

April 2000

# DEFENSE TRANSPORTATION

## Operational Support Airlift Requirements Are Not Sufficiently Justified



G A O

Accountability \* Integrity \* Reliability



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## Abbreviations

DOD Department of Defense

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

National Security and  
International Affairs Division

B-284770

April 27, 2000

The Honorable Barbara Boxer  
The Honorable Tom Harkin  
United States Senate

The Honorable Peter DeFazio  
House of Representatives

The Department of Defense (DOD) has identified a wartime requirement for 391 aircraft to transport passengers and cargo on short notice when other military and commercial flights are not able to provide transportation in a time-sensitive manner. These aircraft are referred to as operational support airlift aircraft. Although DOD's policy specifies that the number of support aircraft are to be based on wartime requirements, DOD uses these aircraft during peacetime for crew training as well as passenger and cargo support.

This report responds to your concerns about whether the existing requirement for operational support airlift aircraft is linked to wartime needs. Specifically, we evaluated the process DOD uses to determine its requirements for these aircraft. As requested, we have also provided information on the current operational support airlift inventory and planned changes to that inventory in appendixes I and II.<sup>1</sup>

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## Results in Brief

The current process used to determine requirements for operational support airlift is inadequate because it is not clearly linked to wartime requirements as DOD policy requires. In our review of the process DOD used for the 1995, 1998, and ongoing analyses of operational support airlift requirements, we identified several weaknesses that call the current requirement for 391 aircraft into question. Specifically, the Department has not clearly explained the basis for the key assumptions it is using to justify the requirements or identified the assumptions that should be updated in each succeeding review. For example, DOD has assumed that most

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<sup>1</sup>The fiscal year 2000 DOD appropriations act gives the Air Force the authority to lease up to six new aircraft to provide operational support airlift.

overseas airfields should be connected to each other by nonstop flights three times a day. However, DOD has not explained why it is necessary to connect these airfields with such frequency to support wartime requirements. In addition, DOD has not issued sufficient guidance to define participant roles and responsibilities for validating these airlift requirements. For example, we were unable to determine whether any command had validated the requirement for 85 aircraft that were based within the continental United States during DOD's 1998 review of support aircraft requirements. DOD has also failed to ensure that sufficient documentation to support previous analyses is maintained. Moreover, DOD has only reviewed its requirements for operational support aircraft twice since 1995, despite its own directive to validate the requirements on an annual basis. Officials involved in the review process, however, suggested to us that annual reviews may be too frequent, given that they would not expect the requirements to change significantly from year to year.

In light of the problems we identified, we are recommending that DOD make changes to its operational support airlift requirements determination process so that it can better demonstrate how the requirement for these support aircraft is linked to DOD's wartime needs. We are also recommending that DOD reexamine the requirement to validate requirements annually.

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## Background

DOD maintains operational support airlift aircraft to meet short-notice wartime requirements for high-priority air transportation that cannot be met by regularly scheduled military or commercial flights. The inventory is comprised of 14 types of fixed-wing aircraft that vary in size, speed, and range. Almost half of these are eight-passenger propeller-driven aircraft, but the inventory also contains larger-capacity jet-propelled aircraft capable of flying up to 5,500 nautical miles. Each service maintains an inventory of these aircraft; however, 45 percent of the total fleet is in the Army's inventory. More detailed information about the inventory and characteristics of support aircraft is presented in appendixes I and II.

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Prior to the mid-1990s, each service determined its own support aircraft requirements; by 1995, there were 520 support aircraft in the inventory. In May 1995, a review of DOD's post-Cold War role concluded that the services had no documentation to show that the number of support aircraft was based on wartime requirements, and it recommended that the inventory be reduced to eliminate the excess capacity.<sup>2</sup> In response, the Deputy Secretary of Defense asked the Chairman of the Joint Chiefs of Staff to recalculate the wartime requirements. The Joint Staff subsequently formed a working group comprised of representatives from the Joint Staff, the services, the Office of the Secretary of Defense, and the major military commands both in the United States and abroad to determine operational support airlift requirements for conventional wars involving two major regional conflicts.

The working group devised a model applicable to four geographic areas of operation—Europe, the Middle East, Korea and Japan, and the continental United States. The model was based on a methodology that divided each geographic area into a number of regions. Within each region, the working group identified specific destinations, called airfield nodes, representing either a single airfield or a group of neighboring airfields. Airfield nodes in each overseas region were to be connected to all other nodes within that region by nonstop flights three times a day. Likewise, each region in an overseas area was to be connected to every other region in that area by nonstop flights three times a day. Because of the ready availability of commercial flights, nodes within a region in the continental United States were connected to each other by nonstop flights an average of one and a half times a day, and regions were connected to every other region once a day. (The working group also designated a few airfields as remote links in those cases where it determined that only a reduced level of service would be required. Remote locations require just one aircraft.) The working group then increased the airlift requirements by applying a mission capable rate to allow for the fact that, on any given day, a number of aircraft would not be available for use because they were under repair or awaiting spare parts.

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<sup>2</sup>This review was conducted by the Commission on Roles and Missions of the Armed Forces.

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After these requirements for each region were determined, the working group added in mission-specific aircraft requirements that were identified by nine DOD commands.<sup>3</sup> Mission-specific requirements include aircraft to transport key commanders and other required users and to provide transportation to link commands to their distant locations—for example, to link the European Command to Africa. The overall operational support airlift requirement of 391 aircraft reflected the sum total of the aircraft for the four geographic areas and all mission-specific aircraft requirements, plus an additional allowance to provide for attrition, depot maintenance, and training demands for aircraft.

The Joint Staff presented the results of the requirements determination process, along with the methodology it used, in a report that it issued in October 1995. The Joint Staff has used this methodology as the basis for subsequent requirements reviews. One of these reviews was begun in December 1997 and completed in May 1998. In that study, the Joint Staff confirmed the current requirement for 391 aircraft that was first identified in 1995. Another review started in November 1999 and remains ongoing.

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## Requirements Process for Support Aircraft Is Inadequate

The processes that DOD uses to identify its requirements for operational support airlift have a number of weaknesses that make it difficult to assess whether the current inventory meets the wartime needs. In reviewing the process used in the 1995 and 1998 analyses, we could not determine how the methodology relates to wartime requirements. The current guidance does not explain the basis for key assumptions that influence the analysis or identify the extent to which key assumptions need to be revalidated. Furthermore, the guidance does not present a clear delineation of the participating entities' roles and responsibilities, and it does not identify documentation that should be maintained to support the results of the analysis. The Joint Staff is aware that weaknesses exist in the process, and it intends to consider changes to the process once the current review is complete.

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<sup>3</sup>The nine commands, referred to as combatant commands, that provide input to the operational support airlift wartime requirements process are the Central Command, European Command, Joint Forces Command, Pacific Command, Southern Command, Special Operations Command, Space Command, Strategic Command, and Transportation Command. Not all of the commands have geographically based operational support airlift requirements; some only have mission-specific airlift requirements.

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**Methodology Does Not Explain Linkage to Wartime Requirements**

Although DOD Directive 4500.43 states that operational support airlift requirements should be based solely on wartime needs, the methodology that DOD used in 1995 and 1998 does not draw a clear link to the scenario for two major regional conflicts specified by the National Military Strategy.<sup>4</sup> The October 1995 Joint Staff report states that the working group determined airlift requirements for two concurrent major regional conflicts. Beyond this statement, it is unclear exactly how the model that was developed related to the two unspecified conflicts. As previously noted, the model called for overseas airfield nodes in most regions to be connected by nonstop flights three times a day and that each region also be connected to every other region in the same geographic area three times a day. However, the report does not explain why it would be necessary to connect all overseas airfield nodes with such frequency to support two major conflicts. Nor does it fully explain the assumptions for the frequencies given for intra- and inter-regional flights (one and a half flights and one flight, respectively) between airfield nodes in the United States.

In discussing the relationship of the model to wartime scenarios, individuals involved in the ongoing requirements review could provide no more detail about the assumptions upon which the flight frequencies were based. One military officer involved in the 1995 study said that using an assumption of four flights a day yielded a requirement deemed to be too high and that using an assumption of two flights a day yielded a requirement deemed to be too low by the commanders in chief. Operational support airlift requirements are significantly affected by this single assumption. For example, our earlier review of support aircraft found that 55 fewer aircraft were required when an assumption of two flights a day rather than three was used for overseas theaters.<sup>5</sup>

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**Basis for Other Key Assumptions Is Unclear**

The October 1995 Joint Staff report does not explain the basis for other key assumptions that influence the analysis of the number of aircraft required. For example, the 1995 report stated that “robust commercial airlift” could satisfy many of the scheduled airlift requirements within the United States.

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<sup>4</sup>The National Military Strategy provides the advice of the Chairman of the Joint Chiefs of Staff, in consultation with other key military commanders, on the strategic direction of the Armed Forces.

<sup>5</sup>*Operational Support Airlift: Analysis of Joint Staff Estimate of Military Wartime Requirements* (GAO/NSIAD-96-157, June 21, 1996).

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However, the Joint Staff did not quantify the amount of commercial airlift that was assumed to be available. The report also failed to define key concepts, which could lead to misinterpretation and inconsistency among commands. For example, the report includes requirements for surge aircraft, but it does not define what constitutes surge aircraft or the method for determining the number of surge aircraft that should be required. As a result, one geographic area reported a need for 7 surge aircraft out of a total requirement of 133 aircraft, while another reported a need for 8 surge aircraft out of a total requirement of 76 aircraft.

The report also did not provide the criteria that were used for determining whether an airfield should be designated as an airfield node or as a remote location. These criteria are significant because the classification of an airfield as a node rather than as a remote location can greatly increase the number of support aircraft required. Since the methodology for most regions requires that each overseas node needs to be connected to every other node in its region three times a day, multiple aircraft would be required. Conversely, connecting from a node to a remote location only requires one aircraft. Officials involved in the current review told us that one command has identified the need to fly to several new airfields that had not been identified in 1995. Identifying these new airfields as nodes or remote links will determine the number of additional aircraft required.

It was also unclear why mission capable rates were factored into the geographically based requirements and not the mission-specific ones. The 1995 report states that rates of 80 and 85 percent were applied to the short- and long-range aircraft, respectively, that connect airfield nodes and support regions to allow for the fact that on any given day a certain number of aircraft will be unavailable because they are undergoing repair or waiting for spare parts. However, there was no explanation for why similar factors were not applied to the short- and long-range aircraft needed to meet mission-specific needs, which make up about 30 percent of the total operational support airlift requirement.

The process for determining the requirements for mission-specific aircraft was also not clearly explained in the October 1995 Joint Staff report or the 1998 review. The 1995 report simply stated that a certain number of long- and/or short-range aircraft were needed without any apparent consideration of aircraft capacity. According to officials at several commands involved in the requirements process, it is important to consider factors such as an aircraft's passenger and cargo capacity in determining requirements. In fact, the Joint Staff completed a separate study in 1999

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that specifically examined the requirements for aircraft that are used by the commanders in chief. This study found that the commanders' aircraft required a number of capabilities, including (1) a minimum passenger capacity of between 16 and 36 passengers, (2) the ability to land on runways that are limited in their length, and (3) the capacity to fly much farther than the 600-nautical mile standard that defines a long-range aircraft in the current validation process. Because these criteria are not considered in the operational support airlift validation process, it is possible that the current or future mix of support aircraft might not meet the wartime needs of the commanders in chief.

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**Officials Do Not Appear to Have Reviewed Assumptions in Subsequent Validation**

The Joint Staff did not provide formal guidance on how the 1998 review of the operational support airlift requirement was to be done, and we found very little documentation surrounding this validation. In fact, according to the Joint Staff documentation that does exist, during the 1998 requirements process seven of the nine commanders in chief who were asked about their airlift requirements simply concurred with the requirements outlined in the 1995 study without comment.

Because little documentation on the 1998 revalidation exists, we were unable to determine to what extent officials revalidated the assumptions contained in the earlier 1995 Joint Staff study. It would appear that several assumptions would need to be reviewed during any subsequent operational support airlift revalidation. For example, the number and location of airfields, the availability of scheduled aircraft to meet mission requirements, the extent of assumed commercial aircraft support, and factors related to the availability of aircraft should all be reviewed since any changes might affect the overall airlift requirements. Clear guidance on these factors would seem to be important to permit consistent application of the model by all participants.

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**Joint Staff Has Not Clearly Specified Roles or Documentation Requirements**

The Joint Staff has not issued sufficient guidance defining roles and the division of responsibilities to ensure that the process for determining operational support airlift requirements is complete. For example, as part of this review we attempted to identify the DOD command currently responsible for reassessing the wartime requirement for support aircraft based within the continental United States. However, we found uncertainty among the Joint Staff and some of the military commands about who was responsible for validating the geographically based requirement for these 85 aircraft (representing more than 20 percent of the total requirement for

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operational support airlift). Because documentation for the 1998 review was not available from the commands or the Joint Staff, we could not determine whether the requirement for the 85 aircraft was examined in DOD's 1998 review. In response to this observation, Joint Staff officials told us that they were taking the responsibility for examining the requirement for support aircraft within the United States during the ongoing revalidation effort.

The Joint Staff also has not maintained records documenting its previous requirements reviews, so it is not possible to determine whether some options for reducing requirements were examined. For example, a DOD cover memorandum attached to the 1995 requirements study recommended that the Secretary of Defense approve the requirement of 391 support aircraft, but observed that further reductions could be considered in subsequent annual airlift wartime requirements validations if certain assumptions and operational practices were changed. The suggested options included both reducing the assumed number of flights per day between overseas support regions and contracting with the commercial market for much of the operational support airlift requirement within the United States. Although this memorandum was approved by the Secretary of Defense, the Joint Staff has no documentation to show whether or not these options for reducing the number of support aircraft were ever considered in the subsequent and ongoing requirements studies or what the ramifications would be if the frequency of flights were reduced.

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**Requirement Process is Not Conducted Annually**

The 1995 Joint Staff study recommended that the size of the operational support airlift fleet be reviewed and validated annually, and DOD made this a requirement in Directive 4500.43 in 1996. However, the Joint Staff has not followed this guidance. The Joint Staff began its first revalidation in December 1997, 2 years after the completion of the initial study. The ongoing requirements review of operational support airlift did not begin until November 1999, again nearly 2 years later. During the course of our work, a number of officials suggested that the annual revalidation cycle is too frequent. They said that annual reviews were unwarranted since the factors that affect the numerical requirements for aircraft do not change dramatically from year to year.

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**Joint Staff Plans to Review the Process**

Officials in the Joint Staff are aware that weaknesses exist in the revalidation process. Although formal plans do not yet exist, Joint Staff officials have stated their intent to bring together a working group to

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address the limitations in the process once the current review is complete. Officials in the Joint Staff have also told us that one of their goals is to create a set of formal guidelines that will incorporate what has been learned during the ongoing revalidation.

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## Conclusions

The current process used to determine requirements for operational support airlift aircraft is inadequate because it is not clearly linked to wartime requirements as DOD policy requires. It does not adequately explain the basis for key assumptions used to determine the number of support aircraft required or identify those assumptions that should be updated in succeeding validations, and it is not accompanied by formal guidance that clearly delineates roles, responsibilities, and required documentation for the requirements process. The lack of clear linkage to wartime requirements raises questions about whether the support aircraft fleet is appropriately sized to meet short-notice mobility needs in wartime. Silence on the basis for key assumptions used to determine support aircraft requirements as well as on what assumptions need to be updated during revalidations raises questions about the soundness and currency of the methodology. Because detailed guidance on how the analysis should be conducted is lacking, the potential exists for participating entities to inconsistently apply the methodology. Moreover, the lack of clarity in roles could cause confusion as to who is responsible for revalidating portions of the fleet, as occurred in the current validation with respect to U.S.-based aircraft. Further, because DOD has not explicitly said what documentation is required in the validation process, it is difficult to replicate previous reviews and evaluate their validity. For all these reasons, we believe a more rigorous process is needed to better ensure that support aircraft requirements accurately reflect wartime needs.

Although we did not find any evidence to suggest negative consequences, we also observed that the Joint Staff is not revalidating operational support airlift requirements annually as required by DOD directive. We simply note that the current practice is inconsistent with policy and that it is misleading to suggest that the support aircraft requirements are being revalidated on an annual basis.

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## Recommendations

In order to improve the visibility of the process and better link the airlift requirements setting process with wartime needs, we recommend that the Secretary of Defense direct the Chairman of the Joint Chiefs of Staff to

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develop formal guidance establishing a process that clearly (1) links the inventory of operational support airlift aircraft more closely to the wartime requirements of DOD's combatant commands and military services, (2) explains the basis for underlying assumptions, (3) identifies the factors and assumptions that should be updated during each annual validation, and (4) defines the responsibilities of participating entities and requires documentation to support the result of the analysis.

We also recommend that the Secretary of Defense reexamine the requirement to conduct annual revalidations and (1) change the requirement if it is determined to be too stringent or (2) hold the Chairman of the Joint Chiefs of Staff accountable to that standard if it is deemed appropriate.

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## Agency Comments

In written comments on a draft of this report, DOD generally agreed with the findings in this report and concurred with our recommendations. Further, DOD commented that it will take our findings into consideration during its future determinations of operational support airlift requirements. DOD also commented that it will reexamine the requirement to conduct annual revalidations and take appropriate action if the requirement is determined to be no longer appropriate.

DOD suggested several technical changes to the draft, which we have incorporated where appropriate. DOD's comments are presented in appendix III.

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## Scope and Methodology

In response to concerns from congressional requesters about the size of the operational support airlift fleet and the potential need for additional aircraft, we evaluated the process DOD uses to determine its wartime requirements for these aircraft. We also gathered data on the current operational support airlift inventory and planned changes to that inventory.

To evaluate the process DOD uses to determine its support aircraft requirements, we reviewed current and previous DOD reports and interviewed officials in the Joint Staff and at selected joint commands. To identify the current inventory of support aircraft and planned changes to that inventory, we gathered data and interviewed officials within each of the four military services.

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We visited or contacted individuals at the following headquarters or field locations:

- Department of Defense, Washington, D.C.;
- Department of the Army, Washington, D.C.;
- U.S. Army Operational Support Airlift Agency, Fort Belvoir, Virginia;
- U.S. Army Aviation and Missile Command, Huntsville, Alabama;
- Department of the Air Force, Washington, D.C.;
- Department of the Navy, Washington, D.C.;
- U.S. Marine Corps, Washington, D.C.;
- Office of the Chairman, Joint Chiefs of Staff, Washington, D.C.;
- U.S. Transportation Command, Joint Operational Support Airlift Center, Scott Air Force Base, Illinois;
- U.S. Joint Forces Command, Norfolk, Virginia;
- U.S. Central Command, MacDill Air Force Base, Tampa, Florida;
- U.S. Southern Command, Miami, Florida; and
- U.S. European Command, Stuttgart, Germany.

We conducted our study from October 1999 through March 2000 in accordance with generally accepted government auditing standards.

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Unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from its issue date. At that time, we will send copies to the Honorable William S. Cohen, Secretary of Defense; the Honorable Louis Caldera, Secretary of the Army; the Honorable Richard Danzig, Secretary of the Navy; the Honorable F. Whitten Peters, Secretary of the Air Force; and General James L. Jones, Commandant of the Marine Corps. We will also make copies available to appropriate congressional committees and to others upon request.

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If you or your staff have any questions concerning this report, please call Bill Solis at (202) 512-8365 or me at (202) 512-5140. Major contributors to this report were David Moser, Madelon Savaides, and Howard Deshong.

*Carol R Schuster*

Carol R. Schuster  
Associate Director  
National Security Preparedness Issues

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# Operational Support Airlift Aircraft Inventory and Characteristics

The current inventory of support aircraft is based on the approved wartime requirement of 391 aircraft. Based on agreements between the Chairman of the Joint Chiefs of Staff and the services, the requirements for support aircraft were apportioned among the services. The Army was apportioned the largest share, 43 percent, of the total requirement for support aircraft. The Air Force and the Navy were apportioned about 25 percent each, and the Marines have the remaining share of the total requirement. As of November 1999, each service has fewer support aircraft than the number apportioned to it. Table 1 shows the apportioned requirement and inventory of support aircraft by service as of November 1999.

**Table 1: Inventory of Operational Support Airlift Aircraft as of November 1999**

<b>Service</b>	<b>Number of apportioned aircraft</b>	<b>Number of aircraft in the inventory</b>
Army	170	165
Air Force	103	91
Navy	94	86
Marine Corps	24	22
<b>Total</b>	<b>391</b>	<b>364</b>

Source: The military services.

The operational support airlift inventory contains 14 types of aircraft. The most common aircraft is the C-12. These eight-passenger propeller-driven aircraft account for about 45 percent of the total fleet and more than half of the aircraft in the Army's operational support airlift inventory. The second most common aircraft is the C-21. These seven-passenger jets account for about 20 percent of the operational support airlift inventory. Table 2 presents characteristics of each type of support aircraft.

**Appendix I  
Operational Support Airlift Aircraft  
Inventory and Characteristics**

**Table 2: Number and Characteristics of Operational Support Airlift Aircraft by Type**

<b>Aircraft type</b>	<b>Speed (in knots)</b>	<b>Range (in nautical miles)</b>	<b>Passenger capacity</b>	<b>Number of aircraft in the inventory</b>
<b>Propeller</b>				
C-12	260	1,200	8	163
C-23	180	600	18	32
C-26	265	1,100	14	17
VP/UP-3	300	4,500	37	8
<b>Jet</b>				
C-21	440	1,700	7	71
C-9	440	2,000	90	30
UC-35A	420	1,300	7	17
C-20	450	3,500	26	13
C-135	475	5,000	20	5
C-22	460	1,800	77	3
C-38	480	2,100	7	2
C-37	520	5,500	12	1
CT-39G	430	1,200	6	1
CT-43	420	1,800	38	1
<b>Total</b>				<b>364</b>

Note: The information displayed for speed and range is an average for the type of aircraft. Aircraft speed and range will vary within the aircraft type, model and series, age, and among the services. Also, the number of passengers and cargo on board, cruising altitude, and other factors can have a significant impact on speed and range data.

Source: The Joint Operational Support Airlift Center and the military services.

All four services plan to acquire some support aircraft over the next few years. For the most part, these aircraft will replace older aircraft that are approaching the end of their useful service or that would require major modifications in order to extend their useful service. The Army plans to purchase eight UC-35As between fiscal years 2002-2005. In order to remain within the apportioned requirement of 170 support aircraft, the Army plans to retire its older C-12s as the UC-35As are delivered. Similarly, the Marine Corps plans to acquire seven support aircraft over the next 6 years. Two of these aircraft are being acquired to bring the Marine Corps' inventory up to its apportioned share of the operational support airlift requirement. The remaining new aircraft will be used to replace older aircraft. The Navy currently does not plan to increase its inventory of support aircraft. However, the Navy is planning to acquire replacement aircraft for its older

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**Appendix I**  
**Operational Support Airlift Aircraft**  
**Inventory and Characteristics**

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C-9 and VP-3 aircraft. Similarly, the Air Force does not plan to increase its support aircraft inventory, but is currently studying options to lease new aircraft for operational support airlift, including transportation for the commanders in chief. The Air Force was given authority to lease up to six aircraft for this purpose in the fiscal year 2000 Department of Defense (DOD) appropriations act, but it was not given any additional funding. The Air Force is exploring ways in which it can fund this program, but it does not anticipate negotiating any leases until fiscal year 2001 or beyond.

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# Photographs and Descriptions of Operational Support Airlift Aircraft

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The services maintain diverse aircraft in their inventories to transport passengers and cargo with needs that cannot be accommodated by scheduled military and commercial flights. The current inventory is comprised of 14 different types of aircraft that vary in size, speed, and range.

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**Figure 1: C-9 McDonnell Douglas**



Propulsion: Jet  
Passenger Capacity: 90  
Speed: 440 knots  
Range: 2,000 nautical miles  
Number: 30

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**Appendix II**  
**Photographs and Descriptions of Operational**  
**Support Airlift Aircraft**

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**Figure 2: C-12 Beech King Air**



Propulsion: Propeller  
Passenger Capacity: 8  
Speed: 260 knots  
Range: 1,200 nautical miles  
Number: 163

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**Figure 3: C-20 Gulfstream III**



Propulsion: Jet  
Passenger Capacity: 26  
Speed: 450 knots  
Range: 3,500 nautical miles  
Number: 13

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**Appendix II**  
**Photographs and Descriptions of Operational**  
**Support Airlift Aircraft**

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**Figure 4: C-21 LearJet 35A**



Propulsion: Jet  
Passenger Capacity: 7  
Speed: 440 knots  
Range: 1,700 nautical miles  
Number: 71

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**Figure 5: C-22 Boeing 727-100**



Propulsion: Jet  
Passenger Capacity: 77  
Speed: 460 knots  
Range: 1,800 nautical miles  
Number: 3

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**Appendix II**  
**Photographs and Descriptions of Operational**  
**Support Airlift Aircraft**

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**Figure 6: C-23 Short Brothers Sherpa**



Propulsion: Propeller  
Passenger Capacity: 18  
Speed: 180 knots  
Range: 600 nautical miles  
Number: 32

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**Figure 7: C-26 Fairchild Aircraft Metroliner**



Propulsion: Propeller  
Passenger Capacity: 14  
Speed: 265 knots  
Range: 1,100 nautical miles  
Number: 17

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**Appendix II**  
**Photographs and Descriptions of Operational**  
**Support Airlift Aircraft**

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**Figure 8: C-37 Gulfstream V**



Propulsion: Jet  
Passenger Capacity: 12  
Speed: 520 knots  
Range: 5,500 nautical miles  
Number: 1

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**Figure 9: C-38 AIA Astra SPX**



Propulsion: Jet  
Passenger Capacity: 7  
Speed: 480 knots  
Range: 2,100 nautical miles  
Number: 2

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**Appendix II**  
**Photographs and Descriptions of Operational**  
**Support Airlift Aircraft**

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**Figure 10: C-135 Boeing 707**



Propulsion: Jet  
Passenger Capacity: 20  
Speed: 475 knots  
Range: 5,000 nautical miles  
Number: 5

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**Figure 11: CT-39 Rockwell-60**



Propulsion: Jet  
Passenger Capacity: 6  
Speed: 430 knots  
Range: 1,200 nautical miles  
Number: 1

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**Appendix II  
Photographs and Descriptions of Operational  
Support Airlift Aircraft**

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**Figure 12: CT-43 Boeing 737-200**



Propulsion: Jet  
Passenger Capacity: 38  
Speed: 420 knots  
Range: 1,800 nautical miles  
Number: 1

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**Figure 13: UC-35A Cessna Citation**



Propulsion: Jet  
Passenger Capacity: 7  
Speed: 420 knots  
Range: 1,300 nautical miles  
Number: 17

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**Appendix II**  
**Photographs and Descriptions of Operational**  
**Support Airlift Aircraft**

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**Figure 14: VP/UP-3 Lockheed Electra**



Propulsion: Propeller  
Passenger Capacity: 37  
Speed: 300 knots  
Range: 4,500 nautical miles  
Number: 8

# 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 10, 2000



Ms. Carol R. Schuster  
Associate Director, National Security Preparedness Issues  
National Security and International Affairs Division  
U.S. General Accounting Office  
Washington, D.C. 20548

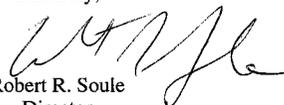
Dear Ms. Schuster:

This is the Department of Defense response to the General Accounting Office (GAO) draft report, "DEFENSE TRANSPORTATION: Operational Support Airlift Requirements Are Not Sufficiently Justified," dated March 20, 2000 (GAO Code 702024/OSD Case 1972).

The Department agrees with many of the findings in the GAO report. Accordingly, it will take the GAO's findings into consideration in future determinations of operational support airlift (OSA) requirements. The Department reaffirms its policy that the OSA inventory is based solely on the joint wartime readiness requirements of the combatant commands and the military departments, as approved by the Secretary of Defense.

The Department appreciates the opportunity to comment on the GAO draft report. Detailed comments in response to the report's recommendations are enclosed. Additional technical corrections were provided separately to the GAO staff.

Sincerely,

  
Robert R. Soule  
Director

Enclosure



**Appendix III**  
**Comments From the Department of Defense**

GAO DRAFT REPORT DATED MARCH 20, 2000  
(GAO Code 702024) OSD Case 1972

**"DEFENSE TRANSPORTATION: OPERATIONAL SUPPORT AIRLIFT  
REQUIREMENTS ARE NOT SUFFICIENTLY JUSTIFIED"**

**DEPARTMENT OF DEFENSE COMMENTS TO  
THE GAO RECOMMENDATIONS**

RECOMMENDATION 1: In order to improve the visibility of the process and better link the airlift requirements-setting process with wartime needs, the GAO recommended that the Secretary of Defense direct the Chairman of the Joint Chiefs of Staff to develop formal guidance establishing a process that clearly (1) links the inventory of operational support airlift aircraft more closely to the wartime requirements of DoD's combatant commands and military services, (2) explains the basis for underlying assumptions, (3) identifies the factors and assumptions that should be updated during each annual validation, and (4) defines the responsibilities of participating entities and requires documentation to support the result of the analysis. (p.12/GAO Draft Report)

Now on pp. 11-12.

DOD RESPONSE: Concur. The Department will incorporate the GAO recommendations and will ensure suitable guidance is provided for use in upcoming requirements reviews and validations.

RECOMMENDATION 2: The GAO recommended that the Secretary of Defense reexamine the requirement to conduct annual revalidations and (1) change the requirement if it is determined to be too stringent or (2) hold the Chairman of the Joint Chiefs of Staff accountable to that standard if it is deemed appropriate. (p. 13/GAO Draft Report)

Now on p. 12.

DOD RESPONSE: Concur. The Department plans to review the requirement to conduct annual revalidations and will take appropriate action if the requirement is determined to be no longer appropriate.

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