

AD-A241 034



①



AIR WAR COLLEGE

RESEARCH REPORT

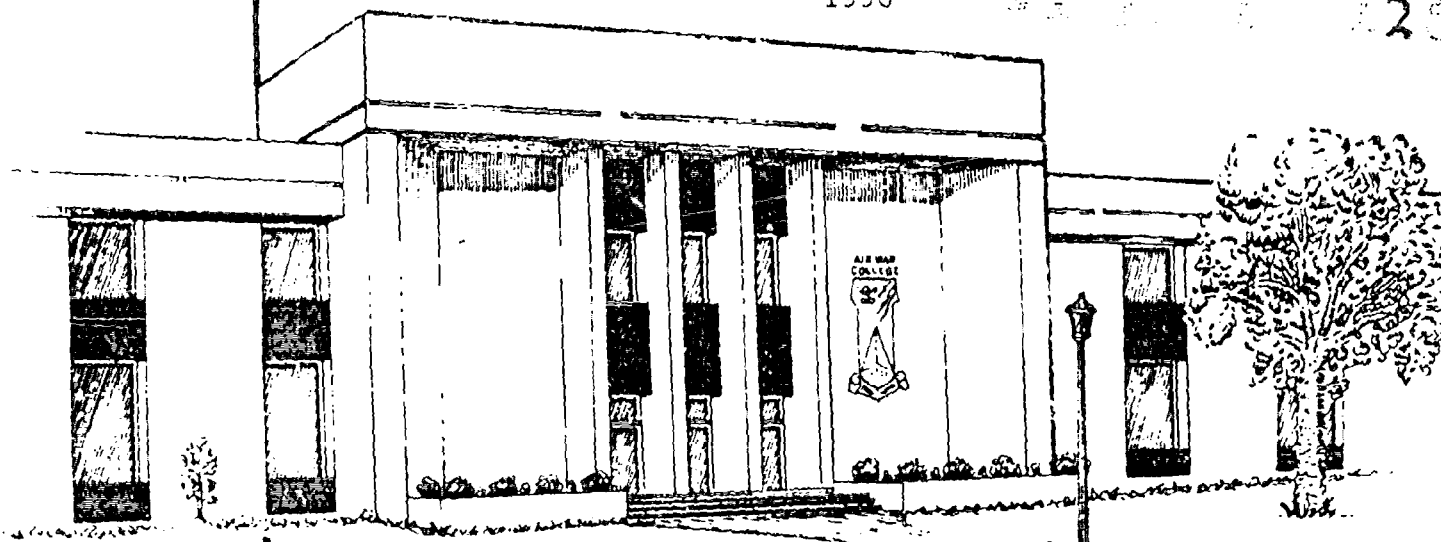
AN AIRFIELD TOO FAR, THE ARMY'S SEARCH FOR A RUNWAY

91-12126

DTIC
ELECTE
OCT 03 1991
S B D

LIEUTENANT COLONEL KENT V. HUFFORD, USA

1990



AIR UNIVERSITY
UNITED STATES AIR FORCE
MAXWELL AIR FORCE BASE, ALABAMA

APPROVED FOR PUBLIC
RELEASE; DISTRIBUTION
UNLIMITED

AIR WAR COLLEGE

AIR UNIVERSITY

AN AIRFIELD TOO FAR, THE ARMY'S SEARCH FOR A RUNWAY

by

Kent V. Hufford
Lieutenant Colonel, USA

A DEFENSE ANALYTICAL STUDY SUBMITTED TO THE FACULTY

IN

FULFILLMENT OF THE CURRICULUM

REQUIREMENT

Advisor: Lieutenant Colonel Peyton P. Lumpkin

MAXWELL AIR FORCE BASE, ALABAMA

May 1990

DISCLAIMER

This study represents the views of the author and does not necessarily reflect the official opinion of the Air War College or the Department of the Air Force. In accordance with Air Force Regulation 110-8, it is not copyrighted but is the property of the United States government.

Loan copies of this document may be obtained through the interlibrary loan desk of Air University Library, Maxwell Air Force Base, Alabama 36112-5563 (telephone [205] 293-7223 or AUTOVON 875-7223).

Accession For

NTIS GRA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special

A-1

EXECUTIVE SUMMARY

TITLE: An Airfield Too Far, The Army's search for A Runway.

AUTHOR: Kent V. Hufford Lieutenant Colonel, USA

The focus of current US Army aviation doctrine is as an attack asset to maneuver on the battlefield and "kill" the enemy. The senior operational Army Aviator within a US Army Corps or Division is the Combat Aviation Brigade Commander. His focus is killing tanks forward, not providing a runway for fixed wing aircraft in support of the Corps or Division in the rear of each sector. Army AirLand Battle doctrine has been proactive in taking the battle to the enemy without regard for air resupply requirements. At present, the US Army does not have a doctrinally directed requirement for the establishment, operation, and command and control of tactical airfields and runways within the corps area. This is a deficiency that has implications for the Air Force C-17s and for all tactical intratheater airlift in support of joint operations. To fight, the US Army depends on too many for too much--and the other services can't help if they can't get there. The current turbulence in doctrine, requirements, capabilities, technology, and force size provides a unique opportunity to examine Army Aviation's attitude and thus the Army's need for the capabilities of the "runway."

BIOGRAPHICAL SKETCH

Lieutenant Colonel Kent V. Hufford was born in Spokane, Washington. He began his military career in 1966 as an Army Warrant Officer Pilot. LTC Hufford was commissioned a First Lieutenant in the U. S. Army Signal Corps in 1969. He holds a BA in Management from Park College, Parkville, Missouri. Military schooling includes: Rotary Wing Flight School, Signal Basic and Advance Officer courses, Air Traffic Control, and the Army Command and General Staff College. Military assignments have included command and staff duty in aviation, armored cavalry, signal and air traffic control units and schools in the United States, Vietnam and Germany. He has also served as an Army Inspector General, a Technical Program Manager for the Federal Aviation Administration research program on Aircraft Electromagnetic Hazards for the next generation of aircraft, and recently as the Battalion Commander, 3rd Air Traffic Control Battalion, 58th Aviation Regiment, U.S. Army Europe. He is a dual rated Master Army Aviator with 2200 combat flying hours and over 5000 total flight hours. LTC Hufford is a graduate of the Air War College, class of 1990.

AN AIRFIELD TOO FAR, THE ARMY'S SEARCH FOR A RUNWAY

Mobility is especially critical in AirLand Battle operations. Waging war requires the ability to move, shoot, and communicate. Many leaders have stressed those actions, in that order, and it is not accidental. The ability to move--to deploy and move forces, firepower, and equipment into and across the battlefield--is always of first importance.¹ Key in the future to this mobility is the airlift capability provided by the C-17 aircraft. The highest levels of the Department of Defense, including the secretary of the Air Force and the secretary of the Army, have emphasized the necessity of C-17 aircraft for the rapid deployment of combat forces.² The aircraft is crucial because proposed modes of operation state that the C-17 will deliver army units and equipment into the brigade rear area and would routinely operate into the division and corps army airfields.³

At present, the US Army does not have a doctrinally directed requirement for the establishment, operation, and command and control of tactical airfields and runways within the corps area.⁴ This is a deficiency that has implications for the C-17s and for all tactical intratheater airlift in support of the Army, whether it be Air Force or Army airlift. Significant numbers of special Army fixed-wing aircraft also require a landing area. Without an airfield, mobility is absent from the battlefield. Without mobility in the long term, the US Army warfighters cannot fight an airland battle and win. Although, AirLand Battle Doctrine has

advanced, the doctrine for airfield logistics support has not. This is a warfighting deficiency the Army must solve if it plans to conduct and support military operations across the spectrum of conflict. With Air Land Battle Future, this will be imperative.

WHERE DID THEY GO?

The US Army learned the air mobile lessons in Viet Nam. The Army was able to move and fight by using the helicopter as a vehicle of mobility and firepower. Army aviation units functioned as air-mobile lift companies and aerial rocket artillery (ARA) batteries in the 1970s. The doctrine had them living and flying out of the corps or division airfield. Because of the logistical support requirements and a maneuver doctrine that was less than aggressive, the doctrine made sense. Aviation battalions staged out of these airfields, and someone was always around to run the airfield.

A study completed in 1970 by the 165th Aviation Group (Combat) in Vietnam foretold a problem--"The current Army doctrine of providing organic air traffic control, fire-fighting and airfield service capability to each tactical aviation company is extremely wasteful of highly specialized personnel and costly equipment. Habitually, more than one aviation company is based on the same facility."⁵ In 1974, all fixed-base air-traffic control (ATC) was centralized, and, in 1978, all tactical ATC was combined in a battalion within a corps. The airfield services and fire-fighting capability has since been dropped from those aviation companies and aviation battalions.

The AirLand Battle Doctrine and the aviation unit structure have changed the division aviation battalions and corps aviation

groups into aviation brigades. Army aviation brigade commanders now have taken on the full responsibility as the senior aviation combat arms commander in the airland battle. Their mission is to implement that doctrine, that is, in simple terms, to kill tanks forward. The division aviation battalion that was located by doctrine at the division instrumented airfield in the division rear is also gone. The aviation brigade is now located in the forward area of the division or corps and dispersed to provide survivability for its assigned AH-64 attack helicopter's and UH-60 utility helicopter's and to position itself to provide rapid attack of the enemy, whether it be on the forward line of troops (FLOT) or in a cross-flot operation. The doctrinal communications to the airfield and the division aviation battalion consisted of only a single multi-channel radio link provided by the division signal battalion. When the brigade moved to the forward area, the communication link that had been terminated at the airfield went with the brigade. Simultaneously, the written doctrine for the operation of the division airfield has vanished, as well as the corps airfield. Other than the corps air-traffic-control (ATC) battalion providing ATC support to both the corps and division airfield or landing area, no doctrine exists in the army today explaining who is responsible for running, supporting, securing, or for that matter identifying a need for a landing area to support aircraft that require a "runway." A runway or landing area in an army sector is not exclusively to support army aviation.

To be sure, the aviation brigade commander is very busy

killing tanks forward; he would be hard pressed to "run" an airfield. One could argue that since the airfield will support larger, faster, fixed-wing Air Force aircraft, the mission should be given to the Air Force, since the Army has already given up the missions of weather, control of theater air defense artillery, and the C-7 Caribou.

IT STARTED ON THE BEACH.

With the invasion of mainland Europe at Normandy during Operation OVERLORD in June, 1944, came the immediate need to establish combat airfields to provide logistics support to an expanding front. Operation OVERLORD's direct military objective was neither strategic nor tactical, but logistical. The primary objective of the plan was "to secure a lodgement on the continent from which further offensive operations can be developed."⁶ Units of the IX Engineer Command landed on Utah beach on D-Day, and by 2115 hours on D-Day, an emergency landing strip had been built. More engineers were landed, and by noon of D+3, a transport field was made operational. By 30 June (D+24), nine all-weather airfields had been completed on the continent, and seven others were under construction. A runway called A8 was built in one day by the 826th Engineer Aviation Battalion. Aircraft taking off A8 had to make their takeoffs to the east, toward Utah Beach, because of the close fighting.⁷ Needed supplies and, most importantly, photo intelligence provided by a reconnaissance group, were critical to the Army in the breakout of Normandy. After the breakout, troop carriers were tasked to fly supplies into captured airfields and sod or dirt airstrips in the wake of advancing armies. Casualties were often evacuated on return flights as this effort swelled to

600 aircraft per day. An Air Transport Group was assigned the task of operating a mail carrier service between England and the continent. As the allies advanced, combat construction engineers repeated the cycle of building "airdromes" and runways across Europe. Forcing our way onto a continent that had not been friendly for over six years required combat operations on the grand scale. The combat service support had to be on a grand scale. Because the size of the force needed, most of the service support came over the beach. Even in the days of the C-47, large amounts of supplies came to the Army at army, corps or even division forward airfields.

By September 1944, Patton's Third Army was virtually stalled in its pursuit of the retreating Germans for want of gasoline. To remedy this situation, the 8th Air Force diverted B-24 bombers to fly bulk loads of gasoline to forward airstrips for Third Army units.⁸ For reliable, large-scale supply operations, it was necessary to have airfields as near as possible to where the supplies were needed. The lack of airfields near destination zones was the principal factor that limited large scale air supply operations.⁹ The Allies won World War II by being mobile and well supplied, something that is required today and in the future as we expand airland battle doctrine to airland battle future.

The terrain of Burma and China and the absence of land lines of communication forced all allies in that theater to turn to airlift--initially as an afterthought and an emergency last-chance measure. Air transport operations expanded beyond the

wildest predictions; carrying war supplies to Burma and China. Aerial resupply and air mobile operations from forward airfields in the combat zone by British General Orde Wingate and his Chindits made the difference in winning or losing battles.¹⁰

Korea again validated a need for forward support by means of runways. For the most part, Korean logistics was a replay of WW II. The distribution of supplies was very similar. Most of the equipment used was taken from large stores of supplies left in the Pacific after WW II. The lack of roads and railways, however, made it essential to develop a replacement for WW II vehicles.¹¹ The helicopter was ideal for delivering supplies from larger airfields to small isolated units and for evacuating casualties from areas inaccessible to surface motor transportation. Helicopters, combined with surgical teams close to battle areas (MASH), played a major role of increasing the survival rates and reducing the number of deaths. Stabilized wounded were flown by larger fixed-wing aircraft to Japan and the United States. Air Force C-47s evacuated marines from Hagaru-ri in December 1950 from a rough, narrow, dirt strip 2,300 feet long and another one even worse. The C-47s made 221 landings, brought in 273 tons of supplies, and took out over 4,600 sick and wounded.¹² Without tactical runways, the marines would have not survived. Long jet-capable airbases were overrun, and F-51 Mustangs had to be brought in to operate from the short, rough clay and gravel runways.¹³ In Korea, air superiority and protection from enemy air attack allowed freedom of maneuver for Army troops and Army aircraft.

Fighting a guerrilla war in Vietnam, with Army operated airfields, the Army was able to meet a vast dispersed challenge.

Early during the Vietnam war, Army Caribous provided the in theater airlift to Army forces. Those aircraft were subsequently transferred to the USAF, but the mission continued with the Air Force flying Caribous, C-123s and C-130s aircraft into divisional airfields, typically unsurfaced, run by the US Army.¹⁴ Tactical airlift in Vietnam was responsible for repositioning thousands of troops throughout the forward combat areas. Tons of ammunition and supplies were delivered by airland to sustain isolated forces. Tactical airfields at Khe Sanh in 1968, and An Loc in 1972, are examples of the need for airfields to repel enemy attack in a high-threat scenario. A striking comparison can be made between the French failure at Dien Bein Phu and the staying power of American troops at Khe Sanh. Khe Sanh's defenders received over 12,000 tons of supplies from 1,200 supply sorties. The control of the forward airfield at Khe Sanh and the navigation aids used made the difference.¹⁵ By way of contrast, the French averaged 100 tons a day for the 56-day ordeal, didn't have the close air support, the navigational aids and flew longer distances to the Dien Bein Phu.¹⁶

Flying out of division airfields during the United States war in Vietnam, were special mission army fixed wing aircraft, such as RU-21s, OV-1s and YOA-12s, providing the combat commander with real-time intelligence. Larger, cement runways, such as those at Tuy Hoa, were built in as little as five months.¹⁷

RECENT CONFLICTS, MORE BEACHES.

Although not a US forces operation, the Falklands/Malvinas war again showed the need for an airfield capable of "airlanding"

supplies. Great Britain had designed a force to fight in NATO and made little provision for doing battle elsewhere.¹⁸ In the Falklands campaigns, the British planned to use most of their helicopters to conduct airmobile operations. With the loss of the container ship *Atlantic Conveyor* and the ten Wessex and four CH-47 Chinook helicopters, they wound up using the remaining helicopters to move supplies just to keep the war going. Pilots flew to the point of exhaustion--often nine to ten hours a day without leaving their cockpits. If the British offensive had bogged down, the land force would have lacked the lift capability to switch flanks or move artillery to cover a new sector. The rapid movement of the British troops was considered slow ("three weeks for such a small island and petty adversary?"--ran the commentaries in Europe).¹⁹ The troops wound up "yomping" (British slang for a long hike with gear) across the islands on foot. The repeated long-range British air attacks on the runway at Port Stanley were unsuccessful. However, the Argentineans did not reinforce using this runway. Nor did they use it to stage counterattacks, a prime example of a military not using its runways to advantage.

Port Salinas Airfield turned into a US Army airfield during Operation Urgent Fury in Grenada. Army invasion plans were changed because of the runway restriction and the early use of the C-141.²⁰ At one point, lack of airfield control caused all airflow into the airfield to be turned off, and a MAC general was quoted as saying he had "aircraft stacked over the airfield from the ground to the ionosphere."²¹ Many C-141 crews were not trained to land on unlit runways and strenuous efforts to improvise lights were unsuccessful. There were no loading ramps,

material handling equipment (MHE) and aircraft were combat off-loaded on the runway, causing an aircraft backup.²²

RELOOKING THE ARMY AIRFIELD.

The basic tenets of the Army's AirLand Battle doctrine--initiative, agility, depth, and synchronization--all are characteristics of the use of Army aviation. These four tenets require airfields to support the fighting commanders. War fighters must have landing areas and runways to provide them the intelligence, logistics, resupply, and medical evacuation to conduct successful operations.

The corps commander needs intelligence and target acquisition to conduct the deep battle. He relies on the military intelligence (MI) brigade to satisfy much of his needs. Aerial special electronic mission aircraft (SEMA) assets of the MI brigade are assigned to the aerial exploitation battalion. Current platforms that give the commander speed and flexibility are in the form of fixed-wing Army intelligence and electronic-warfare aircraft, the OV-10 and the RC-12 aircraft using Guardrail, Quick Look, and side-looking airborne radar.²³ These aircraft must fly out of the corps or even the communications zone (COMMZ) Army airfields. Because of sensor distance requirements and the distance to some downlinks, these aircraft operate in airspace generally within the corps area of operations. Intelligence-gathering missions which must be conducted continuously to be effective, require that the airfields from which they operate have all-weather precision approach capability.

Air Force intratheater (tactical) airlift transport sup-

plies, personnel, and equipment by fixed-wing aircraft. The theater COMMZ normally has main and intermediate operating bases (airfields) capable of accepting large intertheater (strategic) aircraft. Air Force aircraft and Army aviation forces supporting airlift requirements must use Army airfields to fly airlift missions in support of close, deep, and rear operations using air-land or airdrop delivery methods. A very fluid, elongated FLOT of hundreds of miles requires daily short-notice reaction when shoring up combat forces, flowing with the tide of battle, answering the dictates of either offensive or defensive maneuver. Only infrequently will "airdrop" or LAPES (Low Altitude Parachute Extraction System) be a player, airland will be the used tactic for two reasons. First, the airdrop rigging process is time consuming. Time and materials are needed to "build" the loads for drop. Second, the Air Force has very few crews and equipment riggers that stay current in LAPES drops.²⁴

The US Air Force is struggling to meet the DOD airlift goal of 66 million ton-miles per day. If full funding is obtained for the C-17 air transport, this target may be reached by the end of the century. Part of the solution is to use the C-17 to deliver Army cargo directly to the location where needed. Currently, large loads are sent via strategic airlift into a theater where they are downloaded and then unloaded onto tactical airlift to move it forward. In fact, there are some who feel that the intra-theater movement shortcomings are even more serious than the strategic shortfall because of the theater difficulties in getting war materiel to the battlefield. Analyses by the LTV Corporation's Corps Tactical Airland Battle Simulator (Corps-TABS)

model, using a Southwest Asia Iranian Scenario employing airlift(C17s) to get a US force to a division airfield at Kenman, Iran, to blunt the attack of Soviet forces, slowed the Soviet advance by 100% (150 km).²⁵ The C-17 can be used to wet-wing defuel into ground bladders and tanker transports will prove invaluable to quick reaction operations. The Air Force program to replace the C-130 aircraft with the advanced tactical transport (ATT) is a weather vane of need for the Army. The ATT would have enhanced survivability that could airland, airdrop, or LAPES supplies into the brigade forward airstrip. It could land in half the distance of the C-130, significantly reducing the combat engineering required to establish and maintain necessary fixed-wing landing areas.

Army aviation aeromedical evacuation (DUSTOFF) aircraft, organic to the corps medical brigade, will operate throughout the close and rear areas of the battlefield. Aeromedical evacuation will evacuate battlefield casualties to initial treatment points or subsequently move them to medical facilities near the division or corps airfield. Further evacuation will be by Air Force fixed-wing evacuation aircraft to treatment facilities outside the combat zone.

Air-movement operations using Army aviation utility and cargo assets will provide combat service support to the commander to move cargo forward. Many paper war game battles have been fought that left the processes of the logistics struggles in the deep and immediate rear area of the flowing lines of battle undone. It is fairly certain that sustainment was, and would be,

as dependent on responsive air as on ground lines of communication. Both the division and corps logistics commands will use air movement via Air Force tactical airlift and transload onto army aircraft for movement into the division forward areas. In low-intensity conflicts, utility and cargo assets may carry out logistical movements during foreign internal defense, peacekeeping, and peacetime contingency operations.

AIRFIELD SURVIVABILITY

Christopher Columbus was right; the earth is round. His first navigator tried to tell him the earth was flat; "just like a table," he said. Chris knew better and fired him. That first navigator now writes Air Defense doctrine that shows the enemy ADA threat envelope from the FLOT to 80 kilometers deep down to the trees, just like a flat table. No, we know the earth is round, and air defense systems would have a hard time shooting deep and low.

For example, just using the curvature of the earth as a rule of thumb, at 40 kilometers deep, one could fly up to 500 above ground level and at 80 kilometers deep up to 1000 above ground level and stay out of all but the very high dollar systems of ones enemy on the other side of a FLOT.

When the army had doctrine for corps and division airfields, each had only one airfield in each sector to support it. If a corps has "only" one airfield in its sector, it is more vulnerable than if it had a dispersed number available to it. The corps campaign plan is more predictable with only one airfield. Also, fewer airfields at the rear means that more logistics and aircraft must be concentrated in the sector for support. Using

multiple tactical airfields in the division and corps rear logistical areas provides less lucrative targets.

Army air traffic control units use, for the most part, standard army tactical radios. They have a ground controlled approach radar (GCA) of post-World War II vintage. However, it does not have a radiation signature as a threat air defense radar. Using the GCA in the Precision Approach (PAR) mode and pointing it away from the FLOT also reduces emissions in the enemies' direction. Very little tactical ground-based intelligence direction finding (DF) capability is below 500 kilohertz, so the use of low power nondirectional beacons (NDB) on call would not bring down a rain of death. It is questionable whether weapons that can get to rear areas have army aviation as primary targets. Division airfields located in the division rear area are out of range of most Warsaw Pact artillery. Preliminary equipment technology evaluation indicates a better situation as to threat exists than previously thought. The airfield would be in the rear with the division support command. Of course, a bare base operation would be required in a high threat theater, with most units and support dispersed "off" airfield. Taking out a runway, as the British found out in the Falklands, is almost impossible. The US Air Force, in planning to "crater" a runway, must plan a strike package that darkens the sky with strike aircraft.

BIGGER THAN A BREAD BOX?

A division airfield must be able to support aircraft that require up to 3000 feet of runway. A corps airfield would need closer to 5000 feet. The airfield must have some type of naviga-

tional aids, lighting and precision approach equipment to provide near all-weather day and night capability. Air Force Combat Control Teams (CCTs) support force projection airdrop operations and provide air traffic control services for initial Air Force landing zone operations. Those 3000-5000 foot runways must be developed, rehabilitated, and maintained by Army engineers. The ground-support facilities must be accomplished by the Army.²⁶ Army ATC units and facilities from the corps ATC battalion are then required to provide ATC support to corps and division airfields and provide it to all intratheater airlift aircraft. The airfield must be precision-approach capable. Right now the only system in use is the GCA. It is transportable by C-130 and has been used around the world in support of Army and Air Force units. While the US Air Force does have "tactical" GCAs, the number of systems is very small, and the number of airframes required to transport is excessive. Future precision systems will include microwave landing system (MLS) or the more favored global positioning system (GPS).

Today's Army aviation operates in a 24-hour environment, including reduced visibility. An airfield capable of providing emergency recovery of air assets is of prime importance. The Army does more flying during nighttime and in periods of reduced visibility. Army aircraft are more capable today with night vision goggles (NVG) and forward looking infrared radar (FLIR). Still, not all the Army's inventory today, nor tomorrow, will have all these "gold" systems. The OH-58D scout helicopter does not have an ADF/VOR receiver, nor any other system compatible with a traditional enroute or terminal airspace navigation sys-

tems. The AH-64 attack helicopter does have a ADF receiver on-board, but is not certified for instrument flight.

In peace, we reduce the chance of an accident by not launching during periods of reduced visibility. Crew-rest requirements also prevent crews being stretched beyond exhaustion. In a war, fatigue, weather, darkness, and combat damage will require a system to recover these high-dollar, limited-production aircraft and crews so they may fight again. The airfield must have the means to provide weather support to flight crews. Refueling support is also a need. Combat aircraft fire fighting and rescue services must be provided by Army forces on the airfield. The Army also must provide area security to the runway or landing area. A unit and a commander must be made responsible for airfields and runways in the planning stage of any operation. That element then can coordinate the varied needs of support and sort out the logistical and regulatory problems prior to setting foot on the terrain.

WHO IS IN CHARGE OF WHAT?

If Air Force tactical airlift is used on the initial assault, then the combat control team (CCT) "is in charge" of its aircraft. Once the CCT teams leave, only the Air Force ALCE is left to represent the Air Force. The Air Force have missions directly relating to their aircraft, not Army airfield operations, nor do they have the manpower for it. As I stated at the beginning, the aviation brigade commander is not anywhere near the airfields. In most cases, the aviation brigade has no direct use for the airfield other than materiel support.

The Army is challenged in the conduct of rear operations. Field Manual (FM) 71-100, Division Operations, has an excellent section on rear operations. However, how to centralize the control for the conduct of rear operations is missing. The location of all tactical runways in the division will normally be in "rear" division support areas; answering the question of who and how to command and control rear operations might also solve the question of command and control of those airfields within the rear area. Candidates for command and control of rear operations could be a brigade-sized command post (CP) from the aviation brigade or the division support command (DISCOM).²⁷ The aviation brigade, as a combat command, is a good candidate for rear security operations; also, it does have the aviation expertise to "operate" airfields. But the aviation brigade is a poor choice to oversee sustainment operations.

The DISCOM might be the better choice. With its division support operations officer, ammunition officer, movement-control officer and division-supply officer, it is better suited to perform rear-area movement and sustainment operations that would control the use of the runways. The standard DISCOM is a poor choice to control security, terrain management, and level III threat operations, however. Both lack functional expertise in engineer, fire support, air defense, and security. Planners have looked at creating a separate rear CP to command and control rear operations. Using the assistant division commander for support (ADC-S) to command rear operations from a separate CP located next to the DISCOM is an option. Mobility and movement makes Army aviation; the runway gives the combat commander the base from

which to operate. With a CP collocated with the DISCOM, those responsible for the movement of the division main supply routes (MSR) can be next to those who are responsible for the airfield. The corps engineers in the rear are responsible for mobility operations, such as road improvement and construction of C-130-capable airstrips. Collocated facilities for all MSR and aerial resupply coordination, would result in improved mobility and sustainment. Since the engineers are constructing tactical runways, the rear CP could provide overall engineer planning and command and control of security operations for this task. The DISCOM could plan and coordinate sustainment operations from the airfield. This is an example at the division level; at the corps, the same could apply to the Corps Support Command (COSCOM). With the above for background, running airfields could be the responsibility of the logisticians. Additional personnel could be added to the support command structure to provide command and control.

The senior operational aviator in the corps or division is the aviation brigade commander. As a user of airspace and sometimes airfields, he must be the focus of command and control of airfields in his area of operations. The support command would be the heavy user of the airfield or landing area, but few "aviators" are assigned that could "command" the airfield. The divisional aviation brigade commander is focused on fighting; the corps aviation brigade commander is too, though he has medium lift CH-47 assets that the corps uses. Army aviation must stand up and take charge of its medium and interface, the runway. Army attack aircraft do not directly use runways, but they are direct

benefactors of the existence of runways. It is not a glamorous job, but aviation must champion the doctrine before runways are lost to the far rear, where the Air Force would put them. Additions need to be made to the aviation brigade structure to provide for trained manpower to run the vital link for the command. With changes to the manning of the aviation brigade, a command element responsible for airfield operations could then be collocated with the support command.

A SAFE PLACE TO LAND.

For safety reasons, we tend to shut down aviation activity when weather is still better than that in which we say we are going to fight. The need for modern airfield and ATC systems have never been tested in battle conditions in which we may have to operate. Thus, there is no focus on real deficiencies in the systems, because dependence on the capabilities has not truly been explored. During exercises, the Army prepositions all that it can, relies on surface movement, and has not shown the inclination to learn the intricacies of coordinating, requesting, competing for, and deconflicting finite tactical Air Force and Army assets. REFORGER afteraction reports always show that there were no significant transportation problems.²⁸ True, since most combat supplies did not need to be moved, an excess of transportation capability, rather than a tremendous shortfall, is the predicted outcome.

Maybe the Army's support for the needed C-17 for airlift of its forces has been less than strong, since it cannot find a place in its own doctrine to land it. The current turbulence in doctrine, requirements, capabilities, technology, and force size

provides a unique opportunity to examine Army Aviation's attitude and thus the Army's need for the capabilities of the "runway." Particular emphasis has been focused on combat support aviation in this paper. Army aviation as a combat arm has come far. It has developed the doctrine it needs to kill tanks effectively. Now, we need to give that combat arm some logistics punch and the ability to sustain and reinforce itself via Army run airfields. To fight, the US Army requires massive logistics support from the other services. The Army depends on too many for too much--and the other services can't help if they can't get there. The runway, with its systems of precision navigation, crash rescue, and medical support, are force multipliers that a competent commander cannot ignore. Doctrine and ownership of the runway structure in the Army area rightly belongs to the US Army. The tactics have changed since World War II to match changes on the battlefield. The AirLand Battle Doctrine that has evolved demands the increased use of runways in the Army battle area. At present, organizational structure and doctrine had not kept pace. It's time the Army recognizes these deficiencies and stepped up to its responsibilities.

NOTES

1. William H. Taft IV, Deputy Secretary of Defense, "America's Mobility Needs Require A Strong Partnership Between DOD and the Transportation Industry." *Defense Transportation Journal*, December 1986, 12.

2. U.S. Congress, Senate, 1 OCT 1986. Congressional Record.

3. Letter, commander Military Airlift Command to Chief of Staff United States Air Force, Washington D.C., subj: C-17 operational concept support, 20 January 1984.

4. Memorandum, director of combat developments, US Army Aviation Center, Fort Rucker, Ala., to commandant, US Army Engineer School, Fort Leonard Wood, Mo., subject: Requirements for Geodetic Survey Support, 16 October 1989.

5. US Army Aeronautical Services Office, Cameron Station, Virginia, "Systems Approach to The Acquisition of Air Traffic Control and Navigation Facilities (SAMOAN)," 16 October 1972, 9.

6. LT COL David C. Rutenberg, USAF, *The Logistics of Waging War, American Logistics 1774-1985* (Gunter Air Force Station: Air Logistics Management Center, 1989), 84.

7. Reginald G. Nolte, *Thunder Monsters over Europe* (Manhattan, Kans.: Sunflower University Press, 1986), 27.

8. Rutenberg, 123.

9. James A. Huston, *The Sinews of War* (Washington, D.C.: Government Printing Office, 1966), 96.

10. LT COL Charles E. Miller, USAF, *Airlift Doctrine* (Maxwell Air Force Base: Air University Press, 1988), 141-144.

11. Huston, 628.

12. Miller, 199.

13. Robert F. Futrell, *The United States Air Force in Korea 1950-1953* (Washington, D.C.: Office of Air Force History, 1983), 87.

14. Miller, 316.

15. Miller, 321.

16. Bernard C. Nalty, *Air Power and the Fight for Khe Sanh*, (Washington DC: Office of Air Force History, 1986), 42.

17. MAJ Jeffrey L. Tyley, "Project Turnkey: Historical Per-

spectives and Future Applications," *Air Force Journal of Logistics*, Summer 1987, 4-5.

18. Dov S. Zakheim, "The South Atlantic Conflict: Strategic, Military, and Technological Lessons", *The Falklands War, Lessons for Strategy, Diplomacy and International Law* (Boston: George Allen & Unwin, 1985), 135.

19. Virginia Gamba, *The Falklands/Malvinas War, A Model for North-South Crisis Prevention* (Boston: Allen & Unwin, Inc., 1987), 186.

20. Jeffrey Denny, "The C-17's Uncertain Future." *Military Logistics Forum*, Jan/Feb 1985, 61.

21. MAJ Mark Adkin, British Army Ret. *Urgent Fury, The Battle for Grenada* (Lexington, Mass.: D.C. Heath & Company, 1989), 260.

22. Adkin, 260.

23. CPT Clyde J. Sincere, USA, "Target Acquisition for the Deep Battle." *Military Review*, August 1989, 25.

24. Miller, 216.

25. Airlift for Combat Operations (ALCO), Training and Doctrine Command Pamphlet 525-XX, (Washington: Department of the Army, 18 January 1989), 14.

26. LT COL J. David Patterson, USAF, "The C-17 in an Iran Scenario: A Perspective Beyond 66-Million Ton-Miles per Day." *Armed Forces Journal International*, January 1988, 46.

27. BG William m. Matz Jr., USA, "Rear Operations in the Light Division," *Military Review*, June 1989, 10.

28. BG Richard F. Allen, USA Reserve, "Corps-Level Logistics In or Out of Focus." *Military Review*, September 1989, 15.