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DC/S (AIR)

19 AUGUST 1986

SUBJECT: Consolidation of TAOCs in I Corps (U)

REFERENCE: Paragraph 34, CMC Trip to WestPac, 2-13 August 1968

SUMMARY OF PROBLEM REPORTED: General Westmoreland comments that there was no need for two TAOCs in I Corps, that those of the 7th AF and USMC should be consolidated.

COMMENT:

- a. Marine Air is an integral component of III MAF. The close integration of air and ground operations is a basic tenet of Marine Corps combat destructions.
- b. The requirement for Marine Air to be manufactely responsive to requests from Marine ground units engaged in operations in the I Corps area requires a control center familiar with Marine operations and the Marine air/ground concept.
- c. The requirement for two TAOCS L. Corps is suspect, however, to effectively support the requirements of III MAF in carrying out his responsibilities as I Corps Commander, the TAOC operating in I Corps must of necessity be Marine oriented and controlled.
- d. The responsibility of the Air Force Component Commander for air defense and coordinating authority for the Joint Force Commander for air operations of air units operating in the force commander's area is recognized and can be effectively supported through the Marine TAOC in the I Corps area.

RECOMMENDATION: No action required.

GROUP-4
Downgraded at 3 year intervals,
Declassified after 12 years

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TTIM: Position Paper regarding Armed Helicopters in the Republic of Vietnam

PROBLEM

- 1. JCS 2343/425 of 23 July 1964 (TAB A) contained a memorandum by the Chief of Staff, U. S. Air Force in which the validity of the request by CCMUSMACV for additional armed helicopters is questioned. Specifically, the memo requests that:
- a. The entire problem of utilization of armed helicopters in RVN be examined prior to augmenting the existing force.
- b. The rules of engagement applicable to commitment of the force be reviewed.
- c. Priority of application of forces to the close support mission be reviewed.
- d. The JCS evaluate the number of armed helicopters applied to a combat mission as opposed to helicopters required for transport functions to see if the present proposition reflects an unwarranted emphasis on the armed helicopters.
- e. The Joint Staff develop specific questions to obtain information on which the above issues may be judged.
- 2. The questions were developed (TAB B) and submitted to CINCPAC (TAB C) with a request that answers be provided by 13 August.

BACKGROUND. The Marine Corps doctrine provides for tactical fixed wing aircraft to perform offensive and defensive fire mission in support of ground troops and helicopter movement.

in South Vietnam, Marine Corps helicopter units have been faced with a special situation in which Marine Copps tactical fixed wing aircraft have not been available to perform their normal support missions. Consequently, Marine helicopter units have employed that fire support which has been made available to them. This support has consisted of United States Army armed helicopters to provide escort for troop carrying helicopters, and to furnish protection in the landing zenes.

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This armed configuration is effective against the relatively light ground fire in the vicinity of the landing zone particularly under the existing combination of rough terrain, low cloud cover, and limited visibility.

FACTS BEARING ON THE PROBLEM:

- 1. The Chairman, Joint Chiefs of Staff, in May (TAB D), reaffirmed U. S. policy that U. S. military personnel will not take part in combat. He emphasized that helicopters are for use as transports and that their weapons are for protection of vehicles and passengers. Armed helicopters are not to be used as a substitute for close support air strikes.
- 2. COMUSMACV in Directive #95-2 of 19 June 1964, Subj: Operational Restrictions on U. S. Military Aircraft in RVN states that U. S. Army Armed Helicopters will not be used as a substitute for close support air strikes.
- 3. There are five Army Armed Helicopters in Danang under operational control of the Marine Task Flement Commander. They escort the transport helicopters and provide protection in the landing zone on missions where, in the opinion of the Element Commander, protection is required.
- 4. CG FMFPAC reports from his recent visit to Vietnam, that the combination of low cloud cover, and mugh terrain makes armed helicopter escort essential. The Task Element Commander reported that without the five Army helicopters, his level of operation would have to drop off by fifty percent. General Krulak recommends we gain the flexibility to meet the need for armed helicopter escort by procuring a simple, readily installable, weapons kit which can quickly convert a troop carrier to a weapons carrier and vice versa.
- 5. The ratio of armed helicopters to transport helicopters varies according to the missions. A medical evacuation may require only one transport and possibly two to four escorts. A troop lift of 20 transport helicopters could be adequately protected by the same number of escorts. Size of landing zone and degree of enemy opposition are primary factors.
- 6. The Marine Corps previously stated position on procurement of armed helicopters is that while they are effective against the relatively light ground fire currently encountered in Vistnam, due to its

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Eny, low performance and instability as a weapons platform a language against any significant spectrum of ground fire hition, we do not intend to procure this type aircraft for the mary purpose of providing aerial fire support.

- 7. While we are interested in a VTOL capability, we believe there is a requirement for a light armed reconnaissance aircraft (LARA) as a precedence to VTOL. The Marine Corps has developed a LARA which is a very light, two-place, STOL with sufficient flexibility to augment attack aircraft in support of helicopters or to provide primary support where political or other considerations deny the Marine Corps its normal means of helicopter support as in Vietnam.
- 8. Chief of Staff, USAF notes the recently approved increase of four VNAF A-1H fighter-bomber squadrons. He points out that the validity of this requirement must be recognized and given consideration before action is taken to increase the U. S. population in RVN.

CONCLUSIONS:

- 1. There is a requirement in Vietnam for escort and protection of transport helicopters particularly in the landing zones.
- 2. Because of low cloud cover, limited visibility and rough terrain, protection is best afforded by armed helicopters.
- 3. The success of the armed helicopters in Vietnam in that operational environment is insufficient cause for the Marine Corps to alter its decision not to buy armed helicopters.
- 4. The operational considerations and political limitations have confirmed the need for a fixed-wing light armed reconnaissance aircraft that can provide protection for transport helps and survive in an area of significant ground fire.
- 5. The rules of engagement, as worded, do not permit close air support missions by armed helicopters. However, protection of the transport helicopters and passengers should be a proper function for armed helicopters.
- 6. A high ratio of armed helicopters to transport helicopters is necessary to provide flexibility in Vietnam since other normal supporting arms are not available.

7. If the Armed armed helicopters were to be withdrawn from support of Marine transport helicopters, substitute protection measures must be taken. We believe that, initially, this would consist of arming transport helicopters, thereby reducing troop transport capacity.

RECOMMENDED POSITION AND JUSTIFICATION:

1. Position: That armed helicopters are necessary for support of transport helicopters in Vietnam.

Justification:

- 1. Lack of normal supporting arms
- 2. Low ceiling and visibility, together with rough terrain, limit existing fixed wing support.
- 2. Position: That the rules of engagement be interpreted to permit protection of transport helicopters and passengers by armed helicopters.

Justification: Je; ocpliers are vulnerable to any type of ground fire. Self protection reduces the transport capacity. The Army armed helicopter is the most efficient vehicle considering terrain, weather and availability.

3. Position: That a high ratio of armed helicopters to transport helicopters be maintained.

Justification: The absence of adequate normal supporting arms requires a higher ratio of armed helicopters to provide flexibility to the commander.

4. Position: That the Marine Corps retain the position that the armed helicopter is not the long range means of protection for transport helicopters. Fixed wing attack and a light armed reconnaissance aircraft should be obtained.

Justification: LARA has a much greater chance for survival on the battlefield than a helicopter. It has greater flexibility for employment.

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POSITION PAPER REGARDING ARMED HELICOPTERS IN THE REPUBLIC OF VIETNAM

The Marine Corps doctrine ealls for tactical fixed wing aircraft to perform offensive and defensive fire mission in support of ground troops and helicopter movement.

In South Vietnam, Marine Corps helicopter units have been faced with a special situation in which Marine Corps tactical fixed wing aircraft has not been available to perform their normal support missions. Consequently, Marine helicopter units have employed that fire support which has been made available to them. This support has consisted of United States Army armed helicopters to provide escort for troop carrying helicopters, and to furnish protection in the landing zones.

This armed configuration is effective against the relatively light ground fire in the vicinity of the landing zone particularly under the existing combination of rough terrain, low cloud cover, and limited visibility. Marine Corps field commanders currently estimate that without the support of the 5 Army armed helicopters, the level of Marine Corps operations would drop by fifty percent.

Present rules of engagement preclude the use of armed helicopters as a substitute for close support air strikes. Armament is permitted on transport helicopters for defensive purposes only. Armament on Marine Corps transport helicopters consists of crew manned hand held weapons. While they are of limited benefit, they are not sufficient for protection of the aircraft and passengers. However, additional armament for adequate protection would derogate the transport function substantially. Use of the

Army armed helicopters in a defensive role as a protective measure for the transport helicopter is warranted.

The ratio of transport helicopters to armed helicopters in the Marine Corps area varies with the location and type of mission. Medical evaluations requiring a single transport helicopter may need considerable protection. Troop transport or supply missions of twenty helicopters need protection by armed helicopters at a much lower ratio. There are 5 Army armed helicopters supporting a 24 plane UH34D Marine Medium Helicopter Squadron. This ratio is the minimum the Marine Corps could accept without paketive substitute measures that would derogate the transport function.

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as a weapons platform when evaluated against any significant spectrum of ground fire opposition, the Marine Corps does not intend to procure this type helicontinated for the primary purpose of providing aerial fire support.

The Marine Corps does not believe that any of the currently available helicopters can provide effective escort for transport helicopters over a sufficient range of operational environments to justify significant procurement for that purpose alone.

The Marine Corps has initiated the development of a fixed-wing light reconnaissance aircraft (LARA) as a predecessor to a VTOL aircraft.

LARA is a very light, two-place, STOL with sufficient flexibility to augment attack aircraft in support of helicipters or to provide support in such areas as Vietnam.

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For the past (5 years, the Marine Corps has conducted experimants and tests to determine facilies and aguinment requirements to decrease the vulnerability of the helicopter. Ascert of assault helicopters by light attack (...4) eircraft, T-25 propeller aircraft and armed helicopters have been studied, tested, and evaluated by Marine squadrons. Tests of helicopters equipped with anti-tank weapons, Sullpups, and guns were conducted and evaluated. Tactics including hetic-pter assaults under had weather conditions and in rough terrain have been investigated both by test units and operational equadrons. is a result of these tests and porrational experience, it was quite becar biderable a besessed tauar property and a considerable speed advantage over the assault helicopter to render effective fire support. In addition, the oscort aircraft must be very manageverable, provide a good field of observation and carry a reasonable amount of offensive ordinance. The A-4 light attack aircraft, now in the Marine Corps inventory, is used for helicopter support. This aircraft has proved to be very effective for this purpose.

The Marine Corps has produced the Iroquois belieupter for the Observation Equadron in each Marine Aircraft Wing. These aircraft perform missions of artillery spotting, observation, liaison, medical evacuation, wire laying, and similar utility tasks. It is possible to equip this aircraft with light weapon systems for defensive and fire suppression purposes without appreciable degradation of its primary mission. This armed configuration has proved to be effective against the relatively light ground fire currently encountered in South Viet Nam, particularly when used for enemy fire suppression around the periphery of a helicopter landing zone. Under such circumstances, and where political considerations have prohibited the employment of attack aircraft in a helicopter support role, the flexibility afforded by arming the Iroqueis has proved useful. However, due to its vulnerability, low performance, and instability as a weapons platform when evaluated against any significant spectrum of ground fire opposition, the Marine Corps does not intend to procure any aircraft of this type for the



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primary purpose of providing aerial fire support. Should very significant improvements in performance, payload, and stability be developed in aircraft of this type in the luture, they will be fully evaluated.

Descripting that there are frequent requirements for conducting observation missions over portions of the battletield where significant pround fire opposition will be encountered, and in view of the valuerability of light helicopters operating in such an environment, the Marine Corps has initiated development of a fixed-wing hight freed Reconnaissance direct (LARA/COIN) for this purpose. This will be a very light, two-place, STOL aircraft with sufficient performance (275 Kts.) to survive in such an environment. It will carry light ordnance and guns for defensive, fire suppression purposes. When available this aircraft will be further evaluated for its capability to augment the A-4 in providing helicopter escort.

In conclusion the Marine Corps does not believe that any of the currently available helicopters, due to their lack of maneuverability, speed advantage, vulnerability, and instability as a weapons platform, can provide effective escort for transport helicopters over a sufficient range of operational environments to justify significant procurement for that purpose aione. Even though the speed advantage of the KAMAN UH-2B over the Iroquois would provide some improvement, the increased costs involved do not appear to be offset by the improvement offered.



1. Cornell Aeronautical Laboratory, Inc.

Subj: Generalized Attrition to Conventional Antiaircraft Weapons, with Special Application to Light Surveillance Aircraft

date: 15 January 1959, Report No. GJ-1191-G-10

This report may be considered as the first in a series devoted to attrition studies. In particular this one investigates attrition due to conventional antiaircraft weapons. Subsequent reports are planned for the evaluation of the effectiveness of surface-to-air missile systems, attrition due to airborne air defense systems, and the role of decoys and jamming techniques in reducing the attrition of aircraft to both ground-based and airborne air defense systems.

This study attempts to serve two purposes: (1) Provide a parametric study which would answer questions concerning the importance of altitude, speed and maneuvers in determining survival probability; (2) Examine the relative capabilities of various reconnaissance aircraft against the weapons which intelligence sources consider as common in the conventional AA defense for a Russian Army. The emphasis has centered around the employment of drones as the reconnaissance vehicle. However, Mohawk has been considered as an example of a manned Army reconnaissance aircraft.

The results were obtained by setting up a mathematical model to determine the expected number of lethal hits and, hence, the survival probability as a function of the many parameters of the systems involved: aircraft speed and altitude, weapon effect radius, rate of fire, vulnerable area of aircraft to the defensive weapon. The model also took into account the effects of weapon slewing rates, time delays between detection and firing the first round and obstructions in the line-of-sight between weapon and aircraft due either to topographic features or radar horizon (masking).

Within the scope of the limitations stated in the study, certain general conclusions can be stated: (1) Flight altitudes under 1000 ft. (while obviously not optimum from a reconnaissance standpoint) provide significant improvements in survival probability. (2) Maneuvers of the order of Ig (RMS) will permit an aircraft to operate at the 4000-6000 ft. altitude levels with approximately the same survival probabilities as at the 500-1000 ft. levels. (3) The expected number of lethal hits is inversely proportional to a power of the velocity with the exponent varying between 1.5 and 2.0 for many cases. (4) If the defenses postulated by intelligence sources prove to be realistic, the survival probabilities of Army reconnaissance type aircraft at altitudes of 3000-10,000 ft will be low. (The degree of improvement in survival probability that can be realized when

LEICHUDED FROM AUTOMATIC REGRADING; DOD DIR 5200.10 DOES NOT APPLY suitable passive defense measures (ECM, decoys, etc.) are employed is not discussed in this report.)

2. Hayes Aircraft Corporation, Birmingham, Alabama

Subj: Project Red Skin

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Date: June 1, 1959, Engineering Report Number 423

This is the first monthly report of Project Red Skin, which is a research study of the Bell Aircraft Company "Iroquois" turbo-shaft powered helicopter and the Grumman Aircraft Engineering Corporation "Mohawk" turbo-prop powered aircraft, to determine their current vulnerability to infrared detection and heat seeking missiles and to propose methods of reducing this vulnerability. Specifically, the contract calls for the following:

- 1. Perform calculations on the infrared energy emitted by the exposed hot metal parts.
- 2. Study means for suppressing infrared energy by shielding and cooling aforementioned parts.
- 3. Perform studies on suppressing infrared energy by specially treating the surfaces of the hot metal parts.
- 4. Determine the infrared energy emitted by the aircraft in the wavelength region of 1.8 to 5.5 microns.
- 5. Study the effects of rotating propeller blades on the forward and aft aspects of the infrared radiation pattern.

During this reporting period, Project Red Skin personnel sought the cooperation of all interested techn ical parties. The Bell Aircraft Company and the Lycoming Division of AVCO Manufacturing Corporation Engineering and Management personnel have provided the only specific data received to date. In the case of the engines, all available and pertinent data has been received directly from Lycoming. While additional data is desirable for the proper conduct of the program, it does not now exist and is not available from any source. Accordingly, propulsion system specialists in Hayes Aircraft Corporation are developing this data from Lycoming measurements and calculations.

Bell Aircraft Corporation personnel have provided data essential to the proper conduct of the program over and above that normally required in a new aircraft development program. They have screened the appropriate engineering design data and reports with Hayes' personnel and Hayes has requested the pertinent reports and drawings from the Air Force Project Officer by Hayes' letter with Serial No. 9-2887, dated May 25, 1959.

To obtain data on the Mohawk aircraft, it was necessary to direct a letter to the appropriate Bureau of Aeronautics "Class Desk". This letter requested all available design information on the "Mohawk" aircraft, inasmuch as Grumman Engineering Corporation personnel were unwilling to meet with Hayes Aircraft Corporation personnel during the reporting period. It is hoped that this matter can be resolved during the coming month, and that adequate "Mohawk" data can be obtained.

With the information made available by Lycoming and Bell, Project Red Skin has been initiated and first vulnerability patterns computed for the "Iroquois" and the "Mohawk". Both aircraft present no unusual suppression problems. Sources of infrared radiation of the Bell "Iroquois" include: the engine, together with its associated exhaust and cooling system; the main and tail rotor gear boxes; tail boom skins; and the cabin air heater installation. With the limited framework of available information, sources of Grumman "Mohawk" infrared energy include but are not limited to the engine exhaust system, the after nacelle skins, and the outer vertical tail planes.

3.
U. S. Army Combat Development Experimentation Center, Fort Ord, Cal.

Subj: Aircraft Vulnerability Experiment

date: 30 November 1959, Serial No. 123698

The experiment "Vulnerability of Low Flying Aircraft to Forward Area Ground Fires" was conducted by the US Army Combat Development Experimentation Center for the purpose of investigating the vulnerability of several types of low flying aircraft, expected to be available to the Army in 1965, to ground fires from forward battle area weapons of types expected to be available to an Aggressor during the same period.

In the course of the main experiment, data were collected on six types of weapons, three types of aircraft, four aircraft speeds, two altitudes, and three aircraft formations. In addition, four side experiments involving additional types of aircraft were conducted to obtain data on subjects relating to the aircraft vulnerability problem. This report, which supersedes the

preliminary Aircraft Vulnerability Report, provides an enumeration of the objectives of the experiment; a presentation of findings, conclusions, and recommendations resulting from analysis of data obtained; a discussion of questions and comments generated by the preliminary report of the experiment; an evaluation of the results of the experiment; an analysis of the data obtained; a discussion of the methodology employed in designing the experiment and collecting the data; a description of the experiment as it was conducted in the field; and a summary of the side experiments.

Translation of tracking data to realistic levels of vulnerability is beyond the scope of this report for the conventional hand-held and optical-tracking, fixed-sight weapons. Kill probabilities are presented for a predicted-fire weapon, the VIGILANTE, and an infrared homing missile, the REDEYE.

THE Conclusions contained in this report are as follows:

- 1) Aircraft in the speed range of 75 to 450 knots operating under conditions of good visibility over areas defended by REDEYE-type infrared homing missiles and within effective range of such missiles, will be susceptible to high kill probabilities unless provided with effective countermeasures.
- 2) Aircraft in the speed range of 75 to 200 knots operating within 1200 yards of VIGILANTE-type weapons will encounter high kill probabilities unless provided with effective countermeasures.
- 3) High performance aircraft at contour altitude will have a low vulnerability to VIGILANTE-type weapons due to insufficient periods of good tracking.
- 4) At ranges of 1200 yards or greater, aircraft flying contour at speeds of 75 to 450 knots are not highly vulnerable to optical-tracking, fixed-sight weapons. At ranges less than 1200 yards aircraft flying at these speeds can be tracked by this type weapon.
- 5) Aircraft of the types employed in this experiment are not vulnerable to any appreciable degree to aimed fire from conventional handheld weapons.
 - 6) Vulnerability of all aircraft to all weapons may be reduced

by contour flying at speeds in excess of 100 knots.

7) There may be a point of diminishing returns at which increases in speed, with attendant increases in contour altitude of operation and consequent increased time under fire, will not achieve the anticipated reductions in vulnerability.

The recommendations contained in this report are as follows:

- l) Emphasis should be placed on the development of airborne and ground based countermeasures effective against REDEYE and VIGILANTE-type weapons.
- 2) Military characteristics for Army aircraft to be employed in the time frame under discussion should include the capability of speeds in excess of 200 knots with maximum maneuverability at low altitudes.
- 3) Combat development efforts should be directed toward maximum exploitation of night operations, conditions of limited visibility, and operations over forested and impenetrable terrain areas.
- 4) Further study and experimentation should be conducted to investigate factors which reduce aircraft vulnerability such as suppressive fires, both ground and air and evasive action by aircraft.
- 5) Further experimentation should be conducted to examine new weapons systems other than REDEYE and VIGILANTE.
- 6) No further experimentation should be conducted to determine vulnerability to conventional hand-held weapons using aimed fire.
- 4. Ballistic Research Laboratories, Aberdeen Proving Ground, Maryland

Subj: Vulnerability of Army Aircraft and Helicopters to Impacting Projectiles (U)

Date: February 1960, Technical Note No. 1305

This report presents the vulnerable areas of several Army aircraft and helicopters to impacting projectiles. The projectiles considered for this study are the Soviet 7.62mm (Caliber 0.30 API), 12.7mm (Caliber 0.50 API), and 14.5mm (Caliber 0.60 API) and the 37mm HE.

The aircraft and helicopters included in this study are the T-37, OF-1 Mohawk, L19 Bird Dog, L-23 Seminole, H-21 Shawnee, H-23 Raven, HU-1 (H-40) Iroquois and the Soviet MIG-17.

The information presented in this Technical Note is the result of a study made for The Johns Hopkins University, Operations Research Office and the U.S. Army Combat Developments Experimental Center. Tests were conducted by the CDEC to obtain the probability of acquiring and hitting various aircraft by ground troops. To provide additional information on the terminal effect of the hits on different types of aircraft, the Ballistic Research Laboratories made a cursory study of the aircrafts' vulnerability and reported the results of this study in letter form.

Since that time, however, the demand for information of this type, by other agencies, has been so great that the data are presented here as a report so that it may be available for rather general distribution.

These results are estimates based on existing data and available information on the aircraft. The lack of time, data and information did not permit a thorough study; however, the accuracy of the results may be sufficient for many users.

5. Ballistic Analysis Laboratory

Subj: Project THOR.

Date: May 1960. Technical Report No. 45.

Shielding by Aircraft Cabin Structures, III: H-21, H-40, L19

Analytical Evaluations (U)

6. Ballistic Analysis Laboratory

Subj: Distribution of AA Weapons in a Russian Motorized Rifle Division

Date: September 1960. Memorandum Report No. 1303

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7. Ballistic Research Laboratories

Subj: Passive Protection of Aircraft

Date: October 1961, Report No. 1151, by R.G. Bernier, H. Kostiak, D. W. Mowrer

This report is presented as a guide to designers in minimizing the vulnerability of new aircraft. It does not attempt to dictate configurations, components or materials. It is intended as a "primer" to acquaint designers with the major considerations in aircraft vulnerability, as well as the many "pitfalls" in design details. Its purpose is to emphasize combat survival and to stimulate thought on "built-in protection" throughout the design of military aircraft. Special emphasis is placed on light observation helicopter (L.O.H.) but the report is applicable to all types of planes.

The need for protection in Army aircraft should be evident. Protection is a means of increasing survivability which is a very important factor in the Army concept of air mobility. If the aircraft has a high survival probability it will be able to perform a greater variety of missions and also will be more likely to be available when required.

The probability that an aircraft will not survive in combat because of enemy action is dependent primarily on three factors; namely, detection, hitting and killing. Each of these factors is important and each should be considered regardless of the enemy weapons that are employed. An increase in survivability is gained by a reduction in the probability of being detected, being hit or being killed. The probability of being detected is influenced by terrain, weather, speed, altitude, radar reflectivity, noise, etc. The probability of being hit when detected is influenced by altitude, speed, size of aircraft, etc. Many of these influencing factors (for example, altitude, speed, and size of aircraft) are dictated by the mission of the aircraft and cannot be altered significantly. However, a factor which is just as important as or perhaps even more important than any of these in terms of combat survival is the ability of the aircraft to withstand the effect of hits from enemy gunfire. It is very difficult to visualize aircraft performing such missions as target recognition and acquisition, suppressive fire, medical evacuation, surveillance, etc., without being exposed or coming within range of the enemy weapons. Other missions would also be possible if the chance of survival were sufficiently good. It must be remembered that with the light aircraft in the Army that every man with a rifle or carbine is capable of inflicting damage to the aircraft. (The threat is discussed in a separate section).

The chance of survival can be increased easily and economically by reducing the probability that a hit results in a kill (vulaerable area). One of the reasons for studying the vulnerability of aircraft and helicopters is to be able to assist the designers in making aircraft less susceptible to damage from enemy ordnance. Based upon firing tests of many different types of ordnance weapons against all types of aircraft and aircraft components, knowledge of how aircraft are destroyed when hit was obtained. Tests have been conducted against many different types of power plants and fuel systems and, in general, against any component employed in an aircraft that could contribute to its vulnerability. This knowledge is available to designers so that aircraft can be made tougher and more capable of withstanding hits from enemy weapons.

The main message of this report is that vulnerability can be reduced without weight penalty, if, and only if, it is considered in early design. In fact, weight can sometimes be saved. Consideration of survivability on a par with performance, safety, and other factors, throughout design, will result not only in a more efficient aircraft, but a more efficient combat vehicle.

In considering a kill on an aircraft from one or more hits, a description of how the kill occurs is necessary. For example, if one hit defeats one component in an aircraft such as the engine, the result can be a kill on a single engine aircraft. The engine is denoted as a singly vulnerable component. If multiple hits are necessary for an aircraft kill such as in a two-engine aircraft where both engines must be defeated, then these components (engines) are called multiply vulnerable.

8. CANADAIR LIMITED, P.O. Box 6087, Montreal, Canada

Subj: Survivability of Aircraft Flying Nap of the Earth

Date: March 1961, CLASP-1013

Survivabilities of aircraft flying nap of the earth on reconnaissance missions in forward battlefield areas are given as functions of type of terrain, size and performance of the aircraft, and the weight of the threat from ground elements armed with single .60 cal. machine guns, quad .60 cal. AAMG, 57mm LAA guns and REDEYE-type A/A missiles.

Assumptions are made concerning the effect of the interplay of probability of detection of ground elements by the aircraft and vice versa,

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characteristics of terrain, operational use of the weapons.

With these ascumptions it is found that present day helicopters can operate in close cover terrains with a high level of survivability. Aircraft with increased maximum speed and acceleration/deceleration performance maintain high survivability when operating in a wider variety of terrain. A In very open terrain the effect of increased aircraft performance is negligible; target size is the important factor.

Aircraft operating in close support of ground forces in forward areas of a future battlefield will be forced to fly at altitudes less than 100 feet to avoid detection and possible subsequent destruction from hostile missiles of the NIKE or HAWK type. This low altitude flight brings the aircraft well within the effective range of small calibre machine gun and LAA fire from enemy ground troops, not to mention the small shoulder launched contact-fuzed homing missiles such as REDEYE.

To avoid the possibility of alerting the enemy and to minimize exposure if detected, aircraft will fly close to the ground and where possible within the cover of wooded areas, utilizing every terrain feature to obtain as much concealment as flying skill permits. Such tactics are now being taught to army helicopter pilots, so that they operate in wooded areas below average tree-top level. This type of flight, where an aerial vehicle is flown within a few feet of the ground or within the tree-tops, has been given the name of "nap of the earth flying". The objective of such flying is to enhance the probability of survival of the aerial vehicle by utilizing the principles that gunners have decreased chances of hitting a target they do not detect or which is exposed for such a short time that accurate firing is made very difficult.

Hover capability is desirable for flying nap of the earth because it is necessary for an aircraft to be able to remain within the concealment afforded by a wooded area, for example, while the crew surveys the open terrain beyond. This would be done while searching for hostile elements during reconnaissance and while estimating the route providing the most cover if it should be necessary to leave the present area of cover, and fly fowards another. Terrains differ in the degree of concealment they afford, and they do not often provide continuous concealment. In flying within a terrain, the aircraft may be expected to fly within the cover of one wooded area, for example, and then if the mission requires it, fly to another area of cover passing across a more or less open area. Thus, in passing between these cover points, the aircraft may be unavoidably exposed to action by hitherto undetected hostile forces. The time of exposure will depend on the transit speed of the aircraft, and it is here that the aircraft with a high speed and



acceleration/deceleration capability can be expected to gain over a more sluggish aircraft, other things being equal.

Considerable previous work has been done to calculate the kill probability of aircraft flying straight and level courses at various altitudes when fired upon by anti-aircraft guns. This work has been undertaken in studies whose primary objective was a comparative evaluation of several proposed or existent anti-aircraft weapon systems, rather than an absolute assessment of the survivability of aircraft against anti-aircraft guns. While some crude estimates of the survivability of aircraft flying nap of the earth have been made under the assumption that the aircraft is flying across the open area between two cover points and is engaged by a twin 57 mm SP gun, these results are only useful insofar as they underline the degree of dependence of survivability upon time of exposure and the time required to bring the aircraft under fire. Further analytical work attempting to estimate the survivability of aircraft flying nap of the earth in territory possibly containing hostile elements is not known to exist.

An experiment to measure the vulnerability of aircraft flying contour and at 300 feet was recently held at CDEC, Fort Ord. In this trial, the aircraft were flown along a pre-determined straight course, and measurements were made with various weapons which, upon data reduction, should allow estimates to be made of the probabilities of hit and kill of the aircraft by the weapons. However, conditions in the experiment are not believed to have been sufficiently realistic and it appears fairly clear that the aircraft in the experiment were not flying nap of the earth as defined by the US Army Aviation School. Consequently these CDEC results are not very useful in assessing the survivability of an aircraft performing nap of the earth reconnaissance.

The present work was undertaken to provide a more realistic evaluation of the interplay of aircraft characteristics such as size, acceleration, and speed capability, and the degree of openess of a terrain in determining the exposure time and consequent probability of survival when an aircraft, in performing nap of the earth reconnaissance, attempts to cross an open area between cover points, and is taken under fire by previously undetected enemy elements.

REPORT. Ad Hoc Committee to Study The Vulnerability of Army Aircraft.

9.

Date: 19 September 1962. SPECIAL NOTE: This is an all

encompassing report. If you do not have a copy on hand, I recommend that you take steps to obtain one. It contains the type information for which you are looking.

10. The Kaman Aircraft Corporation, Kaman Nuclear, A Division of Kaman Aircraft Corporation, Colorado Springs, Colorado.

Subj: Vulnerability of Helicopters to Small Arms Fire (Revised)

Date: 13 December 1963. KN-63-59A(R). SPECIAL NOTE.
This is another excellent report and I recommend that you obtain a copy from Kaman Aircraft Co.

Analysis of the vulnerability of the UH-2A Seasprite and the UH-1B Iroquois helicopters has indicated the Kaman UH-2A to be the least vulnerable to small arms fire in several differing modes of operation. Only a minor part of this reduction in vulnerability is due to the difference in vulnerable areas; the major factor is the operational speed difference between the two aircraft. With armor protection for critical components of both aircraft, the UH-2A is considered to be less than one-half as susceptible to small arms fire as the UH-1B.

Since the addition of armor to protect, at least partially, the vulnerable components of a helicopter is not completely successful, the effect of suppressive fire from the helicopter upon defensive troops was investigated. Of the several classes of weapons considered, the most useful suppressive weapon was found to be a white phosphorous loaded fragmentation grenade, with the standard offensive grenade a close competitor.

11. Ballistic Research Laboratories

Subj: Reduction of Army Aircraft Vulnerability

Date: August 1963. Memorandum Report No. 1496

This report consists of a briefing given by BRL personnel to the LOH contractors on the vulnerability of Army aircraft. Although the briefing primarily concerns the LOH, it is sufficiently general to be applicable to all Army aircraft.

12

The report includes discussion on vulnerability and survivability of Army aircraft, protective materials and techniques for reducing vulnerability, and application of such methods to aircraft.

12. Ballistic Analysis Laboratory. Aberdeen Proving Ground, Md.

Subj: A Survivability Study of Transporting Troops by HRB-1 Helicopter in a Combat Environment.

Date: November 1963. Project THOR Technical Report No. 53

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- 13. Aircraft Survivability Against REDEYE USACDEC Final Report of Experiment of Dec 61 (BT C 229-62).
- 14. Helicopter Assault Force/Vulnerability Study Grumman, Operational Analysis Group (C 416-62).
- 15. Ballistic Protection Survey Team's Activity Report 1 August 1962 20 September 1962, Vietnam (U) ARPA (C 1199-63) (Protective Armor for Helicopters, Aircraft Protective Systems).
- 16. Vulnerability of HUS-1 Helicopter Armor Protection, and its effect upon Mission Survival (U), Air Warfare Research Department Report No. NADC-WR-6202 Feb 1962, Bureau of Naval Weapons (C 291-63).
- 17. Vulnerability of UH-2A Helicopters Armor Protection and its Effect on Mission Survival (U), Air Warfare Research Department Report No. NADC-WR-6315, July 1963 (C 4172-63).
- 18. Command Control and Protection of Helicopters (Unapproved) First Interim Report Protection 15 Dec 1959 MCLFDC.
- 19. Hit Probabilities and Vulnerability of the UH-1B/SS-11 Weapons System Versus Stationary and Moving Tanks Under Simulated Tactical Conditions, 26 Nov 62. USCDC (Project Directive) (3504-62).
- 20. Reduction of Army Aircraft Vulnerability (U) Ballistic Research Laboratories Memorandum Report No. 1496, August 1963, Aberdeen Proving Grounds, Maryland (C 4253-68).
- 21. Report of French Military Operations in Algeria 29 May, 1957 27 June 1957, LtCol V. J. Croizat, Maj Daniel Riley USMC (MCS 23482).
- 22. Passive Protection of Aircraft, BRL Report No. 1151 October 1961 (MCS 39948).
- 23. Passive Protection for the Personnel of HU-1A Helicopters BRL Memorandum Report No. 1367 September 1961 (MCS 39791).
- 24. Assault Helicopter Vulnerability Analysis Report No. ARD-152, 30 Oct 1957, Hiller Helicopters (VTOL Amphibious Assault Transport System 1962 1967) (MCS 25280).
- 25. French Army Helicopter Operations in Algeria June 1956 September 1959, Vertol Aircraft Corporation, 1 November 1959 (MCS 33743).

- 26. Current Quarterly Reports, MCLnO, Natick Laboratories.
- 27. Air Crew Projection Systems Study Report, "Passive Protection for Personnel of H-13, H-23, Dec 1960 QMR&E Command.
- 28. Groin Armor, Protective Helmet, Body Armor, RDT&E Project (Task) Card, 1 Jan 31 Dec 1960.
- 29. Selection of Aircraft Armor, Jackson and Moreland for Instrumentation Laboratory, MIT, Issued by Wright Air Development Center, Apr 1953.
 - 30. Effectiveness of Lightweight Self-Sealing Fuel Cell Material Against Cal. 0.30 Bullets. BRL Memorandum Report No. 1324, Jan 1961.
 - 31. Efficient Armoring of Military Aircraft, Target Missile Study No. 1, Naval Research Laboratory Rept No. 16, May 1952.
 - 32. Lightweight Armor, BRL ltr 33103, 15 May 1963.
 - 33. Vulnerability of Army Aircraft and Helicopters to Impacting Projectiles BRL, 18 April 1960.
 - 34. Comparative Vulnerability of Some Helicopters and Fixed Wing Assault Aircraft, BRL, Note No. 585.
 - 35. Design Studies of Helicopter Armoring, CMC itr Ser. 08A9359 to Chief, BuAer, 8 Apr 1959.
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SUBJ: Buildup of RVNAF UH-34 Sydns

S&C No. 92435

Additional Information:

From: Commander, Jack Element 79,3,3.6 To: CG, aux FMFPac

Satel 28 Nov 1963





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SUBJ: JOEG-V's Operational Evaluation of Armed Helicopters (C) Short Title: OPENAH (U)

S&C Nb. JCS 2343/279 (2 Oct 1963)

Additional Information:

From: Note by the Secretaries to the JCS

To:





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SUBJ: JOEG-V's Operational Eval of Armed Helicopters (C)
Short Title (OPENAH) (U)

S&C No.90617

Additional Information:

From: Office of Director, Advanced Research Projects Agency, Field

Unit, Vietnam & Joint Opn Eval Group Vietnam

To: C/S Army dtd 29 Jul 1963

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AAP-3-bwz

POINT PAPER

Subj: Operating procedures for Marine Aircraft in South Vietnam

- 1. CINCPAC Instruction 003120.3 provides policy to govern the establishment of combat operations centers (COC) and air operations centers (AOC) in the Pacific Command for the exercise of command and control. Command, control and coordination of combat forces assigned to CINCPAC will be exercised through component commanders, or through subordinate unified commanders and joint task force commanders established by CINCPAC. Command, control, and coordination of forces assigned to subordinate unified or task force commanders will be exercised through their assigned Army, Navy and Air Force component commanders. Air Force component commanders will act as the coordinating authority for their force commander to coordinate air operations of air units operating in the area but not assigned to the Air Force component commander.
- 2. On 26 April 1965, CINCPAC issued instructions to promulgate CINCPAC policy and prescribe procedure for the conduct and control of close air support operations. It is applicable throughout PACOM, and Vietnam in particular. First priority of in-country air elements is the close air support of ground forces actually engaged in operations against the Viet-Cong. Stated principles are:
 - a. There are 3 components of CAS:
 - (1) Support aircraft,
 - (2) FAC,
 - (3) CAS control agency.
 - b. Aircraft will be maintained on alert for CAS.
- c. Alert aircraft will be subject to direct call by supported ground units through the control agency.
- d. Response of CAS aircraft will not be subject to mission evaluation at levels higher than the CAS control agency.
 - e. CAS missions will be controlled by either a FAC or a TAC(A).

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- f. COMUSMACV Air Force component commander (CG 2d Air Division) shall act as coordinating authority for matters pertaining to tactical air support and air traffic control. The coordination process will not degrade the responsiveness of CAS activity.
- 3. COMUSMACV message 270813Z April 1965 revises the procedures for operational coordination and control for forward air control in relation to 9th MAB units. Previous rules were designed for U. S. support of ARVN units by U. S. and VNAF aircraft. CG 9th MAB exercises operational control of 9th MAB air elements except for one helicopter squadron assigned to general support of I Corps and under OPCON of I Corps Senior Advisor.
- 4. The following rules apply:
 - a. Control of Jet aircraft.
- (1) Marine jet aircraft will operate under the Tactical Air Control System of the 2d Air Division as exercised by the Air Operations Center (AOC).
 - (2) Marine Combat forces have first call on Marine aircraft.
- (3) CG 9th MAB reports daily to AOC the aircraft availability together with Marine requirements. Available aircraft not required by Marine forces may be employed by AOC for other in-country missions.
- (4) CAS strikes may be conducted under control of any one of the following:
 - (a) TACP
 - (b) TAC(A) (Marine or Air Force)
- (c) If no TACP or TAC(A), an airborne U. S. Army observer may mark target. No Vietnamese observer is necessary with an airborne FAC, but his presence is desirable.
 - b. <u>Direct Air Support</u>.
- (1) Marine elements may call directly on the I Corps Air Support Operations Center (ASOC) for Marine, USAF or VNAF fighter

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aircraft. ASOC will inform I Corps Tactical Operations Center (TOC) and determine whether there are friendly forces in the area. However, TOC cannot veto the launch of U. S. aircraft in close support of U. S. troops engaged in combat.

(2) TACP's, with battalions and separate companies, will utilize Vietnamese liaison parties to avoid strikes on friendly troops or civilians.

c. Interdiction strikes.

- (1) Controlled area. Aircraft will conduct interdiction strikes (not involving CAS) only with approval of the TOC and will be controlled by a FAC or ALO aircraft with a Vietnamese observer aboard.
 - (2) Free Areas. Strikes require approval of TOC.

d. Employment of Utility (Transport) helicopters.

- (1) 9th MAB controls directly the helicopters which are in direct support of 9th MAB. TOC will be informed of activities.
- (2) 9th MAB requirements for helicopters additional to those in direct support will be forwarded to the I Corps TOC.
- (3) Requests for 9th MAB direct support helicopters from other sources will be approved by the CG 9th MAB.
- (4) One Marine helicopter squadron will be in general support of I Corps but available to 9th MAB as specified in paragraph 5d(2) above.
- 5. Representatives of COMUSMACV, III MEF, CINCPACFLT, and 7th Fleet agreed to the following rules for CAS of III MAF Landing operations.
- a. TAC(A) will have a Vietnamese observer on board who can communicate with the RVNAF commander.
 - b. Liaison Officers.
 - (1) One RVNAF with TACP's.
 - (2) One RVNAF in the TACC afloat.

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- (3) A TACP will be provided to the RVNAF Security For ce Commander to control CAS of his forces.
- c. Requests for CAS will be made to the TACC afloat or TACC ashore depending on location of control.
- d. Control of shore based U. S. aircraft will be passed by the III MAF DASC to the TACC afloat while control is afloat. TACC afloat will direct those aircraft reporting for support to a TAC(A) or TACP. III MAF DASC will keep I Corps ASOC informed of missions assigned.
- e. When control is ashore, the III MAF DASC will direct those aircraft reporting for support to the TAC(A) or TACP.



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TAB A (S)	CINCPAC INST 003120.3, Policy governing the establishment of COC and AOC.
TAB B (S)	CINCPAC msg 242345Z APR 1965, Conduct and control of CAS operations.
TAB C (C)	COMUSMACV Directive No. 95-4 of 7 Sep 1964 on operating procedures and responsibilities for command control and coordination of U. S. air operations in Vietnam.
TAB D (S)	COMUSMACV msg 270813Z APR 1965, Rules of engagement and operating procedures for Marine jet aircraft in South Vietnam.
TAB E (TS)	COMUSMACV msg 030128Z MAY, Report of coordination conference.

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CHERATION TERMINATED.O
4. FOR CTF 76: DO NOT ATTEMPT TO ZFFECT OPCON OF RVN NAVAL SURFACE
UNITS OPERATING WITH AOA.
5. FOR CTE 70.2.1.1: MAKE EVERY EFFORT TO CONVINCE COMPAIRDIN TO KEEP
USAF AND WAF AIRCRAFT OUT OF AOA UNTIL AMPHIB OPERATION TERMINATED.
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PAGE 3 RUMSMA 937E S E C R E T CRACTICAL DIRECTION IS A NORE PALARABLE TERM TO THE VIETNAMESE THAN OPERATIONAL CONTROL ALTHOUGH THE TACTICAL ARRANGEMENT IS THE SAME).

(3) CONBAT SUPPORT- (AS SPECIALLY APPLIED IN THIS CONCEPT) - - THE SUPPORT OF ONE COMBAT ELEMENT IN THE ACCOM-PLISHMENT OF ITS MISSION BY ANOTYR COMBAT ELEMENT OF THE SAME OR DIFFERING NATIONALITY. THE NATURE OF THE SUPPORT IS MUTUALLY AGREED BETWEEN SENIOR COMMANDERS CONCERNED. B. ASSUMPTIONS:

(1) NATIONAL FORCES WILL RETAIN THEIR COMMAND

- IDENTITY.
- (2) US WILL NOT PLACE ITS FORCES UNDER THE OPCON OF RYNAF OR ALLIED COMMANDERS BUT YOULD IN AN EMERGENCY SUBMIT TO TEMPORARY TACTICAL DIRECTION OF TACTICAL ELEMENTS BY THE SENIOR COMMANDER ON THE SCENE.

(3) RUNAF MAY IN SOME SPECIAL CASES PLACE ITS FORCES UNDER US OPERATIONAL CONTROL OR TEMPORARY TACTICAL

DIRECTION.

(4) ALLIED FORCES WILL ACCEPT OPCON BY US COMMANDERS, AND COMBAT UNITS WILL NORMALLY BE PLACED UNDER

PAGE 4 RUNSMA 937 E SE C R E T OPCON US COMMANDERS AT BRIGADE LEVEL OR HIGHER.

(5) OVERT, LARGE-SCALE PAVN/ CHICON INTERVENTION

WILL NOT OCCUR. O. DISCUSSION:

(1) MISSION OF US FORCES AND ALLIED FORCES IN POSTH VIETNAM IS TO RENDER ADVICE AND/OR COMBAT SUPPORT TO RUMAF. THIS RELATIONSHIP IS RESULT OF EVOLUTION OVER PAST SEVERAL YEARS; IS THOROUGHVLY UNDERSTOOD BY RVNAF; AND IS AN ACCEPTED MILITARY RELATIONARY RECOGNIZED AND UNDERSTOOD BY HILLIARY FORCES. EVOLUTION AS FOLLOWS:

(A) INITIALLY, US FORCES IN REPUBLIC OF VIETNAM FULFILLED A STRICTLY ADVISORY AND MILITARY ASSISTANCE ROLE, THIS INVOLVED SUPPLY OF MAP MATERIEL COUPLED WITH TRAINING AND ADVCE IN ITS EMPLOYMENT AND UPKEEP.

(B) WHEN COMMUNIST INSURGENTS RENEWED ACTIVITY IN 1960, 1961 AND 1962, ADVISORY EFFORT VAS EXTENDED NAND INCREASED SO THAT US ADVISORS WERE POSITIONED IN LARGER NUMBERS AT LOWER ECHELONS WHILE AT SAME TIME AMOUNT OF MATERIEL SUPPORT WAS SIGNIFICANTLY INCREASED. AT THIS TIME, US GOVERN 7 MENT AGREED TO FURNISH CERTAIN WILITARY CAPABILITIES WHICH

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PAGE 5 RUMSMA 937E S E C R E T WERE NOT PRESENT AND COULD NOT BE QUICKLY CREATED WITHIN RVNAF. THESE INCLUDED TRAINING AND EMPLOYMENT OF TACTICAL FIGHTER SQUADRONS, AS WELL AS DEPLOYMENT INVMBAT SUPPORT ROLE OF US ARMY MELINCOPTER COMPANIES AND MARINE MHELICOPTER SQUADRON. (EC) AS DEMANDS FOR OPERATIONS INCREASED, US

INSTALLED EXTENSIVE SIGNAL COMMUNICATIONS NETWORK WITHIN COUNTRY AND ALSO INSTALLED AND OPERATED ALONG WITH VNAF A TACTICAL AIR CONTROL SYSTEM.

THE TOTAL THE POINT IN TIME- THAT IS, UP UNTIL THE THAT IS, UP UNTIL THE THAT IS, UP UNTIL THE THAT IS, UP UNTIL OWING CHIEF ACTIVITIES:

1. STAFF SUPPORT IN CONNECTION WITH PLANNING, INTELLIGENCE, OPERATIONS, AIR SUPPORT, LOGISTIC SUPPORT, ADMINISTRATION AND COMMUCCATIONS.

2. OPERATION, BOTH UNILATERALLY AND COOPERATIVELY, OF A BACKBONE, LARGE-CAPACITY, LONG-LINES COMMUNICATIONS SYSTEM.

3. PROVISION OF AIR MOBILITY AND MEDICAL EVACUATION TO RVHAF WITH HELICOPTER UNITS AND TRANSPORT SQUADRONS.

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PAGE 2 RUNSMA DIGE S E C R E T PROSES HAVE DESM INVITED BY GUN TO PARTICIPATE IN COASTAL ANTI-INFILTRATION OPERATION IN ORDER TO SUPPORT VAN FORCES SO ENGAGED. IN CROSE FUNTALE TO SUPPORT RUNAF IN ITS DEFENSIVE AND OFFENSIVE MISSION AND TO FREE RUNAF TURCES FOR OFFENSIVE OPERATION, SUBSTANTIAL PERLOYMENT OF US BROUND FORCES HAS BEEN MADE AND OTHERS ARE PLANNED.

(F) THIS CONCEPT PAPER SETS FORTH PROCEDURES
AND COMMAND RELATIONSHIPS INVOLVED IN THE COMMITMENT OF THESE
ADDITIONAL US GROUND FORCES IN COMBAT. SUPPORT. OF RVNAF AS A
LOGICAL EXTENSION AND EXPANSION OF ROLE ALREADY PERFORMED BY
A VIDE RANGE OF US UNITS AND FORCES THROUGHOUT NOW.

(2) THERE IS A REGIPMODAL ASPECT TO MENDERING
SUPPORT TO RYMAP. US ADVISORS AND FORCES THROUGHOUT COUNTRY ARE
SUPPORTED BY RYMAP IN TERMS OF VEHICLES, SECURITY. LOCAL
COMMUNICATIONS, HOUSING, REAL ESTATE, INTERPRETERS AND INDEED
RECIPROCAL TACTICAL ADVICE AND ASSISTANCE. RELATIONSHIP HAS
EVOLVED INTO TWO-WAY SUPPORT AND ASSISTANCE IN MUTUAL SELFINTEREST OF ALL PARTIES.

D. INTERNATION MOBILE SEGURITY TASK FONCE (INSTAF)

PAGE 3 RUNSMA 938E S E C R E T

- (1) ALLIED FONCES WILL NORMALLY BE BRIGADED WITH US FORCES UNDER A US COMMANDER AND A CONDINED STAFF. ONE OR MORE SUCH INSTAF'S WILL BE FORMED AS APPROPRIATE. AND WILL CPERATE IN ACCORDANCE WITH CONCEPT AND PROCEDURESPRESCRISED BY THIS MESSAGE.
- (2) NORWALLY, A US BRIGADE WILL FORM NUCLEUS OF IMSTAF. THERE MAY BE SOWE ALLIED REPRESENTATION ON TASK FORCE STAFF.
- (3) AN INSTAF WILL BE UNIT OF COMPLETE TACTICAL INTEGRITY WHICH CAN BE EMPLOYED IN MANNER SIMILAR TO STANDARD US BRIGADE.
- (4) IN EFFECT US AND ALLIED FORCES, EITHER SEPARATELY OR AS INSTAF, WILL PROVIDE COMBAT SUPPORT TO RUNAY. AN RVNAF UNIT MAY BE ASSOCIATED WITH AN IMSTAF IF APPROVED BY CINCRVNAF AND LCDAL ARVN CORPS OR DIVISIONAL COMMANDER. IN THIS CASE RVNAF UNIT YOULD BE EXPECTED TO ACCEPT OPERATIONAL CONTROL OR TACTICAL DIRECTION OF INSTAF COMMANDER.

E., GERNERAY. MISSION OF US AND CONSINED FORCES IS COMBAT SUPPORT OF RYMAF. SPECIFIC MISSIONS ARE:

AID SECURITY OF HASE AREA.

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PAGE 4 RUMSMA 935 E S E C R E 7 + 4

(2) DEEP PATROLLING AND OFFENSIVE OPERATIONS.

TEST REACTION OPERATIONS IN COORDINATION WITH RVNAF.

TAD US CONTINGENCY OPERATIONS AS REQUIRED.

P. HISCIONS RAPRESENT LOCACAL PROGRESSION FOR WEVLY

THE EVED UNITS. THIS NECESSE CONSIDERS OF Y FIRST TRADE MISSIONS OR STAGES.

G. STAGEL: SECURITY OF BASE AREA

(1) ARVW CORPS COMMANDERS ARE CHARGED BY RUNAR COMMAND WITH RESPONSIBILITY FOR SECURITY OF ENTIRE ZONE.
THE MIN THAT ZONE BY MUTUAL AGREEMENT US FORCES HAY ASCEPT TO SECURITY FOR SEGMENTS OF PEPENDE PERIMETERS AND FOR LARGER SECURITY ZONES OR TASTIGAL AREAS OF RESPONSIBILITY (TAOR).

CAD IN BASE AREAS SUCH AS DA MANO AND GUI MHON, "SUALLIED FORDES WILL NOWMALLY ACCEPT LARGE BUT NOT TOTAL MARE OF RESPONSABILITY FOR BEFENSE AND SECARITY, PARTICIPATION VISTNAMES MILLITARY, PARAMELITARY AND POLICE FORCES WILL BE UDDESSARY SINCE USUALLIED FORCES MAY BE COMMITTED OUTSIDE BASE THAS ON OFFENSIVE AND/OR REACTION OPERATIONS, THAT REQUIRANS HAVE COMMANDER TO ASSUME RESPONSIBILITY YES POSTEONS OF US TAGE.

(S) OCCOPINATION WITH RAWAP FONCES AND POLICE

PAGE 5 RUMSHA 938E S E C R E T IN AREA VILL BY EFFECTED THROUGH SENIOR ARUM COMMANDER AND TEROUGH SECTOR OR SUB-SECTOR ADVISORY CHANGELS.

(4) IN BASE AREA THERE MAY BE THREE ZONES: (A) CLOSE-IN PERINTER AROUND SERRITIVE

THE TALLATIONS (DEPOTS, ASRFIELDS, ANNO DUNES, CONMUNICATIONS CHOTALLATIONS) TO PREVENT SACOTAGE OF DIRECT ATTACK.

(B) INTERNEDEATE EXTENDED ZONE (TACR)

THEFERABLY OUT TO MORTAR MANGE.

(C) OUTER ZONE CENTENDED TACES PREFERABLY
WHENDING OUT TO LIGHT ARTILLERY RANGE AND COVERING NOST
WHILLY AREAS OF ASSENBLY AND AVENUES OF ATTACK, AGGRESSIVE
PUBLLING WILL TAKE PLACE IN THIS ZONE,

H. STAGE IIS DEEP PATROLLING AND OFFENSIVE CPERATIONS.

(1) FOLLOWING ESTABLISHMENT OF BASE SECURITY AREA,

(2) CLOSE-IN COORDINATION WITH CORPS AND LOCAL RYMAF COMMANDERS,

(3) ALLIED FORCES WILL INITIATE RECONNAISSANCE AND OFFENSIVE

(1) CHAPTONE AGAINST VO BASES AND FORCES. INSTIALLY THESE WILL

(4) CONDUCTED UNILATERALLY IN EASILY IDENTIFIABLE TACTICAL AREAS

(4) CLOSTONSIBILOTTY FROM WHIGH, FOR DURATION OF OPERATION, ALL

(5) O AND EFFECUAL FURGES HAVE BEEN EXCLUDED. THESE OPERATIONS

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r creatists westnoreland sends. Sect 3 of 4 EMOULD CONTRIBUTE TO SECURITY OF BASE AREAS, AND SERVE AS MEANS TO PREVENT MASSING OF ENEMY FORCES FOR SURPRISE ATTACK ON BASE

LECURITY AREA.

(2) DESIGNATION OF THESE AREAS MAY BE ON A CASE-BY-CASE BASIS AS DETERMINED BY ARVH CORPS OR DIVISION COMMANDER IN COORDINATION WITH USUALLIED FORCE COMMANDER. SELECTEONS WILL BE BASED ON AVAILABLE INTELLINGENCE.

(5) HOVEMENT TO AND FROM TAOR'S WILL BE COCADINATED WITH ARVN CORPS AND WETH SUBORDINATE ELEMENTS AS NEGESSARY



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PERSONNEL MUST
ADDOMPANY US UNITS IN ORDER TO PROVIDE IDENTIFICATION OF
FRIENDLY TROOPS AND AS A MEANS OF CONTACT WITH AND PRANTIFICATION
OF CIVILIANS.

- (A) WITH EXPERIENCE, SCOPE OF BREARCHS MAY BE TORRESSED. EVENTUALLY, IT SHOULD BE POSSIBLE TO EFFICIT TORRINATION BETWEEN USVALLIED OPERATION EN ONE TACK WITH TOWAR FORCE IN ADJACENT BUT SEPERATE AND CLEARLY DEFINED TAGROS.
- I. STAGE III: SEARCH AND DESTROY AND REJURVE REAUTION DESTROY AND REJURVE REAUTION DESTROY AND REJURVE REAUTION
 - (1) STAGES I AND II CONTINUE.
- (2) US/ ALLIED FORCES WILL PROVIDE COMBAT SEPTERT
 TO RVNAF ON BASIS OF OPERATIONAL COORDINATION TO INCLUDE SEARCH
 THE DESTROY AND RESERVE REACTION OPERATIONS. INITIATION OF
 HESERVE REACTION OPERATIONS WILL GENERALLY BE AT THE REQUEST
 OF A SENIOR RVNAF UNIT COMMANDER AND APPECVED BY THE CORPS COMMTINDER FOR SUPPORT OF RVNAF FORCES IN CONTACT WITH AN ENEMY FORCE.
- (3) UPON RECEIPT OF REQUEST FOR COMBAT SUPPORT JS/ALLIED COMMANDER AND PRINCIPAL STAFF: OFFICERS WILL MOVE TO OPPROPRIATE RVNAF CP. NEW WITH THEIR OPPOSITE NUMBER

2 AND

PAGE 5

RUO MA 939E S E C R E T JOINTLY DEVELOP CPERATION ONCY

GSS AGREEMENT ON DETAILS OF OPERATIONS (GBJECTIVES, TIMES, FIRE SUPPORT NHORDINATION, COMMUNICATIONS AND SIGNALS), WILL BE DEVELOPED AS PLANNING PROGRESSES. TACTICAL PLAN NUST BE AS SIMPLE AND CLEAR AS POSSIBLE.

- (4) BECAUSE OF THE COORDINATION PROBLEMS AND THE ABSENCE OF A POSITIVE COMMAND CHAIN: CONTROLLING ALLUNITS, IT IS ESSENTIAL THAT THE PLAN AVOID CLOSE AND INTRICATE ARREVER AND AVOID CLOSE TACTICATUINXOERDEPEGHZVIBE BETWEEN TO ALLIED AND RUNAF FORCES WHICH WOULD JOUERE PRECISE EXECUTION IN A REPORT ON ALLIED AND RUNAF SECESS. THEREFORE, IT IS IMPURTANT THAT CLEARLY DEFINED ZONES AND OBJECTIVES BE ASSIGNED WHICH ARE READILY IDENTIFIABLE ON THE GROUND AND ON THE MAP.
- (5) ASSUMING AGREEMENT ON THE DASIC PLAN, EACH COMMANDER EXECUTES HIS POLCION OF THE PLAN, THE COMMANDERS AND CLAFFS REMAIN CO-LOCATED THROUGHOUT THE OPERATION ENSOFAR AS POSSIBLE AND AS AMINIMUM RETAIN SENIOR AND RESPONSEBLE PROPAGENTAL PELUTY THE COMBINED OP. COMMUNICATIONS WELL BE ESTABLISHED BETWEEN USUALLIED FORCES AND ADJACENT PROPAGENTIES THROUV

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LIAISON OFFICERS, WILL REPORT POSITIONS, ASPTIODU AND HITELLIGE SE DIRECTLY TO THE US COMMANDER OR HIS STAFF.

(6) SUPPORTING GROWN HEAPONS AND TACTICAL AIR THENTS WILL BE CLOSELY CONTROLLED IN ORDER TO AVOID FIRE ON FRIENDLY POSITIONS. A FIRE SUPPORT CREENDINHASAP VRETERMONFSCC) is desirsule and, if established, vill be a cooperative

UNDERTAKING. IN THEBARD 700 of an FSCC THE CONTRHUNY FIRES 32000es863PROBEEN OF KEEFING CURRENT exchange of ground fire support and common use of air support MUST BE ANTICIPATED.

J. GENERAL COORDINATING INSTRUCTIONS.

(1) VIETNAMESE LIAISON PERSONNEL VILL BE provided at Battalion Level and With Artillery Units as NECESSARY TO IDENTIFY AND PREVENT FIRING ON FRIENDLY FORCES or civilians. Every effort will be mue to provide un liaison tersonnel to tactical elements operating separately.

(2) WHEN OPERATING IN A SECTOR CPROVINCE) OR subsyctor(district) , liaison will be established with us advisors and local military authorities. Permanent liaison till be maintained with appropriate corps on division commanders.

Page 5 Runsha 939E S E C R E T

(3) US COMMANDERS AT ALL LEVELS MUST ACCOMMODATE to a new environment in which responsibility is shared and COOPERATIVELY DISCHRAGED WITHOUT BENEFIT OF TRADITIONAL COMMAND ARRANGEMENTS. IN PLANNING FOR AND CONDUCT OF OPERATIONS movolving the employment of commed forces, it is desirable to progress sequentially from the relatively sinple to the more COMPLEX AND THUS DEVELOP EXPERIENCE. INTRICATE MANEUVERS ARE to be avoided. Boundaries, phase lines and other control MEASURES MUST BE UNMISTAKEABLE AND UNDERSTOOD BY BOTH COMMANDERS AND THEIR STAFFS. SIMPLE, EASILY UNDERSTOOD TACTICAL PLANS ARE A PREREQUISITE TO SUCCESS.

K. COMMAND RELATIONS.

(1) Conushacy will assume and retain opcon of

utiallied forces upon arrival in RVN.

(2) THE BASIC CONCEPT UNDERLYING COMMAND RELATIONS BETWEEN US/ALLIED FORCES AND RVNAF VELL. BE ONE OF COMBAT. support through coordination and cooperation in the mutual SELF-INTEREST OF BOTH COMMANDS.

(3) AS A WATTER OF POLICY, US FORCES WILL NTO BE PLACED UNDER THE COMMAND OR OPERATIONAL CONTROL OF ALLIED

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a e c r e t 15152 vestworeland sends. Final sect of 4. COMMANDERS, NOR I STHE GUN PREPARED TO ACCEPT AS A REGULAR PRACT ICE THE OPERATIOONAL CONTROL OF UUS COMMANDERS. HHOWEVER, THIS RESTRICTION IS NNOT INTENDED TOO PRECLUDE EXCEPT IONS AS TO TAGT ICAL DIRECTION UNDER PARTICULAR CARGUESTANCES ANDUS MUTUALLY AGRREED BY THE APPROPRIATE COMMANDERRS. NATIONAL coheand integrity vill be paintainned at all levels. Matters of thhis nature which cannot be resolveed by subordinatee us

COMMANDERS WILL BE REPERREED TO COMUSMACV. (4) MMACY ADVISORY TEAANS, AT ALL LENVELN WILL CONTINUE THEE IR PIESION OF ADVVICE, ASSISTANCE, AND OPERATIONAL SSUPPORT OF RANAF UUNDER DIRECTION ONF SOMUSMACA. THE MACA TEAMS WILL PERFORM COMBAT LIAISON Functions as

REQUIRED AND DIRECCTED BY CONUSHACYV.

2. IT IS PROPOSED THAT THE PUBLIC STANE ON THIS HATT. BY THE US AND GIVE BE AS FOLLOWS: US/ALLIED FORCES VILL THE PUBLIC STANE ON THIS PATTER MURWARLY PROVIDE CONTDAT SUPPORT TO TIME REPUBLIC OF V JETNAM MIRCES TWIRDUGH COORDINATIONN AND COOPERATIONN. ON OCCASIONS this relationship pay be reverseed. Under exceptional turcumettances and by mutsual agreement, ttactical directionn May be exercised by a commander of either thee supported or

THE SUPPORTING FOORCE.

3. The above concept and procedurees have provided the dasis for litters of instructions issued to marine forces anno 1730 abn boe. They will be used as thee basis for letters OF INSTRUCTION TO ALLEED AND ADDITIONAL US GRROUND COMBAT FOR COGORDINATION WITH DRVN; AND FOR JUINT DEVELOPMENT OF STANDARD whiterating proceduries.

A. SMBASSADOR HAGS DEVIEWED THIS CONCEPT AND COOKSURS. REPRODUCTION OF THIS DOCUMENT IN WHOLE OR IN PART IS PROHIBITED EXCEPT WITH PERMISSION OF THE ISSUING OFFICE

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POINT PAPER

Subj: Operating procedures for Marine Aircraft in South Vietnam

- 1. CINCPAC Instruction 003120.3 provides policy to govern the establishment of combat operations centers (COC) and air operations centers (AOC) in the Pacific Command for the exercise of command and control. Command, control and coordination of combat forces assigned to CINCPAC will be exercised through component commanders, or through subordinate unified commanders and joint task force commanders established by CINCPAC. Command, control, and coordination of forces assigned to subordinate unified or task force commanders will be exercised through their assigned Army, Navy and Air Force component commanders. Air Force component commanders will act as the coordinating authority for their force commander to coordinate air operations of air units operating in the area but not assigned to the Air Force component commander.
- 2. On 26 April 1965, CINCPAC issued instructions to promulgate CINCPAC policy and prescribe procedure for the conduct and control of close air support operations. It is applicable throughout PACOM, and Vietnam in particular. First priority of in-country air elements is the close air support of ground forces actually engaged in operations against the Viet-Cong. Stated principles are:
 - a. There are 3 components of CAS:
 - (1) Support aircraft,
 - (2) FAC,
 - (3) CAS control agency.
 - b. Aircraft will be maintained on alert for CAS.
- c. Alert aircraft will be subject to direct call by supported ground units through the control agency.
- d. Response of CAS aircraft will not be subject to mission evaluation at levels higher than the CAS control agency.
 - e. CAS missions will be controlled by either a FAC or a TAC(A).

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- f. COMUSMACV Air Force component commander (CG 2d Air Division) shall act as coordinating authority for matters pertaining to tactical air support and air traffic control. The coordination process will not degrade the responsiveness of CAS activity.
- 3. COMUSMACV message 270813Z April 1965 revises the procedures for operational coordination and control for forward air control in relation to 9th MAB units. Previous rules were designed for U. S. support of ARVN units by U. S. and VNAF aircraft. CG 9th MAB exercises operational control of 9th MAB air elements except for one helicopter squadron assigned to general support of I Corps and under OPCON of I Corps Senior Advisor.
- 4. The following rules apply:
 - a. Control of Jet aircraft.
- (1) Marine jet aircraft will operate under the Tactical Air Control System of the 2d Air Division as exercised by the Air Operations Center (AOC).
 - (2) Marine Combat forces have first call on Marine aircraft.
- (3) CG 9th MAB reports daily to AOC the aircraft availability together with Marine requirements. Available aircraft not required by Marine forces may be employed by AOC for other in-country missions.
- (4) CAS strikes may be conducted under control of any one of the following:
 - (a) TACP
 - (b) TAC(A) (Marine or Air Force)
- (c) If no TACP or TAC(A), an airborne U. S. Army observer may mark target. No Vietnamese observer is necessary with an airborne FAC, but his presence is desirable.

b. Direct Air Support.

(1) Marine elements may call directly on the I Corps Air Support Operations Center (ASOC) for Marine, USAF or VNAF fighter

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aircraft. ASOC will inform I Corps Tactical Operations Center (TOC) and determine whether there are friendly forces in the area. However, TOC cannot veto the launch of U. S. aircraft in close support of U. S. troops engaged in combat.

(2) TACP's, with battalions and separate companies, will utilize Vietnamese liaison parties to avoid strikes on friendly troops or civilians.

c. Interdiction strikes.

- (1) Controlled area. Aircraft will conduct interdiction strikes (not involving CAS) only with approval of the TOC and will be controlled by a FAC or ALO aircraft with a Vietnamese observer aboard.
 - (2) Free Areas. Strikes require approval of TOC.
 - d. Employment of Utility (Transport) helicopters.
- (1) 9th MAB controls directly the helicopters which are in direct support of 9th MAB. TOC will be informed of activities.
- (2) 9th MAB requirements for helicopters additional to those in direct support will be forwarded to the I Corps TOC.
- (3) Requests for 9th MAB direct support helicopters from other sources will be approved by the CG 9th MAB.
- (4) One Marine helicopter squadron will be in general support of I Corps but available to 9th MAB as specified in paragraph (a) above:
- 5. Representatives of COMUSMACV, III MEF, CINCPACFLT, and 7th Fleet agreed to the following rules for CAS of III MAF Landing operations.
- a. TAC(A) will have a Vietnamese observer on board who can communicate with the RVNAF commander.
 - b. ILiaison Officers.
 - (1) One RVNAF with TACP's.
 - (2) One RVNAF in the TACC afloat.

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- (3) A TACP will be provided to the RVNAF Security Force Commander to control CAS of his forces.
- c. Requests for CAS will be made to the TACC afloat or TACC ashore depending on location of control.
- d. Control of shore based U. S. aircraft will be passed by the III MAF DASC to the TACC afloat while control is afloat. TACC afloat will direct those aircraft reporting for support to a TAC(A) or TACP. III MAF DASC will keep I Corps ASOC informed of missions assigned.
- e. When control is ashore, the III MAF DASC will direct those aircraft reporting for support to the TAC(A) or TACP.

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MESSAGE CENTER

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EM COMUSMACV

TO RUMSBJ/2D AIR DIV TAN SON NHUT

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RUMSVP/SA II CORPS PLEIKU

RUMSVBASA III CORPS BIEN HOA

RUMSVIVSA IV CORPS CAN THO

ZEN/SA CMD SAIGON

S E C R E T 13796 FROM MACJ3

SUBJ: RULES OF ENGAGEMENT AND OPERATING PROCEDURES FOR MARINE JET AIRCRAFT IN SOUTH VIETNAM

127 THE CURRENT PROCEDURES FOR OPERATIONAL COORDINATION AND CONTROL FOR FORWARD AIR CONTROL WERE DESIGNED FOR THE SUPPORT OF ARVN UNITS BY US AND VANAF AIRCRAFT. THE EMPLOYMENT OF US FORCES IN A COMBAT ROLE REQUIRES MODIFICATION OF THOSE RULES AND PROCEDURES.

ASOC, THE FOLLOWING RULES WILL APPLY:

INFO. ... DJS-3 CJCS-1 SJCS-1 J3-8 J5-2 SACSA-5 NMCC-2 SEC DEF-5

ASD/ISA-9 DIA-15 CSA-2 CNO-2 CSAF-2/CMC-7) FILE-1 (65) SO/E

PAGE 1 OF 3 PAGES



DEPARTMENT OF DEFENS NATIONAL MILITARY COMMAND CENTER

MESSAGE CENTER

MARINE JET AIRCRAFT WILL OPERATE UNDER THE TACINICAL AIR CONTROL SYSTEM THROUGH ACC REPRESENTING IN CASE THE COMMANDER, 2D AIR DIV. J. P. B. (1984) J. (1984) B. (1984)

B. MARINE COMBAT FORGES WILL HAVE FIRST CALL ON MARTNE AIRCRAFT AT ALL TIMES. THE 9TH MEB MAY REQUEST FIGHTER ALRCRAFT FOR PRE-PLANNED STRIKES AND FOR STRIP OR OTHER ALERT AS DEEMED NECESSARY BY THE CG, 9TH MEB AND SUCH REQUESTS WILL BETHONORED BY ACC AND I ASOC.

C. EACH DAY CG 9TH MEB WILL INDICATE TO ACC THROUGH I ASOC, MARINE FIGHTER AIRCRAFT "AVAILABLE" FOR THE FORTHCOMING 24 A STATE OF STATE HOUR PERIOD. THESE AIRCRAFT, LESS THOSE ON ALERT FOR THE <u>SUPPORT OF MARINE COMBAT FORCES ON OPERATIONS, MAY BE FRAGGED.</u> BY AOC FOR IN-COUNTRY MISSIONS.

D. MARINE ALRCRAFT MAY CONDUCT STRIKES IN CLOSE SUPPORT OF MARINE COMBAT, FORCES, ON THE GROUND UNDER THE CONFROL OF A TACTICAL AIR CONTROL PARTY ON THE GROUND OR A MARINE OR US AIR FORCE CONTROLLER IN THE AIR. IN THE ABSENCE OF A TACP OR AIRBORNE FAC, US ARMY AIRBORNE OBSERVER MAY MARK TARGET. NO VIETNAMESE OBSERVER IS NECESSARY WITH AND ALTBORNE FAC ON A CLOSE SUPPORT MISSION ALTHOUGH THE PRESENCE OF SUCH AN OBSERVERIS DESIRABLE.

TERS AND ACCORDANCE WITH THE RECENTLY PUBLISHED ARVN DIRECTIVE ON AIR SUPPORT SYSTEM OPERATED BY THE WAF AND IN ACCORDANCE WITH OPTIMUM OPERATING PROCEDURES, THE MARINE 1 GROUND ELEMENTS MAY CALL DIRECTLY ON I ASOC FOR AIR SUPPORT WHETHER IT BE BY MARINE, US AIR FORCE OR WNAF FIGHTER AIRCRAFT ASOC WILL INFORM I CORPS TOC AND DETERMINE WHETHER THERE ARE ERRENDLY FORCES IN THE AREA. HOWEVER, I CORPS TOO BOES NOT HAVE VETO POWER OVER THE LAUNCH OF US AIRCRAFT. IN CLOSE SUPPORT OF US TROOPS ENGAGED IN COMBAT ON THE GROUND. MATTER CONTROL PARTIES ON THE GROUND WILL UTILIZE

VIETNAMESELIAISON PARTIES WITH BATTALIONS AND SEPARTATE ACOMEANIES TO AVOID CALLING AIR STRIKES ON FRIENDLY TROOPS CIVILIANS

INTERDICTION TARGETS NOT INVOLVED IN THE CLOSE AND IMMEDIATE SUPPORT OF, US GROUND FORCES WILL ONLY BE STRUCK AFTER APPROVAL BY THE TOC AND UNLESS IN FREE STRIKE AREA; WIELTBE CONTROLLED BY A FAC OR ALO AIRCRAFT. WITH A STORY VIETNAMESE OBSERVER ABOARD.

PRIORITIES AND PROCEDURES APPLIKBLE TO EMPLOYMENT



OF UTILITY HELICOPTERS ARE AS FOLLOWS:

A THE 9TH MEB WILL CONTROL DIRECTLY THAT UTILITY SQUADRON WHICH IS IN DIRECT SUPPORT OF THE 9TH MEB. THE SUPPORTING CTOC WILL BE KEPT APPRISED OF THE ACTIVITIES OF THIS SQUADRON BY THE USMC OPERATIONS OFFICER IN THE CTOC.

B. IN THE EVENT THE 9TH MEB REQUIRES UTILITY
HELICOPTER SUPPORT IN ADDITION TO THAT AVAILABLE FROM THE ONE
DIRECT SUPPORT SQUADRON, REQUESTS WILL BE FORWARDED TO US
ELEMENT OF THE CTOC AND WILL BE PROCESSED IN ACCORDANCE WITH
EXISTING PROCEDURES.

SQUADRON PROVIDING DIRECTSUPPORT TO THE 9TH MEB ARE REQUIRED ON OTHER MISSIONS, THEY WILL NOT BE WMMITTED UNTIL RELEASE IS SECURED FROM THE 9TH MEB.

D. ONE USMC UTILITY HELICOPTER SQUADRON WILL BE IN GENERAL SUPPORT OF I CORPS. THESE HELICOPTERS WILL BE AVAILABLE FOR SUPPORT OF THE 9TH MEB AS OUTLINED IN B ABOVE.

BT

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PAGE 3 OF 3 PAGES

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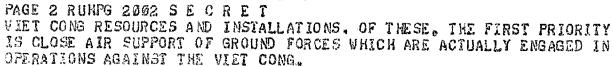
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3. IN THE FLANNING AND CONDUCT OF AIR OPERATIONS IN CLOSE SUPPORT OF UNITED STATES GROUND FORCES, THE FOLLOWING PRINCIPLES WILL, APPLY:

- A. CLOSE AIR SUPPORT, VITHIN THE CONTEXT OF THIS DIRECTIVE VILL BE CONSIDERED TO INVOLVE THREE COMPONENTS—SUPPORT AIRCRAFT, A FORWARD AIR CONTROLLER WITH THE SUPPORTED GROUND UNIT, AND A CLOSE AIR SUPPORT CONTROL AGENCY, WITH WHICH BOTH FORWARD AIR CONTROLLER AND SUFFORT AIRCRAFT AIRBORNE CAN COMMUNICATE DIRECTLY.
- 8. AIRCRAFT WILL BE MAINTAINED ON ALERT FOR THE PURPOSE OF FROWIDING ON-CALL CLOSE AIR SUPPORT. NUMBERS OF AIRCRAFT AND DEGREE OF ALERT SO MAINTAINED WILL BE DETERMINED AS PRESCRIBED IN PAGE 214 4 PELOW.
- S. A SRT CLOSE AIR SUPPORT AIRCRAFT WILL BE SUBJECT TO DIRECT SALE BY THE SUPPORTED GROUND UNIT, THROUGH THE MEDIUM OF THE RELATED GLOST AIR SUPPORT CONTROL AGENCY, WHOSE RESPONSIBILITIES EXTEND TO A PASCRIBED GEORAPHIC AREA.
- U. RESPONSE OF THE CLOSE SUPPORT AIRCRAFT TO CALLS FOR SUPPORT FROM THE SUPPORTED GROUND UNIT WILL NOT BE SUBJECTED TO ANY DELAY FOR

PURPOSE OF MISSION EVALUATION OR MISSION CLEARANCE AT LEVELS MIGHER THAN THE RELATED CLOSE AIR SUPPORT AGENCY.

- E. CLOSE AIR SUPPORT MISSIONS WILL BE CONTROLLED BY A FORWARD AIR CONTROLLER STATIONED WITH THE SUPPORTED UNIT, OR, IN MIS ABSENCE, BY AN AIRBORNE TACTICAL AIR COORT MATOR.
- F. NOTHING HEREIN VITIATES THE PATOR CINCPAC PROVISION THAT GLOUS HACV'S AIR FORCE COMPONENT COMMANDER SHALL ACT AS GOOD INSTING AUTHORITY FOR MATTERS PERTAINING TO TACTICAL AIR SUPPORT AND AIR TRAFFIC CONFROL IN SOUTH VIETNAM. THE COORDINATION PROCESS HEALL NOT IN ANY WAY DECRADE THE RESPONSIVENESS OF THE CLOSE SUPPORT AIRCRAFT NOR OF THE RELATED CLOSE AIR SUPPORT CONTROL AGENCY. GOODDINATING AUTHORITY IS DEFINED IN PARAGRAPH 30281-30283 OF UMAAF.
- A. IN APPLYING THE FOREGOING PRINCIPLES, THE FOLLOWING PROCEDURES WILL BE FOLLOWED WITH RESPECT TO APPORTIONMENT OF AIR RESOURCES BETWEEN CLOSE AIR SUPPORT AND OTHER IN-COUNTRY OFFENSIVE AIR OPERATIONS:
- A. TACTICAL GROUND UMITS WILL, ON THE DAY PRECEDING, STATE INCHE ESTIMATED REQUIREMENTS FOR PREPARATORY AIR ATTACKS AND FOR ON-GALL CLOSE AIR SUPPORT, "NOLUDING DEGREE OF ALERT REQUIRED.



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PAGE 4 RUHPG 2002 S E C R E T

B. THESE REQUIREMENTS WILL BE INTEGRATED BY THE COORDINATING AUTHORITY WITH THOSE FOR GENERAL AIR ATTACKS AND MEASURED AGAINST MEANS AVAILABLE, AS REPORTED BY IN-COUNTRY AIR UNITS.

C. SHOULD THE MEANS AVAILABLE BE INADEQUATE TO FULFILL ALL REQUIREMENTS, APPORTIONMENT OF MEANS WILL BE MADE BY COMUSMACV, IN ACCORDANCE WITH THE GENERAL PRIORITY ESTABLISHED IN PARAGRAPH 2 ABOVE.

5. IN THE CONDUCT OF CLOSE AIR SUPPORT OPERATIONS EACH CLOSE AIR SUPPORT CONTROL AGENCY WILL FULFILL ON-CALL REQUESTS FROM FORCES OPERATING WITHIN ITS ASSIGNED AREA OF RESPONSIBILITY TO THE LIMIT OF THE MEANS WHICH HAVE BEEN ALLOCATED. SHOULD CONTINUING REQUESTS FOR CLOSE AIR SUPPORT EXCEED THE MEANS AVAILABLE, THE CLOSE AIR SUPPORT CONTROL AGENCY WILL NOTIFY THE COORDINATING AUTHORITY, WITH A REQUEST FOR FURTHER ALLOCATION OF MEANS TO FULFILL THE REQUIREMENT OF THE ENGAGED FORCES. THE COORDINATING AUTHORITY WILL RESPOND TO THE LIMIT OF HIS CAPABILITY, IN ACCORDANCE WITH THE PRIORITY ESTABLISHED IN PARAGRAPH 2 ABOVE. WHEN AIR ASSETS BASED IN SOUTH VIETNAM ARE INSUFFICIENT FOR THE TASK, THE COORDINATING AUTHORITY SHOULD IMMEDIATELY INFORM COMUSMACY SO THAT HE CAN REQUEST ADDITIONAL AIR SUPPORT ASSETS FROM CINCFAC. UNDER THESE

CIRCUMSTANCES, CINCPAC WILL DIRECT CINCPACELT TO SUPPORT COMUSMACV WITH CARRIER-BASED AIRCRAFT, THAI BASED AIRCRAFT ARE NOT AVAILABLE FOR USE IN SOUTH VIETNAM BUT MAY BE TEMPORARILY TRANSFERRED TO FIELDS IN SOUTH VIETNAM IF THERE IS SUFFICIENT AIRFIELD CAPACITY.

6. SHOULD ANY SUPPORTED U.S. GROUND ELEMENT COMMANDER DETERMINE THAT CLOSE AIR SUPPORT MEANS ARE REPEATEDLY INADEQUATE FOR HIS PURPOSES, OR THAT PROCEDURES IN EFFECT ARE INADEQUATELY RESPONSIVE HE SHALL BE OBLIGED TO SO ADVISE COMUSHACV, WHO WILL EITHER REQUEST THE PROVISION OF ADDITIONAL MEANS OR RECOMMEND ALTERATION IN THE PROVISIONS HEREOF TO ACCELERATE THE CLOSE AIR SUPPORT PROCEDURES. IN ANY EVENT, COMUSHACV WILL MAKE A MONTHLY REPORT TO THIS HEADQUARTERS, SUMMARIZING ANY PROBLEMS ENCOUNTERED IN EXECUTING THE PRINCIPLES AND PROCEDURES PRESCRIBED HEREIN.



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HEADQUARTERS OF THE COMMANDER IN CHIEF PACIFIC Fleet Post Office San Francisco, California

CINCPAC 003120.3 (J51) 6 June 1962

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CINCPAC INSTRUCTION 003120.3

From: Commander in Chief Pacific

To: Distribution List

Subj: Policy Governing the Establishment of Combat Operations Centers

and Air Operations Centers (U)

1. Purpose. The purpose of this Instruction is to set forth guidance and establish policy relating to the establishment of Combat Operations Centers (COCs) and Air Operations Centers (AOCs) in the Pacific Command (PACOM) for the exercise of command and control responsibilities by appropriate commanders.

2. General.

- a. The Combat Operations Center and the Air Operations Center are facilities which are established and operated for certain operational commanders to assist them to exercise their command, control and coordinating responsibilities. These operations centers are facilities to assist and facilitate command decision under combat conditions and to make these decisions known to all forces concerned. The centers have no command or control responsibilities per se.
- b. Command, control and coordination of combat forces assigned, allocated or made available to CINCPAC will be exercised through his Component Commander or through Subordinate Unified Commanders and Joint Task Force Commanders established by CINCPAC. Command, control and coordination of combat forces assigned, allocated or made available to Subordinate Unified Commanders, Joint Task Force Commanders, and SEATO Force Commanders will be exercised through their assigned Army, Navy and Air Force component commanders. Air force component commanders will

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act as the Coordinating Authority for their force commanders to coordinate are operations of air units operating in the force commander's area but not assigned or attached to the air force component commander. Where coordinating authority is assigned to a component commander (CC) by his form commander for coordinating the operations of combat forces other in those assigned, allocated or made available to him, the CC will reise this authority with discretion. In the event essential agreement for coordination between the coordinating authority and the commanders of the combat forces concerned is not reached, the CC will not have authority to compel agreement; he shall refer the matter to his force commander for decision.

- c. In he event of a major emergency in his area of responsibility which necessitates immediate use of any or all available PACOM resources, the force commander may authorize the appropriate CC to assume temporary operational control of these resources. The determination of the existence of such an emergency is the responsibility of the force commander concerned and shall not be delegated or assigned.
- 3. Combat Operations Center. A Combat Operations Center (COC) is a command and control facility established by CINCPAC, and/or one of his Subordinate Unified Commanders, a Joint Task Force Commander or a SEATO Force Commander for the purpose of assisting the force commander to:
- a. Direct, control and command the strategic and tactical combat operations of major assigned and attached combat forces, and those Allied combat forces made available:
- b. Maintain current information on ground, naval and air operations and the status of his assigned and attached combat forces;
- c. Exchange battle information and coordinate and/or modify battle plans in order to enhance mutual support and to exploit inherent capabilities of the air, ground and naval forces;

CINCPACINST 0031260 6 June 1962

- d. Coordinate the operations of assigned and attached forces;
- e. Maintain liaison with POLO in order to keep abreast of planned atomic strikes on critical targets in the areas of concern and to assure coordination of on-call nuclear strikes against targets recommended for attack;
 - f. Maintain plots of nuclear detonations;
- g. Maintain target information on principal targets within the operational area of concern.
- 4. Air Operations Center. An Air Operations Center (AOC) is a command and control facility established by an Air Force component commander, maintained and operated by him with assisting personnel provided from the other CCs. for the purpose of assisting the Air Force component commander to:
- a. Receive and evaluate requests for close air support from various ground forces' headquarters and establish the priorities of such requests in accordance with the guidance of the Force Commander.
- b. Direct and control those combat forces within his area of responsibility assigned to him by PACAF and/or allocated and made available to him by his commander.
- c. Act for his commander as a Coordinating Authority in coordinating the operations of air units not assigned or made available to him, but which are operating in the area of responsibility of his commander.
- d. Control, assign missions to or divert in a major emergency, any or all air resources assigned, allocated or made available to his commander in accordance with the policy stated in paragraph 2 above.
- 5. Alternate command and control centers will be established in

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CINCPACINST 003120.3
 6 Juno 1962

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accordance with current CINCPAC OPLANs and guidance and policy promulgated in this Instruction.

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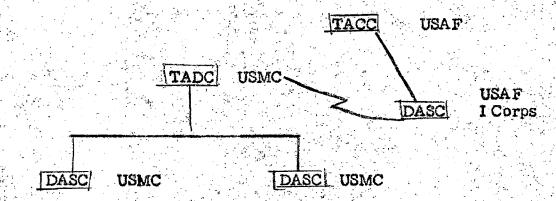
AAP-mog 17 Feb 1966

FOR MAJOR GENERAL WALT:

POINT PAPER

Subj: Control of Marine Air Support In Vietnam

- 1. Attached for reference is a schematic which compares the USMC and the USA/USAF air control systems as they function in SVN.
- 2. The following relationship exists between the principal Marine Air Control agencies and the USAF overall air control system in SVN.



POINTS:

- a. Marine Air is an integral component of III MAF. Close integration of air and ground operations is a basic tenet of Marine Corps combat doctrine.
- b. The Marine Air Control system is designed to provide the CG III MAF with the means to exercise through his Tactical Air Commander rapid and positive control of his aviation forces and to effectively coordinate their air support operations with the fire and maneuver of the ground elements; to include heliborne operations.
- c. The USMC Wing G-3 allocates aircraft in coordination with the MAF/Div G-3. The Marine TADC is the agency through which the coordinated air support requirements are executed. The TADC is essential for the CG III MAF to effectively direct the operations of his aviation forces particularly in rapidly changing combat situations where air support must be diverted from one effort to another.
- d. The two Marine DASC's are the primary air control agencies in the Chu Lai and Danang TOARS respectively.

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AAP-mog

Subj: Control of Marine Air Support in Vietnam

- e. The DASC's are collocated with the FSCC's (Fire Support Coordination Centers) of the ground commanders of each TAOR.
- f. The DASC is essential to maintain positive control of all air support operations in the TAOR, and in conjunction with the ESCC, insure that air support is coordinated with artillery support and the maneurez of the ground forces.
- g. The DASC controls both helicopter and fixed wing aircraft, coordinating fixed wing support of helicopters and integrating helicopter movements with other supporting fires.
- h. The DASC's have scramble authority over aircraft allocated, for rapid response to the air support requirements of the ground units.
- i. The Marine Air Control System is tied in with the 2d Air Division TACC through the I Corps USAF DASC. At any time Marine Air is required to support emergency missions for other than Marine Forces they can be rapidly diverted through the existing USAF/Marine Air control agencies. (For example, during the siege at Ple Me and the ambush in the Ia Drang Valley, Marine aircraft were diverted at the request of the 2d Air Division TACC to augment the support that was provided by USAF and U.S. Navy aircraft.

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III MAR air control is in accordance with JCS conceived doctrine for airspace control. This doctrine provides that the Air Force component commander will be the coordinating authority for the Joint Force commander; thus recognizing the requirement for a single coordination point to enable all components to operate in the airspace as necessary to support combat operations. I understand that this JCS conceived doctrine is presently being written as Joint Doctrine by the cognizant Services, but the wisdom of such a dectrine is being proven daily in SVN. The Army, Air Force, and Marine Corps are each operating their own aircraft in a most effective manner to support their combet operations. Of course, the responsibility for air defense is vested in a single authority as is the authority to take control of all air in an emergency. Again, I might say, that this procedure for control of air is proving highly satisfactory in South Vietnam in supporting Army and Marine Corps ground operations. I believe the record speaks for itself. As a matter of fact. I find it difficult to envision one agency controlling all Army and Marine Corps air in the country. The capability of massing air power has been demonstrated at such places as Plei Me and Isdrang Valley.

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PERSONAL FOR MAJGEN WALT INFO GEN GREENE FROM LIGEN KRULAK COMBAT OPERATIONS CONTROL STRUCTURE FOR USMACV (U)

A. YOUR 0306762 (PASEP)

1. AGREE WITH REF A THAT STUDY GROUP SUBJECT IS OF FAR REACHING IMPORTANCE.

2. OF PRIMARY INTEREST IS PROTECTION OF MARINE COMMAND AND CONTROL AUTHORITY OVER MARINE PORCES IN VIETNAM. FOR THE MOST PART OUR REACTIONS ARE PRETTY OBVIOUS, HOMEVER, THE FOLLOWING PARAGRAPHS GIVE YOU MY VIEWS.

PAGE 2 YYNA 620 S E C R E T 5. WITH REGARD TO SUBPARAS OF PARA 1 OF REF A, THE FOLLOWING COJECTIVES SHOULD GOVERN OUR CONFERES:

AL COMBAT OPERATIONS

(1) RETENTION OF COMMAND OVER U.S. OPERATIONS IN I CTZ.
III MAF SHOULD BE A MAJUR COMMAND DIRECTLY SUBORDINATE ONLY TO
THE OVERALL COMMANDER, COMUSMACV, OR WHATEVER TITLE HE MAY BE
ASSIGNED.

(2) ADEQUATE MARINE REPRESENTATION IN RANK AND NUMBERS ON

THE OVERALL COMMAND LEVEL,

B. IF DIRECTORATE OF COMBINED OPERATIONS OR EQUIVALENT AGENCY SHOULD BE FORMED AT THE OVERALL AND MAJOR SUBORDINATE (III MAF/ICTZ) COMMAND LEVEL, III MAF SHOULD BE ADEQUATELY REPRESENTED IN MANK AND NUMBERS.

Go with regard to allogation, coordination and method of

CONTROL OF SUPPORTING FORCES:

(1) III MAF SHOULD RETAIN THE NAVAL COMPONENT COMMAND AUTHORITY.

(2) AIR SUPPORT

(A) PROTECT THE PRESENT POLICY WHEREBY MARINE AVIATION SEPPORTS III MAF REQUIREMENTS FIRST, AND IS UTILIZED TO MEET 2D

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PAUL D ITMA DZW S & U H E I AIR DI) REQUIREMENTS, DILY IF IN EXCESS OF III MAF REQUIREMENTS. (B) SEEK TO OBTAIN RESPONSIBILITY FOR THE FROYISION OF CLOSE AIR SUPPORT OF ALL U.S. ZTHIRD COUNTRYZARYN FORCES IN I CTZ. COD GAIN AN AGREEMENT THAT WILL PROVIFE FOR USE OF MARINE UNITS FOR AIR DEFENSE OF THE DANANG AIR DEFENSE SUB SECTOR, REALIZING THAT THE OVERALL RESPONSIBILITY FOR AIR DEFENSE OF SEA RESTS IN MAINLAND SOUTH EAST ASIA AIR DEFENSE REGION. SPECIFICALLY, 111 MAF LAAMS AND MAGS ARE INTREGRATED NTO THE OVERALL SYSTEMS MARINE F48°S SHOULD ASSUME ALL OF THE ALERT/CAP TASKS IN DANANG

SUB SECTOR. (D) AVOID THE LOSS OF CONTROL OF MARINE AIRCRAFY BY MACY FORMATION OF AN AIR FORCE CONTROLLED JOC, SUCH AS THAT OPERATED IN KOREA.

(3) 111 MAP SHOULD COMMAND ALL U.S. ARTILLERY FIRE SUPPORT.

Engineer and Chemical Support in I CTZ.

(4)(5)(6) THE PRESENT ARRANGEMENTS FOR AIRLIFT. COMMUNICATIONS AND INTELLIGENCE SUPPORT SHOULD CONTINUE. IN PARTICULAR, THE STATUS QUO ANTE SHOULD BE MAINTAINED REGARDING logation, command and centrol of ymgr aircraft. A. IN RESPONSE TO YOUR REQUEST FOR A WORKING MEMBER OF THE STUDY

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MACV Dir 95-5

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DIRECTIVE

ni dNUMBER 95-5* or depulsement (8) and a contract of user being

11 November 1966 (MACJ322)

AFM 55-13.

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AVIATION FLIGHT FACILITIES IN THE REPUBLIC OF VIETNAM

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notice a. To prescribe policies and procedures for the establishment of airfield flight facilities, navigational flight facilities, and air traffic control at US operated airfields.

vitaria de b. To designate predominant users of airfields and assign responsibilities to insure that assigned airfields meet minimum essential abbei criteria for safe and efficient air traffic control.

2. GENERAL.

- a. The term "predominant user" is defined as one of the following:
- (1) The command specified in Annex A hereto for those fields listed; or,
- (2) The command having an aviation company/squadron, or larger unit occupying an airfield; or,
- (3) The corps senior advisor for those airfields serving advisor teams and special forces camps where no aviation unit is based; or,
- (4) The senior US commander of the supported unit at forward air strips as provided in MACV Directive 95-9.
- b. Airfield flight facilities are required to meet minimum criteria to assure adequate safety of flight for all aircraft. Certain facilities require periodic flight checks. Direct coordination between units requesting flight checks and 7th Air Force (ATTN: DEF) is authorized.

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*This directive supersedes MACV Directive 95-5, 15 December 1965

MACV Dir 95-5 11 November 1966

- Where close geographical proximity of separate airfields exists. to the extent that terminal areas overlap, the predominant users concerned will coordinate procedures and installation of facilities to avoid conflicts and 500 to preclude unnecessary duplication.
 - Notices to airmen (NOTAMS) procedures will be as set forth in AFM 55-13.
 - e. Operational requirements:
 - (1) Unless operational requirements dictate otherwise, all flight facilities will be operated in accordance with pertinent flight regulations published by the cognizant service, GVN or the International Civil Aviation Organization (ICAO)...
 - (2) The following facilities are considered to be essential elements necessary for safe and efficient operations of all-weather, high density traffic airfields. Predominant users will determine which of the facilities listed below are necessary for the conduct of safe operations at other airfields under their jurisdiction:
- Tower equipped with UHF/VHF/FM radios.
- eld decourse organic (b) Approach control.
 - (c) Capability to procure IFR clearance.
 - To . To the apelynegue (d) Terminal navigation facility.
 - Make an epindrie (e) Approved instrument approach.
- ्रात क्षेत्रकार को line noit (f) अ Approved standard instrument departure. १०५००० इ
- brancol is the bottogg (g) Runway lights. ma : 11首5 (A)
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- mratica muminim toam of his regression.
- (i) risin facilities reguire Capability to procure weather information vasc of dite remesting flight pariodic alight checks, when the and checks and Tib Air Force (1955)
 - (j) Wind sock.
 - (k) Back-up generator.

*This directive surersedes MACV forective 95-5, 15 Decomber 1965

MACV Dir 95-5 11 November 1966

kit 83. in RESPONSIBILITIES.

- a. USARV.
 - (1) Designated predominant user, as listed in Annex A.
- (2) When requested by MACV, conduct airfield technical inspections to determine what facilities and/or control personnel are needed to operate airfields used predominantly by advisor teams and US special forces.
- b. COMNAVFORV. Designated predominant user, as listed in Annex A.
 - c. 7th Air Force.
 - (1) Designated predominant user, as listed in Annex A.
- (2) Accomplish required flight checks of all US NAVAIDS and Air Traffic Control (ATC) facilities on a regularly scheduled basis in accordance with US Standard Facilities Flight Check Manual (Army: TM 11-2557-25; Navy: NAVWEPS 16-1-520; Air Force: AFM 55-8), and as requested by units establishing new facilities.
- (3) Designated coordinating authority for matters pertaining to ATC within the MACV area of responsibility.
- d. III MAF.: Designated predominant user, as listed in Annex A.
 - e. Corps Senior Advisors.
 - (1) Designated predominant users for those airfields serving advisor teams and special forces camps where no aviation unit is based, and except for those listed in Annex A.
 - (2) Forward requirements for facilities and control personnel to COMUSMACV for approval.

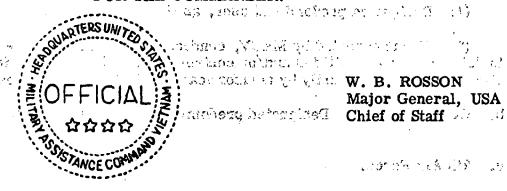
4. REFERENCES.

a. MACV Directive 95-9, subject: Joint Airborne/Airmobile Air Strip Operation.

MACV.Dir 9.5-5 11 November 1966

MACV Directive 95-4 (C), subject: US Air Operations in RVN (U).

FOR THE COMMANDER:



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MACV Dir 95-5 11 November 1966

PREDOMINANT USERS

AIRFIELD	PREDOMINANT USER
An Thoi	COMNAVFORV
Bien Hoa	7th Air Force
Binh Thuy	7th Air Force
Cam Ranh Bay	7th Air Force
Chu Lai	III MAF
Da Nang	7th Air Force
Dong Ha	III MAF
Hue/Phu Bai	III MAF*
Marble Mountain	III MAF
Khe Sanh	III MAF
Nha Trang	7th Air Force
Phan Rang	7th Air Force
Phu Cat II	7th Air Force
Pleiku (Cu Hanh)	7th Air Force
Tan Son Nhut	7th Air Force*
Tuy Hoa (South)	7th Air Force
Qui Nhon	USARV
All airfields in the Corps areas which serve as bases for company size or larger Army aviation units, except those airfields specified above for other Services.	USARV

*In coordination with RVN Directorate of Civil Aviation.

Annex A

CMC

HEADQUARTERS
UNITED STATES MILITARY ASSISTANCE COMMAND, VIETNAM
APO San Francisco 96243

DIRECTIVE
NUMBER 95-4*

6 February 1966 (MACCOC)

AVIATION AIR OPERATIONS IN RVN (U)

1. (U) PURPOSE. To establish operating procedures and assign responsibilities for command, control, and coordination of US air operations in the Republic of Vietnam (RVN).

2. (C) CONCEPT.

- a. The mission of US military forces in the RVN is to assist and support the Government of Vietnam (GVN) in their efforts to defeat the Viet Cong and extend government control over all the RVN.
- b. It is not the intent of this directive to alter or modify current Service concepts for allocation and control of air resources. All Services, however, operate through portions of the same airspace and are frequently employed on joint and combined operations. Each possesses, to some degree, the capability to accomplish missions normally assigned to another Service. Close cooperation and coordination are therefore required to assure that efforts are complementary, integrated, and achieve the most effective results.

3. (C) GENERAL.

- a. US Air Force air resources will be employed under the USAF concept of centralized control and decentralized operations. A Tactical Air Control System (TACS) has been established in RVN for use as both an operational and a training vehicle. Allocation and control of USAF/VNAF air resources and coordination of USMC/USN aircraft will be exercised through the elements of this system. Aircraft and units operating under the TACS will be allocated through the Tactical Air Control Center (TACC) to Direct Air Support Centers (DASC's) as appropriate, for operations in support of Corps Tactical Zones (CTZ's).
- b. US Army Aviation resources will be allocated to Senior Corps Advisors and US commanders for employment in support of ARVN/US/Free World Military Assistance Forces (FWMAF) operations. Aviation resources so allocated will be assigned, insofar as practicable, missions of direct support of ARVN divisions and zones, and US/FWMAF divisions, brigades, and regiments. Senior Advisors will establish an Army Aviation Element (AAE) within each Corps and Division Tactical Operations Center (TOC). US commanders will establish AAE's at unit TOC's. A DASC will be collocated with each Corps TOC to assure coordination of US/VNAF air activities.

*This directive supersedes MACV Directive 95-4, 13 July 1965

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DECLASSIFIED AFTER 12 YEAR
DOD DIR 5200.10

Directive Number 95-4, HQ MACV (Cont)

6 February 1966

- c. Aviation assets will be allocated as directed by COMUSMACV. US Army resources are subject to relocation, recall, or diversion through the Army Aviation Division (AAD), Compat Operations Canter (COC), with priorities established by this headquarters and the RVNAF JGS. USAF/VNAF resources are subject to relocation, recall, or diversion through the TACC. USMC resources will be allocated through Marine command channels for the support of USMC operations. Aircraft in excess of USMC requirements will be reported to and allocated by TACC.
- d. US Army Aviation resources assigned in general support and not allocated to support a specific ARVN Corps, Division, or US unit will remain under operational control of COMUSMACV. Resources in this category will be controlled and allocated by AAD, COC, MACV, in accordance with priorities established by this headquarters and the RVNAF JGS. When committed to operations, such resources will be under operational control or in support of the commander of the US unit, or the Senior US Advisor of the ARVN unit concerned until released by the US commander or advisor, or recalled by MACV through the AAD.
- e. US/FWMAF units assigned to a CTZ or major US unit will request US Army Aviation support through the respective TCC.
- f. US military aircraft will operate under a single coordinated Air Traffic Control System. This system identifies and regulates aircraft that are performing tactical air support. It does not exercise mission control or denial, but will make maximum coordinated use of communications, facilities, personnel, and equipment organic to each of the Services. The provisions of the reference cited in paragraph $6c_{\rho}$ apply.
- g. For planning purposes, the employment of available air support will normally be committed in the following order of priority:
 - (1) Troops engaged with the enemy in combat.
- (2) Relief convoys and spray aircraft escort on crop destruction and defoliation missions.
- (3) Units on major ground operations (pre-strike and air cover).
 - (4) Air cover for trains, convoys, ships, and aircraft.
 - (5) Other targets:
 - (a) Targets directly affecting current operations.
 - (b) Lucrative perishable targets.
 - (c) Lucrative targets expected to exist for a period of

time.

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Directive Number 95-4, HQ MACV (Cont)

6 February 1966

h. In the event of a major emergency or disaster, COMUSMACV may direct the Commander, Second Air Division, to assume operational control of all US air resources. The responsibility for determining the existence of such an emergency rests with COMUSMACV and will not be delegated.

4. (C) RESPONSIBILITIES.

- a. Commander, Second Air Division, will:
- (1) In his capacity as MACV Air Force Component Commander, coordinate all US air operations and VNAF activities necessary for the conduct of active air defense.
- (2) Establish and operate, in conjunction with the RVNAF, a Tactical Air Control System for command and control of USAF/VNAF strike aircraft and for the coordination of USMC/USN strike aircraft.
- (3) Provide essential training for VNAF in offensive and defensive tactical air operations.
- (4) Conduct offensive and defensive tactical air operations to include maintenance of air superiority, interdiction, close air support, reconnaissance, search and rescue, air transport, and other supplemental air support as required.
- (5) Establish, in conjunction with other US and RVN agencies, an Air Traffic Control System which:
- (a) Provides optimum freedom of movement for all aircraft consistent with the priority of their mission and the degree of risk considered to be operationally acceptable.
- (b) Provides the capability to warn airborne aircraft of conflicting usage of the airspace.
- (c) Is compatible with air defense requirements to include identification and air defense warning.
- (d) Incorporates provisions for accepting flight planning information from other Services.
 - (6) Provide meteorological support for air operations.
- (7) Be responsible for and coordinate all search and rescue (SAR) activities.
- (8) Prepare joint instructions in conjunction with CG, USARV; CG, 1st MAW, as the Tactical Air Commander for CG, III MAF; and in coordination with Commander, 7th Fleet, to assure integrated and coordinated air operations.

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Directive Number 95-4, HQ MACV (Cont)

6 February 1966

- b. Commanding General, US Army, Vietnam, will:
- (1) Provide US Army Aviation resources to support ground operations including airmobile operations, aerial surveillance, aerial fire support, search and rescue, air transport, and other supplemental air support, as required.
- (2) Exercise command, less operational control, of those US Army Aviation resources allocated to Corps Senior Advisors, US commanders, and those under operational control of COMUSMACV.
- (3) Provide qualified aviation personnel to operate Army Aviation Elements at Corps and Division TOC's.
- (4) Provide US Army Aviation support for Headquarters, Military Assistance Command, Vietnam.
- (5) Establish and operate an Army Air Traffic Regulation and Identification System, coordinated with and responsive to the Air Traffic Control System.
- (6) Prepare in conjunction with the Commander, Second Air Division, joint operating instructions to assure integrated and coordinated air operations.
- c. Commanding General, III MAF, thru his Tactical Air Commander, the CG, lst MAW, will:
- (1) Exercise operational control over all USMC aviation resources except as provided for in paragraph 3h, above.
- (2) Conduct offensive and defensive tactical air operations, to include close air support, interdiction, reconnaissance, maintenance of air superiority, air transport, search and rescue, and other supplemental air support, as required.
- (3) Identify to the Commander, Second Air Division, through the TACS, those air resources not currently required for support of III MAF operations so that such resources may be used to support other forces.
- (4) Provide aircraft to support US 7th Fleet operations as directed by COMUSMACV or higher authority.
- (5) Establish and operate an organic Tactical Air Control System to include a Tactical Air Direction Center. Coordinate and integrate this system with the TACS operated by VNAF/USAF.
- (6) Prepare in conjunction with the Commander, Second Air Division, joint operating instructions to ensure integrated and coordinated joint effort.

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Directive Number 95-4, HQ MACV (Cont)

6 February 1966

- d. Commander in Chief, Pacific Fleet: Provides strike aircraft as directed by CINCPAC to operate in coordination with the USAF/VNAF TACS.
 - e. US commanders will:
- (1) Exercise operational control over allocated US Army Aviation resources.
- (2) Establish within allocated personnel resources an Army Aviation Element at each Corps TOC.
 - f. Corps Senior Advisors will:
- (1) Exercise operational control over allocated US Army Aviation resources.
- (2) Establish within allocated personnel resources an Army Aviation Element in the Corps TOC. A DASC will be collocated with the Corps TOC.
- (3) Establish within allocated personnel resources an Army Aviation Element at each ARVN Division TOC.
- (4) Within allocated resources provide essential aviation support for ARVN military and paramilitary forces in zone of responsibility, including units of the General Reserve and Special Forces when committed.

5. (C) OPERATIONAL PLANNING.

- a. Joint preplanning of US/VNAF aviation support will be conducted on a daily or more frequent basis at Corps and Divisions. Air Liaison Officer, representatives of DASC's, and Army Aviation Elements will participate in tactical ground operations planning to assure that air support requirements are fully considered and to assure a coordinated air-ground effort. USMC officers and 7th Fleet Liaison Officers will also participate on appropriate occasions.
- b. Senior Advisors and US commanders will assure that preplanning considers the use of air support for all ground operations. Plans for movement of convoys and trains, ground reconnaissance patrols, security forces, and quick reaction units will include provisions for using air support. In the conduct of airmobile operations, pre-strikes or aircover by strike aircraft will be used when possible in all landing zones where there is a possibility of VC opposition.
- c. Planning of air operations in support of III MAF ground operations will be conducted within III MAF channels, but coordinated with TACC, DASC's, and CTOC's by USMC Liaison Officers, as appropriate.
 - d. Air request channels: Annexes A, B, and C.

CONFÍDENTIAL

Directive Number 95-4, HQ MACV (Cont)

6 February 1966

6. (U) REFERENCES.

a. JCS Publication 1, Dictionary of United States Military Terms for Joint Usage (JD).

- b. JCS Publication 2, Unified Action Armed Forces (UNAAF).
- c. Letter of Agreement between DCA, VNAF, and MACV, dated 5
 February 1965, subject: Special Procedures for Tactical Operations Flights, MACJ311, Serial 395.
- d. MACV Directive 95-2 (C), Employment of and Operational Restrictions on US Military Air Delivered Firepower in RVN (U).
 - e. MACV Directive 95-3 (C), USA/USMC Aviation Support (U).
- f. MACV LOI governing operations of III MAF in RVN, dated 6 May 1965.

FOR THE COMMANDER:



W. B. ROSSON Major General, USA Chief of Staff

L. M. HARRIS Colonel, AGC Adjutant General

3 Annexes

- A USMC Emergency Air Request Channels
- B VNAF/USAF Immediate Air Request Channels
- C VNAF/USAF Preplanned Air Request Channels

Directive Number 95-4, HQ MACV (Cont)

6 February 1966

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10 - USAF AWC

10 - CINCPAC

5 - CINCUSARPAC 5 - CINCPACFLIT 5 - CG, FMFPAC - CINCUSARPAC

5 - CINCPACAF

25 - Cdr, 2AD

50 - CG, USARV 25 - CG, III MAF 25 - CG, FFORCEV 25 - CG, 1st Inf Div

30 - MACJ3

25 - Cdr, III Corps Adv Gp 25 - Cdr, IV Corps Adv Gp

2 - Sr Adv, Rung Sat SZ 25 - COMSEVENTHELT

DOWNGRADED AT

FAC may be scrambled if not with ground unit. If FAC not available, ground commander may accept responsibility for strike provided he can mark target and/or can communic te with strike sircroft.

USEC unit notifies USEC DASC of emergency situation

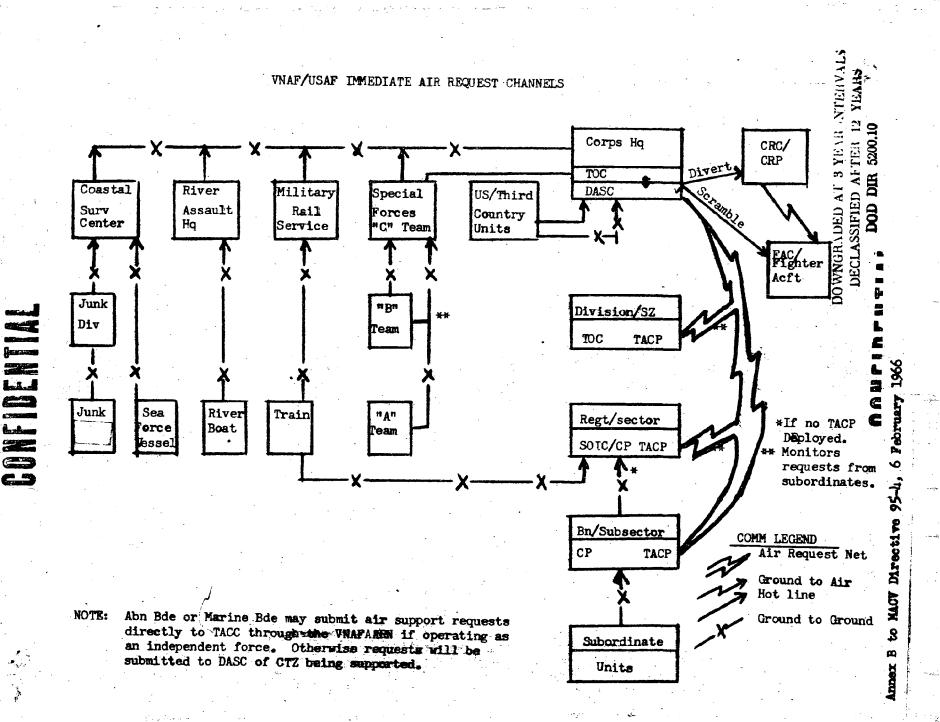
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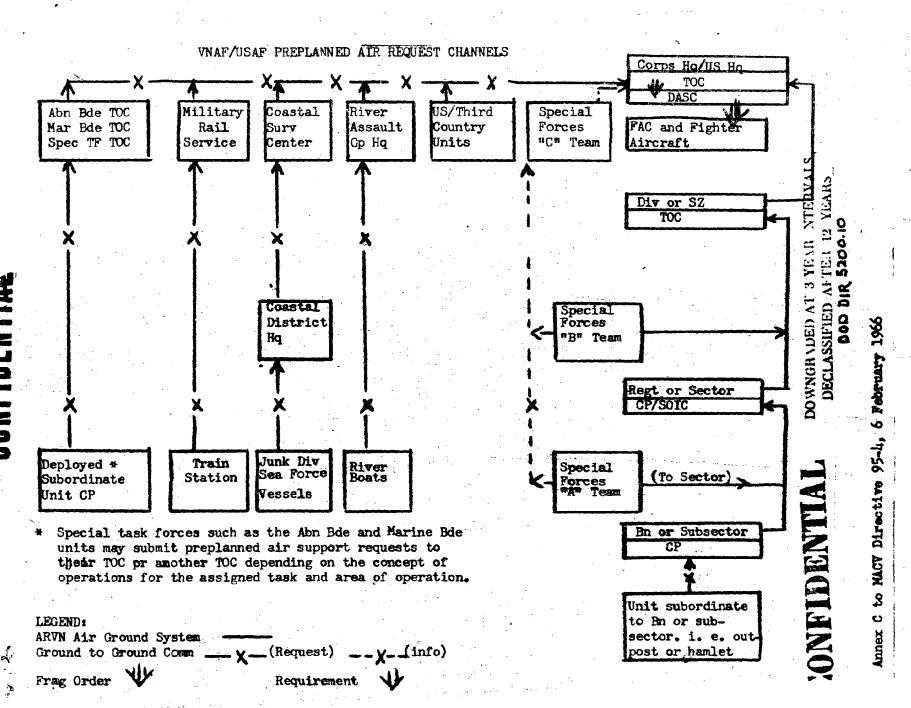
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6. * 331.0 DASC request scramble/divert sircraft. FSCC coordinates/clears mission. Attack sircraft report to ground FAC or Tactical Air Coerdinator Airborne (TAC(A)) for control of strike.

LEGEND Not Line Air-Grd, Grd-Air

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HEADQUARTERS MARINE CORPS ROUTING SHEET SAC NO. NAVMC HQ 335h-CMC (REV. 9-64) 17 Nov 66 COPIES PREPARED COPIES NUMBERED _THRU_ OPR. (If applicable, INITIAL RTG. ADDRESSEES CODE check one) онт COMMANDANT REQUEST FOR PERMANENT RETENTION (COPY) (BUCKTAG COPY) ASSISTANT COMMANDANT
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UNITED STATES MARINE CORPS
HEADQUARTERS, FLEET MARINE FORCE, PACIFIC
FPO, SAN FRANCISCO, 96602

IN REPLY REFER TO

3T/FCR/mbk 00118 \ 66

8NOV 1966

SECRET

From: Commanding General, Fleet Marine Force, Pacific

To: Commandant of the Marine Corps

Subj: Training Capability of FMFPac Aviation Forces (U)

Ref: (a) MCCRTG Conference at HQMC of 5-7 Oct 65

(b) CMC 241438Z/SEP66

Encl: (1) Schedule for input of trainees

(2) Schedule for output of replacements

(3) Recommended on board strength

(4) WestPac Aviation Officer requirements

- 1. During reference (a), the distribution of Marine Corps aviation assets, the shortage of Marine Corps pilots, possible reorganizations and the assignment of future quotas for WestPac pilot replacements were briefly discussed.
- 2. Following the above meeting a study was undertaken to determine additional pilot training that could be accomplished over that programmed for CY 1966 within FMFPac resources. The results of the study establish that a substantially larger training load can be borne by this command. Specifically, a total of 633 pilots can be trained during CY 1967 as compared with 274 during CY 1966. The results of this FMFPac study on training capabilities are provided for your use in assessing the overall Marine Corps capability to fulfill WestPac pilot requirements.
- 3. In the development of the FMFPac capabilities study, the following assumptions were made:
- a. MAG-56 will be activated in a cadre status and remain in this status until CY 1968.
 - b. MAG-24 will not be transferred to FMFPac until CY 1968.
- c. VMO-3 will deploy with 24 UH-1E helicopters during FY 1967.
- d. VMO-5 will be activated with 12 UH-1E helicopters during the 1st quarter of CY 1967.
- e. FMFPac will not be tasked with assisting NATC in the training of belicopter pilots.

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- f. VMT-103 will have eleven TA4F aircraft on 1 Jan 67 and subsequently will receive two per month until a total of 24 aircraft are on hand.
- 4. Utilizing the present FMFPac assets and those programmed by reference (b), FMFPac has the capability to accomplish the following during CY67:
 - a. Deploy HMH-463 (-) with 48 NAs.
 - b. Deploy VMFA-122 with 21 NAs and 21 NFOs.
 - c. Deploy VMO-3 (second increment) with 21 PQMs.
 - d. Deploy HMM-364 with 53 NAs.
 - e. Provide WestPac replacements as follows:

	· · · · · · · · · · · · · · · · · · ·	The state of the s		
MOS	NUMBER	LEAD TIME REQUIRED	(MONTHS)	
		First Tour/Second	Tour	
7302	24	6/2		
7304	6	5/1		
73 07	23	6/3		
7308	2 4	3/11/2	€	
73 32	16	6/2	*.	
7333	81	4/11/2		ř
7335 (UH-1E)	56 -46/mo	5/2	, į	į
(UH-34)	144 -12/mo	4/2		{
(CH-46)	98 - 8.1	4/2		•
(CH-53)	18 ~ /.6	4/2		
7352	22	6/2		
7354	2 2	6/2		
OF67	68	6/2	•	

NOTE: The above replacement figures are predicated on approximately 20% of the personnel being second tour pilots. Approximately two second tour pilots can be substituted for each first tour pilot deleted and vice versa.

5. Enclosure (1) contains the necessary schedule for input of trainees to support the replacement training capability stated above. Any slippage of this input will result in a corresponding slippage in output or in a reduction of the training given to the replacement. Enclosure (2) contains the output of replacements based on input contained in enclosure (1).

- 6. Enclosure (3) contains the recommended on board strength reflecting input and output of replacement pilots plus the required instructor personnel. The experienced pilots assigned to the squadrons have been reduced to an instructor cadre. The number of trainees on board may, in some cases, result in an increase in the manning level of the squadron. This balance of permanent/transitory personnel is deemed to be the most economical and the most efficient method of training WestPac replacement personnel. To monitor effectively this instructor/trainee program it would be stabilized for a period of time and be maintained by input of WestPac returnees, while the replacement manning level would be maintained by input from NATC and other CONUS sources.
- 7. Enclosure (4) contains the CY67 WestPac Aviation Officer personnel replacement requirements and depicts both the hard and soft seat requirements. Not included in these requirements are three factors which must be considered. These factors are internal rotation between staff/tactical billets, attrition and transit time (TP&P). The following is a recapitulation of FMFPac capabilities versus the WestPac hard seat requirements. These hard seat requirements reflect minimum requirements and do not include allowances for aforementioned factors.

MOS	CY67 WestPac Requirements	FMFPac Capabili ti es	Shortfall/Excess
7302	0	2 4	+24
7304	6	6	· '0
7305	35	0	~ 35
7307	155	44	-111
7308	41	24	-17 ,
7332	9	16	+7
7333	181	81	-100
7335	733	438	–2 9 5
UH-1E	(139)	(77)	(-62)
UH-34	(234)	(144)	(-90)
CH-46	(287)	(151)	(-136)
CH-53	(58)	(66)	(+8)
CH-37	(15)	(0)	(-15)
7336	13	0	-13
7352	155	43	-112
7354	21	22	+1

WestPac Air Forces/Ground Forces Aviator replacement requirements Fiscal Year 1967.

1. Hard Seat Requirements:

a. The following breakdown represents minimum tactical hard seat requirements within the WestPac Aviation Forces by MOS.

I	Unit	MOS Qualification	Strength Req	
(1)	VMF(AW)	7305	21 (42) Note 1	
(2)	VMFA	7307	105 (84) Note 1	
(3)	VMGR	7308	36	
(4)	VMCJ-1	7332	8 Note 1	
(5)	VMA	7336 7333(A4) 7333(A6)	13 112(140 Note 2 17 (34) Note 2	
(6)	нмм	7335 (UH-34) (CH-46) (CH-53) (UH-1E) (CH-37)	212(265) Note 3 265(212) Note 3 58 Note 4 129 Note 5 15 Note 6	1
TOT	AL		991	

b. The following operational billets are considered mandatory hard seat requirements in addition to those listed above.

	Billet	MOS Qualification	Strength Req
(1)	ASO .	7383 (7305) (7307) (7308) (7333) (7335)	1 5 2 5 6
	Test Pilot	7379 (7305) (7307) (7333) (7335)	1 2 2 2
(3)	LSO	7381 (7307) (7333)	2 2

SECRET

8. The information contained herein is intended as a training capabilities study. It is recognized that changes in deployment dates, activation of new units and fluctuations in aircraft delivery schedules subject this capability study to constant revisions and updating.

V. W. KRULAK

Copy to:
CG 3rdMAW
CO 1stMarBrig

SCHEDULE FOR INPUT OF REPLACEMENTS

ENCLOSURE (1)

DECLASSIFIED

7302	OCT	VON ^r	DEC	JAN	FEB	MAR	APR	MAY	MUL	JUL	AUG	SEP	OCT	NOV	DEC.
7302	3	3	3	3	0	. 0	. 0	0	Q .	0	0	0	0	0	O
7304	1	0	1	0	1	0	1	0	1	0	1	. 0 - 27	1	0	1
7307	2	3	2	2	3	2	2	. 3	2	2 -	3 .	2	2	3	2
7308	4	5	2	2	2	2	2	2	2	2	2	2	2	2	2
7332	_ 4	3	3	2	,2	2	2	2	2	2	3	3	3	3	3
73 3 5 UHIE	4	4	4	5	5	5	5	5	5	5	5	5	5	5 .	5
UH-3	4 12	12	12	12	12	12	12	12	12	12	12	15	15	12	15
CH-4	6 0	8	8	8	8	8	8	8	8	10	15	12	12	12	12
CH-53	30	~ O	. 0	0	0	0	0	0	0	0	0	0	0	0	0
7333	0	4	4	5	6	7	7	8	9	9	9	9	9	9	9
7352	4	2	3	2	2	2	2.	2	2	2	2	2	2	2	2
7354	2	2	2	2.	2	2	2	2	2.	2	2	2	2	2	2
6701	. 4	6	6	6	6	6	6	б	6	6	б	6	6	6	6
1st M 7302	ar Br 1	i g 1	2	2	2	2	2	2	2	2	2	2	2	2	2
67 01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

A STATE OF THE STA

HMMT-301	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOA	DEC
HMMT-301 Instructors	30	30	30	30	30	30	30	30	30	30	30	30
Trainees	48	48 😸	48	48	48	48	48	48	48	48	48	48
Total	78	78	78	78	78	78	78	78	78	78	78	78 :
HMMT-302 Instructors	3 0	30	30	30	30	30	30	30	30	30	30	30
Trainces	24	32	32	32	32	32	34	38	42	44	44	44
Total	54	54	62	6 2	6 2	62	64	68	72	74	74	74
SU#1 H&MS-30/										-		
VMO-5 Instructors	14	14	14	14	14	14	14	14	14	14	14	14
Trainees	18	19	20	21	21	21	21	21	21	21	21	21
Total	32	33	34	35	35	35	35	3 5	35	3 5	35	35
VMT-103 Instructors	24	24	24	24	24	24	24	24	24	24	24	24
Trainees	15	17	1 9	21	24	26	27	27	2 7	2 7	27	2 7
Total	39	41	43	45	48	50	51	51	51	5 1	51	51
HWW-465	6	E	6	6 .	6	10	12	14	16	18	20	21
нар	0	0	0	6	6	8	12	16	22	24	2 6	2 6
Total	6	6	6	12	12	18	24	30	38	42	46	48

ENCLOSURE (3)

DECLASSIFIED

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	1		*	,			RECOMME	NULL OIM	ساعة ماسد	f r = 4		ann.	OCITI	. NOV	DEC
	*			JAN NA/NFO	FEB NA/NFO	MAR N A/NF O	APR NA/NFO	MAY NA/NFO	JUN NA/NFO	JUL NA/NFO	AUG NA/NFO	SEP NA/NFO	OCT NA/NFO	NA/NFO	NA/NFO
		70	CA-122 allfled	13/13	14/14	15/15	16/16	17/17	18/18	20/20	21/21				SECRET ENCLOSURE (
		7.7	eliees	13/13	14/12	13/11	1 1/ 9	8/6	5/3	3/1	-		DEPLOY	Y	3ECF
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:	Seg.	~ <i>T</i>	42-334 1a)1f1ed	8	8 -	8 ·	8	5 /5	5/5	6/6	7/7	8/8	9/9	10/10	10/10
				17	15	13	11	17/12	17/14	19/16	18/15	17/15	16/14	15/13	15/13
			rainees otal	25	23	21	19	22/17	2 2/1 9	25/22	25/23	25/2 3	25/2 3	25/23	25/23
i		7/ O	MF-212 Wallfied	16	16	- 16	16	16	16	16	16	16	16	16	16
i		-	rainees	6	7	8	9	10	10	10	10	10	10	10	10
and the second s			'otal	22	23	24	25	26	26	26	26	2 6	26	26	26
		Ţ	MCJ-3 Qualified	4/4	5/5	6/6	7/7	8/8	9/9	10/10	10/10	10/10	10/10	10/10	10/10
			rainees	18/18	19/19	20/20	21/21	20/20	19/19	18/18	18/18	18/18	18/18	18/18	18/18
			rotal	22/22	24/24	26/26	28/28	28/28	28/28	28/28	28/28	28/28	28/28	58/5 8	28/28
100			MASS-5(OF		29	29	29	2 9	29	29	29	29	2 9	2 9	29
			MASS-5(OF		_	30	30	30	30	30	30	30	30	30	30
			MACS-4(OF		16	16	16	DEPLO	Y						
			macs-2(of		24	24	24	24	24	24	24	24	24	24	24
	And the second s	SECRET	VMO-3 Qualified Trainees Total	10 11 21	12 9 21	16 5 21	21 0 21	D]	EPLOY						

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ENCLOSURE

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	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
HMM-463 HAC	18	19	20	DEP	LOY ,				• ,		429 1	
Har	25	24	23		-	4			. "			
Total	43	4 3	43		41		•					i i i i i i i i i i i i i i i i i i i
VMGR-352 GPC	24	24	24	24	24	24	24	24	24	24	24	24
T2P	12	12	12	12	12	12	12	12	12	12	12	12
Trainees	9	9	9	9	9	9	9	9	9	9	9	9
Total	45	45	45	45	45	45	45	45	45	45	45	45

ENCLOSURE (2)

SECRET

				SCF	EDULE	FOR OU	TPUT (F REPI	ACEMEN	ITS			
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	7302/	1	0	1	0	1	0	1	0	1	0	1	0
	7304	2	2	2	2	2, ,	0	0	0	0	0	0	0
	7307	0	1	2	3	2 .	2	2	2 .	2 .	3	2	2
	7308	2	2	2	2	2	2	2	2	2	2	2	2
	7336	0	0	0 -	0	2	2	2	2	2	2	2	2
	7333	0	4	5	6	6	7 .	8	9	9 :	9	9	9
	7335 UHIE	4	4.	4	4	5 .	5.	5	5	5	5	5	5
	UH-34	12	12	12	12	12	12	12	12	12	15	1.2	12
	сн-46	0	8	8	8	8	8	8	8	8	10	12	12
	CH-53	0	0	0	0	0	0	0	0	0	4	-6	8
	7352	0	2	2	2	2	2	2	2	2	2	2	2
	7354	0	2	2	2	2	2	2	2	2	2	2	2
	6708	0	2	2	2	2	2	2	2	2	2	2	2
	6709	3	4	4	4	4	4	4	4	4 .	4	4	4
lst	Mar Bri 7302	g O	0	1	1	1	2	2	2	2	2	2	5
	67 0 9	1	1	1	1	1	1	1	1	1	1	1	1

1

	Billet	MOS Qualif	<u>ication</u>	<u>Stre</u>	ngth Req
(4)	Cols	((7307) (7333) (7335)	5 5 7	Note 7
(5)	Tactical Grps	(((7305) 7307) 7308) 7333) (7335) (7304)	5 11 3 13 14 6	Note 8
(6)	ALO/FAC	7305 7307 7333 7335		7 25 25 25	
TOT	AL			181	. %

c. Total recap by MOS of hard seat requirements:

MOS	REQ	MOS	REQ	MOS	REQ
7304 7305 7307	6 3 5	7308 73 3 2 73 3 3	41 8 181	7335 7336	733 13

TOTAL REQ: 1172

Notes:

- 1. MOS 7305/7307 requirements reflect replacement of VMF(AW)-232 by one VMFA squadron during Sept67. NFO requirements are identical to those of the NAS (7307/7332/7336) and have not been addressed separately.
- 2. MOS 7333 replacement requirements will vary during Apr67 as a result of replacement of an additional A4 squadron by a A6 squadron.
- 3. Except for CH-46 trained replacement requirements resulting from attrition, normal replacements will be required commencing in Apr67. (HMM-164)
- 4. The CH-53 Det (10 NA's) will close RVN during Dec66. The remainder of the squadron to deploy during Mar67.

- 5. VMO requirement reflects a total of three squadrons with 24 UH-lE aircraft each.
- 6. CH-37 requirements are listed in view of the indeterminate "phase out" date.
 - 7. Reflects authorized Col billets.
- 8. Requirements for group billets have been taken from within authorized 9912 billets, and represent XO, OPO NATOPS, one aviation maintenance officer billet per group.

2. Soft-seat requirements:

a. The following MOS's/billets are not considered to be hard seat requirements in that currency in at least one of operational aircraft located in RVN, while desirable, is not mandatory. Requirements are based on those NA MOS's authorized by M/L and considered non-tactical.

(1) WPAF

MOS	AUTHORIZATIONS	MOS	AUTHORIZATIONS
0102 0202 0240 0402 3060 5702 5715	7 6 3 8 1	6402 6702 6708 6709 6720 9903 9912	16 13 12 16 8 2
5903	ī	7337	1
	28		119

Sub Total: 147

(2) WPGF

MOS	AUTHORIZATIONS	MOS	AUTHORIZATIONS
0202 4302 6602 7304 9907	3 1 1 2 0	7332 7333 7335 7336 9912	1 1 1 17
	U		∠4

Sub Total: 32

Total soft-seat requirements: 179

SECRET

ENCLOSURE (4)