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STRATEGIC MOBILITY

Serious Problems Remain in U.S. Deployment Capabilities

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Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss strategic mobility issues. The Department of Defense (DOD) plans a series of actions to enhance its ability to rapidly deploy forces in response to a conflict overseas. I will discuss our review of DOD's stated mobility requirements and actions being taken to meet some of these requirements. On the basis of our past and ongoing work, I will also address issues related to U.S. mobility capabilities that have yet to be resolved.

SUMMARY OF RESULTS

DOD has identified extensive mobility requirements for its sealift and airlift forces. During major regional conflicts, the requirements call for moving as much cargo in 8 weeks as was moved during the first 6 months of the Persian Gulf War. These requirements are based on key assumptions made by DOD, including assumptions about the availability of ships, aircraft, and prepositioned assets. We raised questions about many of these assumptions in a report issued last year. We understand that DOD's stated mobility requirements are likely to increase even further under a study now being conducted by the Department.

To help meet the current requirements, U.S. sealift capabilities are being expanded with the purchase of additional ships. In addition, the Army is prepositioning more equipment and supplies at points around the world, which means they will be closer to potential

conflict areas. Despite these actions, several significant issues concerning U.S. mobility capabilities remain unresolved.

- The problems experienced in the C-17 aircraft program mean that the service life of aircraft in the current fleet will likely have to be extended. Using companion training aircraft, relying more on flight simulators, and expanding the use of tankers and commercial aircraft to augment the fleet would allow DOD to delay the retirement of our current airlifters.

- As the drawdown of U.S. forces in Europe continues, air bases that are critical to meeting DOD's stated mobility requirements could become candidates for closure. While alternatives to keeping these bases open exist, they have drawbacks.

- The Army is still several years away from improving its rail deployment capabilities, which are critical to moving U.S. forces to ports of embarkation, and other facilities needed for rapid mobilization.

- The readiness levels of Ready Reserve Force ships are out of sync with current airlift capabilities and the Army's current ability to get cargo to the ports. It may be possible to keep the ships at a lower level of readiness, thereby reducing operational costs.

Because the different types of mobility assets must be synchronized to deliver all of the required forces in proper sequence, any deviation in projected land, air or sea mobility capabilities would likely have a "ripple effect" on the need for other mobility assets. Having fewer airlifters may, for example, reduce the number of sealift ships because delays in equipment arriving by air could delay the demand for sealifted equipment to support it.

KEY ASSUMPTIONS RESULT IN EXTENSIVE MOBILITY REQUIREMENTS

DOD defined its strategic mobility requirements in a 1992 report, part of a congressionally mandated study on this issue. The study examined a range of potential crises, including regional wars in Europe, the Middle East, and Korea, in the 1999 time frame. The most logistically demanding scenario, because of the number of forces and the distances involved, was a major regional war in the Middle East. The study identified a need to deliver cargo to the conflict area in a much shorter amount of time than was achieved in the Persian Gulf War, which itself was the quickest deployment in U.S. history. The study recommended spending billions of dollars during fiscal years 1994 to 1998 to enhance U.S. deployment capabilities.

In conducting the study, DOD officials made a number of assumptions that resulted in the extensive mobility requirements. In our report, DOD's Mobility Requirements: Alternative Assumptions Could Affect Recommended Acquisition Plan (GAO/NSIAD-93-103, Apr. 22,

1993), we found that the requirements were sensitive to assumptions about the amount and timing of cargo and troops needed to defeat the enemy and how quickly the National Command Authorities and DOD reacted to the crisis.

We also raised a number of questions about the assumptions used. We believe, for instance, that key assumptions about sealift capabilities were overly pessimistic. DOD can expect to use Marine Corps prepositioning ships, foreign charter ships, and U.S. container ships to a greater extent than was assumed in the study. Conversely, some of the assumptions concerning airlift were too optimistic. For example, DOD assumed it would have 80 C-17 aircraft available by 1999, whereas it is currently limited to buying just 40 of these aircraft and may not have all of them available in 1999. The net effect of the airlift assumptions was to overstate future capability.

We made specific recommendations to DOD in two classified reports on sealift and airlift concerning the impact of key mobility study assumptions. Our recommendations would have required additional analysis. DOD declined to make the specific analysis we suggested. However, DOD is conducting another mobility study that involves the more demanding requirement of deploying forces to two regional crises occurring nearly simultaneously--which was enunciated in the Secretary of Defense's Bottom-Up Review. We believe that some of the issues we raised in our classified reports are being considered in the current mobility study. We understand that this study will call for

cargo--especially airlifted cargo--to be delivered even faster than the current requirement. This study is expected to be completed later this year.

ACTIONS TAKEN TO EXPAND MOBILITY CAPABILITIES

DOD has taken some steps to enhance U.S. capabilities for deploying overseas. Most significantly, additional Army equipment and supplies are being prepositioned in forward areas, and sealift ships are being acquired for the Navy and the Ready Reserve Force.

Prepositioned Assets

The Army is increasing the amount of equipment and supplies prepositioned in forward areas. During wartime, plans call for flying troops from the United States to marry up with this material, a strategy which should reduce the need for sealifted assets. While the amount of prepositioned unit sets of equipment in central Europe is being reduced, a unit set is being prepositioned in Italy for the first time. Also, more combat unit equipment is being placed in the Middle East and South Korea. The Army has greatly expanded the amount of combat gear and sustainment supplies it has prepositioned aboard ships located at Diego Garcia and Saipan, and will shortly have in place about 850,000 of the 2 million square feet afloat prepositioning goal recommended by the Mobility Requirements Study.

The Marine Corps has upgraded the firepower of its prepositioned equipment by replacing M-60 tanks with M1A1 tanks. DOD is also considering relocating a Marine Corps prepositioning squadron from the Western Atlantic to the Mediterranean Sea, where it could respond much faster to a conflict in that area or in the Middle East.

Acquisition of Sealift Ships

The Navy and the Maritime Administration (MarAd) are acquiring roll-on/roll-off sealift ships that will increase the amount of deck space available from 5.4 million square feet before the Persian Gulf War to 12.3 million square feet by the turn of the century. Deck space is the net area aboard ship available to carry military vehicles, considering such constraints as floor strengths, ceiling heights, and provisions for securing vehicles during transit. Compared with other cargo ships in DOD's inventory, roll-on/roll-off ships allow for much quicker loading and unloading of wheeled or tracked vehicles.

The Navy has purchased five large container ships and plans to convert them into roll-on/roll-off ships by 1996. The Navy has also awarded contracts for the construction of two other roll-on/roll-of ships, with options for up to ten more. These ships are scheduled for delivery starting about 1997.

MarAd recently purchased 12 roll-on/roll-off ships for the Ready Reserve Force. The ships increased the Reserve Force's roll-on/roll-off capacity by 40 percent. Three of the

ships have already been upgraded to U.S. specifications, and the other nine ships are expected to be completed by late August 1994. Two of these ships are serving as Army prepositioning ships, and plans are to keep the remaining ten ships in reduced operational status within the Ready Reserve Force.

AIRLIFT CAPABILITIES NEED TO BE PROTECTED

Under existing airlift acquisition plans, DOD will not have the airlift capability it requires until 2005. If the mobility study now underway finds that the requirements for airlift are greater, then this gap between requirements and capability will take longer to fill.

The gap in airlift capabilities is largely due to problems in the C-17 program. Last week we testified before the Senate Committee on Armed Service's Subcommittee on Regional Defense and Contingency Forces, that the C-17 program is still in trouble.[1] Rising program costs, less than anticipated performance, and lengthy delays raise serious doubts about the C-17s cost effectiveness and undermine the program's credibility. The Air Force, which is just beginning to receive delivery of the aircraft, is currently limited to buying just 40 of the planned 120 aircraft. A decision to purchase more than 40 C-17s will be made in November 1995.

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[1] Military Airlift: The C-17 Program Update and Proposed Settlement (GAO/T-NSIAD-94-166, Apr. 19, 1994).

Because of the C-17 problems, DOD is also considering purchasing either modified civilian cargo aircraft or additional C-5 aircraft. The acquisition quantity will depend in large measure on the November 1995 decision on the C-17. In the interim, DOD plans to assess the operational utility and cost-effectiveness of using modified civilian aircraft to move oversize cargo.

We believe that in light of the uncertainties in the mix and number of airlifters in the future, it is critical to protect the current fleet. Today's fleet consists of 214 C-141, 109 C-5, 48 KC-10, and 459 KC-135 aircraft[2] and is augmented by commercial cargo aircraft on a contract basis. The KC-10s and KC-135s are primarily air refueling tankers, but they have increasingly been used in an airlift role. The C-141--the backbone of the strategic airlift fleet--is nearing the end of its service life. Some have already been retired, and the last C-141 is scheduled for retirement in 2005.

Our preliminary findings indicate that DOD has three options for cutting back on the use of C-141 and C-5 airlifters to extend their lives. These options are (1) using a companion trainer aircraft, (2) relying more on simulators, and (3) expanding the use of tankers and commercial cargo aircraft to augment the fleet.

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[2]These numbers represent primary authorized aircraft and exclude aircraft undergoing maintenance or being withheld for other reasons.

Companion Trainer Aircraft

Using a companion trainer aircraft to provide some required training for new pilots could reduce the number of annual flying hours by 25,000 for the C-141 and by 5,000 for the C-5. This in turn could extend the average service life of the C-141 by over 1 year and the C-5 by 4 years and reduce total flying hour costs by about $70 million a year.

The Air Force has long used companion trainer aircraft to supplant flying hours in costly-to-operate aircraft. For example, new pilots for KC-10 and KC-135 aircraft fly about 6 of their 22 training hours each month in smaller, cheaper C-12 aircraft. The C-12 costs about $275 per flying hour, compared with $2,800 for the KC-10 and $2,600 for the KC-135.

Implementing such a program for airlifters would require about 50 companion trainer aircraft. Aircraft suitable for this role may already be available. According to the Joint Chiefs of Staff, a number of operational support aircraft, including C-12s, are surplus to DOD requirements. Use of these aircraft would reduce the number of companion trainer aircraft that would have to be acquired.

Increased Reliance on Simulators

Relying to a greater extent on simulators for some pilot training could also extend the service life of the airlift fleet. DOD recognizes this and plans to upgrade existing simulators. The upgrade program is to be implemented between fiscal years 1994 and 2001 and cost $245 million. With the upgrades, DOD anticipates moving 25 percent of air refueling training and 50 percent of other training necessary to maintain the crew's proficiency to simulators. As a result, average service life is expected to increase by about 6 months for the C-141 and 4 years for the C-5.

Moving more air refueling and proficiency training to simulators could further extend aircraft service lives. A large body of research documents the cost-effectiveness of simulated training and the positive transfer of simulated training to actual operational aircraft. The commercial airline industry has steadily increased its use of simulators. Today, major airlines do most of their pilot training on simulators. Federal Aviation Administration and commercial airline officials cite the cost-effectiveness of this practice and improvements to safety and training.

Expanded Use of Commercial and Tanker Aircraft

During the past year C-141 aircraft have been either grounded or operationally limited for a number of major repairs. In dealing with the C-141 aircraft shortage, DOD has

increased the amount of cargo moved on regularly scheduled routes by tanker and commercial aircraft. For example, commercial aircraft transported 25 percent of the total tonnage in June 1993 versus 38 percent in December 1993. During that same period, the percentage of tonnage carried by tanker aircraft also increased--from 6 to 10 percent.

Further expanding the use of commercial aircraft would reduce the number of hours flown by C-141s and C-5s, thereby extending their service lives. In January 1994, the Commander, U.S. Transportation Command, directed that C-141 aircraft be used only in those instances requiring capabilities that other aircraft cannot provide.

AIR BASES IN EUROPE ARE CRITICAL TO MEETING REQUIREMENTS

DOD has closed several air bases in Europe and reduced operations at others as part of the drawdown of U.S. military forces. Six bases that remain--Lajes, the Azores, Portugal; Mildenhall, United Kingdom; Ramstein, Germany; Rhine-Main, Germany; Rota, Spain; and Torrejon, Spain--would serve as stopover points for airlifters enroute to a conflict area. Airlifters would use these bases for refueling, crew changes, and maintenance.

The bases are critical to meeting the stated U.S. mobility requirements. Our analysis indicates that the six bases have just enough capability to support the existing C-141 and C-5 aircraft and move the approximately 4,750 tons per day that would be required in the Middle East scenario contained in DOD's study. This analysis is conservative in that we

assumed a smooth, uninterrupted flow of aircraft--something that is not likely to happen. Air cargo flow can be sensitive to any number of disruptions, from adverse weather to air traffic control delays to ramp congestion at onload, offload, and servicing locations.

Despite their criticality, the bases face a threat of closure during the ongoing drawdown. Two bases--Rhine-Main and Torrejon--were slated for closure by the European Command before the Persian Gulf War. DOD does have the options of relying on aerial refueling or establishing bases during a crisis, but both options present problems.

Air refueling is costly. The U.S. Transportation Command estimated that if none of the six bases was available, it would need 225 tanker aircraft. The aircraft would cost $30.6 million each to purchase and a total of $270 million to operate annually. More pilots and additional infrastructure to support these aircraft would be needed as well.

Establishing air bases during a crisis could be difficult. Foreign governments are more likely to allow the United States to use an existing base than to establish a new one because of the likely disruptions to activities in the host country. In addition, negotiations over an agreement to establish a new base could be lengthy, costing valuable time. It would also take longer to move personnel and equipment to a newly established base and achieve full operational capability.

IMPROVEMENTS TO RAIL AND OTHER FACILITIES ARE INCOMPLETE

In accordance with DOD's mobility requirements study, the Army issued a strategic mobility plan that identified needed improvements to transportation infrastructure in the continental United States. These improvements were projected to cost about $835 million. They include the acquisition of rail cars and improvements to outloading facilities, highway and rail networks, and port reception, staging, and loadout facilities.

Much remains to be done to complete these improvements. Limited construction has taken place. The Army acknowledges in its fiscal year 1995 budget request that over $550 million is needed in the out-years for these improvements. Further, of the rail cars the Army plans to acquire for five key deployment installations, only 17 percent have been received. Army plans show that many projects will not be funded by fiscal year 1999.

READINESS OF RESERVE FORCE SHIPS IS OUT OF SYNC WITH OTHER MOBILITY CAPABILITIES

In response to recommendations in DOD's mobility requirements study, MarAd is taking actions to decrease the amount of time it takes for Ready Reserve Force ships to begin operations.

- More ships are being berthed closer to the port they would most likely be assigned to for loading cargo. Previously, most of the ships were berthed at MarAd fleet sites.

- All roll-on/roll-off ships are required to be ready for activation within 4 days of notification. This compares with a readiness level of 5 days before the Persian Gulf War, although the ships actually took an average of 15 days to activate during the war.

- During peacetime, ships in high readiness status are staffed by a skeleton crew of merchant mariners, who perform some maintenance and periodically activate the ships dockside or for brief sea trials to test their readiness. Upon activation, other crew members are added.

Recent DOD no-notice activations indicate that the ships' readiness has improved since the Persian Gulf War. The tests showed that the ships can be activated within the time frames recommended in DOD's mobility study.

However, keeping Ready Reserve Force roll-on/roll-off ships at readiness levels of 4 or 5 days is inconsistent with the readiness of other U.S. mobility forces. As discussed earlier, airlift capabilities have become uncertain due largely to problems in the C-17 program, and the Army still has much work to do to improve rail facilities at key deployment installations. Since the various components of U.S. mobility forces must work together to

synchronize the delivery of troops, equipment, and supplies, it makes little sense to keep Ready Reserve Force ships in this comparatively high state of readiness.

Maintaining the ships at a high level of readiness is also expensive. MarAd plans to spend $3 million per ship annually to sustain this readiness, compared with expenditures of about $800,000 per ship before the Persian Gulf War.

Another issue that has not been resolved is the availability of qualified U.S. merchant mariners. During the Gulf War, MarAD had difficulty finding enough merchant mariners to fully crew the ships within their readiness goals, and the pool of merchant mariners is expected to continue to decline in the future. MarAd's ability to simultaneously crew all its ships has not been tested.

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Mr. Chairman, this concludes my statement. I would be happy to answer any questions you or members of the Subcommittee may have.

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