United States General Accounting Office

GAO

Report to the Secretary of Defense

April 2002

DEFENSE PLANS

Plan to Better Use Air Force Squadrons Could Yield Benefits but Faces Significant Challenges

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United States General Accounting Office
Washington, DC 20548

April 30, 2002

The Honorable Donald H. Rumsfeld
The Secretary of Defense

Dear Mr. Secretary:

Since the end of the Cold War, the Air Force has been continuously involved in unforeseen and ongoing contingency operations, such as enforcing the no-fly zones in Iraq, while operating with fewer squadrons, people, and overseas bases. In October 1999, the Air Force implemented its Expeditionary Aerospace Force concept to reduce the deployment burden on Air Force personnel by spreading deployments more evenly across its force and increasing the predictability of deployments. Under that concept, groups of forces, which include fighter squadrons, are made available on a rotating basis to meet theater commanders' requirements for one 90-day period every 15 months.[1] By 2010, the Air Force plans to update this new way of covering peacetime deployments to increase the efficiency of how it uses certain fighter squadrons through a concept it terms "dual-tasking." Dual-tasking fighter squadrons would result in providing theater commanders with the same number of aircraft they currently require but from fewer squadrons. For example, currently, if a theater commander requires the delivery of precision-guided munitions and suppression of enemy air defenses, two F-16 squadrons might be used to meet these requirements. However, each squadron would use only about half of its aircraft. In contrast, a dual-tasked F-16 squadron could meet both requirements, using most of its aircraft to do so. This is more efficient because the second squadron is then available to meet other requirements.

Because the full implementation of dual-tasking is not expected until 2010, the Air Force has not yet conducted detailed analyses of possible impacts. To help determine the possible impacts, we conducted a detailed comparison of how selected squadrons would deliver precision-guided munitions and suppress enemy air defenses in 2010 under dual-tasking versus today's single-tasking approach. Our objectives were to determine

[1] The theater commanders' requirements that existed during our analysis period included supporting Northern Watch (Iraq), Southern Watch (Iraq), Bosnia, counter-drug operations (South America), Iceland, and crisis response.

(1) what benefits would likely accrue from dual-tasking squadrons and (2) what challenges must be addressed to maximize those benefits. In conducting this analysis, we compared how the Air Force met theater commanders' requirements in the most recent 15-month period—December 2000 to February 2002—with how it would meet these same requirements during a similar period under the 2010 dual-tasking concept. (For a complete description of our methodology, see app. I.)

Results in Brief

Our analysis shows that the Air Force could reap significant benefits by dual-tasking some fighter squadrons to fulfill two requirements as the 2010 Concept envisions. Although significant challenges could impede the Air Force's ability to maximize these benefits, the Air Force has not done the specific analysis to know what is needed to implement dual-tasking by 2010.

Our analysis showed that dual-tasking would result in more efficient use of squadrons and a greatly reduced need to task squadrons above and beyond the Air Force's goal of one 90-day period every 15 months. With respect to efficiency, dual-tasking would provide theater commanders with the same number of aircraft to meet requirements as under current practice; however, the aircraft would come from fewer squadrons. The benefits are that a larger proportion of a squadron's aircraft would be used to meet requirements, and because dual-tasking uses fewer squadrons to meet requirements, the need to repeatedly task the same squadrons would be reduced. Our comparison of actual deployments over a recent 15-month period with those needed under dual-tasking showed that the number of squadrons that would be needed for more than one 90-day period during that time would decline from 26 squadrons to 5. Air Force officials believe that other intangible benefits would accrue. For example, when a squadron is dual-tasked, the theater commander would be able to quickly shift the number of aircraft and pilots between the two requirements as the situation demands. This should allow the commander the flexibility to quickly adjust when requirements change without having to deploy more forces into the theater.

However, addressing significant challenges—such as the need for increased pilot training and filling vacant maintenance positions—is essential if the full benefits are to accrue. Our analysis of selected F-16 squadrons showed that more training sorties would be required under dual-tasking. Yet, the Air Force has not quantified this increase, assessed how it would manage the increase, or projected how it would support such an increase either logistically or in its budget. Our analysis also showed

that the Air Force would need to fill more of its authorized maintenance positions to support deploying a greater portion of a dual-tasked squadron's aircraft. Currently, more than half of the maintenance specialties at the wings we analyzed were undermanned, and some were manned at less than 60 percent. Such shortages already pose difficulties, since wing officials are limited in what they can do to make up for the shortages. Dual-tasking could cause maintenance personnel to be deployed more frequently than desired unless more of these vacant positions are filled. Another one of our comparisons showed that under dual-tasking, almost all of a squadron's pilots would need to be used to meet requirements. This will pose challenges in managing pilot deployments.

Because long-term budgets and plans must be put into place soon to maximize the benefits of dual-tasking, we are recommending that the secretary of defense direct the Air Force to specifically identify the budgetary and operational requirements related to the dual-tasking 2010 Concept and develop plans and milestones for accomplishing the necessary actions. In commenting on a draft of this report, the Department of Defense partially concurred with our recommendations, agreeing that it would ultimately need to develop a strategic plan to implement the dual-tasking concept.

Background

In October 1999, the Air Force designated most of its combat, mobility, and support forces into 10 similar groups of forces termed Aerospace Expeditionary Forces. This approach was implemented to help the Air Force manage its commitments to theater commanders and reduce the constant deployment burden on its people. According to Air Force officials, more frequent overseas deployments had increased the strain on Air Force servicemembers. Some units were tasked many times to support contingencies while others were tasked infrequently. Therefore, the Air Force implemented an approach wherein, at any given time, 2 of the 10 Aerospace Expeditionary Forces are tasked to cover theater commanders' requirements for one 90-day period every 15 months. Limiting contingency deployments to 90 days allows servicemembers to participate in training and exercises away from their home station and still meet the Air Force's overall deployment goal of having servicemembers away from their home station not more than 120 days each calendar year.

The dual-tasking concept is an Air Force plan to use some of its fighter squadrons more efficiently by 2010. This concept applies to specific, specialized active squadrons—primarily the seven active F-16 CG

squadrons that specialize in delivering precision-guided munitions and the nine active F-16 CJ squadrons that specialize in suppressing enemy air defenses.[2] By 2010, planned upgrades to these aircraft will be completed to enable both types of F-16 aircraft to deliver precision-guided munitions and to suppress enemy air defenses. Although the aircraft will be equipped for both tasks, they can perform only one on any given sortie. These aircraft upgrades were planned before the concept to dual-task entire squadrons was developed. Dual-tasking these squadrons would result in providing theater commanders with the same number of aircraft they currently require but from only one squadron capable of performing both tasks. This contrasts with today's practice of providing the required aircraft from portions of two squadrons, each specializing in a single task. Dual-tasking of aircraft would not require any restationing of squadrons.

Implementation of the 2010 Concept Could Yield Benefits

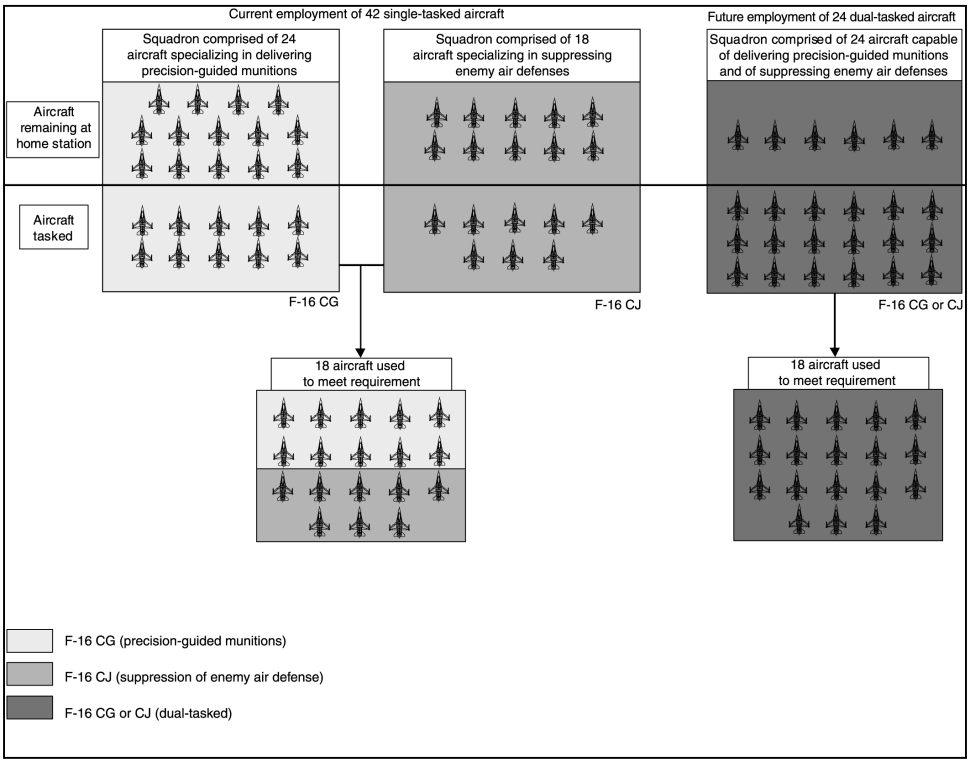
We analyzed the benefits that the Air Force anticipated would accrue from dual-tasking specific fighter squadrons in the active force. Our analysis shows that dual-tasking could allow the Air Force to make more efficient use of fighter squadrons, resulting in tasking significantly fewer squadrons for more than one 90-day period to meet requirements. Also, dual-tasking would use a larger percentage of each squadron's aircraft to meet requirements, leaving fewer aircraft at their home station. Finally, Air Force officials believe that intangible benefits will accrue. For example, the squadron's personnel can train and fight together as a unit when both requirements are met from the same squadron.

Benefits the Air Force Anticipates

The Air Force anticipates several benefits from dual-tasking. First, fewer squadrons would be tasked to meet requirements. Second, dual-tasking would employ a larger percentage of each squadron's aircraft, resulting in more efficient use of the squadrons because fewer aircraft would remain behind at their home station. Figure 1 illustrates an example of how a requirement is met currently under single-tasking and how the same requirement would be met in the future under dual-tasking.

[2] By 2010, F-15Es and future F-22s are also expected to be dual-tasked.

Figure 1: Illustration of How Single-Tasked and Dual-Tasked Squadrons Could Meet a Requirement for a 90-Day Period



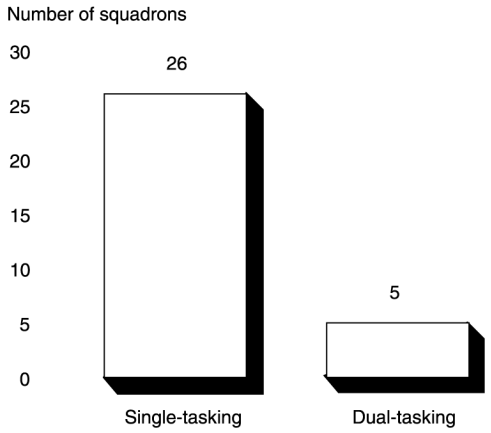
Source: GAO's analysis of the Air Force's data.

As shown in figure 1, although the theater commander would require 18 aircraft to meet the requirements in both cases, only one squadron would provide these aircraft under dual-tasking instead of the current two. As a result, fewer squadrons would need to be tasked to meet requirements. In addition, the requirement, as figure 1 illustrates, is currently met by tasking 18 of 42 aircraft (43-percent) from two squadrons and keeping 24 remaining at their home stations. In contrast, the same requirement under dual-tasking would result in using more of a squadron's aircraft—18 of 24 (75-percent) aircraft from one squadron meeting the requirement and keeping 6 at their home station. Currently, the aircraft left at their home station cannot be used to meet another requirement in a different deployed location. Other than being flown to train pilots remaining at their home station, these aircraft can be used only to augment the aircraft already deployed.

Our Analysis Quantified Anticipated Benefits

Our analysis showed that, as the Air Force anticipated, dual-tasking would result in fewer squadrons being tasked for more than one 90-day period during a 15-month cycle and fewer total squadrons being tasked to cover requirements. For example, during the December 2000 through February 2002 period, the Air Force had to task 26 squadrons more than once to cover all requirements in every 90-day period. This most often occurred because the Air Force did not have enough of a specific capability, such as suppression of enemy air defenses, to cover all the requirements. Under dual-tasking, the Air Force would have to task only five squadrons more than once during the 15-month period—an 81-percent reduction. (See fig. 2.)

Figure 2: Comparison of Squadrons Tasked More Than Once Under Single- and Dual-Tasking



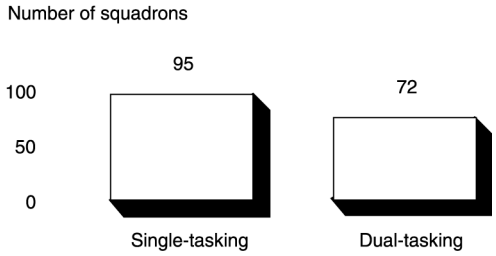
Source: GAO's analysis of the Air Force's data.

This reduction in tasking squadrons for more than one 90-day period allows the Air Force to spread the deployments more evenly across all squadrons. By doing this, dual-tasking would help make it possible for the Air Force to better meet its goal of one 90-day tasking every 15 months.

With fewer squadrons being tasked more than once to cover requirements, dual-tasking would also result in fewer total squadrons being tasked to meet requirements. The Air Force tasked 95 squadrons to meet requirements from December 2000 through February 2002. As illustrated in figure 3, our analysis showed that dual-tasking would result in the Air

Force's being able to meet these same requirements with just 72 (or 24 percent fewer) squadrons.[3]

Figure 3: Comparison of Squadrons Tasked to Meet Requirements Under Single- and Dual-Tasking



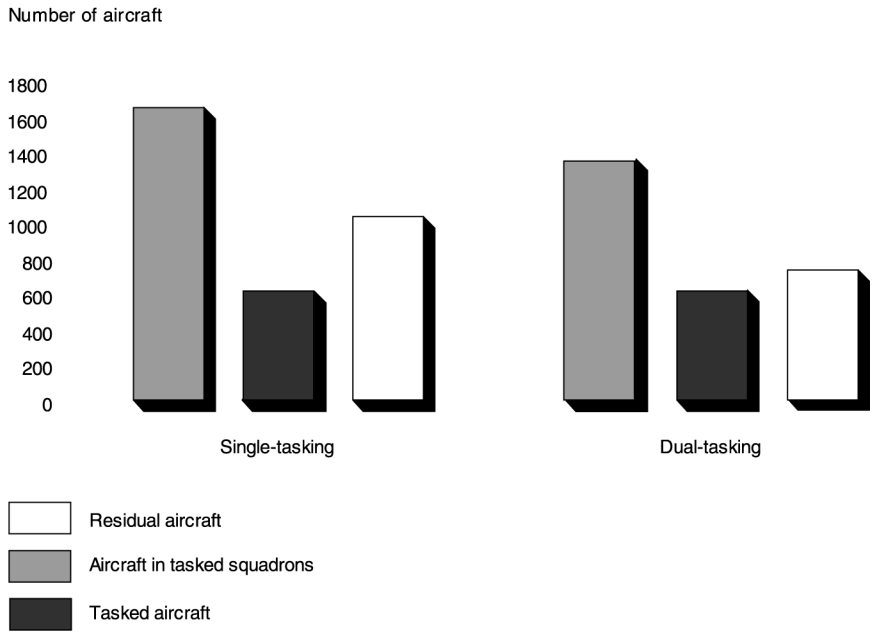
Source: GAO's analysis of the Air Force's data.

Finally, our analysis showed that dual-tasking would result in more of a squadron's aircraft being used to meet requirements. Currently, the Air Force tasks an average of 45 percent of a squadron's aircraft along with the necessary pilots and maintenance personnel to cover a single requirement. This practice splits the squadron, leaving the residual aircraft and pilots at their home station. Since squadrons are not equipped to conduct two independent operations in different locations, the residual aircraft can augment only their own squadron in its deployed location or continue training at their home station. Our analysis showed that during the most recent 15-month cycle, the Air Force tasked 613 of 1,647 aircraft, leaving 1,034 aircraft at their home station. In contrast, under dual-tasking, theater commanders would receive about the same number of aircraft—618 of 1,350 aircraft[4]—leaving 732 aircraft at their home station. This is possible because dual-tasking meets requirements with fewer squadrons, using up to 78 percent of the aircraft in a squadron. This higher usage of squadron aircraft would reduce the number of aircraft remaining at their home station by almost 30 percent.

[3] The dual-tasked aircraft included F-16s specializing in delivering precision-guided munitions (F-16 CGs), F-16s specializing in suppressing enemy air defenses (F-16 CJs), as well as some F-15Es and future F-22s.

[4] The number of aircraft in tasked squadrons is less under dual-tasking because, under single-tasking, the Air Force had to task 95 squadrons to meet requirements versus 72 under dual-tasking. (See fig. 3.)

Figure 4: Comparison of Residual Aircraft During a 15-Month Cycle Under Single- and Dual-Tasking



Source: GAO's analysis of the Air Force's data.

Air Force officials said that dual-tasking 75 percent of a squadron's aircraft would significantly reduce or eliminate the need to conduct home station training while the squadron is deployed, since all the pilots would also be tasked. One Air Force official indicated that operating in this manner would further allow the squadron to better continue training while deployed because the squadron's senior instructor pilots and more junior pilots would be in the same location.

Intangible Benefits the Air Force Anticipates

According to wing officials, two intangible benefits could result from dual-tasking. One benefit, according to the officials, would be improved unity of command. Officials explained that tasking the entire squadron allows the squadron command to focus its people on one operation and marshal the majority of the squadron's assets to support that operation. Aircraft that suppress enemy air defenses protect aircraft delivering precision-guided munitions. For this reason, wing officials believe that unity of command under dual-tasking would be further enhanced when both requirements are met from the same squadron because the squadron would train and fight together as a unit. Wing officials viewed this as an optimal situation

that could improve unity of command, which, in turn, could improve mission effectiveness.

The second intangible benefit identified by Air Force officials is that dual-tasking entire squadrons could increase the theater commanders' flexibility in employing the squadron's capabilities. These Air Force officials pointed out that when a squadron is dual-tasked, the theater commander could quickly shift the number of aircraft and pilots between the two requirements as the situation demands. This would allow the theater commander the flexibility to adjust if requirements change without having to deploy more forces into the theater, as is the current situation.

Significant Challenges Could Limit Realization of Benefits

Implementing dual-tasking under the 2010 Concept presents the Air Force with some significant challenges. These include increased pilot training and a greater impact from existing aircraft maintenance position vacancies. To a lesser extent, the Air Force will be challenged to manage pilot deployments, since dual-tasking will use more of the squadron's pilots. However, because the Air Force is only in the early stages of implementing this concept, it has not yet identified or planned for the specific operational and resource requirements, such as training and funding, to address these challenges.

Pilot Training Will Increase in Dual-Tasked Squadrons

Preparing to dual-task F-16 CG and CJ squadrons will require additional training sorties for these squadrons to prepare for both delivering precision-guided munitions and suppressing enemy air defenses. However, the additional training needed plus existing training requirements would exceed the maximum number of sorties that these squadrons can currently fly because of constrained maintenance and logistic support.

Since the Air Force had not yet quantified the additional training required for dual-tasking, we projected how many additional sorties would be required, assuming that all other training requirements remained the same. We analyzed actual fiscal year 2001 sorties flown for two wings[5]—one F-16 CG wing, whose primary task is delivering precision-guided munitions, and one F-16 CJ wing, whose primary task is suppressing enemy air defenses. We projected that the F-16 CG wing would require an additional 3,347

[5] Active Air Force fighter wings generally contain three squadrons.

sorties to train for both tasks.[6] This represents about a 22 percent increase over fiscal year 2001 training requirements. We projected that the F-16 CJ wing would require an additional 2,735 sorties to train for both tasks. This represents about a 12 percent increase over fiscal year 2001 training requirements.

Furthermore, if the F-16 CG wing we analyzed flies the additional 3,347 sorties it needs to accomplish dual-tasking, it would need to increase the number of sorties each aircraft flies each month from 18.8 to about 23. If the F-16 CJ wing we analyzed flies the additional 2,735 sorties, it would need to increase the number of sorties each aircraft flies each month from 18.8 to about 21.7. If all active F-16 CG and F-16 CJ wings train for dual-tasking, a projected total of 12,264 additional sorties would be required, which would cost $83.5 million annually. According to Air Force officials, this increased flying hour cost has not yet been integrated into the Air Force's budgets. The sortie requirements and annual flying-hour costs for all active F-16 CG and CJ wings are illustrated in table 1.

Table 1: Projected Increase in Sorties and Flying-Hour Costs Required to Train Pilots in All Active F-16 CG and F-16 CJ Wings for Dual-Tasking.

Dollars in millions

All active wings	Sortie increase	Annual flying-hour cost[a]
F-16 CG wings	6,860	$ 45.1
F-16 CJ wings	5,404	38.4
Total	**12,264**	**$ 83.5**

[a]Based on Air Force cost factor of $4,939 per hour.

The wings we studied were already falling short of meeting their training requirements.[7] If training is increased for dual-tasking, the shortfall will increase. For example, in fiscal year 2001, one wing flew only 84 percent of its required training sorties. If this wing trains for dual-tasking without any reduction in other training requirements, it would be able to fly only 70 percent of the required training sorties. Wing officials said that they fall

[6] Our training projections for both wings took into account training common to both tasks to avoid an inflated estimate. (For a complete description of our analysis methodology, see app. 1.)

[7] We reported in 1999 that the Air Force had not flown all its budgeted flying hours. See U.S. General Accounting Office, *Defense Budget: Observations on the Air Force Flying Hour Program*, GAO/NSIAD-99-165 (Washington, D.C.: July 8, 1999).

short of training requirements because the number of sorties they can currently fly is limited. Wing officials have said that they cannot fly each aircraft more than about 18 times each month because of parts shortages and maintenance required on aging aircraft. As part of our Performance and Accountability Series, we reported in 2001 that insufficient spare parts are a major contributor to lower-than-expected mission capable rates.[8] Furthermore, the average age of the Air Force's tactical aircraft will grow from 13 to 21 years by 2011.[9] The Department of Defense has stated that as aircraft age, they are less available for training and operations.[10] Therefore, the Air Force will be challenged to increase sorties to train pilots for dual-tasking and would have to pay a greater amount for parts—in addition to the flying hours.

The Air Force might be able to offset some of the increased training by reducing training requirements in other areas. However, if the Air Force chooses to require these squadrons to train exclusively for dual-tasking, it faces the risk that may be associated with eliminating training requirements for other missions, such as close air support. For example, if the F-16 CG wing in our analysis trained exclusively for delivering precision-guided munitions and suppressing enemy air defenses, the Air Force would not incur the cost to fly an increased number of sorties, but these squadrons would no longer train for close air support.

Filling Maintenance Positions Is Critical

Our analysis showed that the Air Force would need to fill more of its authorized maintenance positions to support deploying a greater portion of a dual-tasked squadron's aircraft. Since the Air Force had not estimated the maintenance requirements for dual-tasking, we assessed the extent to which two wings had sufficient maintenance personnel. To do so, we compared the number of authorized maintenance positions with the number of maintenance personnel assigned to an F-16 CG wing and an

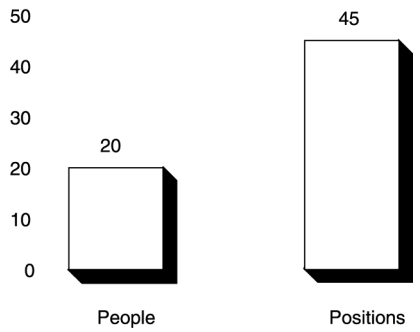
[8] Mission capable rates indicate the material condition of an aircraft. See U.S. General Accounting Office, *Performance and Accountability Series: Major Management Challenges and Program Risks—Department of Defense*, GAO-01-244 (Washington, D.C.: Jan. 2001).

[9] See U.S. General Accounting Office, *Tactical Aircraft: Modernization Plans Will Not Reduce Average Age of Aircraft*, GAO-01-163 (Washington, D.C.: Feb 9, 2001).

[10] See U.S. General Accounting Office, *Military Aircraft: Services Need Strategies to Reduce Cannibalizations*, GAO-02-86 (Washington, D.C.: Nov. 21, 2001).

F-16 CJ wing.[11] Our analysis showed that although the wings may have a sufficient number of maintenance positions, many of the positions are currently unfilled. Specifically, the two wings need a total of 1,056 additional people to fill the positions authorized. More than half of the maintenance specialties at both wings were undermanned, and many were assigned 60 percent or fewer of the people authorized. For example, the positions for journeyman electrical and environmental systems technicians at one wing were manned at 45 percent. Figure 5 illustrates this maintenance personnel shortage.

Figure 5: Example of Shortages in the Electrical and Environmental Systems Specialty



Source: GAO's analysis of the Air Force's data.

Vacant maintenance positions already pose problems, since wing officials are limited in what they can do to make up for the shortages. For example, although some positions are overmanned, the wings have very little ability to transfer people from overmanned positions to undermanned positions. This is due to differences in skill levels or required technical training. For example, a propulsion technician would not be qualified to do structural maintenance. Likewise, an entry-level helper would not be able to fill the position of a supervisory journeyman, even in the same skill area. The problems posed by vacant maintenance positions would be even more pronounced under dual-tasking, since the wing would need to deploy more maintenance personnel to support the greater portion of a squadron's aircraft that would be deployed.

[11] Some maintenance personnel are assigned to squadrons, and some are assigned to the wing and work with whichever squadron needs their specialty. Therefore, our analysis covered the total maintenance positions—those at the wing and squadron level. (For a complete description of our methodology, see app. 1.)

Officials at both wings stated that, assuming parts and supplies are also available, they could meet the maintenance demands of flying more sorties and deploying more aircraft under dual-tasking if the maintenance positions were filled. If the positions are not filled, then some maintenance personnel would have to deploy more than one 90-day period in every 15-month cycle and/or work extra hours, according to wing officials. Thus, the officials asserted it is critical that the Air Force recruit, train, and retain personnel to fill more of these positions by the time dual-tasking begins. If the Air Force is unable to fill these positions, it could affect aircraft as indicated in a 2001 GAO report, which stated that higher-than-expected attrition of experienced maintenance personnel may affect aircraft mission capable rates.[12]

Pilot Deployment Goals Could Be Stressed

Since dual-tasking would task 75 percent rather than an average of 45 percent of a squadron's aircraft, the number of pilots from each squadron used to meet requirements would also increase. To assess whether dual-tasked squadrons would have enough pilots to meet the higher deployment requirements under dual-tasking, we compared the number of pilots in squadrons with the number that would be required if the squadrons were dual-tasked. Our comparison showed that there would be enough pilots to meet the dual-tasking requirements, albeit, with a slim margin as table 2 illustrates.

Table 2: Pilots Required and Remaining in Dual-Tasked Versus Single-Tasked Squadrons

		Pilots required		Pilots remaining	
Squadron	Number of pilots in the squadron	Dec. 2000-Feb. 2002	Dual-tasking	Dec. 2000-Feb. 2002	Dual-tasking
A	30	12	25	18	5
B	30	15	25	15	5
C	23	12	20	11	3

Source: GAO's analysis of the Air Force's data.

The fewer remaining pilots significantly narrows the margin for error in managing pilot deployments to achieve the Air Force's goal of one 90-day period every 15 months. Officials stated that there are always some pilots who cannot deploy because they are ill, in transit, or need to complete initial qualification training. The officials we spoke with stated that since only partial squadrons are tasked currently, they can usually meet

[12] GAO-01-163.

deployment goals and spread out the need to also meet other stateside requirements such as supporting exercises or accident investigations. However, the officials believed that, when they routinely deploy more aircraft and pilots under dual-tasking, they will have to manage pilot deployments more carefully.

Conclusions

The Air Force could reap significant benefits from implementing dual-tasking under the 2010 Concept but will face challenges that, if not addressed, could limit those benefits. The most significant challenge we identified is pilot training. If the Air Force does not reduce the training requirements for dual-tasked squadrons, it will need to increase its flying-hour budget and enable squadrons to increase training flights. Also, if current training requirements do not change and the Air Force cannot increase the number of training flights, the additional training sorties required for dual-tasking will exceed the wing's ability to produce such flights. As a result, dual-tasking could exacerbate existing training shortfalls. On the other hand, if the Air Force reduces training requirements for dual-tasked squadrons, it would face the risk of these squadrons' not being trained in missions now required. Another challenge to implementing dual-tasking is that if maintenance positions are not filled, maintenance personnel would likely deploy more than one 90-day period and/or work many extra hours. Finally, long lead times may be needed to put everything into place to successfully implement this initiative, yet the Air Force has not yet specifically identified the necessary operational and resource requirements.

Recommendations for Executive Action

To be in a position to effectively implement its plans for dual-tasking by 2010, we recommend that you direct the secretary of the Air Force to determine the actions and associated resources needed to fully implement this new concept. We further recommend that you direct the secretary of the Air Force to incorporate the actions from this analysis into a strategic implementation plan and set milestones for accomplishing the actions. Specifically, the plan should identify

- the actions needed to meet the anticipated increase in pilot training,
- how squadrons might mitigate the risks associated with any reduction in training requirements,
- the specific funding requirements to cover the increased costs of pilot training and how these requirements will be integrated into the Air Force's budget, and
- a strategy to fill aircraft maintenance positions.

As you know, 31 U.S.C. 720 requires the head of a federal agency to submit a written statement of the actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Governmental Reform not later than 60 days after the date of this report. A written statement must also be sent 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.

Agency Comments and Our Response

In commenting on a draft of this report, the Department of Defense partially concurred with our recommendations, agreeing that it would ultimately need to develop a strategic plan to implement the dual-tasking concept. The department also agreed that the plan should include actions to address increased pilot-training requirements, actions to mitigate risks if some training requirements are reduced, and specific funding requirements, as we recommended. The department preferred to complete its study of manpower issues before developing a strategy for filling maintenance positions.

While agreeing that an implementation plan would be needed, the department noted that our analysis had not included Reserve Component F-16 aircraft and therefore it would be premature to develop such a plan before the implications of dual-tasking these reserve forces could be reflected.

We do not believe that the department should delay analyzing the actions needed to implement dual-tasking nor in developing the plan we recommended in anticipation of undefined future actions related to reserve forces. According to Air Combat Command officials, Reserve Component F-16s (CGs and CJs) will be single-tasked in 2010 as they are today and as reflected in our analysis. Moreover, only 75 of the 395 Reserve Component F-16s are scheduled to receive the upgrades that would enable them to be dual-tasked. The rest are older versions that will not receive the upgrades. Given the lead time needed to enact the changes necessary for adequate pilot training and maintenance as well as to secure needed funding, we continue to believe that the Air Force should not delay in defining these actions and developing the strategic plan we recommended.

Comments from the Department of Defense are reprinted in appendix II.

We are sending copies of this report to the secretary of the Air Force, the director of the Office of Management and Budget, and interested congressional committees. We will also make copies available to others on request.

If you or your staff have any questions, please call me on (202) 512-3958 or by E-mail at schusterc@gao.gov. Major contributors to this report were Gwendolyn R. Jaffe, Brenda Waterfield, Fred Harrison, and Dawn Godfrey.

Sincerely yours,

Carol R. Schuster
Director
Defense Capabilities and Management

Appendix I: Scope and Methodology

To accomplish our first objective of determining what benefits would likely accrue from dual-tasking squadrons, we conducted a detailed comparison of how selected fighter squadrons are used to meet requirements currently and under dual-tasking in 2010. To do this, we compared how the Air Force met requirements in the most recent Expeditionary Aerospace Force 15-month cycle (Dec. 2000 to Feb. 2002)[1] with how it would meet these same requirements under the 2010 dual-tasking concept.

Specifically, to project the affect that dual-tasking would have on how squadrons would be used to meet requirements, we first identified the requirements specified in the Joint Forces Command documents. To determine how the Air Force met these requirements, we used Air Combat Command scheduling documents that identified the actual squadrons assigned to cover each requirement. Officials from the Air Combat Command's Scheduling and Aerial Events Office verified the number of aircraft actually tasked from each squadron during the December 2000 to February 2002 cycle, including squadrons from the 20th Fighter Wing and the 388th Fighter Wing. We also discussed with officials from both wings the reasonableness of how their squadrons were tasked in this cycle and how they may be tasked under dual-tasking.

To project how these requirements would be met by dual-tasking in 2010, we obtained the notional force structure presented in the Air Force's official 2010 brief, verifying with the Air Force that this continues to be an accurate force structure projection. We also identified dual-tasked squadrons that the Air Force depicted as being capable of carrying out two tasks by 2010 and the specific tasks or missions that each of these aircraft would be capable of performing. With this information, we aligned requirements with the capabilities in the 2010 force structure, maximizing the use of squadrons with dual-tasking capabilities.

From this analysis we compared, for the most recent 15-month cycle and in 2010, the total number of squadrons used to meet requirements, the number of squadrons used for more than one 90-day period, the number of aircraft deployed to cover requirements from each squadron, and the number of aircraft that remained at their home station. We identified how many squadrons were used to meet requirements with substantially their

[1] These requirements include supporting long-standing operations such as enforcing the no-fly zones in Iraq.

entire squadron of aircraft. We then compared these results with the benefits identified by the Air Force. We validated with Air Combat Command officials that we had correctly applied the 2010 force structure and the dual-tasking capabilities that would exist by 2010 to cover all the requirements.

To accomplish our second objective of determining what challenges must be addressed to maximize dual-tasking benefits, we conducted analyses in three areas: pilot training, maintenance personnel, and pilot deployments.

To project the increased training that may be required for pilots in these two wings to prepare for dual-tasking, we analyzed their actual fiscal year 2001 training sorties. One wing was a F-16 CG wing (the 388th Fighter Wing at Hill Air Force Base, Ogden, Utah), which specializes in delivering precision-guided munitions. The other wing was a F-16 CJ wing (the 20th Fighter Wing at Shaw Air Force Base, Sumter, S.C.), which specializes in suppressing enemy air defenses. Air Force officials provided these data from the automated system the Air Force uses to track pilot compliance with training requirements. Although we did not test the Air Force's management controls over its automated systems, we performed several tests to ensure the data's accuracy and validated the data through discussions with Air Force officials to further ensure their accuracy and completeness.

Our approach was to use each wing's experience in training for either delivering precision-guided munitions or suppressing enemy air defenses to project the impact of training for both tasks. To do this, we used each wing's actual fiscal year 2001 sorties flown to project the future dual-tasked training requirements, backing out the overlapping sorties common to both tasks. We then used these results to project the total increase in sorties required for all active F-16 CG and F-16 CJ squadrons. Finally, using Air Force cost factors, we determined the cost of the associated flying hours for all these squadrons.

Our basis for selecting these wings was that under dual-tasking (after planned aircraft upgrades), each of these aircraft types will be capable of both tasks interchangeably. We selected delivering precision-guided munitions and suppressing enemy air defenses as the dual-tasked missions because they represent the more stringent pair of tasks the Air Force expects these wings to perform in the future.

To assess the extent to which two wings had sufficient maintenance personnel, we compared the number of personnel assigned, by Air Force

specialty, as of September 2001 with the number of positions authorized as of fiscal year 2002. The authorized positions reflect what would be required to support deploying almost all aircraft in a wing as in wartime, which is similar to tasking 75 percent of a squadron's aircraft under dual-tasking. Additionally, to assess whether dual-tasked squadrons would have enough pilots to meet the higher deployment requirements under dual-tasking, we compared the number of pilots in squadrons with the number that would be required if the squadrons were dual-tasked.

We discussed this methodology and the results with officials at Air Combat Command at Langley Air Force Base in Hampton, Virginia, and officials at fighter wings at Hill Air Force Base in Ogden, Utah, and Shaw Air Force Base in Sumter, South Carolina. All the officials agreed our methodology was appropriate.

We conducted our review from January 2001 through March 2002 in accordance with generally accepted government auditing standards.

Appendix II: Comments from the Department of Defense

PROGRAM ANALYSIS
AND EVALUATION

OFFICE OF THE SECRETARY OF DEFENSE
1800 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-1800

April 22, 2002

Ms. Carol R. Schuster
Director, Defense Capabilities Management
U.S. General Accounting Office
Washington, D.C. 20548

Dear Ms. Schuster:

This is the Department of Defense (DoD) response to the GAO draft report GAO-02-542, "DEFENSE PLANS: Plan to Better Use Air Force Squadrons Could Yield Benefits, but Faces Significant Challenges," dated March 20, 2002 (GAO Code 702100). The Department appreciates the opportunity to comment on this report.

To measure the full impact of dual tasking, an analysis of the total force would have to be conducted. The report, however, looks only at the active force, examining the participation of active-duty units in Aerospace Expeditionary Force rotations. Air National Guard and Air Force Reserve participation is not addressed.

The report makes two recommendations. The Department partially concurs with Recommendation 1, agreeing that the Air Force needs to determine the actions and associated resources needed to fully implement the dual-tasking concept. The Department also partially concurs with Recommendation 2, agreeing that the Air Force needs to develop a strategic implementation plan and set milestones for accomplishing the associated actions. More detailed comments on the recommendations are enclosed.

Sincerely,

Barry D. Watts
Director

Enclosure

GAO CODE 702100/GAO-02-542

"DEFENSE PLANS: PLAN TO BETTER USE AIR FORCE SQUADRONS COULD YIELD BENEFITS, BUT FACES SIGNIFICANT CHALLENGES"

DEPARTMENT OF DEFENSE COMMENTS TO THE RECOMMENDATIONS

Now on p. 14.

RECOMMENDATION 1: To be in a position to effectively implement its plans for dual tasking by 2010, the GAO recommended that the Secretary of Defense direct the Secretary of the Air Force to determine the actions and associated resources needed to fully implement this new concept. (Page 14/Draft Report).

DoD RESPONSE: Partially Concur. The Department agrees in general with the finding that dual tasking offers significant potential future capability, readiness, and efficiency benefits. It is considered premature, however, to specify the degree to which dual tasking can be implemented across the Total Force. It is noted that no evaluation of the Air National Guard or Air Force Reserve was conducted. There are 395 Reserve Component F-16 aircraft currently engaged in combat and support missions for on-going contingencies. Since the study omits the 395 F-16 aircraft from consideration, the data, costs, and recommendations offered may create an interoperability issue for the AEFs and give an overly optimistic viewpoint of implementation.

Now on p. 14.

RECOMMENDATION 2: The GAO recommended that the Secretary of Defense direct the Secretary of the Air Force to incorporate the actions from this analysis into a strategic implementation plan and set milestones for accomplishing the actions. (Page 14/Draft Report).

DoD RESPONSE: Partially Concur. The Department agrees that a strategic implementation plan ultimately will be needed to implement dual tasking where appropriate. It is premature however, to develop such a plan prior to reflection of the Reserve Component implications of dual tasking opportunities. Reserve Component units are fully integrated into Air Force deployment and contingency response planning. Plans limited to active component implementation might well create difficulties in contingency planning. The Department does intend, however, to exploit the benefits provided through dual tasking, as aircraft modification programs come to fruition.

The GAO draft report also recommends, in addition to the two principal recommendations above, that the DoD's implementation plans identify the following measures:

Now on p. 14.

- The actions needed to meet the anticipated increase in pilot training (Page 14/Draft Report)

DoD RESPONSE: Concur.

Now on p. 14.

- How squadrons might mitigate the risks associated with any reduction in training requirements, (Page 15/Draft Report).

DoD RESPONSE: Concur.

Now on p. 15.

- The specific funding requirements to cover the increased costs of pilot training and how these requirements will be integrated into the Air Force's budget, (Page 15/Draft Report)

DoD RESPONSE: Concur.

Now on p. 15.

- A strategy to fill maintenance positions (Page 15/Draft Report)

DoD RESPONSE: Partially Concur. The Air Force is currently studying manpower issues and strategies to meet authorized maintenance position requirements. It is premature to set specific personnel actions.

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