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JUNE 1982

AIRLIFT SUPPORT OF THE HIGH TECH LIGHT DIVISION IN THE CONTINGENCY AREA

by

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The HTLD is a very mobile force. It is designed to be so. The maneuver units will rely on very lethal weapons and mobility to survive. The high tech units will be very light. The entire division will be designed to fit on 1,000 C141B sorties. As a result, the division will have less self-contained resupply capability. The tactics to be used by the HTLD will cause the divisional units to range over greater distances than do those in a conventional division. The combination of increased mobility, greater distances between units, and less intrinsic resupply

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US ARMY WAR COLLEGE

MILITARY STUDIES PROGRAM PAPER

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CHAPTER I

INTRODUCTION

My true purpose for this study was to become as familiar with the US Army-US Air Force interface as possible. I felt that by looking at one portion of the Army and how it is supported or should be supported by the Air Force, I could develop a truer picture of the problems from the customer's point of view. Armed with this perspective, I was determined to apply my background and experience to a portion of the problem and propose some type of solution or at least an avenue of approach that will provide a satisfactory answer when enough information becomes available.

The portion of the Army that captured my interest early in the War College academic year was the High Technology Test Bed (HTTB) effort in the 9th Infantry Division. The fact that there is an HTTB is bold admission that the senior military leadership foresees a period when the United States cannot project and sustain sufficient forces in a timely fashion in certain portions of the world. It is recognition that aggressive action must be taken to solve the airlift problem.

The approach taken by the HTTB to solve the problem of force projection is unique. Because of this unique approach new emphasis must be placed on the doctrine of the airland battle — not just from the tactical air support standpoint, but from the tactical airlift support

standpoint as well.

The tactical airlift support of the High Technology Light Division (HTLD), the unit being designed by the HTTB effort, is the subject of this study. Because the HTLD will be very mobile, because it will be so light, the division and its units will have some very special sustainability problems. It will rely heavily on tactical airlift to solve these problems.

The mission assigned to future high technology forces requires that they execute worldwide contingency missions. When these forces are placed in one of the most complex scenarios, Southwest Asia III, the tactical airlift support becomes even more critical. The long distances, the communication difficulties, and the short tail of these light units make the interface with airlift units especially critical for action in this difficult area of the world.

I have broken the study down into two major areas. The first area is for me and anyone else who needs to learn more about the HTTB effort and the HTLD it is striving to design. One of the reasons for providing this section is simply to aid in improving support. The more you know about the customer and his problems, the better you can serve him. One caution — the HTTB is a dynamic, living thing. It changes rapidly as new ideas and procedures are brought into play. The information I present is dated and subject to change. For those familiar with the HTTB, proceed to the second section.

After a review of the HTTB and the HTLD concept, I will cover some of the ideas which could significantly aid in the airlift support of a HTLD in combat in a contingency area. I have zeroed in on the Southwest Asia III scenario as I find it to be the most difficult because of distances, terrain, and operating conditions. If we can solve this one,

many other potential trouble areas can be supported by transfer of knowledge.

Because of the time permitted for this study the scope is limited. I feel that much of the information is simply presented, discussed, and left dangling, leaving much of the research and test to someone else. This is not done as a cop-out. It is just a function of the limitations placed on the study by time.

My sincere thanks to Col Paul Cerjan and his people in the HTTB at Ft. Lewis. They spent a significant amount of time explaining Army unique jargon and procedures to this Air Force type. I found them to be articulate and expert representatives of their profession.

CHAPTER II

THE HTTB AND THE HTLD

The High Technology Test Bed is tasked to design the High Technology Light Division and to determine how the HTLD should fight. The purpose of this section of the study is to review the mission, concepts, tasks, and limitations associated with the HTLD as they are viewed by the HTTB.

The mission assigned to the HTLD requires that the unit be rapidly deployed to a contingency area, that it establish or expand a lodgement, and defeat a wide range of enemy units including light infantry, tank, and motorized forces. The HTLD must also be capable of rapidly reinforcing NATO.[1]

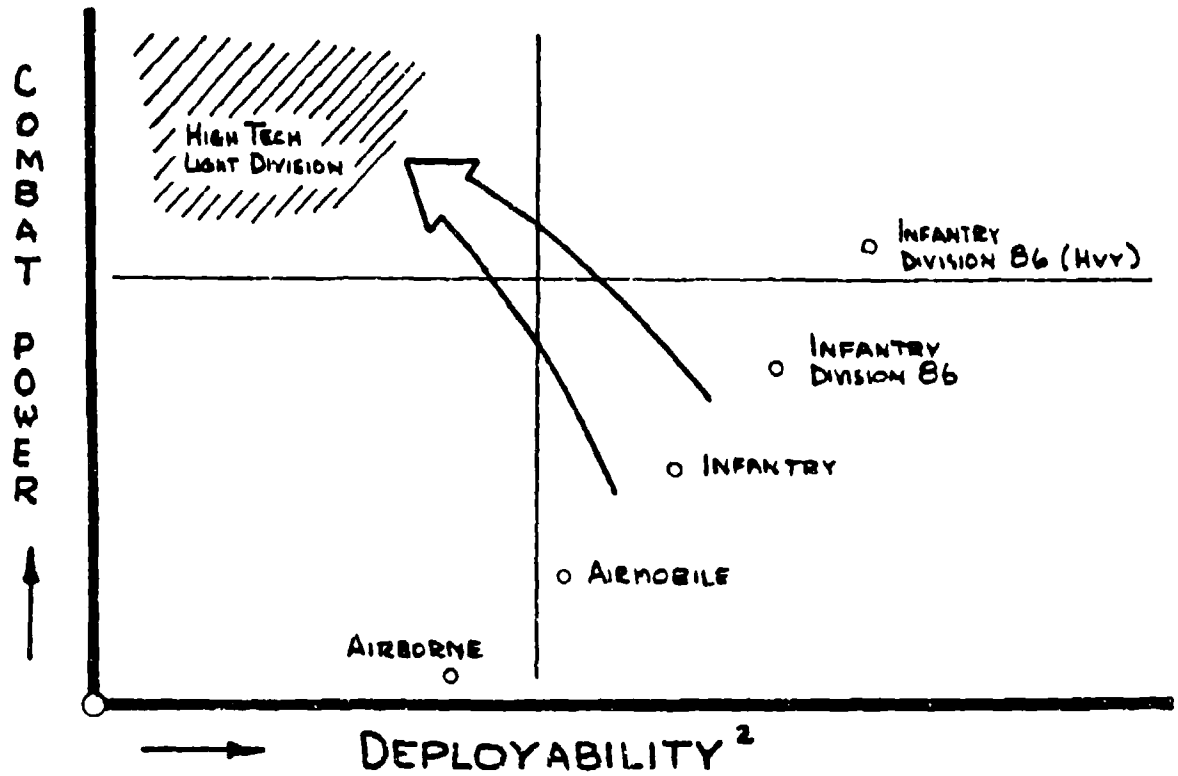
The Test Bed has been instructed to design a force that can be fielded in 1985. This means that much of the equipment to be fielded must be immediately available for testing and evaluation. A significant portion of the early effort is a search for equipment that is "on the shelf" and ready for application to the problem. Fielding by the 1985 time period means that new methods must be used to procure and field equipment packages. The existing procurement cycle is too lengthly for the established deadline.

Another significant design parameter for the HTLD is improved deployability. The High Technology effort has in part grown out of recognition that there is not enough lift capability available to meet

many contingencies. The planning for operations in potential trouble areas often shows the army arriving at the battle with too little too late. There are not enough strategic airlift aircraft to close in the objective area in a timely manner. Besides having too few strategic lift aircraft we have too few aircraft which can carry the outsized equipment. The number of C5 aircraft available severely limits the planners ability to place all units with outsized equipment in position for battle in time to be effective. The present design criteria for the HTLD indicates that the division must fit on 1,000 C141B aircraft for deployment with no requirement for C5 airlift. This is a dramatic reduction in the number of sorties required to move a division and dramatically scales down the size of the equipment to be moved.

The HTLD represents a significant departure from existing forces. The mission statement requires several capabilities which are in a classic sense mutually exclusive. The attempt to use a light division to expand a lodgement against a tank or mechanized force is not highly thought of with today's weapons and tactics. At best a light force can hold ground against a heavy force in an area where the terrain favors the light force. One of the HTTB charters is to take full advantage of high technology to make the HTLD competitive against heavier units. Technology is to provide the force multiplier. The idea is to place very lethal weapons in a very mobile force so it can destroy a variety of enemy units.

The desired effects of increased combat power and improved deployability are shown on the following diagram. The Chief of the HTTB uses this figure to graphically demonstrate the goal — a force that deploys using less lift than an airborne unit with the combat power of a heavy unit.



Force mobility is another multiplier that the HTTB is attempting to take full advantage of. Superior mobility will allow units of the HTLD to gain tactical superiority by outflanking the enemy, by seizing the key terrain before the enemy can reach it, and by raiding the enemy's rear area to confuse and reduce enemy effectiveness. This mobility is to be used to stand and fight when the situation is advantageous or to avoid an engagement when the opposition is too strong. It provides an opportunity for the commander to select the combat option which will give him the greatest advantage.

The high technology unit commander must have an improved intelligence capability to look at the battlefield more thoroughly, and he must

have the ability to look deeper into the enemy's rear area if full advantage is to be gained from the superior mobility. He must have reconnaissance and surveillance systems which will allow him to recognize opportunities for exploitation early enough to move forces into positions to hit the enemy when the enemy is in a vulnerable situation. While it is intended that the HTLD operate as part of a larger force which can provide a portion of this improved intelligence capability, the HTLD must have an internal organization to digest the intelligence situation and take prompt action to exploit it.

Prompt exploitation requires sound command and control. The units of the HTLD will range over greater distances than present divisional units. Further, the rate of movement will be greater. The timing and location of engagements are more critical for light high technology forces. Because they will often be outnumbered and outgunned, they must take full advantage of the enemy when he is most vulnerable. At the heart of command and control is good communications. The high technology units may often be separated by distances that greatly exceed the capability of present systems. Without a secure long-range communications net the high technology division will not be able to properly coordinate the actions of subordinate units to gain the initiative.

The HTLD will have a battlefield task that is a little unusual for a division-sized force. Besides the classic tasks of command and control, air defense, close combat, fire support, etc., the HTTB has established deception as a battlefield task for the HTLD. Deception can be a powerful ally to freeze the enemy in position while striking a nearby target. Deception can be used to force enemy units to move or take an action that would not otherwise be taken. It is a way to effectively maneuver or manipulate the enemy into difficult situations where unde-

tected friendly concentrations can be used to surprise and defeat. The high technology possibilities for deception are especially interesting. The use of remotely activated air-droppable devices to simulate a unit electrically seems to have promise. In short, when properly executed, deception is a force multiplier of high order.

I think the preceding paragraphs provide the basic information required to get the flavor of what the HTTB is trying to do. Several points need to be added to put it in perspective. The HTTB is not operating in a vacuum within the 9th Infantry Division. As programs, procedures, and equipment are identified as areas of interest with potential, the key people of the division are brought into the cycle. This includes using how-to-fight panels made up of select division members to game proposed equipment and new tactics. These panels are used to provide a broader basis from which to get ideas; and more importantly, it helps the entire division get involved in the changes that will be taking place in the near future as unit and equipment decisions are finalized.

As refined proposals are developed and equipment obtained for test, field exercises will be used to improve tactics and procedures. Some of these exercises will include airlift to training areas that can test the concepts in difficult desert and mountain areas. The exercises are intended to get larger and more complex as unit compliments are determined and tactics are brought more sharply in focus. The evaluation of the command and control functions will be especially critical as the highly mobile units take shape and as they are tested over unusually large areas in a desert or mountainous setting.

During the period of test and evaluation the procurement cycle will

begin. As indicated earlier, the time compression caused by the 1985 fielding means that the normal cycle is not responsive enough. The years involved in the PPBS cycle must be shortcut to make the funding available in less than two years for major programs that are yet to be defined by the HTTB. If the Department of the Army can make this part of the effort work, it might be the most important contribution of the entire project. All of DOD can profit from a streamlined weapons system procurement cycle.

In summary, the High Technology Test Bed is tasked to design a light division that takes full advantage of the technology available and is to be fielded by 1985. The goal is to equip a division so that it can be airlifted on 1,000 C141B missions. This rapidly deployable force must be capable of forcing entry into a contingency area, establishing a lodgement and defeating a wide range of enemy forces, while retaining a capability to reinforce NATO. The High Technology Light Division will use technology to improve tactical mobility, firepower, survivability, and sustainability. It represents an exceptional opportunity to rapidly bring new, more lethal weapons into the US Army inventory. The effort to reduce some of the pressure for outsized airlift is laudable and can have a positive affect on our strategic mobility situation. The HTTB effort will undoubtedly have applications in all divisions which can increase firepower while decreasing airlift requirements.

CHAPTER II

ENDNOTES

1. Briefing by Paul G. Cerjan, Colonel, High Technology Test Bed, Ft. Lewis, WA, 23 Jan 82.

2. Ibid.

CHAPTER III

AIRLIFT SUPPORT IN A CONTINGENCY AREA

I am making some assumptions about the air environment in the contingency area:

1. That air parity or air superiority can be maintained to, from, and over any selected airlift objective area.

2. That air forces are capable of establishing temporary air superiority over any contested zone of action when airlift operations are required.

Historically airlift forces have required a relatively "friendly" air environment in which to operate. I see no reason to change this basic philosophy in the near future. The loss rates of load and aircraft are too high if this condition is not met. The brute force of tactical counterair action cannot always provide permissive surroundings. Planners for airlift operations should keep other options in mind which will, in effect, accomplish the same thing. Surprise and deception can sometimes be used to nullify the enemy advantage. This could involve denying the enemy radar coverage of the objective area by selecting an implementation time during radar downtime. It could involve jamming enemy radar or presenting more targets to his radar than the enemy could cover, thus masking the true operation. The idea is to somehow gain an advantage to allow the operation of unarmed, slow, and

large airlift aircraft in the area.

Air Force support for the HTLD is especially critical. The activities and actions of the HTTB to reduce the size of equipment, to decrease weight, and to decrease the numbers of equipment items, will reduce firepower, mobility, and survivability. Technology will replace a significant part of the lost capability, but it seems appropriate to assume at this time that the Air Force will be required to augment light unit firepower and mobility. Because of the high mobility, light tactical land unit sustainability will be a special problem. The Army's airland battle concept will be more important to a high technology unit than to a conventional unit.

The Air Force portion of the airland battle is normally thought of as the tactical fighter support — interdiction, close air support, counter air, etc. These functions will be critical, but another portion of the Air Force mission will also be of increased importance. The in-theater airlift support requirement will take on a new proportion.

The design of the units and the tactics to be used by the High Technology Light Division will deploy them over large areas, force the units to move rapidly to survive, and allow less intrinsic sustainability as a result. The contingency area considered for the HTLD compounds this.

Surface resupply will often be difficult or impossible. Not only are the units to be further apart, but in many areas the road and rail structure will be very limited. In many cases the supported unit will be moving faster than classic surface resupply methods can reach them. This will make a delay necessary to wait for sustainment. An untimely delay can blunt the effectiveness of the unit allowing tactical opportunities to disappear. While surface resupply will undoubtedly remain

as the primary method — the proportion of support by this mode will be reduced because of the area of operation and the tactics to be employed by the supported units.

Helicopter support will also face limitations. The greater distances will reduce the load-carrying capacity of the helicopter. To overcome this, intermediate refueling stops may be required that will greatly influence the efficiency of resupply by helicopter. Another real problem for the helicopter will be operations in high elevations. This will reduce load-carrying capacity and increase the number of sorties and the amount of fuel required for helicopter support. The greater distances and high altitudes may significantly reduce the support available by helicopter.

While the above can be called an oversimplification, the potential for increased reliance on tactical airlift support is undeniably real. In some ways this mission will be more difficult for tac airlift too. The resupply legs are longer than those most recently experienced in Southeast Asia, limiting the number of stops per sortie and the number of stops per aircraft per day. The longer route structure will reduce the number of onloads and offloads available per aircraft per day. As the HTLD becomes a more highly defined organization, the combination of higher reliance on the airlift and greater distances will have to be analyzed for potential increase in the number of in-theater airlift aircraft required. An increase in airlift aircraft will make the overall theater sustainment problem more difficult.

The extremes in terrain will make operations difficult. The airlift aircraft is tied to an airfield, be the field primative or modern. This means a certain amount of relatively flat terrain with clear

approach and departure flight paths. If the highly mobile, strike and move concepts of the HTLD are to work, a constant search for new airlift landing zones will be required. It will mean anticipation of the flow of the battle so that the best information can be obtained from all available sources to select these landing areas. Inputs from aerial and surface scout units will be important. A close liaison with the Defense Mapping Agency (DMA) will be required for rapid procurement and delivery of the best data for selecting these areas. I anticipate that many of these landing zones will be used for a very few sorties, this for the resupply of a unit operating too deep for the classic surface or helicopter methods of support. As a result, procedures should be developed which will minimize the investment of time and effort in the landing zone selection process. The supervisory element for the airlift forces should be manned to deal with a rapidly changing set of delivery sites.

The airlift forces must be prepared to deliver high technology units to landing zones behind enemy lines. This capability is consistent with the basic tactics of the HTLD as it is presently envisioned. Task force units of near battalion size could be used in this way. When a target is identified, where this type of deployment is feasible, the capability must be in place to plan and execute an operation to take advantage of the opportunity in a timely fashion. This will require significant coordination to identify the units, load for departure, and offload near the objective area expeditiously. A rapid buildup of forces will be important in the objective area. The unit must arrive in a swift, orderly fashion to allow the force to move out quickly to its task. This could mean putting a large number of missions thru an unimproved airfield with minimum or no air traffic control, keeping the takeoff and landing area operating in a safe manner and flowing off-

loaded equipment and personnel thru the aircraft in the download area. Some thought should go into the control and procedures for this kind of deployment. (This type of activity could be the subject of a study by itself.) While a behind the line airland deployment will be the exception and not a common occurrence, the frequency will be higher than in past conflicts using conventional units.

A similar procedure is envisioned to support a unit cut off by enemy action. If a suitable landing zone could be identified near the unit, the airlift aircraft could be used for evacuation or to resupply and sustain until a linkup could be accomplished. Again, the requirement for these missions could be on a very short notice basis. The ability to select and operate from a newly identified landing zone is key. An option for this and other airland delivery methods is a combination haul using helicopters to complete the last leg to the unit when terrain or other factors preclude close-in direct delivery by a rlift aircraft.

The discussion above covers portions of the airland method of delivery. Certainly this is the most effective and efficient of the air delivery methods. It should be used whenever possible. Other methods such as airdrop and LAPES (low altitude parachute extraction system) are less reliable, less efficient, more time consuming, and in many other ways less desirable. Unfortunately, it is not always possible to land and offload.

Perhaps the best recent example of the use of the unconventional methods of tactical airlift was the support of AnLoc while it was under attack in 1972. Between 9 April and 10 May, 448 airlift missions were used to airdrop 3700 tons of supplies. The drop zone was only 200' by

200' early in the campaign. It was gradually enlarged to 800' by 1600'. Because of enemy gun and missile fire, many of the drops were made from above 10,000'.[1] On 8 May, AnLoc defenders recovered only 68 tons of the 88 tons dropped to them.[2] As rigging and drop procedures improved, the countermeasures against antiaircraft fire improved, and the drop zone was enlarged, the recovery rate for bundles increased to 96%.[3] The heavy losses to the enemy represented the price paid for using not the best but the only method available to resupply our troops.

Units of the HTLD will be vulnerable and subject to outrunning their supply lines, subject to being cut off from their supply lines, or operating in areas where normal resupply methods cannot serve them. The container delivery system (CDS), used for much of the drop at AnLoc, is a very accurate delivery system when used at the normal drop altitude of 500' to 600' above ground level. It is appropriate for resupply of food, ammo, and fuel. Each CDS bundle weighs approximately 2,000 pounds. Each C130 can deliver as much as 15 tons of supplies. Tactical airlift units must be prepared to use this method of delivery in the HTLD contingency area.

LAPES delivery will be important, perhaps more important, than CDS. LAPES can be used in areas where there is not enough room for an airlift landing zone; yet it provides the advantages of an airland delivery. It is accurate. It can be used for vehicles as well as supplies. In a desert where an airlift landing zone is not available or not feasible, LAPES is a highly desirable delivery system. It could be used to sustain a helicopter resupply network providing the fuel and supplies for subsequent delivery by helicopter to the user units. In remote areas without airlift capable landing zones, LAPES should be considered the primary airlift delivery method.

The unconventional delivery methods, such as CDS and LAPES, will have new importance for support of the HTLD in the contingency area. These methods will be used more often because of the tactical situation. They will be required on a short-notice basis as units are cut off, as equipment breaks down, or as units outrun their supplies. The high tech battlefield is planned to be more fluid. The airlift support will have to have an improved responsiveness to allow the army units to take full advantage of the battlefield conditions. This will require an airlift command and control system that reaches deeper into the army's organization for requirements.

The routine, day to day, tactical airlift resupply missions can be supervised with a forecast of requirements and a schedule to meet these requirements. The command and control system can monitor the progress of the schedule and the aerial port status (age of cargo, tonage by destination, etc.). The problem areas can be managed by exception which requires a lot of close attention, but works well to support the combat unit. The HTLD engaged in combat will place a larger and different kind of workload on the airlift management system. The rapidly changing offload points, the varied methods of delivery, and importance of timely response to changing battle conditions will make the command and control of airlift support far more difficult.

Communication of changes between the user and the airlift system will have to short cut much of the classic bureaucracy if support is to be timely. The Army leadership will in some cases have to anticipate requirements for special support so the required planning and preparation for airlift support can be completed. The system will have to be very flexible to accommodate the increased number of special require-

ments.

The commander of the in-theater airlift force will have to work for the theater CINC if this relationship is to function properly. The airlift commander must have firsthand and complete knowledge of the battle situation and the planned future actions if the in-theater airlift resources are to be used to maximum advantage. When the airlift element is put in a position that requires a reaction to the battle situation, capability to support is lost. Every reasonable effort should be made to allow a planned response to requirements.

It is appropriate to look briefly at the airlift equipment available to support the HTLD in a contingency area. The primary aircraft for this support will be the C130. By the time the HTLD is fielded the average age of C130 fleet will be over [illegible] years.[4] It is a superior airlifter; but it is getting old and there is nothing in the development cycle to replace it. Efforts to identify a replacement for the C130 have been unsuccessful. As the C130 gets older, the follow-on aircraft for tactical airlift becomes more and more important to the HTLD.

The HTTB will direct several exercises to test the equipment and tactics of the HTLD. Tactical airlift personnel should participate fully in these exercises. While the tests are in progress every effort must be made to think through and document the unusual airlift problems presented by the HTLD concept. When possible the exercises should test the ability of the airlift system to respond to short notice, unconventional delivery of men, equipment, and supplies. The airlift planning and the command and control details should be worked out to the maximum extent possible to insure that the proper command relationship and airlift support staff are identified for use during a contingency operation.

CHAPTER III

ENDNOTES

1. William W. Momyer, General, Airpower in Three Wars, p. 332.

2. Carl Berger, ed. The United States Air Force in Southwest Asia, 1961-1973, p. 183.

3. Momyer, p. 332.

4. Telecon with MAC/LGMWA. The average age of the E-model C130, which accounts for over one-half of the C130 fleet, is 17 years. The oldest C130 operated by an active duty unit was built in 1961. Should the Air Reserve Forces (ARF) be pressed into service the oldest and newest C130s would be available. The Air Force Reserve has some units equipped with C130 A-models which were built between 1953 and 1957. The ARF also operates some of the newest C130 H-models.

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

The HTTB effort is important for improved Military Airlift Command support. It represents a very promising opportunity to improve the deployability of many US Army units as the result of reducing the size and weight of unit equipment. These improvements will undoubtedly have applications throughout the Army. The HTLD will have an increased reliance on tactical airlift. This will have the following ramifications for in-theater airlift support:

1. The number of support sorties will very likely be higher. This increase will be caused by a reduced self-sustainment capability, more rapid battlefield movement, and the greater distances between supported units.

2. The probability of short notice airlift requirements and changes to planned airlift support will increase. There will be a tendency for high tech maneuver units to out run their support. Units behind enemy lines will have no other source of resupply available other than LAPES, CDS, or tactical airlift to a hastily prepared DZ. The command relationship between the commander of the airlift forces and the high tech forces will be important.

3. The airlift management system must provide flexible, responsive, and timely support. The airlift staff must have the capa-

bility to quickly plan and execute the wide variety of delivery methods indicated above.

4. At the time of implementation, the HTLD will be supported by an old tactical airlift aircraft. At present there is no replacement aircraft insight for this mission.

The Military Airlift Command should continue to support the HTTB effort. Recommend the following airlift oriented activities as part of the Test Bed analysis of the HTLD:

1. The tactical airlift sortie requirements should be closely monitored during the high tech exercises. Should a higher support number develop, the in-theater airlift support will have to be beefed up or restructured.

2. The exercises should contain situations that require short-notice changes in delivery methods and delivery sites to simulate a very mobile battle situation. These exercises should be sensitive to improving the command relationship.

3. Should the exercise results indicate, a review of the airlift support staff is appropriate. The rapidly changing airlift requirements may require an increase in members to work the details of special delivery activities.

4. The potential for increased reliance on tactical airlift and the age of the present support aircraft make development of a follow-on tactical aircraft especially important. The HTLD requirements should be added to the rationale for a new airlift aircraft that is designed for the tactical airlift mission.

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