

GAO

March 1987

# MILITARY AIRSPACE

## Better Planning Is Needed to Meet Future Requirements



038353

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**National Security and  
International Affairs Division  
B-225833**

March 23, 1987

The Honorable Caspar W. Weinberger  
The Secretary of Defense

Dear Mr. Secretary:

We have completed our review of the military's planning for its future airspace requirements. We performed this review after learning in a previously completed audit<sup>1</sup> that several military aircraft units around the country were having difficulty obtaining airspace needed for aircrew training. The objective of our review was to determine whether the military services are adequately planning for their future airspace requirements. While our review concentrated on the military services, we also performed work at the Federal Aviation Administration (FAA), which is responsible for safely meeting the airspace requirements of all users, both civilian and military.

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## Airspace Planning

With the introduction of advanced aircraft, weapons, and tactics, military airspace requirements are changing and increasing. Concurrently, commercial and general aviation's demand for the nation's airspace is also increasing, and this trend is expected to continue through the year 2000. As a result of these higher demands and because of concern over the economic and environmental impacts associated with setting aside airspace for military use, acquiring required airspace for military use has become difficult and time consuming.

A number of Air Force and Navy units have encountered airspace shortages that have decreased aircrew training effectiveness and have increased training costs. For example, to cope with airspace problems, several units equipped with new aircraft must deploy aircraft and aircrews significant distances to obtain adequate airspace to meet training requirements. The lack of airspace has caused some units to obtain waivers for certain training requirements to avoid reporting degraded readiness.

Primarily because airspace was more readily available in the past and less was needed, the services have not developed long-range plans defining airspace needs and how those needs will be met. For the most

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<sup>1</sup>Supersonic Flights Air Force Use of Training Areas in Texas and New Mexico (GAO/NSIAD-86-4, Nov. 8, 1985)

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part, individual military units are responsible for initiating proposals for additional airspace on a case-by-case basis when airspace shortages are identified.

The services recognize that changes in this approach are needed and have initiated steps to improve planning. The Navy, in particular, has begun an effort to define, validate, and support its future airspace requirements. However, the other services have not committed themselves to such comprehensive, long-range planning, and there is no Department of Defense (DOD) guidance to ensure consistency and service coordination in future military airspace development.

FAA and several states have expressed the need for better airspace planning information from DOD. Some states view DOD's airspace planning as piecemeal and believe that their aviation and economic development planning is hampered by the lack of DOD long-range airspace planning. FAA officials stated that FAA could do a better job in allocating airspace and in avoiding future conflicts if DOD airspace planning information were available.

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## Conclusions

Comprehensive long-range airspace planning is needed to help ensure that the services' future airspace requirements are met. Such planning can also assist in deciding where new aircraft units and missions should be located and can help ensure that airspace proposals are initiated soon enough for airspace to be available when needed.

While the services recognize the need for better planning and have initiated some steps in this direction, DOD guidance is needed on comprehensive airspace planning to ensure consistency and coordination among the services. Such planning should consider such factors as the current airspace inventory, mission training requirements, and other uses of the airspace. Also, although airspace requirements are smaller for the Army than for the Air Force and Navy, each service should develop and coordinate plans so that maximum sharing of airspace can be ensured. Further, to the extent possible, airspace planning information should be shared with FAA and the states to promote cooperation and help meet the airspace challenges of the future.

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## Recommendations

We recommend that you require the military services to (1) develop comprehensive airspace plans that define, validate, and support their future airspace requirements, (2) keep the plans current and coordinate

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them among the services, (3) use the information developed on airspace requirements and availability to assist in aircraft basing and mission decisions, and (4) share their plans with FAA and affected states, to the extent possible.

These matters are discussed in detail in appendix I. Our objective, scope, and methodology are described in appendix II.

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## Agency Comments

In commenting on a draft of this report (see app. III), DOD agreed with our recommendations. DOD stated it has initiated and planned several actions to improve overall airspace planning. Current actions by the Air Force include compiling an inventory of available airspace, changing a regulation to provide more emphasis on airspace planning at the major commands, and developing an automated airspace management system. The Navy's current actions include revitalizing Project Blue Air to improve naval airspace planning, expanding the naval representative work force at FAA regional offices, and upgrading and expanding air-space training. In the future, DOD plans to develop a directive that will require the services to develop and maintain airspace plans, use these plans to help make aircraft basing and mission decisions, and share these plans with FAA and affected states.

FAA agreed with our recommendation that DOD share airspace planning information with FAA and affected states (see app. IV). FAA stated that the sharing by DOD of its long-range plans will enable FAA to better meet future DOD airspace requirements.

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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 House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the 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 the report.

We are sending copies of this report to the Chairmen of the above-mentioned Committees; the Chairmen of the House and Senate Committees on Armed Services; and the Director, Office of Management and Budget. Copies will also be made available to others upon request.

Sincerely yours,



Frank C. Conahan  
Assistant Comptroller General



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## Abbreviations

DOD	Department of Defense
FAA	Federal Aviation Administration
GAO	General Accounting Office





# Better Airspace Planning Is Needed by the Department of Defense

The airspace overlying the United States is limited, with many demands competing for its use. Accommodating over 243,000 aircraft, this airspace allows for the rapid movement of goods and people to all parts of the country. However, it must concurrently meet national defense requirements for testing and research and for training military aircrews in a variety of flight maneuvers and tactics.

The Federal Aviation Act of 1958 gives the Federal Aviation Administration (FAA) responsibility for safely and efficiently managing the nation's airspace to meet the needs of all users, both civil and military. Because military testing and training maneuvers are often potentially dangerous to civilian aircraft, FAA established a program to contain certain military flight training in designated areas called Special Use Airspace. Separate categories of Special Use Airspace are designated to contain hazardous and nonhazardous activities. Although the rules vary, general aviation and commercial aircraft normally must fly over, under, or around these areas when in use by the military.

Department of Defense (DOD) management of airspace designated for military use is decentralized. Each of the military services has a central office that sets policy and oversees airspace matters for the service. Joint service airspace issues or interservice problems are usually handled by a committee composed mostly of service representatives—the DOD Advisory Committee on Federal Aviation. The acquisition, scheduling, and use of military airspace is delegated to lower commands and units in each service. In general, each installation or unit identifies its airspace requirements and, if shortfalls exist, initiates proposals to FAA for acquiring additional or modifying existing airspace parameters.

FAA headquarters has final approval authority for airspace proposals, although they are first reviewed by and usually negotiated with the appropriate FAA local and regional offices. The public has an opportunity to comment on most military airspace proposals. In addition, under military services' regulations, certain proposals, such as those for airspace below 3,000 feet or those involving supersonic flight below 30,000 feet, must comply with the National Environmental Policy Act. This act requires federal agencies to prepare environmental impact statements that assess the potential environmental impacts of the proposed actions and that analyze all reasonable alternatives.

Because of competing requirements of other airspace users or because of environmental concerns, the process of obtaining new airspace for military use frequently is lengthy, in some cases taking as long as 6 to 8 years.

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## Airspace Demands Are Growing

According to FAA, the U.S. airspace system is already the busiest in the world, and expected growth in the number of aircraft operations, diversity of operations, number of aircraft, and sophistication of aircraft will place "unprecedented demands" on the system through the end of this century. To illustrate, FAA provides the following statistics:

- Domestic passenger boardings grew from 273 million in 1982 to 348 million in 1985 and are forecasted to exceed 674 million by the year 2000.
- The commercial air carrier fleet is projected to grow from about 2,900 aircraft in 1985 to about 4,400 aircraft in 2000 (a 52 percent increase) with total air carrier hours flown increasing by 4.6 million hours (62 percent) during this period.
- In general aviation, the inventory of aircraft is projected to grow from about 221,000 to 269,000 between 1985 and 2000, while total hours flown are projected to increase by over 16 million hours (45 percent).

Military aircraft compete for the same airspace that must accommodate the growth in commercial and general aviation. According to FAA's 1986 National Airspace System Plan, DOD operates over 19,000 aircraft flying about 6 million hours annually. Although total military aircraft inventory and flying hours are not projected to increase significantly through the year 2000, the volume of airspace needed for military training and testing has been expanding rapidly and will continue to grow.

The increasing military airspace requirement is caused primarily by DOD's aircraft modernization programs and by changes in tactics. For example, newer aircraft, such as the Air Force's F-15 and F-16 and the Navy's F-14 and F/A-18, are more capable, have longer-range weapon systems, and generally operate at faster speeds. As a result, fully training aircrews to exploit the capabilities of the newer aircraft requires a greater volume of airspace for high-speed maneuvers at all altitudes. Also, modern tactics demand more airspace to meet increased aircrew training requirements in very low-level operations, night flying, and supersonic flight.

From 1980 to 1985, the Air Force and Navy inventory of F-15, F-16, F-14, and F/A-18 aircraft increased from about 1,000 to over 2,200 aircraft. During this period, the total number of parcels of military Special Use Airspace increased 15 percent. In geographic size, the increase was from 794,000 to 860,000 square miles.

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## **Improved Planning Needed for Future Airspace Requirements**

In competing with commercial and general aviation for the nation's limited airspace, DOD needs to clearly define, validate, and support its future airspace requirements. Such comprehensive long-range airspace planning can (1) help ensure that airspace required for training and other national defense purposes is available when needed, (2) assist decisionmakers in making aircraft basing and mission decisions that heavily impact on airspace, (3) foster better communication and cooperation with those parties involved in airspace matters, such as FAA and the states, and (4) maximize sharing of military airspace.

Since the services have not developed long-range plans identifying their future airspace requirements and how these requirements will be met, decisionmakers have generally lacked the detailed airspace information that could assist them in deciding where new aircraft units or missions should be located. Also, after basing or mission decisions are made, the airspace acquisition process is lengthy. The services are required to define their new airspace requirements and to initiate airspace proposals. Air Force and Navy officials told us the acquisition delays are usually caused by units learning of basing or mission-change decisions long after such decisions were made by headquarters and/or by the lack of unit-level expertise in defining airspace requirements and developing proposals for submission to FAA.

At our request, the Tactical Air Command sent a message to 14 units (5 of the command's 27 active fighter wings, tactical training wings, and fighter interceptor squadrons and 9 of 55 Air National Guard flying units that report to the Tactical Air Command in wartime), asking each unit to describe its training airspace situation. The units, located in 13 different states, had been identified by Air Force officials as possibly having airspace problems.

Ten of the 14 units stated that they were experiencing airspace problems, mostly due to the lack of low-altitude airspace. Eight of these reported that the problems were affecting their ability to accomplish required aircrew training; the other two stated that their airspace shortage would affect training in the near future. Although three of the

eight units with current airspace problems did not state how they were coping with their problem, five stated that they were deploying aircraft to areas with adequate airspace. In addition, 2 of the 10 units reporting airspace problems were requesting and receiving waivers to training requirements. Air Force officials told us that the waivers were needed so that the units would not have to report degraded readiness.

Examples of units that have received new aircraft without adequate airspace to fully train their aircrews follow:

- The Air Force decided in 1981 to convert the 5th Fighter Interceptor Squadron at Minot Air Force Base, North Dakota, from F-106s to F-15s. According to unit officials, the conversion greatly enhanced the unit's mission capabilities but also significantly increased the requirement for low-level and supersonic airspace to train aircrews in those capabilities. The unit first learned of the planned conversion in January 1983, began considering airspace requirements in August 1983, and initiated action to obtain additional airspace in October 1984. The airspace proposal involves changing an existing parcel of Special Use Airspace by (1) changing the geographic boundaries, (2) lowering the floor from 1,000 to 300 feet above ground level, and (3) allowing supersonic flight as low as 10,000 feet above ground level from a previous level of 30,000 feet. Although the unit's conversion had been completed in 1985, no additional airspace had been approved at the time of our review in September 1986, primarily because of environmental concerns.

According to the unit, the lack of low-altitude and supersonic airspace has had a negative impact on aircrew training. For example, the airspace problems have prevented the squadron from meeting its training requirements without periodically deploying to various locations 800 to 1,600 miles away. With the cost of F-15 flying hours alone exceeding \$6,000 per hour, such deployments significantly increase training costs. In addition, to avoid having to report degraded readiness, the unit has requested waivers for some required training that could not be accomplished during the deployments.

- The Air National Guard's 128th Tactical Fighter Squadron at Dobbins Air Force Base, Georgia, is being converted from an F-4 unit with an air-to-ground mission to an F-15 unit with an air-superiority mission. These changes require considerable additional airspace near the Atlanta area where airspace is heavily saturated. In this case, the unit had begun addressing its airspace requirements in October 1985, a few months

before the first F-15 arrived. Thus far, the unit has been unsuccessful in acquiring additional airspace to meet its training requirements.

The unit's Directorate of Operations stated in September 1986 that the unit was flying only about half of the level it will require once it receives all authorized F-15s and becomes fully operational. The unit expects the effectiveness of its aircrew training to be appreciably affected in the near future. Even with the unit's previous mission and aircraft, periodic deployments, normally to the Savannah area about 200 miles away, were required to meet training requirements. Similar deployments are being planned to meet F-15 requirements.

- The Air Force is converting three squadrons of the 31st Tactical Fighter Wing at Homestead Air Force Base, Florida, from F-4s to F-16s. This conversion, coupled with a concurrent change from a training mission to an operational mission, created a requirement for low-altitude training airspace, which is not currently available in southern Florida. Although the unit had been notified of the planned changes in mid-1984, action to acquire additional airspace was not initiated until June 1985. As of September 1986, additional airspace had not been obtained. According to unit officials, "a report on the degradation of training is pending," and deployments will become necessary if the current airspace proposal is not approved soon. The problem is expected to worsen as the second and third squadrons complete their planned conversions.

About 1980 the Navy decided to convert its A-7 squadrons at Cecil Field Naval Air Station near Jacksonville, Florida, to the F/A-18. An airspace study was not performed prior to this decision. The conversion created the need for additional training airspace, because the F/A-18 requires significantly more air-to-air training than the A-7. In 1983, the Navy first submitted to FAA an airspace proposal to meet its new requirements. However, at the time of our visit in August 1986, no additional airspace had been approved, primarily because of the growing concentration of commercial aviation in the area.

Local Navy officials told us that the airspace problem at Cecil Field is adversely affecting F/A-18 training. For example, because of heavy commercial traffic, pilots occasionally experience delays as long as 30 minutes awaiting clearance to take off for alternative training areas offshore. The officials told us that these delays waste fuel and shorten the time available for tactics training on each flight. In April 1986, Navy representatives told FAA that the lack of adequate airspace in the Jacksonville area was severely affecting training at Cecil Field. The situation

will likely worsen, since in August 1986 only 6 of the planned 15 F/A-18 squadrons at Cecil Field were operational.

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### **Agency Comments and Our Evaluation**

DOD agreed that the increasing military and civil demands for airspace were creating difficulties in acquiring segregated airspace for defense requirements. While recognizing the need for comprehensive airspace planning, DOD pointed out that factors other than airspace requirements affect basing decisions, such as the location of existing facilities, structures, and weapon ranges and the size of the civilian work force. In the case of Air National Guard units, placements are limited to the sponsor state and often to a specific airport, regardless of airspace availability.

We recognize that there are factors other than airspace requirements affecting basing and mission-change decisions and did not intend to imply that airspace requirements should be the determining factor. We believe, however, that decisionmakers should consider all factors relevant to aircraft placement and, currently, comprehensive airspace information is not available.

DOD also stated that airspace planning by the services can only be effective if complemented by plans from other sectors of aviation. We agree that such plans will be beneficial, but as discussed in the following section, the services recognize that they need to plan for their airspace requirements regardless of what is occurring in other sectors. Also, FAA and some states are developing plans for which they are seeking information regarding DOD's airspace requirements. We would expect that these plans will be shared with DOD and that such cooperative efforts will help ensure that the airspace needs of both military and civil aviation will be adequately served.

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### **Services Recognize Need for Planning**

Air Force and Navy representatives stated that comprehensive airspace planning has not been occurring primarily because airspace matters have not been a high priority in DOD. For the most part, acquiring needed airspace in the past was not usually a problem. However, they told us that over the past few years acquisition of additional airspace has become more difficult and time consuming. As a result, the Air Force and the Navy have begun to recognize the need for such planning and for emphasizing consideration of airspace availability in making basing decisions.

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## Air Force Planning

Participants at a September 1985 conference for Air Force airspace managers concluded that the Tactical Air Command needed to identify requirements for additional airspace earlier than it had in the past and that basing decisions must include consideration of airspace requirements. The participants also concluded that the Tactical Air Command should develop a 10-year airspace master development plan. At the time of our visit to the Command in October 1986, such an effort had not begun. However, in August 1986 the Tactical Air Command did complete a long-range plan for training (bombing) ranges, an issue closely related to its airspace needs. In a letter disseminating a draft of this plan for comment, the Command's Deputy Chief of Staff for Operations stated that "It is imperative that we have a reasonably accurate projection of what range resources will be needed to support our training programs in the outyears." The letter also cited the need for a companion document on future airspace requirements.

The Air Force is also revising its airspace management instruction to place greater emphasis on the need for effective planning, acquisition, and management of airspace resources. The revision also stresses the need for early consideration of airspace availability as a part of mission and basing decisions.

While we believe that these efforts are steps in the right direction, they do not require comprehensive planning that defines, validates, and supports future airspace requirements. In addition, the revised instruction does not ensure that adequate airspace information is developed and disseminated for decisionmakers to consider when making mission and basing decisions or that future Air Force airspace needs are consistent and coordinated with future needs of the other services.

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## Navy Planning

Navy recognition of the importance of long-range airspace planning was first demonstrated in 1972 when the service published its Project Blue Air study. This study analyzed the Navy's airspace requirements through 1980 and proposed alternative solutions to projected problems. Although the Navy has stated that the study was instrumental in decisionmaking associated with base loading and airspace structuring, the study was not updated.

However, in January 1986, the Navy initiated action to start a new long-range planning effort. The purpose of the new study, also called Project Blue Air, is to analyze naval airspace requirements through the year 2005. The study will define current and projected naval airspace needs,



identify specific problems expected to emerge from growing civil demands for airspace, and facilitate solutions to these problems by proposing alternative planning and programming actions that will enable the Navy to maintain or improve its capability to operate and train. Navy officials stated that the new study, scheduled to be completed in August 1987, is needed to define and support the Navy's airspace requirements to FAA.

While the Navy's new airspace planning effort should facilitate better long-range planning, the Navy must ensure that the new effort is kept current and is fully coordinated with the other military services.

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### **Agency Comments**

DOD agreed that the services should plan in greater depth for airspace necessary to meet known weapon systems training requirements. DOD stated that the Air Force has three initiatives ongoing that will assist such efforts. These initiatives include (1) conducting an inventory of Air Force airspace availability (completion by April 1987), (2) revising the regulation on airspace management to establish Airspace Requirements Councils at major command levels to assist in basing actions (completion by March 1987), and (3) developing an automated airspace management and design system (preliminary version fielded by 1989).

DOD advised us that, in addition to Project Blue Air, the Navy will expand its work force at FAA regional offices and increase its use of airspace management-related courses offered by the Air Force and FAA.

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### **FAA and Several States Seek DOD Airspace Planning Information**

FAA representatives told us that better DOD airspace planning information would be beneficial to FAA. FAA officials stated that the lack of planning causes both DOD and FAA to make decisions on individual airspace proposals, which may not be the best in the long term. FAA believes that it could do a better job in allocating airspace and in avoiding future conflicts if it could incorporate into its plans information on DOD's plans.

We also became aware that four states have become heavily involved in military airspace issues because of concern over the potential safety, economic, and environmental impacts associated with setting aside airspace for military use. Some governors have stated that the lack of DOD airspace planning information hampers their states' aviation and economic development planning. The following examples highlight the concerns of these states with DOD's lack of airspace planning information.

In response to a Navy request for additional airspace, the Governor of Nevada wrote in 1985:

"...the Navy's proposal renews our opposition to the piecemeal approach being used by the Department of Defense to acquire increasing control over Nevada's airspace and land resources

"At present, nearly 40 percent of Nevada's airspace is directly controlled by the Department of Defense. We have no assurance that the Department will not make additional demands for airspace and land withdrawals in the future, nor have we any indication of when future demands will occur, or in what form. As we stated as early as 1983, it seems both reasonable and necessary that the Department of Defense work in cooperation with the State of Nevada in preparing a long-term, comprehensive airspace and land utilization plan encompassing the entire State of Nevada."

In April 1986, the North Carolina Department of Transportation, commenting on military proposals for additional airspace in the state, responded:

"The FAA is being deluged with individual [airspace] requests from several branches of the military. This seems to be a 'piecemeal' approach to a systematic problem. All the requests taken individually are not seemingly severe in their impact, but grouped together they combine to remove from public domain a huge block of airspace that blankets eastern N.C. [North Carolina]."

In 1985, the State of Florida expressed its need for airspace planning to the Air Force, and in 1986 the Florida Aviation Bureau issued a policy statement on Special Use Airspace stating, "Long range planning data for Special Use Airspace needs must be made available for State Aviation Systems plans to ensure both military and civil interests can be reasonably accommodated."

Commenting on a military airspace proposal, the Governor of Oregon wrote in August 1986:

"This increased attention has developed, because of an apparent increase in military training activity and in large part [because of] a proliferation of proposals by several individual military units for an uncoordinated establishment or expansion of MOA's [military operating areas] and expansion of low-level training routes

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"We presently have a 'National Plan of Integrated Airport Systems,' a 'National Airspace System Plan,' and 'Master Plans' for many individual airports. We must implement a similar comprehensive planning effort to guide the development and use of military special-use airspace in the best interests of all concerned."

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**Agency Comments**

DOD stated that a directive will be prepared that will require the services to develop, coordinate, and maintain comprehensive airspace plans. The approved airspace plans will be shared with FAA and affected states to the maximum extent allowed by national security considerations and prudent economic policy.

# Objective, Scope, and Methodology

We performed this review as a result of information obtained during our 1985 review, which evaluated an Air Force decision to use two military airspace areas in Texas and New Mexico for supersonic flight training. During that assignment we learned that several military air units around the country were having difficulty acquiring the airspace needed to train aircrews in new aircraft and tactics.

Our objective was to determine whether the military services are adequately planning for their future airspace requirements. Because the Army's airspace needs are smaller and more stable, we focused our review on the Air Force and the Navy (including the Marine Corps). The audit also concentrated on airspace needed for tactical aircrew training since, for the most part, this is the area most responsible for the increased demand for military airspace.

Our review was performed during the period April to November 1986 and was done in accordance with generally accepted government auditing standards. We visited the following activities:

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## Headquarters

- Office of the Secretary of Defense, Washington, D.C.
- Department of the Air Force, Washington, D.C.
- Department of the Army, Washington, D.C.
- Department of the Navy, Washington, D.C.
- National Guard Bureau, Washington, D.C.
- Federal Aviation Administration, Washington, D.C.

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## Major Commands and Units

- Tactical Air Command, Langley Air Force Base, Virginia
- Air National Guard Support Center, Andrews Air Force Base, Maryland
- Headquarters Air Force Reserve, Robins Air Force Base, Georgia
- 128th Tactical Fighter Squadron, Dobbins Air Force Base, Georgia
- Naval Air Force, U.S. Atlantic Fleet, Norfolk, Virginia
- Fleet Area Control and Surveillance Facility, Virginia Capes, Virginia Beach, Virginia
- Fleet Area Control and Surveillance Facility, Jacksonville, Florida
- Cecil Field Naval Air Station, Florida

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## Other Locations

- State of Florida, Aviation Bureau, Tallahassee, Florida
- National Association of State Aviation Officials, Washington, D.C.

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**Appendix II**  
**Objective, Scope, and Methodology**

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To assess the adequacy of DOD's planning for future airspace requirements, we (1) obtained and reviewed applicable service policies and regulations, (2) interviewed service representatives about military airspace requirements, problems, and the need for planning, and (3) obtained the opinions of other parties involved in the military airspace issue. In addition, we obtained and reviewed the details on current airspace problems by following up on several problem locations identified by service representatives. Information on the projected growth of commercial and general aviation was obtained from FAA and not independently verified.

# Comments From the Assistant Secretary of Defense (Command, Control, Communications and Intelligence)



COMMAND CONTROL  
COMMUNICATIONS  
AND  
INTELLIGENCE

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON DC 20301 3040

24 FEB 1987

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

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "MILITARY AIRSPACE: Better Planning Is Needed To Meet Future Requirements," dated January 6, 1987 (GAO Code 392198), OSD Case 7193.

The DoD concurs with the draft report. The DoD agrees that better airspace planning is needed and has initiated several actions, with further actions planned, to improve the Department's overall airspace planning. Current actions by the Air Force include an inventory of airspace availability, changing a regulation to provide more emphasis on airspace planning at the Major Commands, and developing an automated airspace management system. The current Navy actions are the revitalizing of Project Blue Air to improve Naval airspace planning, expanding the Naval representative work force at Federal Aviation Administration (FAA) regional offices, and upgrading and expanding airspace training. By July 1987, DoD plans to develop a directive that will require the Services to develop and maintain airspace plans, use these plans to help make aircraft basing and mission decisions, and share these plans with the FAA and affected states. Airspace planning by the DoD, however, can only be effective if complemented by planning from other sectors of aviation.

Detailed DoD comments on each of the findings and recommendations in the report are enclosed. Thank you for the opportunity to comment on this draft report.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Donald C. Latham', written in a cursive style.

Donald C. Latham

Enclosure  
As Stated

DoD COMMENTS ON  
GAO DRAFT REPORT - DATED JANUARY 6, 1987  
(GAO CODE 392198) OSD CASE 7193

"MILITARY AIRSPACE: BETTER PLANNING IS NEEDED  
TO MEET FUTURE REQUIREMENTS"

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FINDINGS

- o **FINDING A: Need For Improved Airspace Planning.** The GAO reported that the demand for the nation's airspace by both civilian and military requirements is increasing, and this growth is expected to continue. As a result of these higher demands, and because of concern over the economic and environmental impacts associated with setting aside airspace for military use, the GAO found that acquiring airspace for military use has become difficult and time consuming. The GAO further found that a number of Air Force and Navy units have already encountered airspace shortages, which have decreased aircrew training effectiveness and increased training costs. The GAO cited, as examples, instances where Air Force units must deploy significant distances to obtain adequate airspace to meet training requirements. The GAO also reported that Air Force units have obtained waivers for certain training requirements to avoid reporting degraded readiness. In the case of the Navy, the GAO reported that F/A-18 training at Cecil Field has been impacted by delays caused by heavy commercial traffic. The GAO observed that the Services have not developed long-range airspace plans, primarily because airspace was more readily available in the past and less was needed. The GAO concluded that such long-range, comprehensive airspace planning is needed to help ensure that the Services' future airspace requirements are met, and to assist decisionmakers in making aircraft basing and mission decisions. (pp. 1-2, pp. 6-10/GAO Draft Report).

**DoD Response:** Concur. The GAO accurately stated the increasing military and civil demands for airspace and the current difficulty in acquiring segregated airspace for defense requirements. Three points should be remembered, however, in considering the true airspace situation: (1) the complexity of basing and mission decisions, (2) the unique and significant nature of the information from the Air National Guard and Tactical Air Command (TAC) units as it relates to overall planning, and (3) the fact that airspace planning is not just a DoD responsibility.

Now on pp. 1-2, 9-13.

**Appendix III  
Comments From the Assistant Secretary of  
Defense (Command, Control,  
Communications and Intelligence)**

Airspace is one of many considerations evaluated by military and civil leaders in determining weapon system placement and mission changes. The evaluation optimizes such factors as existing facilities and structures, equipage, civil work force, economics, environmental considerations, airspace, weapons ranges, politics, the threat and the resultant military force structure. The objective is to field and support a weapon system to satisfy national security requirements at minimum cost to the nation. Airspace constraints should be considered to the extent that they do not compromise the national defense. Many of the factors involved in the competition for airspace between the military and civil users are not subject to military oversight. Examples include population center relocation, short notice announcements of hub locations by air carrier companies and legislation which, while well intentioned, tends to compound the environmental constraints. Politics can be an overriding consideration that cannot be addressed in a plan.

Airspace planning is only one of several factors to consider in solving unit airspace problems. In the unit survey conducted by the Tactical Air Command (TAC) for the GAO, for example, 10 of the 14 respondents were Air National Guard (ANG) units. This is significant in that the options for unit placement are limited to the sponsor state. The basing factors previously discussed often further limit placement of an ANG weapon systems to a specific airport, regardless of airspace availability. Thus, six of the eight ANG units reporting airspace problems are near or under airspace highly congested by civil aviation. Airspace planning will not favorably change air traffic density at these locations to allow the creation of "ideal" training areas.

Airspace planning by the Armed Services can only be effective if complemented by plans from other sectors of aviation. Some of the most disruptive changes to air traffic flows in recent years have been the result of unilateral airline decisions to centralize the flow of their aircraft through designated regional airports or hubs. With little prior notice of airline hub decisions, all other civil and military users of the airspace around the new hub are forced to adjust to short notice traffic flow revisions by the FAA. During the past 18 months, airline hubbing resulted in the closure and reconstruction of military airspace in Arizona, Kentucky, Mississippi, New Jersey, North Carolina, Ohio, and Tennessee, negating years of planning and negotiation by the Air Force. In addition, Project Blue Air, a nation-wide study of Navy/Marine Corps airspace requirements, supports the GAO conclusion that more comprehensive planning for airspace is required to support basing and mission planning decisions. If these



plans are not factored into plans of other aviation sectors, however, they will not help the overall situation.

The DoD concurs with the GAO conclusion that more comprehensive planning for airspace is necessary to assist the basing and mission decision process. Plans must focus on known requirements during the succeeding five years. General planning beyond five years can only address the concept and preliminary requirements of developing systems, items which will be included, as required, in five year planning documents. Detailed planning beyond five years is subject to unknown changes in technology, force structure, fiscal constraints, missions, employment tactics, and the air traffic control system, and is neither economically feasible or practically usable.

- o **FINDING B: Services Recognize The Need For Airspace Planning.** The GAO reported that, according to Air Force and Navy officials, comprehensive airspace planning has not been occurring primarily because it was not a high DoD priority. According to the GAO, however, the increasing difficulty of acquiring needed airspace in recent years has resulted in the Air Force and the Navy recognizing the need for such planning. The GAO found that the Air Force Tactical Air Command has indicated an awareness of this need, and has initiated steps to plan for future airspace requirements. In addition, the GAO found the Air Force is revising its airspace management instruction to place greater emphasis on airspace planning. The GAO concluded that these are steps in the right direction, but they do not require comprehensive planning that defines, validates and supports future airspace requirements. The GAO also concluded that the revised instruction does not ensure that adequate airspace information is provided to decisionmakers, or that future Air Force airspace needs are coordinated with the other Services. The GAO found that the Navy has demonstrated an awareness of the need for long-range airspace planning since 1972, when its Project Blue Air Study was published. Although the Navy never updated its study, the GAO found that in January 1986 the Navy initiated a new study to analyze its airspace requirements through the year 2005. The GAO concluded that while the new study should facilitate better long-range planning, the Navy must ensure the effort is kept current and fully coordinated with the other Services. (pp. 1-2, pp. 10-11/GAO Draft Report).

**DoD Response:** Concur. DoD Major Commands and units should plan ahead in greater depth for airspace to meet known weapon systems training requirements as stated in the response to Finding A. Three ongoing Air Force initiatives will assist Air Force planning. Oakridge Laboratory, Oakridge, TN, is under Air Force contract to conduct an inventory of Air Force airspace availability. This inventory will be completed by April 1987 and will provide a useful planning tool. Second, the Air Force regulation on

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airspace management, to be completed by March 1987, will establish Airspace Requirements Councils at the Major Command level to assist in basing actions. This regulation will then be revised to provide guidance on developing and coordinating airspace plans. The revision will follow the DoD Directive discussed in the DoD response to Recommendation 1, and should be completed within six months of the completion of this DoD Directive. Finally, automated airspace management and design systems now under consideration will provide the necessary planning tools. The preliminary version of the primary airspace management system, the Military Airspace Management System (MAMS), can be in the field as early as 1989.

The Navy's Project Blue Air and the associated initiatives to expand the Naval representative work force at FAA regional offices involved in supporting Navy and Marine Corps flying activity will improve Naval airspace planning. Special use airspace related knowledge factors have been included in the Navy's curriculum for air traffic control facility managers in its school in Memphis, TN. The Navy has also increased its use of airspace management related courses sponsored by the Air Force and the FAA and imposed Chief of Naval Operations (CNO) interest into the assignment of technical specialists to the Naval representative offices at the FAA regional offices. In addition, the Navy has encouraged stability for airspace liaison officers on major Naval staffs.

- o **FINDING C: Need For DoD Airspace Planning Guidance.** The GAO found that there has not been any DoD (i.e. OSD) guidance issued that would ensure consistency and coordination among the Services in planning for future airspace requirements. The GAO also found that both the Federal Aviation Administration (FAA) and several states have indicated a need for better DoD airspace planning information. According to the GAO, the FAA believes better DoD information could improve its airspace allocation efforts and avoid future conflicts, while the states need better DoD information to deal with safety, economic and environmental impact issues associated with airspace requirements. The GAO concluded that DoD guidance on comprehensive airspace planning is needed to ensure consistency and coordination among the Services. The GAO further concluded that, to the extent possible, DoD airspace planning information should be shared with the FAA and the states to promote cooperation and help meet the airspace challenges of the future. (p. 2, pp. 11-13/GAO Draft Report).

**DoD Response:** Concur. The DoD agrees that interservice coordination is needed. Departmental guidance for the development and coordination of Service airspace plans will be developed by the DOD Advisory Committee for Federal

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Aviation. This guidance will be in the form of a DoD Directive, as discussed in the DoD response to Recommendation 1. Approved airspace plans will be shared with the FAA and states to the maximum extent allowed by national security considerations and prudent economic policy. To be effective, however, airspace plans of the civil community must be shared with the DoD.

**RECOMMENDATIONS**

- o **RECOMMENDATION 1:** The GAO recommended that the Secretary of Defense require the Services to develop comprehensive airspace plans that define, validate and support their future airspace requirements, keep the plans current, and coordinate them among the Services. (p.2/GAO Draft Report).

**DoD Response:** Concur. A DoD Directive will be prepared that will require the Services to develop and maintain comprehensive airspace plans. The goal for completion of this directive is July 1987.

- o **RECOMMENDATION 2:** The GAO recommended that the Secretary of Defense require the Services to use the information developed on airspace requirements and availability to assist in aircraft basing and mission decisions. (p. 2/GAO Draft Report).

**DoD Response:** Concur. The directive described in the DoD response to Recommendation 1 will direct the Services to use this airspace information as one of the factors to be considered in aircraft basing and mission decisions.

- o **RECOMMENDATION 3:** The GAO recommended that the Secretary of Defense require the Services to share their plans with the FAA and affected states, to the extent possible. (p. 2/GAO Draft Report).

**DoD Response:** Concur. The directive described in the DoD response to Recommendation 1 will direct the Services to share their plans with the FAA and affected states, to the extent possible. To be effective, however, civil community airspace planning should also be shared with the DoD.

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# Comments From the Administrator, Federal Aviation Administration



US Department  
of Transportation  
**Federal Aviation  
Administration**

Office of the Administrator

800 Independence Ave. S.W.  
Washington D.C. 20591

MAR 2 1987

Mr. J. Dexter Peach  
Assistant Comptroller General  
U.S. General Accounting Office  
Washington, DC 20548

Dear Mr. Peach:

As requested by your January 9, 1987, letter, I am furnishing you with my comments on the General Accounting Office (GAO) draft report entitled "Military Airspace: Better Planning is Needed to Meet Future Requirements," addressed to the Secretary of Defense.

Although the military services have recognized the need for better airspace planning and have initiated some actions, GAO believes that Department of Defense (DOD) guidance is needed on comprehensive airspace planning. In this regard, GAO recommends that DOD share military airspace planning information, to the extent possible, with the Federal Aviation Administration (FAA) and the States to promote cooperation and help meet future challenges.

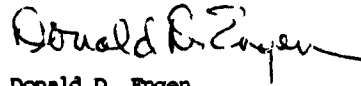
The FAA and DOD have worked very closely in allocating airspace for civil and military requirements at both the FAA headquarters and regional levels. However, increases in commercial and general aviation coupled with the introduction of advanced military aircraft, weapons, and tactics have increased airspace requirements. In the past, added requirements for military airspace could generally be met at the local level on an "as needed basis" and with few denials. But with the civil airways becoming ever more crowded, requests by DOD military bases for additional airspace cannot always be accommodated.

The lack of timely, comprehensive airspace planning causes both DOD and FAA to make decisions on individual airspace proposals that may not be in the long-term best interests of either DOD or FAA. The examples cited in the GAO report of changes in military mission responsibilities at a number of bases throughout the United States without adequate advance planning of airspace requirements and FAA coordination, serves to illustrate this point. Because of a lack of airspace, the military bases cited were only partially able to meet their airspace mission needs.

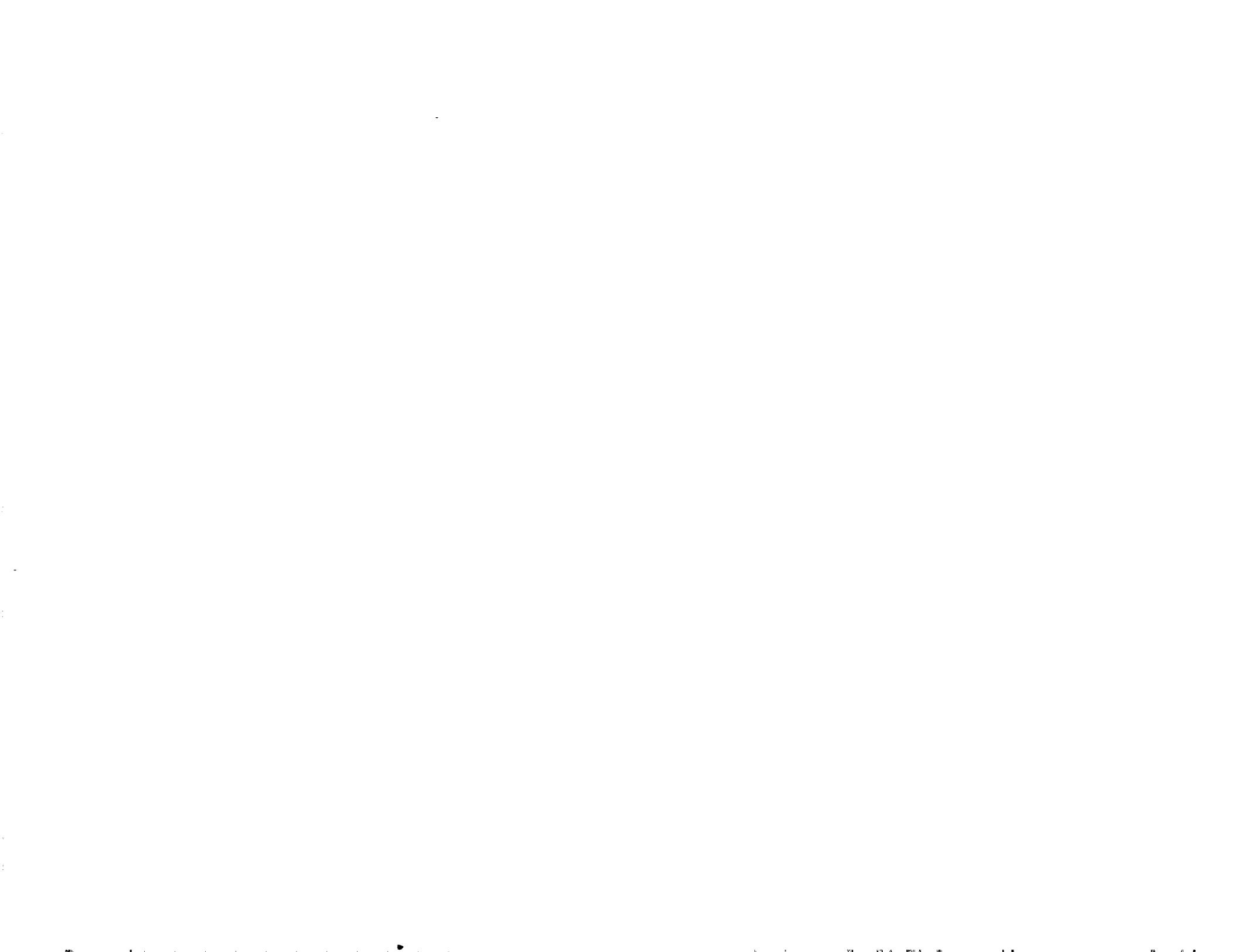
With the recognition of this problem within DOD, and the better planning that is now being performed by the services, I concur with the GAO recommendation. The sharing by DOD of its long-range plans with FAA and affected States, to the extent possible, will enable us to better meet future DOD airspace requirements.

I thank you for the opportunity to comment on the report.

Sincerely,



Donald D. Engen  
Administrator



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