AIR COMMAND AND STAFF COLLEGE

STUDENT REPORT

MISSIONS AND MOBILITY
CONFIGURATIONS
FOR RED HORSE
MAJOR JAMES T. RYBURN 88-2300

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REPORT NUMBER 88-2300

TITLE MISSIONS AND MOBILITY CONFIGURATIONS FOR RED HORSE

AUTHOR(S) MAJOR JAMES T. RYBURN, USAF

FACULTY ADVISOR LT COL ROBERT L. PETERS, ACSC/3823 STUS

SPONSOR COL ROBERT J. COURTER,
DIRECTOR, FORCE DEVELOPMENT, HQ TAC/DED

Submitted to the faculty in partial fulfillment of requirements for graduation.

AIR COMMAND AND STAFF COLLEGE
AIR UNIVERSITY
MAXWELL AFB, AL 36112-5542

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE

A192526

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b. RESTRICTIVE MARKINGS
2a. SECURITY CLASSIFICATION AUTHORITY	3. DISTRIBUTION/AVAILABILITY OF REPORT STATEMENT "A" Approved for public release; Distribution is unlimited.
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE	
4. PERFORMING ORGANIZATION REPORT NUMBER(S) 88-2300	5. MONITORING ORGANIZATION REPORT NUMBER(S)
6a. NAME OF PERFORMING ORGANIZATION ACSC/EDC 6b. OFFICE SYMBOL (If applicable)	7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (City, State, and ZIP Code) Maxwell AFB, AL 36112-5542	7b. ADDRESS (City, State, and ZIP Code)
8a. NAME OF FUNDING/SPONSORING ORGANIZATION 8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State, and ZIP Code)	10. SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO / WORK UNIT ACCESSION NO.

11. TITLE (Include Security Classification)
MISSIONS AND MOBILITY CONFIGURATIONS FOR RED HORSE

12. PERSONAL AUTHOR(S)
Ryburn, James T., Major, USAF

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
	FROM _____ TO _____	1988 April	36

16. SUPPLEMENTARY NOTATION

17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

RED HORSE squadrons have faced role identification and mobility difficulties since their return from Vietnam. This research reviews the historic factors and current thought affecting the RED HORSE mission to formulate an operational doctrine. This operational doctrine is used to develop a mobility configuration which is responsive to the missions of RED HORSE from theater warfare to contingency response. The study concludes that a dual mobility structure based on equipment prepositioning is necessary.

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT ☐ UNCLASSIFIED/UNLIMITED ☒ SAME AS RPT. ☐ DTIC USERS	21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED
22a. NAME OF RESPONSIBLE INDIVIDUAL ACSC/EDC Maxwell AFB, AL 36112-5542	22b. TELEPHONE (Include Area Code) (205) 293-2867 22c. OFFICE SYMBOL

DD Form 1473, JUN 86 *Previous editions are obsolete.* SECURITY CLASSIFICATION OF THIS PAGE

PREFACE

I have had the privilege of serving in two great RED HORSE squadrons, and I consider my service in "the HORSE" as the highlight of my career. Some of the most capable officers and airmen I know are practicing their craft in the active, guard, and reserve squadrons. There is an enthusiasm in RED HORSE that must be experienced to appreciate. It is a real "can do" attitude that gets the most from its officers and NCOs.

Since I have the opportunity to editorialize in this section of the paper, I would like to point out what I believe are two significant problems not addressed in this research. First, there is a glaring lack of RED HORSE experience among the readiness planners in the staffs from the numbered air forces all the way to HQ USAF. Second, RED HORSE has significantly more capability than they are allowed to demonstrate.

RED HORSE is not just a "better equipped Prime BEEF team." They are logistically integrated construction units. Although the engineers have the same AFSCs as Prime BEEF, it's the logisticians and support functions that make RED HORSE unique. With the logisticians, RED HORSE can put construction equipment and the right skills anywhere in the world on a moments notice. I know, because I've done it and RED HORSE squadrons do it regularly. Prime BEEF is just not organized, trained, or equipped for this. I believe the ability to respond to contingencies is a significant and sometimes overlooked capability that many take for granted.

I need to point out that I have chosen to use the historically correct acronym in this research. In the historical documents of project RED HORSE, the "O" in HORSE represented "Operations". Somehow it has been changed (accidentally, I think) to "Operational" in current regulations.

I want to thank my fellow "Horsemen" for inspiration, lively debate, and genuine concern for the future of RED HORSE. I would like to thank my advisor, Lt Col Robert L. Peters, for his patience. And finally, I want to thank my wife, Rebecca, and new son, Matthew, for their love.

ABOUT THE AUTHOR

Major James T. (Tom) Ryburn is a native of Arkansas. He graduated from the University of Arkansas in 1975 with a Bachelor of Architecture and was awarded the school's Alpha Rho Chi medal as the Architecture graduate with the most promise of professional merit. He was commissioned from Officer Training School in 1975.

Major Ryburn has extensive RED HORSE experience. In 1978 he was assigned to Detachment 1, 554th CES(HR) at Kunsan AB, Korea. After 3 months at Kunsan, he was selected to establish a new RED HORSE operating location at Taegu AB, Korea. While commanding Operating Location AA at Taegu AB, he was in charge of construction of two, 100-man dormitories, supervising an Army Combat Engineer, Korean, and RED HORSE construction force.

He continued his association with RED HORSE while assigned to Headquarters USAFE, Inspector General, inspection team at Ramstein AB, Germany. Major Ryburn led development of the inspection criteria for integrating the 819th RED HORSE rapid runway repair forces into 3rd Air Force wing readiness inspections. On his next assignment at the Air Force Institute of Technology at Wright-Patterson AFB, Ohio, he studied and wrote about RED HORSE history.

In 1984, Major Ryburn was assigned as Chief of Operations, 823d CES(HR) at Hurlburt Field, Florida. During his 3 years at the 823d, he was responsible for RED HORSE participation in over 25 Air Force and joint exercises in the Orient, Central America, the Middle East, Africa, and Europe. He organized the 823d's deployment for exercise Salty Demo where he participated in demonstrations of new civil engineering readiness technology. In 1985, Major Ryburn was chosen to lead the Headquarters TAC initiative "Relook," a one year study of RED HORSE mobility configurations.

Major Ryburn has also been assigned to Shaw AFB, South Carolina, Education with Industry in Los Angeles, California, and Bitburg AB, Germany. He holds a Masters of Science degree in Engineering Management from the Air Force Institute of Technology, and he is a registered architect in Minnesota. He is married to the former Rebecca Willard of Dublin, Virginia.

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EXECUTIVE SUMMARY

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REPORT NUMBER 88-2300

AUTHOR(S) MAJOR JAMES T. RYBURN, USAF

TITLE MISSIONS AND MOBILITY CONFIGURATIONS FOR RED HORSE

I. Problem: The attributes which made RED HORSE so successful in Vietnam -- their heavy construction and organic convoy capabilities -- have made them so heavy that rapid mobility is almost impossible for the CONUS squadrons. Present plans for sealift of heavy assets will not get any significant earthmoving capability to the theaters for at least 30 days and probably over 90 days. Even the lightest UTCs require an inordinate amount of precious strategic airlift resources. The TAC planning community and other planners have concluded that prepositioning is the only practical solution to mobilization for theater war. Meanwhile, RED HORSE remains one of civil engineering's most important forces for contingency response and exercise support. In contingencies, their flyaway, CONUS-based, equipment set is an advantage, and RED HORSE has responded throughout the world to support tactical air forces. A new Prime BEEF organization with enhanced capabilities has made Prime BEEF the primary beddown force in theater plans. The problem is developing a RED HORSE operational doctrine and mobility structure which supports both the theater requirements and contingencies while complementing the role of Prime BEEF.

II. Objectives: The TAC Deputy Chief of Staff for Engineering and Services has proposed a Tactical Air Forces Steering Group to resolve these mission and mobility difficulties. This paper was intended as a starting point for development of a RED HORSE that is responsive to the needs of tactical air forces.

The objectives of this research were to:

- Define an operational doctrine which describes a role for RED HORSE complementing the theater role of Prime BEEF

- Develop a mission statement which recognizes the differences in response to the deliberate planning process and the important RED HORSE crisis action role

- Define a mobility structure which is responsive to both mission requirements

III. Conclusions and Recommendations: The author concludes that RED HORSE must complement Prime BEEF and their beddown mission in theater plans by providing civil engineering support in three ways:

- Operating in locations where Prime BEEF would be restricted because of operational, logistical or engineering constraints

- Providing those special engineering capabilities unique to RED HORSE such as water well drilling or explosive demolitions

- Accomplishing base development projects which require heavy earthmoving or other equipment-intensive operations

In crisis action situations , RED HORSE must complement Prime BEEF by responding in three ways:

- In locations where there is not access to prepositioned equipment

- In locations in a high threat area

- In locations where infrastructure must be improved (such as development of a water source or runway repairs) before arrival of deploying forces

After building a revised mission statement around this operational doctrine, the author proposes a dual mobility structure which supports theater prepositioning and contingency response. This dual structure would include:

- A personnel UTC to respond to theater Oplans with prepositioned assets

- A set of small, fast, task organized UTCs with organic equipment for contingency response

These two mobility structures along with a successful prepositioning initiative would make RED HORSE responsive to the deliberate plans and unplanned contingencies. Appropriate entries must then be made in the War and Mobility Plan and Joint Deployment System so planners can take advantage of the significant capabilities of RED HORSE.

Chapter One

INTRODUCTION

PURPOSE

RED HORSE is an acronym for Rapid Engineer Deployable, Heavy Operations Repair Squadron, Engineer. These civil engineering squadrons represent the Air Force's only wartime heavy repair and troop construction capability. RED HORSE mobility has been an issue for debate since the squadrons left Vietnam. Because the construction assets of RED HORSE squadrons are heavy and large, they are difficult to deploy. Along with mobility difficulties, CONUS RED HORSE squadrons have struggled with ill-defined roles and missions and under-utilization in peacetime. RED HORSE squadron commanders, major command managers, and air staff planners have proposed various mission statements and reconfigurations for streamlining or modernizing RED HORSE for what each perceives to be the next war. There has been no consensus (1:--).

While nearly all in the civil engineering community agree that RED HORSE is an extremely valuable asset, there are many different ideas on the best methods to deploy and employ squadrons in war. These issues have been recognized, and the Tactical Air Command Deputy Chief of Staff for Engineering and Services, BGen Roy M. Goodwin, has proposed formation of a tactical air forces (TAF) RED HORSE steering group to "define RED HORSE wartime requirements worldwide, develop a TAF consensus, and initiate action to satisfy requirements" (6:--).

Meanwhile, RED HORSE continues to be a major factor in civil engineering exercise and contingency support while providing valuable troop construction and repair capabilities for parent commands. This research will survey current thought on RED HORSE wartime operations to analyze current deployment and employment theory and propose changes to make RED HORSE more responsive to the needs of the tactical air forces.

SCOPE

There have been several attempts to reconfigure RED HORSE to support major war plans to take advantage of their unique capabilities while retaining

their heavy construction ability. None have been successful. This research will explore various RED HORSE missions and mobility structures to address the dilemma of weight and capability versus mobility. It will examine the current mission and mobility configuration of RED HORSE and several suggested missions and reconfigurations to analyze advantages and disadvantages. It will focus primarily on mobilization problems and reconfiguration proposals for CONUS based units.

After a discussion of the historical development of the issues affecting RED HORSE in Chapter Two, Chapter Three will explore the current mission statement and develop an operational doctrine for the various levels of conflict. Chapter Four will then look at each of the general classes of suggested reconfigurations to find appropriate mobility structures to get RED HORSE to the war. Chapter Five will then summarize and offer recommendations for updated RED HORSE missions and configurations.

The intent of this research is to provide a guide for developing future RED HORSE deployment and employment doctrine.

Chapter Two

BACKGROUND

HISTORICAL DEVELOPMENT

When the Air Force became a separate service in 1947, it remained dependent on the Army for its heavy repair and troop construction requirements. The original agreement on distribution of functions prohibited the Air Force from maintaining a troop construction capability (4:7-8). After a number of difficulties obtaining Army engineering support of air operations during the Korean War, the 1958 Lebanon crisis, the 1961 buildup for the Berlin crisis, and early in Vietnam, a solution was sought to end Air Force reliance on Army support for civil engineering heavy repair and troop construction. In 1963, project Prime BEEF (Base Engineer Emergency Force) was initiated to rectify the lack of Army support in Vietnam. Prime BEEF teams were organized within existing base civil engineering organizations and lacked heavy equipment or organic logistics support. Prime BEEF filled the short-term gap and compiled an outstanding record in Vietnam, but the Air Force still needed a heavy repair and construction capability to support the rapid wartime buildup. A study conducted in 1965 for the Secretary of Defense concluded that a "quick-acting heavy repair force organic to the Air Force, and responsive to Air Force commanders' needs was essential" (14:2).

In late 1965 the original planning directives were issued and Tactical Air Command was given responsibility for organizing, training, equipping, and manning the first RED HORSE squadrons. By February 1966, the first squadron, the 554th, was in Vietnam. By the end of 1966, six squadrons were in Southeast Asia.

In Southeast Asia, RED HORSE squadrons became involved in all types of horizontal and vertical construction and proved themselves to be highly effective for rapid buildup of tactical air bases. They constructed literally thousands of contingency projects such as revetments, aircraft shelters, modular buildings, airfield parking ramps, runways, and utilities (3:--). The Wing Commander at Phan Rang wrote:

> The quality of the work is not good, it is outstanding. As far as morale, esprit de corps, and mission, RED HORSE must be rated with the best units in the Air Force (4:26).

As Vietnam wound down, the RED HORSE squadrons began to move out. Several squadrons were deactivated or turned over to the National Guard and Air Force Reserves. There are currently four active duty squadrons, two in the CONUS and two overseas, as shown below:

554th: Osan AB, Korea, 7th AF, PACAF
819th: RAF Weathersfield, 3d AF, USAFE
820th: Nellis AFB, NV, 12th AF, TAC
823rd: Hurlburt Field, FL, 9th AF, TAC

There are three guard and reserve squadrons split into flights at the following locations:

200th: Camp Perry, OH, ANG
201st: Fort Indiantown Gap, PA, ANG

202nd: Camp Pendleton, VA, ANG
203rd: Camp Blanding, FL, ANG

307th: Kelley AFB, TX, AFRES
Det 1, 307th: Barksdale AFB, LA, AFRES

RED HORSE squadrons are 400 man, self-sufficient, civil engineering units with considerable construction resources and internal logistics capability. Along with all traditional construction trades and equipment, RED HORSE squadrons are manned and equipped to provide their own vehicle maintenance, supply, messing, and medical dispensary operations. In the RED HORSE staff are deployable budget, administration, and safety technicians. The squadrons are also manned with logistics plans personnel for organic airlift and sealift mobility planning.

RED HORSE trains and equips many unique "special capability" teams which cannot be efficiently maintained at base level civil engineering units. These teams are trained for activities such as mobile concrete operations, explosive demolition, expeditionary aircraft barrier installation, engineering material testing, and water well drilling. When deployed, RED HORSE is armed with automatic weapons, light machine guns, and grenade launchers, and when necessary they perform their own perimeter and convoy defense. They are trained to operate in "remote, hostile locations" as independent units. Each squadron is commanded by a colonel and reports directly to its numbered Air Force. RED HORSE squadrons are all male, combat engineering units and are not responsible for base maintenance functions at their host base (32:--).

Since Vietnam, the squadrons have supported their parent commands with construction projects and exercise support. RED HORSE squadrons have earned an outstanding reputation for supporting contingency operations. RED HORSE has deployed around the world to become one of the most visible projections of Air Force civil engineering's ability to prepare forward bases for tactical airpower.

GENERAL ISSUE

Mission

There was quite a battle after World War II over disposition of the Army's Aviation Engineers which provided support to air forces throughout the war. The Army prevailed, and in the 1947 agreements the Army retained its Aviation Engineers and sole jurisdiction for Air Force troop construction by providing SCARWAF units (Special Category Army With the Air Force) to the new Air Force. The SCARWAF was disbanded in 1956 after a disappointing record in Korea and failure to settle lines of authority issues. Between Korea and Vietnam the Air Force had several near-failures in exercises and actual contingencies because of lack of troop construction and heavy repair capability (4:9-13).

The formation of RED HORSE was watched closely by the Army. The Army insisted on compliance with the original agreements and subsequent directives giving them jurisdiction for Air Force troop construction. The roles and missions question, however, was still not settled by 1966 when the first RED HORSE squadrons were deployed to Vietnam. Air Force Chief of Staff, General John McConnell, wrote to CINC PACAF in 1966:

> Any injudicious abrogation of joint construction agreements would compromise current efforts to secure JCS and OSD approval of additional squadrons to provide emergency capability to repair airfield damage caused by enemy action or natural disasters, and that the squadrons are not designed for, but will have a collateral capability to build expeditionary or temporary airfields and do other construction work of an emergency nature. The Army has strong feelings about the Air Force building and construction capability which would overlap or compete with the role of the Corps of Engineers. I respect their position to the extent that they are capable of satisfying our requirements. I have also agreed that these units will not be used to construct airfields - expedient or otherwise. . . . (4:21).

Most of the early documentation of the development of RED HORSE stressed that the squadrons would not be used for construction, but the Joint Military Assistance Command, Vietnam (MACV), was soon assigning Military Construction Projects (MCP) to RED HORSE with the concurrence of 2nd Air Division. The 2nd Air Division commander wrote to CINC PACAF that he "saw no real problem in walking the tightrope between avoiding stepping on the toes of the Corps of Engineers . . . and keeping the Heavy Repair Squadrons at maximum production" (11:6).

The current mission statement for RED HORSE as stated in AFR 93-9, Civil Engineering RED HORSE Squadrons, is historically derived from the original

1947 agreement separating the Army and the Air Force. Since 1947, various DOD directives, culminating in DODD 1315.6 and AFR 93-10, Troop Construction and Engineering Support of the Air Force Overseas, have given responsibility for "construction" of Air Force facilities to the Army (34:--). The issue of "construction" capability has been alive ever since Vietnam. Mission statements for RED HORSE carefully omit construction as a capability, stressing "heavy repair" and "expedient" construction to avoid conflict with the Army.

Another historic factor shaping the issues concerning the RED HORSE mission is the context and environment for which the squadrons were originally designed. RED HORSE was developed in 1965 for Vietnam, which at that stage was a counter-insurgency, low intensity conflict. RED HORSE retains many of the attributes which were necessary for operating in that theater, such as the self-sufficiency and security capability necessary for operating at detached construction sites.

In addition, peacetime construction projects, unrealistic ORI scenarios, and contingency exercise results have played a part in shaping differing perceptions of RED HORSE's abilities and, therefore, its proposed mission. As a result, some misconceptions about the RED HORSE mission have been formed since Vietnam.

Finally, civil engineering Prime BEEF forces have expanded and improved their beddown and recovery capabilities and now routinely perform tasks previously reserved for RED HORSE. Except for heavy earth moving capability, Prime BEEF can now perform nearly all beddown tasks including arresting barrier installation, airfield lighting, erection of Harvest Eagle and Harvest Bare assets, and site utilities (31:24-25; 26:--). The new concept of operations placed in effect in 1987 ties Prime BEEF teams directly to deploying aircraft squadrons, giving Prime BEEF the primary beddown mission.

Mobility

Another factor which complicates a modern role definition for RED HORSE is mobility. Mobilization of RED HORSE squadrons, especially the CONUS units, has become a dilemma for today's contingency planners. The attributes which made them so successful in Vietnam -- heavy construction capability with organic convoy ability and self-sufficiency -- have made them so heavy that rapid airlift movement for support of general war is difficult.

Airlift mobility was not a critical issue for the first squadrons. They were moved by sealift to the theater. Once in theater they set up independent compounds on established bases and deployed detachments by convoy to construction sites. A successful rapid deployment to that theater was measured in months instead of the days outlined in current major theater war plans (3:--).

The first attempt to define a mobility structure for RED HORSE to achieve a rapid airlift capability came in 1972 with the publishing of AFR 93-9, Civil Engineering RED HORSE Squadrons. The original AFR 93-9 divided RED HORSE into

three echelons or Unit Type Codes (UTCs): CES-1, CES-2, and CES-3 (33:7-8). This structure has survived with little modification to this date.

The current echelon structure has never deployed as designed (19:--). The challenge is delivering a large, heavy construction and repair force in the theater of conflict in maximum speed with minimum airlift. But the smallest operational UTC -- the old CES-2 or current 93 man, 256 ton RH-2 -- requires fourteen C-141s and two C-5s with 48 hours to prepare the first aircraft load. The 800 ton RH-3 is designed for sealift and requires six days for mobilization (32:13-14). It is no wonder that the utility of CONUS RED HORSE squadrons for general war or rapid contingency response has been questioned.

The lack of mobility has received high level attention. At the conclusion of the October 1987 TAF Commanders' Conference; Generals Russ, Gregory, and Kirk wrote to General Welch:

> We are concerned that wartime heavy repair / construction capability of our RED HORSE units is seriously impaired by the lack of either timely deployment or availability of prepositioned equipment assets to satisfy mission requirements. We recognize that airlift availability will be critical in wartime and sealift will not likely be responsive to need in this mission area. . . . We request your support of this critical effort (16:--).

On the other hand, RED HORSE units have become extremely proficient in exercise and contingency support. They are experts in development and deployment of small airliftable units designed specifically for the requirements of each exercise. RED HORSE has the only prepared flyaway construction equipment sets in the CONUS. The "special capability" teams, notably aircraft arresting barriers and well drilling, have deployed frequently around the world. Since the squadrons are self-sufficient, they can support themselves and other deploying personnel for exercise and contingency deployments. Because of their proficiency and flyaway assets, planners have become reliant on RED HORSE for supporting exercises and contingencies. As a result, the CONUS squadrons support dozens of exercises a year.

The shortage of airlift and sealift assets to support a major theater war plan is well documented. The issue of "graders and dozers . . . or guns and ammo" aboard airlift and sealift resources is the concern (8:--). Because of limits on sealift and airlift, most planners doubt that the currently configured RED HORSE could respond to the major theater war plans in time to make a difference.

SUMMARY

With this historical background, the mission for RED HORSE has remained ill-defined and unquantified. As Prime BEEF has developed into a viable recovery and beddown force in the major theaters, the delineation between recovery forces and "heavy repair" forces has become less clear. A concept of operations or operational doctrine which will define a role for RED HORSE that complements the abilities of Prime BEEF recovery forces, expected Army support, and host nation support is needed. This concept of operations or operational doctrine would then be the proper basis for determining manpower and training requirements, defining the level of security and self-sufficiency necessary for today's RED HORSE.

The inability to tie RED HORSE to specific wartime requirements, the enhanced abilities of Prime BEEF, and the seemingly insurmountable mobility problems have led to questions about the continued viability of RED HORSE. The author believes that RED HORSE will become an anachronism of past conflicts without definition of a new operational doctrine. Without consensus on a consolidated operational doctrine, there is no place to start. "Sound military doctrine is a fundamental prerequisite for victory in warfare" (28:1-1). Until doctrine for application for RED HORSE is adequately developed, RED HORSE mobility configurations cannot be designed to meet the needs of the theater commanders and the national interests.

Chapter Three

MISSION

DEVELOPMENT OF DOCTRINE

The great airpower strategist, Giulio Douhet, wrote, "He who intends to build a good instrument of war must first ask himself what the next war will be like" (7:145-146).

The better the approximation of the future conflict, the better the warfighting capability of RED HORSE can be designed. However, RED HORSE is not built around a single preplanned scenario, specializing in only one theater or type of conflict. Because of real-world constraints, the current mission of RED HORSE covers the entire spectrum of conflict to respond to any national emergency.

The current mission reads:

> RED HORSE squadrons provide a highly mobile, rapidly deployable civil engineering response force that is self-sufficient for limited periods of time. They support the Air Force Civil Engineering Wartime mission as prescribed in AFR 93-10. A RED HORSE squadron:
>
> a. Performs heavy damage repair required for recovery of critical Air Force facilities and utility systems required for aircraft launch and recovery that have been subjected to enemy attack or to natural disaster.
>
> b. Accomplishes required engineering support necessary for the beddown of weapon systems, and the installation of critical utility and support systems required to initiate and sustain operations, especially in austere, bare base environments.
>
> c. Provides, in peacetime, an engineering response force that can support special operations such as an aircraft crash or a nuclear weapon accident recovery in remote areas or can operate contingency airfields or operating locations required by JCS missions.

d. Is manned, equipped, and trained to conduct heavy engineering operations as independent self-sustaining units (with resupply of consumables) in remote hostile locations (32:6).

The fact that the current mission of RED HORSE spans the range from theater warfare to peacetime contingencies causes confusion for many planners, resulting in inappropriate taskings for RED HORSE. The RED HORSE mission can be entirely different based on the level of conflict, the theater, and the nature of the operations supported.

This chapter will discuss some of the taskings and missions appropriate for RED HORSE in support of the major war plans. It will also discuss unplanned contingencies and limited conflict to explore the important role of RED HORSE. Finally, it will summarize, with some suggested mission clarifications, revisions and actions to help define an operational doctrine for RED HORSE. This doctrine will be used to develop a mission statement and mobility which complements the mission of other Air Force engineering assets.

THEATER WARFARE

The first approach to mission design is, of course, to consider worst case. By consensus of planners, worst case is RED HORSE deployment and employment in theater conventional war in Europe or Korea with possible escalation to nuclear, biological, and chemical operations. Nearly all the proposed mission statements and "concept of operations" from the theaters stress operations under direction of a regional air component commander at established MOBs or COBs, detaching units to bare or forward bases as required (23:--). A composite list of RED HORSE tasks identified by theater planners includes the following:

1. Permanent and semipermanent repair of bomb-damaged runways, taxiways, and aircraft parking aprons
2. Construction of POL and munitions storage berms
3. Restoration of war damaged facilities
4. Construction of aircraft parking aprons
5. Installation of aircraft arresting barriers
6. Erection of aircraft revetments
7. Construction of maintenance and support facilities using prefabricated or relocatable facilities in support of weapons systems beddown
8. Upgrade of utility distribution systems
9. Construction of defensive fighting positions
10. Beddown of arriving forces

(21:--; 26:--; 1:--; 25:T-2 - T-3)

By strict interpretation of AFR 93-10 and AFR 93-3, nearly all these tasks can be, or should be, performed by Prime BEEF or the Army (31:24-25;

34:A-1 - A-2). The challenge in defining a RED HORSE mission, as some commanders and planners have suggested, is to identify those locations not supported by Prime BEEF, those RED HORSE unique tasks at MOBs and COBs which complement Prime BEEF beddown and recovery responsibilities, and the level of Army and host nation support (5:--). Then the tasks for RED HORSE can be identified and quantified.

Under the new Prime BEEF deployment and employment concept, deploying flying units will have their accompanying Prime BEEF Combat Support (CS) team for immediate beddown and follow-on recovery operations (31:--). To support this concept, RED HORSE should be directed to locations for airfield upgrades where Prime BEEF cannot be deployed for engineering, logistical, or operational constraints. These locations might include bases without prepositioned recovery equipment, bases in hostile areas with limited defenses or near the edge of the battle area, damaged or limited bases where aircraft may not deploy until repairs or upgrades are made, austere locations lacking necessary infrastructure such as a water source to support deploying forces, and detached sites requiring construction or repair where Prime BEEF support would be inefficient or impossible. In these locations, RED HORSE, under direction of a regional air component commander and acting as an independent, self-sufficient, operating unit, can prepare selected bases before arrival of deploying forces. Once forces arrive with their Prime BEEF team, services support, and security forces, RED HORSE could be redirected to similar locations (5:--).

Under this arrangement, RED HORSE would convoy or use tactical airlift to move detached units from its MOB or COB headquarters to locations chosen for redeployment or mission changes. These locations might be pre-identified forward operating locations or locations like civilian airports, strips of highways and autobahn, allied bases previously destroyed in denial operations or combat, or even abandoned and denied enemy airfields. RED HORSE should be used to develop those bases in the theater which lack the basic infrastructure to support operations as outlined in the "airfield development recommendations" section of the MAJCOM engineer's airfield information folders (29:339-342).

This employment concept takes advantage of three of the characteristics that distinguish RED HORSE from Prime BEEF:

1. organic equipment with convoy capability
2. self-sufficiency, and
3. organic security capability

These characteristics give RED HORSE the ability to operate as "independent units" in remote areas and potentially hostile environments (32:--).

Another characteristic distinguishing RED HORSE from Prime BEEF is its unique special capabilities teams such as well drilling, quarry operations, explosive demolitions, and asphalt paving operations. RED HORSE could be directed to provide these services at established bases without overlapping with Prime BEEF responsibilities (32:--).

Finally, under direction of the regional air component commander, RED HORSE could be directed to MOBs or COBs to augment Prime BEEF recovery forces as heavy damage repair forces and expedient construction forces. In this role RED HORSE could be assigned heavy repair and construction missions on a project basis based on the priorities of the regional air component commander to expand air operations, enhance survivability, or restore facilities. Early missions should include pre-identified and deferred readiness projects such as constructing defenses and clearing fields of fire for security police.

An unknown factor in this concept is the level of Army and host nation engineering support. AFR 93-10 gives the Army sole responsibility for all construction, reconstruction, and replacement of facilities at Air Force bases. As mentioned in Chapter Two, history would suggest the Army is not prepared for this mission (8:--). Also, there are some construction and reconstruction tasks which common sense would dictate RED HORSE could accomplish more efficiently. These tasks, such as concrete batch operations for permanent runway repairs, are ancillary to the current heavy repair capability. A study of DODD 1315.6 and AFR 93-10 is a full research effort in itself and beyond the scope of this paper, but these issues should be reexamined so that certain airfield major reconstruction and construction tasks can be assigned to the service that can most efficiently man, train, and equip for them. The geography of the AirLand battle would suggest that the Army engineers will be engaged in their operations closer to the land battle and possibly nowhere near airfields, sometimes hundreds of miles away. This author contends that since the Air Force already trains and equips its own engineering forces for maintenance and repair of its huge pavement inventory and the Army has no similar requirement, development of a construction /reconstruction force in this area would be logical.

Host nation engineering support is another unknown. Only Germany has an agreement to support U.S. engineering needs in NATO, and the details of that support are still not clear enough to assess their impact on RED HORSE operational doctrine (8:--). These engineering inputs should be quantified before an integrated Prime BEEF/RED HORSE/Army/host nation engineering concept is developed.

Finally, the whole operational concept of RED HORSE support to theater warfare rests on speedy deployment and employment of RED HORSE's heavy construction assets in the theater. The current Civil Engineering Support Plan Generator shows a requirement for sixteen RED HORSE squadrons. Current mobility configurations do not support rapid movement of the five active, guard, and reserve CONUS squadrons. To achieve rapid deployment, most planners have concluded that theater support will rely on either RED HORSE squadrons already assigned in the theater or prepositioned assets in the theater for rapid employment of CONUS squadrons (8:--; 2:--). Chapter Four will discuss prepositioning and its ramifications.

Once in the theater, RED HORSE, used on a regional basis, can give the air component commander the agility and initiative required by current AirLand battle doctrine. Relieved of beddown tasks by an improved Prime BEEF, RED HORSE can support buildup of new locations for redeployments and expansion of

existing locations for mission changes. RED HORSE is uniquely suited to operations designed to give air component commanders the flexibility to move air assets and respond to the theater commander's requirements for tactical air support. By upgrading infrastructure in desired redeployment bases and supporting expansion of the mission at existing bases, RED HORSE can give commanders the ability to press the fight.

UNPLANNED CONTINGENCIES AND LIMITED CONFLICT

Henry Kissinger wrote:

> One of the urgent tasks of American military policy is to create a military capability which can redress the balance in limited wars. . . . Limited wars require units of high mobility. . . . The capability for rapid deployment is crucial (10:155-157).

Although the consequences of theater warfare are potentially more devastating, the United States is much more likely to become involved in conflict in "the swamps, jungles, and deserts of the Third World than the plains of Europe" (13:24).

As mentioned in Chapter Two, the major successes of RED HORSE since Vietnam have been support of unplanned contingencies and peacetime exercises providing Air Force civil engineering its only credible force for rapid projection of tactical airpower into limited conflict in austere theaters. RED HORSE has participated in many show-of-force operations such as the 1967 Korea buildup after the Pueblo incident, Proud Phantom in Egypt, and the Ahuas Tara exercise series in Honduras, demonstrating the ability to rapidly develop limited and bare base locations for tactical air operations.

In fact, the original study done for Secretary of Defense McNamara justified the formation of RED HORSE on unplanned contingencies. The original study concluded:

> When tactical forces are deployed <u>without a declaration of national emergency or war</u> [emphasis added], a quick reacting heavy repair force organic to the Air Force is essential. The original project RED HORSE was established to provide that force (30:1).

Nearly every significant civil engineering deployment or contingency since Vietnam has involved RED HORSE units in some capacity, and the history of all the squadrons is full of successes in support of contingencies (4:--).

Some planners and senior engineering leaders have recognized the importance of the RED HORSE contribution to civil engineering readiness for peacetime contingencies and limited conflict. This author believes that this important unplanned contingency response requirement is sometimes overlooked while theater plans consume attention.

RED HORSE has several advantages over Prime BEEF for use in these types of contingency deployments. Their organic equipment sets are pre-weighed and marked for airlift. They have in-house logistics plans capability to compute load plans rapidly with the Computer Assisted Load Manifesting (CALM) system. All RED HORSE personnel are mobility qualified, and since they are not assigned base maintenance functions, their deployment does not affect day-to-day base operations. Their organic assets, like vehicle maintenance, services, medical, supply and administration personnel, along with fueling, water purification, field messing, and sanitation equipment, give them practical self-sufficiency and the ability to logistically support others. Since they are all-male units, they can be deployed regardless of the threat level. Lastly, RED HORSE has built up a large base of experience in planning and executing notionally tasked missions. They deploy their equipment by airlift regularly and have developed elaborate mobility preparation systems (32:--).

Since Prime BEEF relies on construction equipment either prepositioned in theater or separately deployed, they cannot respond well to contingencies in many parts of the world. Since RED HORSE has prepared, flyaway construction equipment, they have responded many times in these situations. In these contingencies, RED HORSE usually assumes functions normally identified with Prime BEEF, such as unit beddown, instead of their traditional heavy repair/construction mission. In these austere or remote locations where Prime BEEF is inappropriate, RED HORSE accomplishes tasks such as:

1. Installation of expeditionary airfield lighting
2. Installation of expeditionary aircraft arresting systems
3. Installation of grounding points and power check pads
4. Operation of generators
5. Erection and operation of shower facilities
6. Cleaning and striping runways, taxiways, and aprons
7. Erection of Harvest Eagle and Harvest Bare assets
8. Construction of fuel berms for 50,000 gallon R-14 units
9. Water purification
10. Construction of latrines (17:12-13)

Even though RED HORSE has sucessfully deployed for many exercise and crisis taskings, it has <u>not</u> used the current mobility structure. The current RH-1, RH-2, and RH-3 mobility configuration is not responsive to these unplanned, crisis action situations. To get any beddown capability from the existing UTCs, RH-2 must be tasked, bringing along much unnecessary equipment and personnel, and requiring fourteen C-141s and two C-5s. The alternative has been to notionally task the units to develop manpower and equipment packages for each deployment. This is not possible when secrecy is required or the response is time-constrained. The crisis action planner cannot select these individual capabilities from the current War and Mobilization Plan (WMP); so, many times, when RED HORSE could be applied to a contingency, they are overlooked as "too heavy" by planners who are unfamiliar with the capabilities of RED HORSE (32:--).

Typically, when time allows, RED HORSE has been tasked based on the requirements of each exercise or contingency, and specially tailored teams and equipment packages have been organized for each deployment. Sometimes RED HORSE deploys with only a single tasking such as aircraft arresting barrier installation. This flyaway package is deployed so often that TAC has specified organization of RED HORSE "barrier teams" in TACR 400-11 (26:7-8). Some planners have suggested reconfiguration of RED HORSE into smaller "beddown teams" or task organized "force modules" built around the previously listed tasks to meet this mission requirement (17:--; 15:--). Chapter Four will discuss both of these approaches.

SUMMARY

The heavy base development requirements of theater warfare are very different from the rapid beddown mission of unplanned contingencies. While theater war will probably rely on construction assets already in theater, crisis action responses rely on organic, flyaway equipment sets. The RED HORSE mission statement should recognize the differences in appropriate RED HORSE tasks based on the theater and level of conflict. To make RED HORSE responsive to both missions, a mobility structure which is adaptable to the deliberate planning system and the crisis action system is required. Chapter Four will examine mobility configurations to meet this challenge.

In the mature theaters, the new Prime BEEF concept takes RED HORSE out of the beddown mission, putting them back in their traditional base development and heavy repair role. Planners for the deliberate plans should strategically place RED HORSE and its prepositioned assets in the theater to take advantage of its unique capabilities and complement deployed and in-place Prime BEEF forces (8:--). Projects at bases lacking necessary infrastructure for beddown should be pre-identified and deferred readiness projects at MOBs and COBs should be packaged for deploying RED HORSE squadrons.

In crisis action situations, the RED HORSE mission is usually beddown. Crisis action planners should replace Prime BEEF with RED HORSE in those rapid deployment situations where RED HORSE is more efficient. Even though this is inconsistent with current AFR 93-3 philosophy, RED HORSE can be more effective in this mission than a Prime BEEF team with an unfamiliar equipment set which is separately deployed. With an appropriate mobility structure, crisis action planners can select a RED HORSE response from the War and Mobilization Plan and the Joint Deployment System to fulfill these missions.

After Chapter Four discusses mobility structures which respond to theater plans and unplanned contingencies, Chapter Five will recommend a new mission statement which articulates the appropriate RED HORSE response based on level of conflict and a new operational doctrine.

Chapter Four

MOBILITY CONFIGURATIONS

DEVELOPING A RESPONSE

The current RED HORSE mobility configuration is a compromise designed to make a single mobility structure meet the theater warfare base development and heavy repair mission of RED HORSE while retaining a rapid beddown capability for contingencies. As pointed out in Chapter Three, the current configuration is too slow to meet the requirements of theater war plans and too big to be useful for contingencies.

The current mobility structure contains:

1. RH-1. An air-transportable RED HORSE squadron echelon (16 persons) which is prepared for deployment 12 hours after notification and is capable of performing advanced airfield surveys, site layout, and preparation for the orderly establishment and future development of a base of operations during contingencies

2. RH-2. An air-transportable RED HORSE squadron echelon (93 persons) which is prepared for deployment 48 hours after notification and is capable of performing rapid runway repair and heavy bomb damage repair, erecting basic shelters, and performing limited earthwork and light base development (such as installing aircraft arresting systems, expedient airfield matting, and essential utility systems) during the initial phase of contingencies

3. RH-3. A RED HORSE squadron echelon (295 persons) which is prepared for deployment 6 days after notification. Continental United States (CONUS) based RH-3 personnel normally deploy by air to the theater of operations where they can be joined with prepositioned RH-3 equipment. CONUS based RH-3 equipment normally moves via surface mode to the theater of operations; however, most RH-3 equipment is air transportable via C-5 aircraft. With equipment, RH-3 is capable of performing heavy repair, rapid runway repair, facility hardening, and airfield

expansion, including the erection of relocatable facilities to support contingency operations (32:6)

With the current mobility structure, it will take at least 30, and probably 90, days to get any significant earthmoving capability to the theaters (8:--). And, as mentioned before, in an unplanned contingency it takes fourteen C-141's and two C-5's to get a beddown (RH-2) team to the conflict (9:--). Neither response is satisfactory.

Hence, prepositioning is the only practical solution to rapid employment of RED HORSE in theater conventional war (8:--; 2:--). In contrast, rapidly deployable, airliftable personnel and organic equipment in smaller UTCs are the solution to contingency response (2:--; 15:--).

This chapter will explore these issues to develop an approach for designing a prepositioned package, methods for deploying RED HORSE to employ these assets, and examine two strategies for organizing smaller UTCs to give crisis action planners the ability to take advantage of the unique characteristics of RED HORSE. Finally, it will summarize and offer solutions to the very different mobility requirements of the deliberate planning process and the crisis action process. It will examine strategies to reconfigure RED HORSE to be responsive to both requirements.

PREPOSITIONING

Prepositioning has been called "the third leg of the mobility triad" (12:31). It has been applied extensively by all services to meet restrictions on airlift and sealift. For example, the Army will eventually preposition the equipment of six divisions in Europe under the Prepositioned Material Configured to Unit Sets (POMCUS) concept, and the Navy has floating prepositioned equipment at Diego Garcia for a Marine Amphibious Brigade (20:35-53).

RED HORSE already has prepositioned equipment assets in Europe at Spangdahlem AB, Germany, and Aviano AB, Italy. The partially complete RH-3 assets at Spangdahlem AB were taken from CONUS units and moved to Germany in 1981 through 1983. This set is essentially half of the large equipment of the original RH-3 and is intended to keep deployed RH-3 personnel in the central region employed until the complete assets arrive by sealift. RH-1 and RH-2 equipment for the squadrons destined to the central region is still designated for airlift from the CONUS. In addition, the tools, logistics support equipment, initial supplies, and balance of construction equipment for RH-3 are designated for movement by sealift (9:--).

The prepositioned assets at Aviano AB are a complete RH-1, RH-2, and RH-3 equipment set. These assets were placed at Aviano AB after efforts to permanently locate a squadron in the southern region collapsed. As at Spangdahlem AB, the RH-3 tools, logistics support equipment, and initial

supplies for the squadron designated for this equipment are moved from the CONUS by sealift.

Both of these situations are clearly unsatisfactory if RH-3 personnel arrive anywhere from 25 to 75 days before their tools, logistics support, and housekeeping assets. The deploying personnel would essentially be confined to developed MOBs and COBs until support and self-sufficiency assets arrive by sealift.

Several planners and senior engineering officers have advocated total prepositioning so that RED HORSE can be immediately employed (2:--; 8:--). If it is accepted as given that all construction equipment should be prepositioned, then the decisions which must be made prior to addressing the budget process for "total prepositioning" are:

1. Where to preposition?
2. How much unit support equipment and supplies to preposition?
3. Which assets will be taken from existing unit assets?
4. What personnel and facilities to support prepositioning sites are required?

Prepositioning sites should be strategically placed, close to eventual employment sites, close to the port of debarkation (POD) of arriving units, and sufficiently dispersed to prevent combat losses.

Unit support equipment includes that in Table of Allowance (TA) 429, the RED HORSE TA for shop tools and logistics support assets, and other supporting TA's for medical and communications equipment. After theater planners have developed a composite construction requirements list, these TA's should be adjusted to meet requirements. Then prepositioned TA requirements can be established. The current TA has much large industrial, floor-mounted shop tools which require a developed cantonment for use. RED HORSE and theater requirements would probably be better served by more portable equipment such as folding milvan shops and shop equipment for prepositioning.

After determining which equipment is required to meet the contingency response mission and what is required for training, the equipment available for prepositioning from existing assets can be determined.

Other factors to include in the budget process for this kind of initiative are personnel and facilities for support of prepositioning sites. Each site would need large covered storage areas for unit support equipment. Like the current sites at Spangdahlem AB and Aviano AB, personnel would include vehicle mechanics, equipment operators, and supply personnel led by an engineering officer.

The deployment strategy most often suggested for prepositioning is a single 400-man UTC divided into echelons. Depending on what assets are prepositioned, these teams might deploy with as little as mobility gear, tool boxes, and weapons, providing the fast base development and heavy repair capability sought by theater planners.

TASK ORGANIZATION

The task organization concept was developed at HQ TAC by civil engineering contingency planner, Dick Pinto. Mr. Pinto advocates development of so-called "force modules" or small flyaway teams and equipment sets designed around a single task. These teams would be extremely useful for contingency and exercise planners when RED HORSE is needed for one of its engineering specialties (15:--).

Task organization has been adopted by the Army Combat Engineers and is used for engineering functions like paving, well drilling, and quarrying. The Army calls these units Engineering Cellular Teams, and they are designed to deploy on an as-needed basis to any theater (22:30-32).

Some of the RED HORSE teams which might be useful include:

1. Arresting barrier installation team
2. Expedient airfield lighting installation team
3. Water well drilling team
4. Water purification team
5. Materials testing team
6. Airfield preparation team including obstruction clearance, sweeping, airfield marking, and static grounds
7. Explosive demolitions team
8. Mobile concrete operations team
9. Asphalt paving team
10. Field messing team with mobile kitchen, refrigeration and cooks
11. Field dispensary team
12. Airfield feasibility assessment and beddown planning team
13. Unit beddown team including erection of hardbacks, showers, latrines, and installation of power with Harvest Eagle assets

These teams could deploy separately or in combinations as required by each contingency or exercise. If these teams were described in the War and Mobility Plan and the Joint Operation Planning System database, they could be easily tasked by crisis action planners. The WMP description should explicitly state that these teams are designed for crisis action responses and are not intended for theater Oplans so that squadrons don't get fragmented.

Another approach to rapid beddown is a combination team which possesses all the capabilities to complete a generic set of beddown tasks. One attempt to design a rapid beddown team requiring the absolute minimum airlift and possessing all necessary equipment was the 1986 Relook study.

RELOOK

Relook was a test reconfiguration of RED HORSE sponsored by HQ TAC and conducted by the 823d RED HORSE at Hurlburt Field, Florida. Relook was flawed in original concept but it does have some application to crisis actions. The test ran from 1 June 1985 to 1 July 1986 and included four field tests of various test UTCs and a Relook Roundtable of RED HORSE commanders and planners (17:--). The purpose of Relook was:

> . . . to develop and test new deployment echelons for RED HORSE which would increase their flexibility, provide more responsiveness to the TAF through an increased mobility posture and the ability to conduct beddown operations at two locations simultaneously and structure RED HORSE through the year 2000 (17:1).

After testing, the 823d proposed the following UTC structure to HQ TAC based on the original guidance:

1. A lighter RH-1 with 12 personnel and 11 short tons of equipment capable of deploying in 12 hours on 1 C-130. Capabilities were the same as the original RH-1 with significant reduction in airlift. Performs advance airfield surveys, airfield feasibility analysis and Harvest Eagle beddown planning
2. A lighter, faster RH-2 with 60 personnel and 98 short tons of equipment capable of deploying in 24 hours on 7 C-141s with convoy capability or 4 C-141s without convoy equipment. Capabilities were designed around 1100-man Harvest Eagle beddown and airfield preparation for a 72 hour reception of forces at a bare base site
3. A new RH-3 composed of the remainder of the airliftable assets of the old RH-2 not necessary for Harvest Eagle beddown. Called "enhanced civil engineering support", these personnel and assets gave deployed forces a light earthmoving capability for base expansion and recovery operations. Composed of 52 personnel and 250 short tons of equipment and deployable in 48 hours in 6 C-141s and 1 C-5
4. RH-4, essentially equivalent to the old RH-3 and still requiring 6 days to mobilize for surface to port for sealift
5. RH-5, a water well drilling UTC. Relook also proposed a water locating capability as an accessory. Deployable in 36 hours on 3 C-5s (17:--)

In the author's opinion, the failure of Relook was its original mobility concept. The mobility structure was another compromise between response to crisis situations and theater warfare. Advance party engineering teams and rapid beddown teams are not appropriate for RED HORSE in major plans except possibly in immature theaters like Southwest Asia for the short term. Checkered Flag exercises, preplanning by theater MAJCOM engineers, ongoing prepositioning initiatives, and the new Prime BEEF concept have made these types of RED HORSE UTCs obsolete in theater plans. Relook also failed to

address the mobility of the heavy sealift UTCs, directing surface movement planning instead of prepositioning (17:--).

However, the Relook results did have some application for response to unplanned contingencies and limited conflict. A more rapid and lighter RH-1 was developed to conduct airfield feasibility analysis and beddown planning. A lighter RH-2 team which was completely self-sufficient and self-contained was developed entirely around an 1100-man Harvest Eagle beddown capability. It could deploy with convoy capability in seven C-141s or four C-141s without convoy equipment. Well drilling was separated as a task organized "force module" for independent deployment. All of these capabilities could be useful in contingency response, crisis action situations in undeveloped theaters.

The capabilities of these teams were validated by the headquarters TAC IG Operational Readiness Inspection of 28 March 1987 when force beddown using the Relook concept was rated outstanding and recognized as the best seen in TAC (24:--).

SUMMARY

The response to theater Oplans and unplanned contingencies requires two distinctly different mobility structures. The current structure and the Relook test initiative are unsuccessful because they attempt to combine rapid beddown contingency response capability with the heavy repair and base development capability required by theater Oplans into one configuration.

Prepositioning calls for large personnel UTCs to quickly employ prepositioned assets, whereas contingency situations require small, fast, and airliftable UTCs with organic equipment. In Chapter Five, the author will offer recommendations for a mobility organization which recognizes both of these requirements built around an operational doctrine which explicitly defines a role for RED HORSE.

Chapter Five

CONCLUSIONS AND RECOMMENDATIONS

MISSION

Operational Doctrine

In seeking an operational doctrine for RED HORSE, this author concludes that RED HORSE must not compete with the new Prime BEEF concept, but complement the abilities of Prime BEEF by providing those capabilities unique to RED HORSE. As outlined in Chapter Three, while Prime BEEF has the primary beddown mission in theater plans, RED HORSE is uniquely suited to:

1. Operate in locations where Prime BEEF would be restricted because of logistical, operational, or engineering constraints
2. Provide those special engineering capabilities unique to RED HORSE such as water well drilling, quarrying, concrete batch operations, asphalt paving, or explosive demolitions
3. Accomplish base development projects which require heavy earthmoving or other equipment intensive operations

The level of Army and host nation support to the Air Force in support to theater plans and the issue of roles and missions in construction are still unresolved. The author suggests a review of DODD 1315.6 to identify those construction tasks more efficiently performed by RED HORSE. This is especially relevant pending the 1988 reorganization of the Army Combat Engineers which will remove the paving capabilities needed by the Air Force from most battalions (22:30-32).

In addition to the theater warfare capability, the author concludes that RED HORSE should maintain a flyaway contingency response capability to perform beddown tasks in situations where it would be impractical to deploy Prime BEEF. Those situations might include:

1. Locations where there is not access to prepositioned equipment
2. Locations in a high threat area
3. Locations where infrastructure must be improved before arrival of deploying forces

With this operational doctrine, the author recommends a revision to the mission statement to clarify the appropriate tasks for RED HORSE under each deployment situation.

Mission Statement

This mission statement is a revision of a proposal developed by the author for the 1987 RED HORSE Commanders' Conference. It is an attempt to explicitly delineate the future RED HORSE mission built around a successful prepositioning effort and development of contingency response UTCs (18:--). It differs from the current mission by recognizing and distinguishing between response to theater plans and contingencies. This mission statement is designed to complement the role of Prime BEEF by the criteria discussed in Chapter Three.

RED HORSE MISSION

1. In support of theater Oplans:

   a. RED HORSE, operating from one central location under direction of the theater air component commander, provides expedient construction and base development with theater prepositioned equipment assets specifically identified for RED HORSE. They operate throughout a specified region to support requirements generated by war damage, mission changes, and unit moves.

   b. RED HORSE conducts special engineering operations beyond the organic capabilities of Prime BEEF to correct theater facility shortfalls to include ramp expansion, water well drilling, expedient lighting and barriers, erection of theater expedient facilities and defenses, explosive demolitions and land clearing.

   c. Detaching independent combat units outside established airfields, RED HORSE restores denied, abandoned, or war damaged airfields for air operations; assists the Army, Navy, and friendly forces as required in opening ground transportation such as railroads and highways essential to air operations; provides for engineering requirements of detached Air Force components such as communications sites, second echelon hospital sites, POL sites, and power generation sites; assists Army, Navy, and friendly forces in maintenance and restoration of civil and military infrastructure such as electrical distribution, water distribution and fuel pipelines which support air operations.

   d. In prolonged combat, RED HORSE operates detached engineering support facilities such as quarries, sawmills, and concrete batch plants; constructs facilities for continued operations; improves infrastructure for continued operations.

2. In support of contingencies:

   a. In remote theaters with no prepositioned equipment, RED HORSE, with organic flyaway equipment, provides rapid beddown of

tactical forces including airfield upgrades such as lights, arresting barriers, airfield markings, bivouac facilities for arriving forces, and expedient logistics facilities such as POL and ammo storage berms. This ability is especially appropriate for rapid show-of-force response in remote locations.

b. RED HORSE supports tactical forces for special operations or limited, low-intensity conflicts where Prime BEEF would be restricted by operational, logistical, or engineering constraints.

MOBILITY CONFIGURATIONS

Dual Structure Concept

Based on this study, the author also concludes that for RED HORSE to satisfy the mission requirements of both the theater Oplans and the contingency response mission, it must be organized with two separate mobility configurations. Air staff planners also recommended this in 1985 in their Relook comments to HQ TAC (27:--). With prepositioning, an organization with one, primarily personnel, UTC divided into deployment echelons to control reception at the port of debarkation would be most appropriate (2:--). In a contingency or crisis planning situation, small beddown or task organized UTCs with organic equipment are most appropriate.

Therefore, the author recommends a dual mobility structure for the CONUS squadrons. Along with the equipment prepositioning initiative, a lightly equipped, total unit personnel UTC should be developed to marry with the prepositioned assets. A separate set of organically equipped UTCs should be described in the War and Mobility Plan and Joint Deployment System for contingency response. These UTCs should be developed to support commonly tasked engineering capabilities as described in Chapter Four. The WMP description of these UTCs must state that they are only for crisis action situations to avoid confusion among theater planners.

Prepositioning

The author recommends that prepositioning be thoroughly analyzed to avoid the mistakes outlined in Chapter Four. As mentioned in Chapter Four, prepositioning of construction equipment by itself will not ensure rapid employment of RED HORSE forces. Prepositioning initiatives must examine the requirements for heavy shop and logistics equipment, self-sufficiency assets, and large tools. Also prepositioning sites must be strategically placed in relationship to port of debarkation and employment sites.

LIMITATIONS OF THIS RESEARCH

This study did not address the obvious budgetary and political issues which will surround a prepositioning initiative. Prepositioning has been estimated to cost up to $35 million (8:--). This author believes the cost will be higher if the TA 429 assets, facilities, and personnel costs are included.

Prepositioning is at least one POM cycle in the future. This study did not address any solutions for RED HORSE mobility shortfalls in the interim. Until prepositioning is successful, CONUS RED HORSE squadrons will be reliant on sealift. Unless some creative options are found to re-direct engineering assets already in the theaters (such as those at closing GLCM sites or other excess equipment) then CONUS RED HORSE squadrons will remain slow and heavy.

Also not addressed in this study is an examination of force structure to assure RED HORSE is manned, trained, and equipped to meet the expected tasks. Before a prepositioned equipment buy is executed, the utility of each piece should be evaluated based on theater engineering needs. Meanwhile, manning needs to be examined based on the expected mission.

The TAF RED HORSE Steering Committee has identified these and other issues and will be developing strategies and solutions for improving RED HORSE (6:--). This author believes that careful planning and strong direction can get RED HORSE to the war on time.

BIBLIOGRAPHY

REFERENCES CITED

1. Air Force Engineering and Services Center. "Minutes of the RED HORSE Commanders' Conference on 13-15 Apr 87," letter. HQ AFESC/DEO, Tyndall AFB, FL, 5 June 1987.

2. Air Force Engineering and Services Center. "Minutes of the RED HORSE Concept of Operations Planning Meeting," letter. HQ AFESC/DEO, Tyndall AFB, FL, 18 August 1987.

3. Air Force Institute of Technology, Civil Engineering School. RED HORSE in Southeast Asia, 1965-1967. Interim Report, Wright-Patterson AFB, OH, May 1969.

4. Bohlen, George A., Colonel, USAF. "USAF Engineer Heavy Repair/Troop Construction Capability." Unpublished research report No. 9, Air War College, Maxwell AFB, AL, 1977.

5. Cirillo, Francis A., Lt Colonel, USAF. 823d CES(HR)/CC. "October 86 RED HORSE Commander's Conference Action Item 86-17," letter to HQ TAC/DED. Hurlburt Field, FL, 30 January 1987.

6. Courter, Robert J., Colonel, USAF. HQ TAC/DED. "RED HORSE Issues," draft charter for the TAF RED HORSE Steering Committee, letter to HQ USAFE/DEM and HQ PACAF/DEO. Langley AFB, VA, 13 November 1987.

7. Douhet, Guillo. The Command of the Air. translation by the Office of Air Force History, Washington, DC, 1983.

8. Goodwin, Roy M., BGen, USAF. DCS Engineering and Services, HQ TAC. "RED HORSE: Capabilities and Wartime Support," Briefing presented to the fall TAF Commanders' Conference. Nellis AFB, NV, October 1987.

9. Headquarters 823 Civil Engineering Squadron (Heavy Repair), Logistics Plans Section. LOGMOD B, Contingency Operation/Mobility Planning and Execution (COMPES) Listing. Hurlburt Field, FL, 16 July 1987.

10. Kissinger, Henry A. Nuclear Weapons and Foreign Policy. New York: Harper Brothers, 1957.

11. Korzep, David A., Lt Colonel, USAF. "The Changing Role of RED HORSE." Unpublished research report No. 5662, Air War College, Maxwell AFB, AL, 1975.

CONTINUED

12. Lesser, Ian O. "Mobility Triad." Royal United Services Institute for Defense Studies, March 1986, pp. 31-35.

13. Livingstone, Neil C. "Fighting Terrorism and 'Dirty Little Wars'." Low Intensity Conflict, the Hidden Challenge, text, Air Command and Staff College, Air University, Maxwell AFB, AL, August 1987.

14. Moore, John L., Major, USAF. "How to Employ RED HORSE in the CONUS." Air Force Civil Engineer, August 1972, pp. 2-5, 13.

15. Pinto, Richard, GS-11, USAF. Contingency Planner, HQ TAC/DED. Personal interviews. Langley AFB, VA, November 1986.

16. Russ, Robert D., General, USAF, et al. Commander, Tactical Air Command, Langley AFB, VA. Message to General Welch, 19 October 1987.

17. Ryburn, James T., Captain, USAF, and Decker, William G., Lt, USAF. 823 CES(HR)/DO. "RED HORSE Relook." Unpublished Report, 823 Civil Engineering Squadron (Heavy Repair), Hurlburt Field, FL, 31 July 1986.

18. Ryburn, James T., Major, USAF. "Roles and Missions of RED HORSE," talking paper presented to the 12-16 October 1987 RED HORSE Commanders' Conference. 823 CES(HR)/DO, Hurlburt Field, FL, 22 June 1987.

19. Schaal, William L., Lt Colonel, USAF. 823 CES(HR)/CD. Telecon. Hurlburt Field, FL, 15 December 1987.

20. Sharkey, William J., Jr. "Airlift, Sealift, and Prepositioning: How Are We Doing in These Areas?" Defense Transportation Journal, Volume 40, No. 6, pp. 35-53, December 1984.

21. Shirley, Henry G., Colonel, USAF. HQ USAFE/DEM. "RED HORSE Theater Employment Requirements," letter. Ramstein AB, Germany, 5 July 1985.

22. Steiniger, Steven R., Captain, USA. "Engineer Cellular Teams." The Engineer, Volume 17, pp. 30-32, US Army Engineer Center, Ft Belvoir, VA.

23. Tactical Air Command. "RED HORSE Concept of Contingency Operations," talking paper presented to the 10-12 September 1985 RED HORSE Commanders' Conference by HQ TAC/DED. 820 CES(HR), Nellis AFB, NV, 11 September 1985.

24. Tactical Air Command. "Operational Readiness Inspection Report, 823 CES(HR)." Project T7-1003A, Hurlburt Field, FL: HQ TAC/IG, 20-28 March 1987.

25. Tactical Air Command. RED HORSE Deployments. COMTAC DPlan 62, Langley AFB, VA: HQ TAC/DE, 1 June 1983.

26. Tactical Air Command. Administrative and Logistics Instructions for Operations Plans and Orders. TAC Regulation 400-11. Langley AFB, VA: HQ TAC/LG, 24 October 1986.

27. US Department of the Air Force. Director of Engineering and Services. "RED HORSE Relook Roundtable, 30-31 Jan 86," message to HQ TAC/DED. HQ USAF/LEEX, Washington, DC, 28 January 1986.

28. US Department of the Air Force. United States Air Force Basic Doctrine. AF Manual 1-1. Washington DC, 16 March 1984.

29. US Department of the Air Force. USAF Operation Planning Process. AF Regulation 28-3. Washington, DC: HQ USAF/XOXIC, 30 June 1986.

30. US Department of the Air Force. Project RED HORSE. AF Regulation 88-25 (Obsolete). Washington, DC: HQ USAF/AFOCE, 27 November 1967.

31. US Department of the Air Force. Civil Engineering Prime BEEF Program. AF Regulation 93-3. Washington, DC: HQ USAF/LEE, 20 November 1987.

32. US Department of the Air Force. Civil Engineering RED HORSE Squadrons. AF Regulation 93-9. Washington, DC: HQ USAF/LEE, 15 April 1983.

33. US Department of the Air Force. Civil Engineering RED HORSE Squadrons. AF Regulation 93-9 (Obsolete). Washington, DC: HQ USAF/LEE, 13 March 1972.

34. US Department of the Air Force. Troop Construction and Engineering Support of the Air Force Overseas. AF Regulation 93-10. Washington, DC: HQ USAF/LEE, May 1979.