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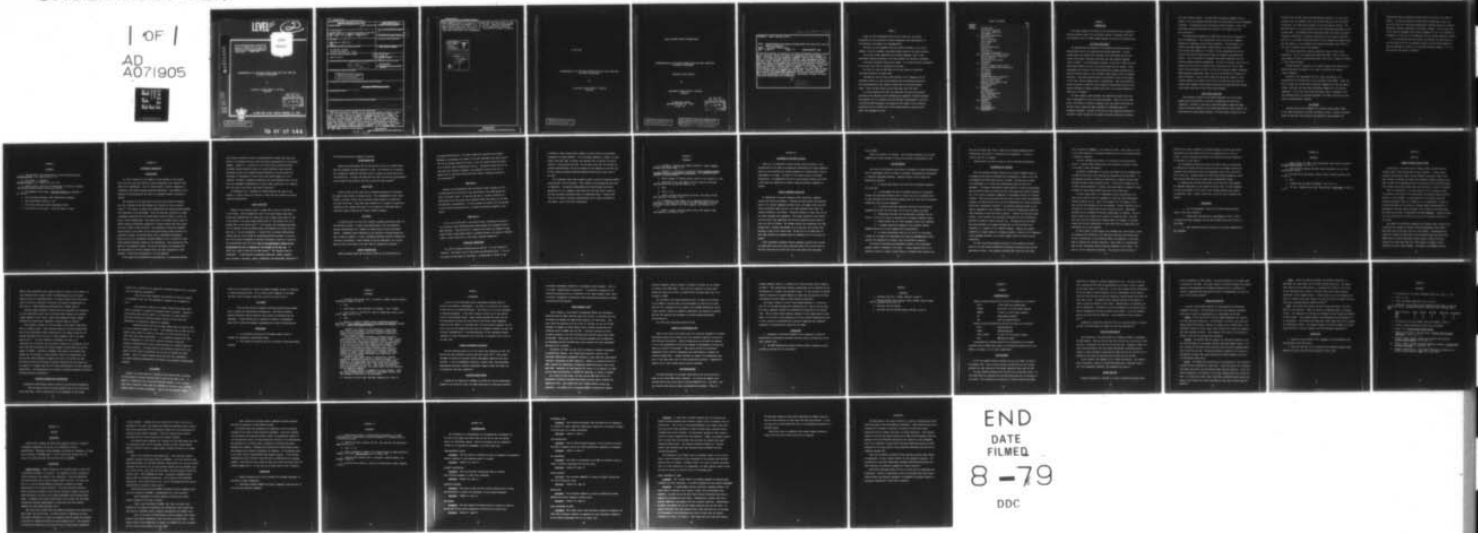
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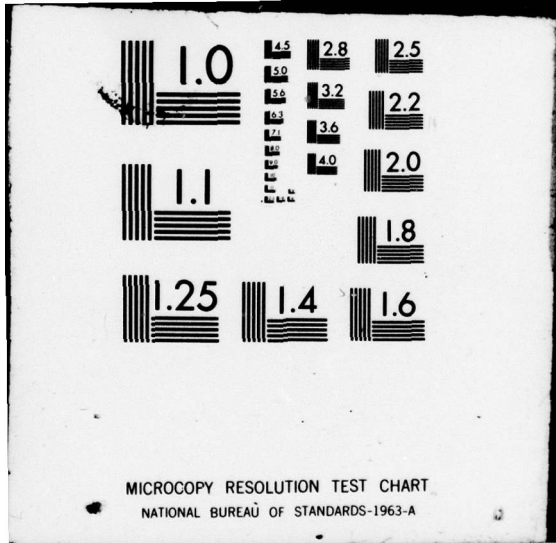
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11 MAY 1979



INTEROPERABILITY OF AVIATION SYSTEMS WITHIN THE TOTAL FORCE AND ITS EFFECT ON READINESS

by

Lieutenant Colonel Robert C. Watling
Infantry

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) INTEROPERABILITY OF AVIATION SYSTEMS WITHIN THE TOTAL FORCE AND ITS EFFECT ON READINESS		5. TYPE OF REPORT & PERIOD COVERED <i>Study project</i>
7. AUTHOR(s) Robert C. Watling		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS US Army War College Carlisle Barracks, PA 17013		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Same as Item 9		12. REPORT DATE 11 May 79
		13. NUMBER OF PAGES 44
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) 12 49 p		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) <div style="border: 1px solid black; padding: 5px; display: inline-block;">Approved for public release; distribution unlimited.</div>		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) <i>NATO and NATO's ability</i>		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The basic question is whether or not attack helicopters assigned to units of the strategic reserve are capable of performing anti-armor support to NATO. The status of units assigned to USAREUR, active units in CONUS, and units of the Army National Guard was examined. Data was gathered using a literary search, personal interviews, and observation of units. The growing armor threat of the Warsaw Pact presents an unprecedented challenge to NATO. The ability of NATO to respond is repeatedly questioned. The attack helicopter provides a primary means of response. It is concluded that		

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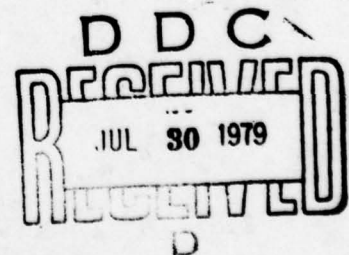
INTEROPERABILITY OF AVIATION SYSTEMS WITHIN THE TOTAL FORCE AND
ITS EFFECT ON READINESS

INDIVIDUAL STUDY PROJECT

by

Lieutenant Colonel Robert C. Watling
Infantry

US Army War College
Carlisle Barracks, PA 17013
11 May 1979



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NATO and NATO's ability

AUTHOR(S): Robert Watling, LTC IN

TITLE: Interoperability of Aviation Systems Within the Total Force and its
Affect on Readiness

FORMAT: Individual Study Project

DATE: 11 May 79

PAGES: 41

CLASSIFICATION: None

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PREFACE

There are four assumptions which form the basis for this study. Recognition of and acceptance of these assumptions adds significantly to the findings, conclusions, and recommendations.

The first is the assumption that the attack helicopter is one of the primary, if not the primary, anti-armor weapon system in the army inventory.

The second is that mobilization of reserve component units in any foreseeable European scenario is not only probable but virtually inevitable.

The third necessarily follows the second. It is that the rapid integration of the total force will be necessary for success.

The fourth is that the TOW Cobra is the only effective helicopter anti-armor system in the army today.

Although the scope of this study extended to all components of the strategic reserve, it soon became apparent that the problems associated with interoperability were largely concentrated in the Army National Guard. Hence the main thrust of the study deals with this area.

It became apparent also that the study must deal with the problems associated with mobilized units deploying with equipment currently assigned. This appears to be in conflict with the current "non-deployable" status of the UH1M and OH6 helicopter, but pursuit of this aspect of the study was prosecuted out of a belief that if the balloon goes up, each unit will march with equipment on hand.

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CHAPTER I

INTRODUCTION

This paper examines the ability of the aircraft and crews assigned to attack helicopter units of the strategic reserve to integrate with first line deployed units in a NATO defense against an attack by the Warsaw Pact.

THE ATTACK HELICOPTER

The organization and doctrine of the Warsaw Pact forces present an unprecedented need for an improved tank killing capability. In East Germany alone the Soviets have stationed three tank armies and two motorized rifle armies including 7,000 tanks and 2350 infantry fighting vehicles (BMP).¹ In any foreseeable scenario, the ability of NATO to attrit enemy armor forward of and at the covering force area is crucial. After determining the location of the main penetration, weapons systems must be deployed rapidly forward to and laterally along forward lines to blocking positions. Anti-armor missiles must be positioned to fire on the flanks of the first echelon columns prior to exploitation. Then the possibility exists of having to defend in sector against second echelon forces by the further shifting of weapons systems until units can be moved laterally to block and to reinforce.

No other organic system provides the flexibility required for this kind of deployment as does the attack helicopter. There is, in the AH1S Cobra, the ability to retard, or perhaps stop, the enemy's lead tank and ZSU-23-4 force, making the BMPs vulnerable to defending tanks and mechanized infantry. Because of the need for this capability provided by the AH1S, a major increase in the number of attack helicopters in Europe

will soon become a reality. Two anti-armor helicopter companies will be organic to the new aviation battalion which is being formed in each of USAREURs divisions. As additional attack helicopters become available, corps level anti-armor helicopter battalions are forecast to be brought into the force structure.²

The tank killing capability of NATO forces will also be enhanced by the A-10 Thunderbolt. The introduction of the A-10 will not, however, diminish the importance of the attack helicopter. The helicopter, as a vehicle has unique capabilities, highly suited to an army operation, particularly when manned by a "soldier" crew who understand the sort of tactics used by both ground and air forces to operate successfully and survive. The A-10 presents a formidable anti-armor capability with its depleted uranium penetrator ammunition. The fact is, however, that the A-10 simply will not be able to realistically come down to the "on the deck" world of the helicopter of 100 ft or less AGL in adverse weather conditions. USAFE peacetime operational limits for the A-10 are 1000 ft ceiling and 2 miles visibility.³ Even if these limits are halved for combat it still severely inhibits the ability of the A-10 to provide the real close air support which demands visual target acquisition and maneuverability beneath cloud layers which may be below fixed wing minimums.

TOTAL FORCE CAPABILITY

The increased reliance on the attack helicopter as an anti-armor weapon system necessitates a need for an examination of total force capability. Currently, total force (including reserve components) Army aviation provides firepower via the UH1B armed with M22 (SS11) missile; the UH1M armed with 40mm grenade launcher, 2.75 inch rocket launcher and 7.62

Automatic Gun; the AH1G armed with 40mm grenade launcher, 2.75 inch rocket launcher, and 7.62 Automatic Gun⁴; and the AH1S armed with the 20 or 30mm Gatling Gun, 2.75 inch rocket launcher, and the TOW Missile system⁵. The AH1S TOW Cobra is the only effective anti-tank helicopter operational in the US Army today. The Advanced Attack Helicopter (AAH) will provide increased firepower, flexibility, increased survivability, an all weather operation, and will be armed with the Hellfire missile as the primary anti-armor system. The AAH, however, is not scheduled for initial procurement until FY81 and will not be fielded prior to the mid-80s.⁶

The current army force structure requires a total of 1541 attack helicopters. Now in the inventory are about 400 AH1Ss. There is also an equal number of older, non-TOW-firing AH1Gs, which will be replaced by AH1S's as they become available.

Already deployed in Europe are 230 AH1Ss⁷ equipped with TOW missiles. These helicopters are organic to all types of divisions and armored cavalry regiments.

Included in the requirement for 1541 attack helicopters is an authorization for 369 AH1Ss for the Army National Guard (ARNG). These 369 AH1Ss, organic to twelve attack helicopter companies and nine air cavalry troops, constitute the only attack helicopter capability in the reserve components. 24% of the total attack helicopter force is assigned to the Army National Guard, the aircraft assigned to the ARNG constitute the most serious interoperability problem.

THE DILEMMA

National Guard attack companies are currently flying UH1Bs, UH1Ms as the armed helicopters, and OH6s and OH58s as scouts. Because the UH1Bs, UH1Ms and OH6s have been declared non-deployable, Guard planners for

mobilization face a perplexing dilemma beyond the ability of the Guard to resolve. If current aircraft are issued after mobilization occurs, the units are faced with virtually insurmountable training problems in aircraft transition, gunnery, maintenance, and supply stockage. On the other hand, if the obsolete equipment does in fact accompany the unit to its theater of deployment, it will not be interoperable with the systems existing in Europe.

It is self evident that the ability to integrate the Guard units, as well as active units of the strategic reserve, into the NATO scenario as early as possible is critical to a successful European defense. It is to that end that this paper is dedicated.

CHAPTER I

FOOTNOTES

1. John Erickson, "The Ground Forces in Soviet Military Review," Strategic Review, Vol 6, Winter 1978, p. 71.
2. Gen George S. Blanchard
Strategic Review, Vol 5, Winter 1977, pp. 7-13.
3. Charles Gilson, "Can the A-10 Thunderbolt II Survive in Europe," International Defense Review, 2-1979, pp. 184-187.
4. US Department of the Army. Training Circular 1-4, Appendix C, pp. 164-165.
5. Bell Helicopter Brochure, "AH1S Modernization Program."
6. DOD Annual Report, FY1979, p. 147.
7. 105 in each corps and twenty maintenance floats.
8. 12 Atk Hel Cos of 21 each. 13 Air Cav Trps of 9 each.

CHAPTER II

HISTORICAL PERSPECTIVE

MOBILIZATION

If a war in Europe is to be fought, as was Vietnam, by the regular army with only token help from the reserve components, this research loses much of its significance. But if a mobilization of reserve components is inevitable, the problem becomes extremely significant. How probable is the prospect of mobilization in the event of a European conflict involving US forces?

The Secretary of the Army said in his most recent posture statement that the "strategy of our NATO defense will continue to rely on reserve forces."¹ The absence of large scale mobilization for Vietnam notwithstanding, this represents no new philosophy. Since the American revolution it became a foregone conclusion that the United States could not afford, nor did she want, a large standing army. Wars would have to be fought using a cadre of highly trained professionals augmented by citizen soldiers who would answer the call to arms in time of crises. The statement by Secretary Alexander served notice to the nation that if the United States becomes involved in a land war in Europe, the reserve forces will be mobilized and deployed. There will not be a "political" decision whether or not to mobilize as that which agonized President Johnson in the mid-sixties. That decision has been made by a chronology of events. The end of the draft, the dwindling IRR, the uncertainty of the all volunteer force, all have contributed to that decision. There are no alternatives. We will mobilize.

If we accept the inevitability of mobilization, it necessarily follows

that serious attention be paid to interoperability between those units and forces to be mobilized and the units and forces representative of the gaining command. Colonel R. C. Rainville of the United States Army War College Strategic Studies Institute stated in a recent Military Issues Research Memorandum entitled The changing Military Equation in Central Europe the following "In deployable US Active Force units which depend on reserve component 'roundout', readiness disparities with the affiliated units are the norm, and equipment standardization of major combat end-items is not complete for like units in the active and reserve structure."²

As alarming as this statement by Colonel Rainville may seem on the surface, it should come as no surprise to those who have studied our nations previous mobilizations.

LOOK TO THE PAST

History is an excellent place to search for a clue as to what may occur in the future. Walter Lippman once said "We can most nearly judge what a nation will probably want by seeing what, over a fairly long period of time it has wanted; we can most nearly predict what it (the nation) will do by knowing what it has usually done."³ If we accept this assessment and apply it to a forecast of how the United States will mobilize its forces for the next war, it is not encouraging. A cursory look at previous mobilizations reveals that our track record for correcting previous mistakes is not good. One of the truisms recognized by military historians is that in a review of all mobilizations from 1775-1945; most of the mobilization lessons of the Revolutionary War are as immediate as the lessons of the last war. In actual fact, many of them are the same lessons.⁴ The inferred lesson is inescapable: "A mobilization accomplished during war, without adequate prior planning is wasteful, clumsy, inefficient, and potentially disastrous."⁵

The following historical examples illustrate.

REVOLUTIONARY WAR

During the Revolutionary War the militia was called up to fight before arms and equipment was made available to them. The colonies in no instance had accumulated sufficient military stores to supply the forces which they were mobilizing. The first men mobilized had their own arms and accoutrements, their uniforms being whatever they had on when the alarm sounded.⁶

WAR OF 1812

During the War of 1812 there was no adequate planning for procurement and supply either before or during the war. The recommendation of Mr. Henry Foxhall, Secretary of War, that a national cannon foundry be constructed was never acted upon. There were some contracts let to supply the army with clothing but the contract was based on an estimate of a peacetime army of 5,000 men; hardly sufficient for several hundred thousand.

CIVIL WAR

In mobilizing for the Civil War, popular thinking concentrated first on the raising of troops. In 1861 troop mobilization so far out-distanced material mobilization as to "impair the effectiveness of the whole undertaking." Commanders found themselves in the position of having nothing but men; no arms or supplies. In fact, following President Lincoln's request for volunteers and militia, a major problem of the War Department, was to hold down the size of the army to one that could be supplied and equipped.⁷

SPANISH AMERICAN WAR

Supply shortages again had an adverse affect on the mobilization for

the Spanish American War. The Dodge Commission, appointed by President McKinley to investigate the conduct of the War Department with Spain stated "One of the lessons taught by the war is that the country should hereafter be in a better state of preparation for war. Especially should this be the case with such supplies, equipment, and ordinance stores as one not in general use in the United States and which cannot be rapidly obtained on the open market."⁸

WORLD WAR I

Because of the mobilization for the Mexican Border incident in 1915, the mobilization for World War I was spared many of the embarrassing pitfalls of previous times. We had had, for once, a utopian situation; an opportunity for a full scale dress rehearsal which had pointed up the need for important reorganization. It also provided the impetus for the passing of much needed legislation prior to sending any American doughboys "over there."

WORLD WAR II

On the eve of World War II the United States, following its practice as in previous wars, mobilized troops before weapons and equipment could be made available. Many World War II veterans alive today can remember having wooden rifles, using wooden stakes to simulate mortars, and having to simulate tanks by using trucks and, in some cases, private automobiles.⁹

HISTORICAL CONCLUSIONS

The list of repeated mistakes goes on and on. It is not limited to logistics. The same is true of just about any functional area. It is not the intent of this paper to find fault. If blame must be fixed it must

be found in a free society which refuses to think of war as an inevitable consequence of human behavior. In our national eagerness to forget, we have failed, and still fail, to muster the national will to provide for future conflict. This we must live with. We can never solve all the problems of previous mobilizations, nor can we foresee all the problems of the next one. We can, however, minimize potential problems better than we have done in the past.

It is essential that every attempt be made to seek out potential problem areas and get a fix on them now. Never before in our history has this been so imperative. In previous mobilizations the United States has had an opportunity to, as a minimum, trade space for time with which to gear up and make necessary adjustments prior to committing forces. Because this time can no longer be assured, problem areas such as those identified in this paper, take on increased significance.

CHAPTER II

FOOTNOTES

1. Clifford L. Alexander and General Bernard W. Rogers, Service Posture State (FY79) Army, p. 18.
2. Colonel R. C. Rainville, US Army War College Strategic Studies Institute Military Issues Research Memorandum, "The Changing Military Equation in Central Europe".
3. Walter Lippman, US Foreign Policy, Shield of the Republic, p. 138.
4. Department of the Army Pamphlet 20-212, History of Military Mobilization in the US Army 1775-1945, p. 22.
5. Ibid.
6. Ibid., p. 18.
7. James A. Huston, Army Historical Series, "The Sinews of War; Army Logistics 1775-1953, p. 161.
8. US Congress, Senate Report of the Commission Appointed by the President to Investigate the Conduct of the War Department in the War With Spain, Senate Document 221, 56th Congress, 1st Session, Vol 1, p. 114.
9. James A. Huston, Army Historical Series, "The Sinews of War: Army Logistics 1775-1953, p. 455.

CHAPTER III

ASSESSMENT OF EXISTING POLICIES

There are two Department of Army policies which contribute to the delima faced by the Guard in planning for mobilization of Attack Companies. These are the declaration of certain equipment as "non-deployable" when no replacement is in sight. The other is the current policy of aircraft distribution. An examination of each of these policies follows, but first a word about the capability of reserve component aviation companies in general.

RESERVE COMPONENT CAPABILITY

An examination of reserve component attack helicopter companies reveals both pluses and minuses. Although the same general catorizations apply to all reserve component aviation units, this paper deals only with attack helicopters which are all in the Army National Guard, hence the singular reference to the Guard. Personnel assigned to these units are by and large extremely well qualified. Over eighty percent of the aviators have had active duty experience with the vast majority having served at least one tour in Vietnam. The average aviator has accumulated over 2500 flying hours. Aviation maintenance is on a par with, and in many cases superior to that of the active army. The OR rate of the ARNG fleet of over 2500 aircraft has remained above DA standards for 37 of the past 38 months.¹

From a personnel standpoint reserve component aviation units across the board could take their place along side units of the active force in far less time then that called for by the time phase force deployment

lists (TDFDL).

There are, however, the minuses. Most aircraft assigned to the attack companies are either obsolete or have been declared non-deployable by DA.

NON DEPLOYABLES

The policy of declaring certain items of equipment as being non-deployable when no replacement item is in sight or timetable established for replacement is adversely affecting readiness. Negative aspects of this policy are addressed as follows.

1. It raises false hopes in the unit that replacement equipment is on the way.
2. It discourages the type of training required for deployment because the prevailing attitude turns to "whats the use of performing this or that training task with obsolete equipment when the same task is performed differently using current equipment."
3. It detracts from that important motivation for maintaining equipment with which the unit knows it will have to deploy and fight.
4. Requisitions for parts for non-deployable equipment are not likely to receive the priority necessary for the highest readiness status.
5. TRADOC schools for the older equipment receive less emphasis.
6. It signals logistical commands in the potential gaining command theater not to stock supplies for non-deployables.
7. It signals maintenance units at all levels in the gaining command not to prepare for maintenance and repair of non-deployables which includes the acquisition of special tools and qualified mechanics.

The policy of declaring non-deployables without a firm replacement schedule causes a breakdown in all areas. A better approach would be to declare an intent to replace certain items on a proposed time schedule, but

that the unit might well have to deploy with existing equipment should mobilization occur prior to receiving the new equipment. In short, a "come as you are" philosophy.

Another policy in need of review is that of aircraft distribution.

DISTRIBUTION OF AIRCRAFT

With the increased reliance placed on the reserve component units, it is imperative that they be provided every opportunity to train on the type of equipment with which they may have to fight. The best way to assure this opportunity is to revise the distribution system of first line equipment. The present distribution system seems to be born of a philosophy ages old which insures the filling of all active army units before assigning any to the reserve components regardless of deployment priority or strategic location. While the active army units all have current, first-line equipment assigned, the ARNG has only 3% of its TOE authorization for attack helicopters filled with "deployable" aircraft.² The training problems created in the reserve components by this disparity are virtually insurmountable given the time constraints of the most likely scenario. Therein lies the crux of the problem. Until recently the philosophy surrounding the next mobilization was that it would be "come as you are" war. Although this was obviously less than desirable, the support packages for the older aircraft were scheduled, or assumed to be in theater stockage. Because this support capability no longer exists in a European scenario, training of all components on the equipment forecast to be used in theater takes on new and crucial proportions.

The only relief being offered currently is the obtaining of school quotas to the AH1 aviator qualification transition training course and AH1 maintenance courses. New equipment training (NET) teams are also being

sent in isolated instances at the request of units. While this is a step in the right direction it represents tokenism and is not satisfactory from a readiness standpoint.

The only satisfactory solution is a revision of the distribution system. Currently ARNG aviation units are scheduled to receive 21 AH1Gs in the FY80 to FY82 time frame.³

According to Department of the Army, more AH1Ss will be earmarked for the ARNG as the AH-64s start entering the inventory in the mid 1980s.⁴ In the meantime the Army is taking two initiatives to improve the near term readiness of ARNG attack helicopter units. First is the issuance of the 21 AH1Ss already mentioned. Secondly, and concurrently, a program is being developed to train selected ARNG units with active army units.

A better system would be to immediately insure distribution of at least one of each new piece of equipment to each unit whose mobilization mission required its use. Only in this manner will all members of the unit receive the advantage of the new equipment. Aviator transition can be initiated on an on going basis by unit instructor pilots. Maintenance personnel can be learning the systems through hands on training. The unit supply system can be geared up to support the logistics load. Not only does this give the aviation unit valuable hands on training, it provides ground units with an opportunity to learn first hand the capabilities and limitations of the new equipment.

At first glance it would appear that although this system would do more for enhancing the readiness of the ARNG units than any other method short of full distribution, it may adversely affect the readiness of the active army by reducing its training capability. While this is a consideration, fear of this eventuality should be quickly dispelled on two counts. The first is one of comparative advantage. The second is that the lack of

ability of the army to graduate the required number of aviators has caused speculation that some AH1Ss will have to be mothballed due to lack of crews:⁵ Aviator shortages may relegate the feared active army degradation of training to a mute point.⁶

The recommended distribution called for herein could be accomplished by drawing one aircraft from each active unit of the strategic reserve and assigning them temporarily until each appropriate unit in the total force had at least one. Another would be to draw from aircraft assigned to other than tactical TOE units each as those used as maintenance floats. B

By adopting this distribution system, 24% of the force could prepare for immediate deployment to any theater in either "new" or "old" equipment. It would also prepare to fill active units already deployed with current and qualified crews. Surely a small price to pay for such a quantum leap forward.

CONCLUSIONS

1. The "non-deployment" status of the UH1M and OH6 adversely affects total force readiness.
2. Planned AH1S distribution is shortsighted in that it fails to provide any newer equipment for over 80% of ARNG units until the mid to late 1980s.
3. That readiness objectives could be met without degradation of any component.

CHAPTER III

FOOTNOTES

1. Emmett Walker, BG, ARNG, "The Army National Guard Aviation Program", US Army Aviation Digest, Oct 78, p. 6.

2. ARNG currently assigned ten AH1G attack helicopters out of a TOE authorization of 369.

3. Interview with John Stanko, Colonel, Chief, Aviation Division, NGB, 12 Mar 79.

4. Ibid.

5. Aviation Week and Space Technology, 3 Jul 78, p. 11.

6. Jim Tice, "Expanded Army Copter Training Axed", Army Times, 26 Mar 79, p. 23.

CHAPTER IV

LOGISTICS

CURRENT EUROPEAN SUPPLY SYSTEM

Theoretically, the introduction of UH1Bs, UH1Ms, and OH6s into the European supply system should pose no major problems. A finely tuned, automated system should simply require adding the necessary lines to the PLLs and ASLs, accepting the demand data experience already existing in the ARNG, increase by an appropriate factor to provide for the increased flying hour program, and process requisitions with virtually no delay or confusion.

That is theoretically. In actual practice it is a different story. If logistics is the sinew of the army muscle, the aviation supply system in Europe is a torn ligament. So many faceted is the current system and associated problems, that it is difficult, if not impossible, to make an accurate assessment of its ability to support combat operations. That is particularly true when combat stockages will be based on 100 flying hours per month per aircraft, an approximate sevenfold increase. Current OR rates are being maintained only because of the age old "scrounge" practices at user level.

One example of deficiencies plaguing the European supply system is the critically low stockage of Aviation Intensive Management Items (AIMI).¹ Many AIMI items are and have been at a zero balance. Exacerbating the problem of stockage of AIMI items is the excessive order ship times from CONUS depots for those requisitions which cannot be filled in Europe. Currently the order ship time for a Cobra engine is running 57 days. Problems also exist within USAREUR. According to the USAREUR Aviation

Officer some requisitions have taken as long as 43 days to leave Europe. He also estimates that as many as 50% of all requisitions are lost within Europe and are not heard from again. He further stated that if war should come, he would put personnel on aircraft with stacks of requisitions to take direct to CONUS bypassing everything short of CONUS depots.²

Aviation supply problems in Europe have been identified and correction of those deficiencies which can be resolved within theater are receiving command emphasis at all levels. Where shortcomings are found, General Blanchard has ordered that "immediate" steps be taken to correct.³

This research, however, is not an attempt to fix blame or find fault with an existing system. Other excellent objective critical analysis' have been written amplifying current deficiencies in the supply system and the reasons therefore such as the one in "Army" magazine of Feb 79 by Major General Hill.⁴ The only relevance in bringing it up here is in connection with the ability of the system to support the introduction of the UH1B, UH1M, OH6 helicopters and related armament systems which are not now common to USAREUR. Personnel in USAREUR, when asked if the system could support the new aircraft, in many instances said in all seriousness, "any new aircraft could probably be supported as well as our cobras are now". This answer reflects an attitude of general skepticism that the system can be counted on to support any kind of a surge precipitated by war and concurrent mobilization. This skepticism is not limited to aviation personnel as MG Hill's article succinctly illustrates.⁵

LOGISTICS PLANNING FOR MOBILIZATION

Planning for mobilization should be based on the following assumptions;

That the supply picture in Europe probably will not get much better in the near term. This is due not only to the inadequacy of the system

itself, but a decrease in the capability of DARCOM brought about by personnel cuts and budgetary constraints.⁶

That if the attack companies are mobilized as units as opposed to individual crews, the "non-deployable" equipment will accompany the unit.

Steps should be taken now to earmark certain Guard units which would be necessary to support the equipment taken to theater. Instead of DA selecting units from the TPFDL to be mobilized, the Guard should be given wide latitude in selecting support entities of both units and individuals to logistically support the equipment.

Planning should insure that as many repair parts and special tools as can be carried accompany the units. The assumption must be made that the supply system cannot be relied on the support the Guard aircraft for at least sixty days after mobilization. It is therefore essential that this fact be recognized as a real world condition and plans be made for extensive cannibalization to keep as many aircraft in a flyable status for as long as possible. The Guard would be well advised to plan for its own support of AIMI items by airlifting its own into the theater via Guard aircraft. This is a drastic measure which some will call unrealistic, but combat operations sometimes call for drastic, and sometimes unconventional methods.

FAD RATINGS

Another area which should be reviewed as the current method of tying the FAD rating of internal aviation units to that of the parent unit. If there is a possibility that an attack helicopter company, or any aviation unit, may be mobilized sooner than the remainder of the major unit, the FAD ratings should be revised accordingly. Some of the existing FAD ratings

offer too low a priority to insure an adequate resupply of parts to maintain a strong mobilization base. Of the twelve attack companies in the ARNG, two have a FAD III rating, eight have a FAD IV, and two a FAD V.⁷

PLL STATUS

PLLs and ASLs should be upgraded utilizing existing proven demand data to prepare for mobilization contingencies. NGB should determine whether additional mission essential lines should be authorized for PLL upgrading. A study should also be conducted to produce a standardized bench stock listing for immediate implementation in event of mobilization.

CONCLUSIONS

1. As presently constituted, the European supply system is incapable of supporting a mobilization surge.
2. FAD ratings of aviation units are to provide strong mobilization entities.

CHAPTER IV

FOOTNOTES

1. Interview with Colonel Lewis J. McConnell, USAREUR Aviation Officer, Heidelberg, Germany, 19 Mar 79.
2. Ibid.
3. Final Report, Project MAXIMIZE, Hq USAREUR, 3 Jan 79 (FOUO).
4. John G. Hill Jr., MG USA Ret, "Have We Enough Spare Parts to Win a War", Army, Feb 79, p. 34.
5. Ibid.
6. Charles B. Einstein, DARCOM Develops Command-Wide Manpower Requirement", Army Research, Development and Acquisition Magazine, Jan-Feb 79, p. 31. Extracts pertinent are quoted.

"DARCOM is now unable to order supplies at a rate which would keep up with demands, and cannot properly perform other vitally related procurement functions required to perpetuate a viable procurement mission.

With regard to supply performance in National Inventory Control Points (NICP), there is an equally dismal picture. As we fill requisitions, depot stocks become more scarce. This results in more back orders (magnifying workload), and a general decline in our ability to process these demands within allowable time. It must be pointed out that this condition is not solely a problem of a procurement personnel shortage--there also is an understrength of the people needed in the materiel readiness commands to compute future requirements, to manage line items, catalog new lines, prepare procurement work directives, and other necessary functions.

DARCOM's depot supply system is experiencing a similar performance degradation because of a shortage of people. As an example, it now takes longer and longer to receive and report items from the manufacturer, and to stow those items into proper bins once they arrive at the dock. This results in misplaced parts, unjustified backorders, and causes wasted work and resources in the readiness commands.

All important aspects of readiness are below standard. With the current administration's approach to government economy, even more personnel reductions can be anticipated."

7. Interview with Jack Sink, NGB-ALOG, Edgewood, MD, 4 May 79.

CHAPTER V

MAINTENANCE

Just as in other functional areas, maintenance planning should be based on two possible contingencies. The first is to plan for the receipt of AHIs prior to or upon mobilization. The second is to plan for deployment of existing equipment. In the first instance, little can be done without access to the aircraft itself. Since current distribution plans call for the introduction of AHIs into only three of the twelve attack companies before the late 1980s, it is obvious that 75% of the attack companies and all nine of the Air Cav Troops will have only the equipment currently on hand. The declared "deployability" or "non-deployability" of this equipment notwithstanding, it seems shortsighted not to plan for its eventual use at least in the near term.

USAREUR MAINTENANCE CAPABILITY

The last UH1M was phased out of the active army inventory in 1978. The OH6 has not been assigned to active army units since 1974.¹ There exists therefore in Europe an extremely limited maintenance capability for these aircraft. A lack of maintenance expertise, special tools, and maintenance publications precludes extensive maintenance support except that which can be provided by the units themselves.

SELECTIVE MOBILIZATION

Because of the inability of USAREUR to provide the required maintenance support at the DS and GS level, the ARNG should plan to selectively mobilize

an adequate maintenance capability to accompany current shipment. This is, in a sense, "mobilization by objectives". It provides an opportunity for innovative planning such as is reflected in the "Depot Roundout Study" which will make a significant contribution toward alleviating maintenance problems resulting from mobilization.

DEPOT ROUNDOUT STUDY²

Depot Roundout, a new concept in augmenting DARCOM with maintenance expertise from the ARNG, deserves space here because it represents the kind of innovative planning for mobilization required for other areas. This plan, which was approved by DA on 13 Oct 78, provides for the use of ARNG personnel to augment the Army Aviation Depot overhaul program upon mobilization based on OPLANS 4102 and 5027. Personnel involved are those currently assigned to the four Transportation Aircraft Repair Shops (TARS) of the ARNG. These shops have the necessary equipment and the capability of performing selected aircraft depot level overhaul and other maintenance functions of all aircraft.

At present the TARS, as such, have no planned or assigned contingency or mobilization mission. The trained TARS personnel, however, have individual mobilization assignments elsewhere to meet army-wide requirements; therefore eliminating the TARS capability. DARCOM, in conjunction with the ARNG, studied the feasibility of augmenting DARCOM maintenance depots with ARNG TARS. Department of Army approved the concept to re-organized the TARS now and make them available to DARCOM for deployment in support of OPLANS.

As a result of this study, the four current ARNG TARS will be re-designated as Aviation Classification Repair Activity Depots (AVCRAD) and organized by TDA. Each AVCRAD will have a DAMPL priority of M+15 day deployment. Two AVCRADs will be deployed OCONUS to classify the theater

aviation reparable items for repair or overhaul in theater by the AVCRADs or return to the CONUS depot. This will go a long way to insure quick repair and return of aircraft in theater which otherwise might have to be returned to CONUS.

The relevancy of the Depot Roundout Project is found in the ability of the AVCRAD to provide depot level maintenance in theater for the OH6, UH1M and other equipment not now common to the USAREUR maintenance system. "Depot roundout" insures an immediate maintenance base manned by personnel who have the expertise and equipment to provide maximum maintenance interoperability.

Two other areas requiring priority follow.

ADEQUACY OF MAINTENANCE TOEs

TOEs of both active and reserve units are currently inadequate to provide maintenance support for an around the clock operation required on the mid to high intensity battlefield. Monthly flying hours per aircraft are expected to be in the neighborhood of 100 hours compared to approximately 20 hours per month per aircraft in peacetime.³ TOEs should provide for maintenance augmentation which would be implemented upon mobilization to support the increased flying hours. Trained personnel to support this augmentation may have to come from other units of lower mobilization priority. Augmentation packets for all units should receive priority planning.

OH58 MODIFICATION

The OH58 helicopter is currently being used as the scout aircraft in eight of the twelve ARNG attack companies. It is also the primary scout aircraft used by the active army to include USAREUR forces. The OH58 is the one aircraft which poses no major interoperability problems. There is a

program underway, however, to modify 435 of these aircraft from an OH58A to an OH58C.⁴ This modification includes reinforcement of the airframe and the installation of a larger, more powerful engine. It will provide an aircraft capable of meeting the rugged demands of combat with the payloads and other environmental factors unique to high intensity battlefield.

Once again, however, we find a near sighted approach to a problem in that all 435 aircraft schedules for modification are from the active army. No reserve component aircraft are scheduled to be modified at the present time. This not only creates needless disparity in the capabilities of like units, but it fails to take advantage of current contract modification costs. It also creates an interoperability problem by requiring that different components be maintained and stocked for the OH58s.

CONCLUSIONS

1. Deployment of existing equipment can be supported by selective mobilization of maintenance personnel and units such as provided for in the Depot Roundout plan.
2. The OH58 modification program adversely affects readiness in that it fails to provide for the total force.

CHAPTER V

FOOTNOTES

1. Interview with COL P. Taddeo, NGB-ARO, 12 Mar 79.
2. US Army Aviation Depot Roundout Study, DARCOM, Charter signed 7 Nov 77, Approved by DA 13 Oct 78.
3. Interview with COL Taddeo.
4. Interview with COL William Badger, NGB-ARO, 12 Mar 79.

CHAPTER VI

ARMAMENT

INTEROPERABILITY

Weapons systems authorized for use with the UH1B/M are as follows:¹

M113:	7.62mm high rate automatic gun
M158A1:	Seven tube 2.75 inch rocket launcher
M200A1:	19 tube 2.75 inch rocket launcher
M5:	40mm grenade launcher
M22:	SS11 wire guided missile

Weapons systems authorized for use with the AH1S are as follows:²

M197:	20mm gatling gun
XM230:	30mm gatling gun
M159 or M200:	19 tube 2.75 inch rocket launcher
TOW:	TOW missile system

Interoperability problems caused by the introduction of the AH1Gs currently used by CONUS active army, or the UH1B/Ms currently used by the ARNG do not appear to be of major significance.

M22 SUBSYSTEM

Of all the weapons systems currently in use by the ARNG, the M22 is the weakest link. This is ironic because the M22 with the SS11 missile provides the only theoretical anti-armor capability other than the TOW.

The most glaring deficiency with the M22 is in the system itself. In 1972 some UH1Cs were equipped with the M22 system and sent to Vietnam on a test basis. The following is an extract of a letter received from Major

Frank Hock in response to queries regarding the test. "My unit, F/4th Air Cav, received one SS11 ship for approximately two weeks to help in support of the armor threat in I Corps DMZ. At the time no major threat materialized. We did use them on several missions, but the aerodynamics of the missiles were such that they had to position themselves several hundred feet above the tree tops to fire. In addition their exposure time was 15-30 seconds in order to guide the missile to the target. Maximum range, I'm guessing, was about 1,000 meters. According to the pilots assigned to the missile ship it was not uncommon for the wire to break in mid flight. As you can probably guess, the system was not effective. To my knowledge we never scored a hit."³

Comparitive studies have shown the SS11 to be vastly inferior to either the TOW or the HOT missile at ranges of less than 1000 meters.⁴

UH1M TOW MODIFICATION

One alternative to the M22 system is to modify the UH1M to accommodate the TOW missile. This was in fact done with the UH1C on a test basis in 1972 and sent to Vietnam at the same time of the M22 test. Although a search for first hand knowledge of the test results has failed to provide positive results, several personnel interviewed are aware of the test and are of the impression that they met with much more success than did the M22.

On the surface, this appears to be a viable alternative. DA, however, after concluding a study on the UH1M TOW modification, determined that it was "not economically feasible" and abandoned the project.⁵

HUGHES 500D TOW

Another alternative to the M22 is to find a suitable helicopter which

could be employed as a TOW carrier. One such helicopter is the Hughes 500D, a successor to the OH6A. The entire system to include helicopter and weapons system is being marketed by the Hughes Corporation and is advertised to provide "suppressive and anti-tank fire-power at approximately one half the cost of the current system."⁶

FOREIGN APPLICATION

A variety of anti-armor missiles are being mounted on helicopters throughout the world. The following are some of the foreign initiatives which may be worthy of consideration as a replacement for the M22:

German: By the end of 1979, the West German Bundeswehr will receive over 200 anti-tank helicopters. The helicopter, the PAH-1, will carry six Franco-German HOT missiles, effective at ranges of up to 4000 meters. The Bundeswehr consists of three corps, each of which will receive one airborne anti-tank regiment of PAH-1s. Each regiment will consist of seven PAH-1s, giving a total of 56 helicopters per regiment.⁷

British: The British Army has selected the TOW missile mounted on its own Lynx helicopter as the primary airborne anti-tank weapons system. It is also testing the HOT missile with excellent results and will probably field both the HOT and the TOW. The Lynx helicopter is expected to be used as a multipurpose aircraft with troop carrying and utility missions as well as the anti-armor attack role.⁸

French: The French Army currently has 570 helicopters in the inventory of which 180 are classified as "anti-tank". These 180 consist of 70 Alouette IIIs armed with SS11s, and 110 Gazelles armed with HOT missiles. Of the two attack helicopters, the Alouette is the older, having entered the service in 1963. It carries four SS11s, with a periscopic stabilized sight system. The newest is the Gazelle 342, first delivered in 1978, which carries four HOT missiles.⁹

Israel: Israel has ordered 30 Hughes 500 Defender helicopters to supplement the small number of AH-1 Cobras already being used. The Hughes 500D, armed with four TOW missiles, is scheduled for delivery in mid 1979. The 30 helicopters were ordered to provide Israel with a quick response capability to meet surprise attacks. Israelis plan to use the helicopters as part of a combined arms team, hoping to be able to reduce the number of active armor units guarding against surprise attacks.¹⁰

¹ USSR: The Soviet Army received its first attack helicopter, the Mi-24 Hind-A in the early 70s. Today, the Hind-D, an improved model, is entering service. Two regiments of 35 Mi-24s are stationed at both Stendal and Parchim in East Germany. These gunship exhibit both similarities and differences to US counterparts. Mi-24s have been armed with "iron" bombs which can be dropped in conventional attacks. The primary missions of the Mi-24 appear to be anti-armor operations, close air support, and anti-helicopter operations.¹¹

CONCLUSIONS

1. Weapons Systems assigned to all components are interoperable with the exception of the M22 system.
2. That fact that most of the systems are not effective against armor should not prevent them from being deployed in other roles.

CHAPTER VI

FOOTNOTES

1. US Department of the Army, Training Circular 1-4, App C, p. 165.
2. Ibid., p. 163.
3. Letter from Major Frank Hock, USA, 24 Jan 79.
4. Probability of Hit table for the TOW-HOT and SS11 shown in terms of chances out of ten. Assuming battlefield conditions and non moving tank in open.

Range in meters:	0-300	301-500	501-1000	1001-1500	1501-Maximum
TOW	8	9	9	9	9
HOT	7	8	9	9	9
SS11	0	0	6	9	9

5. Interview with LTC Gary Ramage, USA, Hq DA DCSCPS, 12 Mar 79.
6. Brochure, Hughes Helicopters, Culver City, California.
7. August, 1977, International Defense Review.
8. "Weapons Test Geared to Aid Lynx Sales", Aviation Week and Space Technology, 4 Sep 78, p. 171.
9. Claude F. Regis, Colonel, French Army, "French Army Aviation", US Army Aviation Digest, Dec 78, pp. 3-5.
10. David A. Brown, "Israelis Intensify Readiness Training", Aviation Week and Space Technology, 19 Jun 78, p. 20.
11. Graham H. Turbiville Jr., "The Attack Helicopter's Growing Role in Russian Combat Doctrine", Army, Dec 77, pp. 28-33.

CHAPTER VII

TRAINING

OBJECTIVES

Aviation unit training for ARNG Attack Companies should be conducted to maximize preparation for any one or a combination of three possibilities: Deploying current equipment, receiving new equipment, or being sent as fillers to USAREUR units.¹ Any of these three options calls for close ties between the ARNG unit and like units in USAREUR.

INITIATIVES

OCONUS Training: OCONUS training for all aviation units in their area of potential deployment is essential. The importance of this training for attack helicopter crews cannot be over emphasized. This was graphically illustrated during the so called "Ansbach trials" of 1972. The tests were part of a joint US-German-Canadian evaluation to examine the combat effectiveness of the attack helicopter. The tests were well conceived, fairly executed and remain to date the best available evidence of how well armed helicopters can cope in the German environment with attacking enemy armor. According to the after action report of the trials, the anti-armor helicopters destroyed approximately 18 enemy tanks and other tracked vehicles for each armed helicopter lost.²

The report also revealed that the German and Canadian crews fared noticeably better than did US crews. US pilots killed 8.6 aggressors for each anti-armor helicopter lost, while the combined record of German and Canadian crews was 41.7 aggressors killed for each helicopter lost.³ This disparity in proficiency between the US and non US crews is particularly significant

to this research. Although the tests showed the US crews to be just as proficient in the AHL, they showed the Germans and Canadian pilots to have a much better appreciation of the European terrain and of the application of nap-of-the-earth flight techniques. They also selected better firing positions and had a better grasp of the tactical situation.

The Ansbach Trials represent the strongest of cases for making sure that all helicopter pilots of the strategic reserves who have a NATO support mission, receive as much in country flight training in Europe as is humanly possible.

Some of this training is now taking place. Last year three reserve component aviation units participated in REFORGER. The 111th Aviation Group from Auston, Texas; the 49th ASHC (Chinook) from Stockton, CA; and the 92d ABHC (Chinook) from Everett, WA, all participated working with like USAREUR units. Six selected crews, three USAR and three ARNG, also participated flying with various units. After REFORGER COL Lewis J. McConnell, USAREUR Aviation Officer made the following observation: "We're proud of this ARNG-USAR affiliation. They really work in well. We're very pleased with the kind of professionalism we found in these units."⁴

Strong initiatives for more OCONUS training of reserve component units have been proposed by USAREUR. Recommendations on record include:⁵

Early deployment of reserve component aviation units and/or advance elements of the units to Europe.

That a joint team from DA DCSBPS, NGB, OCAR, and RCPAC visit USAREUR for the purpose of initiating and coordinating staff actions that will result in expanded reserve component affiliation with USAREUR units.

That, in the event of mobilization, reserve component unit advance parties would deploy immediately "with tool boxes and duffle bags". These advance parties would ~~serve~~ both to augment the USAREUR unit and to prepare for the arrival of the parent unit from CONUS.

That initiatives involving reserve component aviation personnel and units be pursued on a more ambitious basis.

The British army also recognizes the importance of units receiving training in the areas of their potential deployment. They also recognize the Territorial and Volunteer Reserves (TAVR), an organization similar to our own selected reserve, as being absolutely critical to the effectiveness and readiness of the British army to perform in virtually any central European war scenario. Although Great Britain has no TAVR aviation units, some analogy can be drawn by looking at her infantry. Of 38 infantry units in the TAVR, 23 have a mobilization NATO support mission. In the British "Mobilization Order of Battle" each TAVR unit is affiliated with a gaining command. Each TAVR unit then trains at least once every three years with its gaining command unit.⁶ In this area the US Army would do well to emulate.

CONCLUSIONS

1. OCONUS training for all crews scheduled for European deployment is essential to rapid integration.
2. Affiliation between USAREUR and reserve component aviation units is not receiving sufficient emphasis.

CHAPTER VII

FOOTNOTES

1. Being sent as fillers is particularly displeasing to the ARNG. Guard units have traditionally visualized themselves as training units to be mobilized as units.
2. Hamilton H. Howze, General, USA Ret, "The Case for the Helicopter", Army, Mar 79, p. 18.
3. Ibid., p. 19.
4. Lewis J. McConnell, Colonel, "An In-depth Report on Army Aviation in USAREUR in CY 1978", Army Aviation, Dec 31, 1978, p. 38.
5. Interview with Colonel Lewis J. McConnell, Aviation Officer, Hq USAREUR, 19 Mar 79.
6. Interview with Colonel R. Alderdyce, British Army, London, England, 23 Mar 79.

CHAPTER VIII

RECOMMENDATIONS

The following is a recapitulation of recommendations incorporated in the body of the paper plus those which did not fit in with the subject matter of a particular chapter. Where the rationale was not adequately covered in the appropriate paragraph, it has been added here.

"NON-DEPLOYABLE" POLICY

Recommend: That the policy of declaring an item of equipment non-deployable without replacing it with something newer be reviewed.

Rationale: Chapter III, page 13.

AIRCRAFT DISTRIBUTION

Recommend: That the AHIG/AHIS distribution plan be reviewed with increased emphasis on total force readiness.

Rationale: Chapter III, page 14.

LOGISTICS PLANNING

Recommend: That plans be made now for selective mobilization of units and individuals to support the deployment of non-standard equipment.

Rationale: Chapter IV, page 19.

FAD RATINGS

Recommend: That FAD ratings of aviation units be reviewed to insure a strong mobilization entity regardless of the FAD of the parent unit.

Rationale: Chapter IV, page 20.

MAINTENANCE TOEs

Recommend: That aviation maintenance TOEs and MTOEs for all components be reviewed to insure sufficient maintenance support for the forecast increase of flying hours in a combat environment.

Rationale: Chapter V, page 25.

OH58 MODIFICATION

Recommend: That all OH58 aircraft assigned to scout platoons of attack helicopter companies receive the OH58C modification regardless of component.

Rationale: Chapter V, page 25.

M22 REPLACEMENT

Recommend: That short of replacement by an AHIS, an attempt be made to locate a suitable replacement for the M22 system.

Rationale: Chapter VI, page 28.

OCONUS TRAINING

Recommend: That increased emphasis be placed on OCONUS training for all attack helicopter crews.

Rationale: Chapter VII, page 33.

AFFILIATION

Recommend: That increased emphasis be placed on affiliation between USAREUR and reserve component aviation units.

Rationale: Chapter VII, page 33.

EARLY DEPLOYMENT OF UNITS

Recommend: That combat ready attack helicopter companies throughout the total force strategic reserves be earmarked for early deployment regardless of the Required Deployment Date of its parent unit.

Rationale: In many cases, internal aviation units of Divisions and Armored Cavalry Regiments have achieved a higher state of readiness than the ground units. This is due to the professionalism of the flight crews which must meet active army standards in terms of flying hours, physical fitness standards and aircrew training. The maintenance program is built around a nucleus of highly competent full time personnel. Flight crew members participate in twenty four drill periods over and above the normal forty eight authorized ground units. The inherent realism of flying as a training vehicle, and increased full time instructor pilot personnel are also contributing factors.

The advantage of this higher state of readiness, where it does in fact exist, could be optimized by early deployment of the aviation unit and move directly into the theater. Although "early" as a term is relative and would have to be more definitive to be meaningful, an effort should be made to have the unit in country in time for duty on the dovering force.

EARLY DEPLOYMENT OF CREWS

Recommend: That certain flight crew members assigned to aviation units earmarked for early deployment be further earmarked for even earlier deployment.

Rationale: In almost every scenario involving a European conflict, the first battle is forecast to be intense, lethal, and of reasonably short duration. In order to win the first battle attack helicopters will have to operate on an around the clock basis. Unfortunately, however, TOEs don't provide sufficient crew members for this sustained operation. Theoretically at least, the machine can fly for longer durations than can the crews. It appears realistic that some selected crews; those who would not be essential to the movement of the mobilizing unit could be flown into the theater literally by D plus 1 to D plus 3. This would have other spin off benefits.

The experience gained by these early deploying crew members would put them in better position to serve their own units upon arrival. It does not seem to be too far afield for this to be accomplished initially on a voluntary basis.

Some flight crews so earmarked could conduct annual training in country with the unit to which they would be deployed.

CONCLUSION

The ARNG offers a very high potential as a source of operationally ready attack helicopter units and qualified individuals. ARNG aviation units are at virtually full strength in aviators, 80 percent of which have combat experience and all average 2,500 hours of flying experience. This resource cannot be used for anti armor missions until ARNG attack helicopter units are equipped with AH-1S Cobra/TOW helicopters and trained in their employment. This is not scheduled to begin before 1985 when AH-1S helicopters are first displaced in the active Army by AH-64 production deliveries and will not be completed through 1989.

There are initiatives available within existing resources which should be implemented to reduce adverse effects of this equipment disparity. Redistribution of aircraft, affiliation programs, UH1M TOW modifications all offer realistic and effectual options for interim solutions.

ARNG attack helicopter units are now at a peak level of experience and proficiency. Failure to capitalize on this by providing these units with a viable mission and realistic equipment to accomplish the mission causes an unnecessary degradation of total force readiness.