternative costs to banking pilots would need to be considered as an offset to the savings projected. By not producing pilots during this period, the Air Force would have lost training opportunities impossible to make up at a later date and economies of scale in pilot production. A greater short term reduction in pilots would seriously jeopardize Air Force ability to maintain a viable career flow (year group distribution of pilot inventory) of pilots in the long term. Training capacity is easy to decrease, but difficult and expensive to increase. That is even more crucial when considering follow-on major weapons systems training. NOTE: 37 U.S. Code 301a authorizes *Aviation Career Incentive Pay (ACIP)*, which is different than *flight pay* (37 U.S. Code 301(b). The former term should be used in the final report.

- **FINDING C: The Air Force Does Not Want to Delay 503 Candidates from the Undergraduate Pilot Training Program.** The GAO reported that, according to Air Force officials, if the Air Force were to delay the 503 candidates--(1) the requirements for pilots in a few years would exceed the capacity of the Air Force to produce them, (2) the Undergraduate Pilot Training program "infrastructure" would not be fully used, and (3) the number of pilots in each year's group would not be sufficient to provide necessary leadership in the future. The GAO further reported that, also according to Air Force officials, by FY 1995, the Air Force will have about 1,600 fewer pilots than the approximately 15,300 required--and by 1997, the Air Force claims it will have a

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shortfall of more than 3,000 pilots. The GAO did not attempt to validate the Air Force projected shortfall because the size and composition of the force structure in FY 1995 and beyond is uncertain and subject to change. The GAO noted that the Department of Defense has contracted with the RAND Corporation for a study of aviator management and training, including an assessment of future Air Force pilot requirements and inventory--with expected completion in December 1993.
The GAO also reported that, according to Air Force officials, delaying the entry of pilot candidates into the Undergraduate Pilot Training program would under use the Undergraduate Pilot Training infrastructure. The GAO, noted, however, that the Air Force could not provide data showing what the impact of training fewer pilots would be on the infrastructure. The GAO concluded, therefore, that the Air Force does not know whether the costs of reducing the use of the current infrastructure are more or less than the savings that could be realized from delaying the entry of pilot candidates into the Undergraduate Pilot Training program. The GAO noted that Air Force officials also stated that delaying the entry of candidates into the program would produce a leadership vacuum in those candidate groups--and pointed out that Air Force officers, including pilots, are promoted whether they are in flying or non-flying positions. (pp.14-18/GAO Draft Report)

Now on pp. 8-10.

DOD RESPONSE: Concur. As previously mentioned, the latest projections show that there are no more candidates for delayed entry. However, even when projections did show pilot production in excess of available cockpits, the Air Force intent was to continue pilot production at the minimum acceptable level of 500 per year through FY 1995. That decision was made primarily in order to preserve the continuity of the Air Force pilot inventory, maintain the integrity of the pilot training infrastructure (facilities, aircraft, and qualified instructor force), and to keep promises made to pilot candidates who had already been delayed for up to three years. If further cuts or other unforeseen events decrease the number of absorbable cockpits in the future (beyond a 20 fighter-wing equivalent force), banking for a limited number of pilots may be revisited as an option in the future. A minimum production level is still a sound concept. Cockpit availability can change quickly, well within the one-year decision cycle dictated by the length of the pilot training syllabus.

* * * * *

RECOMMENDATION

RECOMMENDATION: The GAO recommended that the Secretary of the Air Force reinstate delayed entry into the Undergraduate Pilot Training program for the 503 pilot candidates until enough cockpit assignments become available to absorb those pilots. The GAO asserted that the reinstatement of that practice would have the effect of lengthening the pilot's stay in the Service--unless he/she choose to exercise

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Now on p. 10.

other options such as (a) leaving active duty service before entering the Undergraduate Pilot Training program or (b) remaining in a non-flying position . (p. 18/GAO Draft Report)

DOD RESPONSE: Partially concur. There are currently over 900 Air Force Academy and Reserve Officers Training Corps graduates already in delayed entry status, scheduled to begin pilot training not later than FY 1996. Additional accessions have been cut dramatically during that time in order to recover the backlog of delayed pilot candidates. Since cockpits are forecast to be available for all students scheduled into training in FY 1994 and beyond, no further action is required at this time. If, however, cockpit availability decreases again beyond current projections, it may be prudent to delay some of the future direct entries or to extend the delays on officers already established in non-rated positions.

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