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DAIM-FAR-RR # 19-mm DATE: 17 June 1987

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DEPARTMENT OF THE ARMY  
HEADQUARTERS, 1ST AVIATION BRIGADE  
APO San Francisco 96307  
"NGUY-HIEM"

AVBA-C

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65) UIC WDG 3AA (U)

THRU: Commanding General  
United States Army, Vietnam  
ATTN: AVHGC-DH  
APO 96375

Commanding General  
United States Army, Pacific  
ATTN: GPOP-MH  
APO 96558

TO: Commanding General  
Assistant Chief of Staff for Force Development  
Washington, D. C. 20310

SECTION I

SIGNIFICANT EVENTS

A. COMMAND

1. (FOUO) The proposal to activate an Aviation Command was returned by USARV to this headquarters for further consideration. Further study was directed toward the formation of an augmented brigade capable of accomplishing the mission of a command. Aviation brigade MTOE 29-701T was submitted to USARV on 21 June 1967. HHC 1st Aviation Brigade is presently organized under MTOE 1-252F. However, since the proposed HHC more closely resembles the structure of TOE 29-701T, this TOE was used.

2. (FOUO) Strength as of the end of quarter ending 31 July 1967 is as follows:

Downgraded at 3 year interval  
Unclassified after 12 years.  
DOD Dir 5200.10

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P6. CH-S4s

~~BB~~ L2 prep bombs Pb + 14

817 crew wounds. Interesting

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AVBA-0

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65) (U)

	<u>AUTH</u>	<u>ASSIGNED</u>	<u>PDY</u>
Off.	1,435	1,480	1,415
WO	1,920	1,472	1,423
EM	12,961	13,554	13,180
Total	16,316	16,506	16,018

Overstrength of enlisted personnel has decreased considerably since last reporting period. Continued emphasis has been placed on strength reduction.

#### B. PERSONNEL MORALE AND DISCIPLINE

1. (FOUO) Helicopter technical inspectors and avionics personnel continue to be critically short. While the receipt of maintenance personnel has been evenly distributed, losses have exceeded gains and created some shortages. Avionics personnel in direct support detachments continue to be critically short. There is no indication that these shortages will be soon filled.
2. (U) On 1 June 1967, this headquarters received authority to award the Soldiers Medal, Distinguished Flying Cross and Silver Star.
3. (U) The spot awards program is improving but some of the units need to be reminded to submit recommendations for the same award that is pinned on the individual. Spot awards are given careful consideration and the paperwork should coincide with the award presented. The only exception could be the award of the Silver Star as an interim award for the Distinguished Service Cross. Also, when medals are pinned on several individuals for the same action, the recommendations must be prepared individually and submitted as a group.
4. (U) Frequently, units request "crash actions" for service awards being presented to individuals who are ready to rotate. When the recommendation is submitted forty-five to sixty days prior to DEROs, as required by USARV Reg 672-1 this is unnecessary.
5. (U) Posthumous awards must be reported within 72-hours and followed with the recommendations. All levels of command must cooperate to insure these awards are accurate and on time.
6. (U) If doubt exists as to what award an individual merits, reference should be made to USARV Reg 672-1. For example, this headquarters has recently received numerous recommendations for the Army Commendation

~~CONFIDENTIAL~~

DECLASSIFIED

DAIM-FAR-RR # 19-4mm DATE: 17 June 1987

AVBA-C

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65) (U)

Medal with "V" device when, in fact, the individual's actions met the criteria for the Air Medal with "V" device. Policy on Aircraft Commanders is, since the Aircraft Commander is responsible for the success of the mission, as well as the welfare of the crew, he should be submitted for a higher award than the rest of the crew.

7. (U) More emphasis should be placed on the accuracy of each recommendation. It is extremely important that all previous awards, to include issuing headquarters and General Order numbers, be listed in item 15 of USARV Form 157-R. When submitting recommendations for the Air Medal, a similar list should be provided of all previous Air Medals.

8. (U) The number of recommendations for awards (purple heart and higher) received during the period 1 May 67 through 31 July 67 are shown by type, with totals for the period and monthly average.

Type Award	Total for Period	Monthly Average
DSC	2	1
SS	104	35
DFC	577	192
SM	22	7
LM	28	9
BSM "V"	113	38
BSM	699	233
AM "V"	1268	423
AM	17216	5735
ARCOM "V"	311	104
ARCOM	724	241
PH	<u>179</u>	<u>60</u>
TOTAL	21243	7078

9. (U) Collateral Investigations:

a. A marked improvement in the quality of collateral investigations has been noted since the publication of 1st Aviation Brigade Reg 385-1. One additional requirement has been established due to the excessive number of dropped loads. Brigade is now requiring a collateral investigation in each instance of dropped aircraft.

b. In a few cases the investigating officer and the commanders, by their concurrence, continue to make findings and recommendations that are not supported by the facts of the case. If the findings and recommendations are not reasonable and based upon the evidence of the case, extra paper work and unnecessary loss of time are the inevitable result. Commanders must thoroughly review the case prior to forwarding to higher headquarters.

~~CONFIDENTIAL~~

DECLASSIFIED

DAIM-FAR-RR # 19-1mm DATE: 17 June 1987

~~CONFIDENTIAL~~

AVBA-C

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65) (U)

C. INTELLIGENCE

1. (FOUO) During the period 1 May 1967 to 31 July 1967 the S-2 published 1st Aviation Brigade Regulation 381-1, Military Intelligence, Visual Aerial Surveillance. The purpose of this regulation is to establish procedures for the collection, reporting and dissemination of intelligence information obtained by brigade aviation assets. To date all subordinate units down to battalion level have established written procedures for the collection, reporting and dissemination of intelligence information. Routinely the S-2 concentrated on personnel security investigation, personnel security orientations and escape & evasion training.

2. (FOUO) During this period the following personnel security actions were completed:

a. Validations:

- (1) TOP SECRET - 191
- (2) SECRET - 838

b. Final CONFIDENTIAL clearances granted - 470

c. Interim clearances granted:

- (1) TOP SECRET - 15
- (2) SECRET - 89

d. CRYPTOGRAPHIC access authorized:

- (1) TOP SECRET - 18
- (2) SECRET - 48
- (3) CONFIDENTIAL - 1

e. Requests for USAIRR checks submitted - 676

f. Local File Checks conducted - 1507

3. (U) Jungle Survival Schools: This quarter 109 officers and enlisted men have attended one of the two courses conducted by the US Navy and US Air Force, in the Republic of the Philippines. A total of 177 brigade personnel have completed this training since the program began in January 1967. Quotas to the Air Force Jungle School were temporarily suspended in June, and the brigade quota to the Navy course remains at 30 per month.

~~CONFIDENTIAL~~

AVBA-C

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65) (U)

4. (U) Light Weight Survival Kits: A total of 3,889 kits have been distributed to the reconnaissance airplane companies, assault helicopter companies, and assault support helicopter companies. The arrival of these kits has solved the problem of what, where and how to carry survival gear.

5. (U) Sea Survival Training: Beginning in August the brigade will receive 6 to 8 quotas per month to the 3 day sea survival school conducted by the Air Force at Naha Air Base, Okinawa. This training will be for OV-1 crew personnel only.

6. (U) 1st Aviation Brigade published regulation 95-2 on 24 June 1967, subject: Life Support, Survival Escape and Evasion Program. The regulation was written to provide commanders and personnel concerned with the brigade's policy concerning these subjects.

7. (U) The Brigade E & E Officer published the first Survival E & E Newsletter in June. This newsletter will be published on a periodic basis and is intended primarily as background and general interest reading material for Army airmen.

8. (U) Forest Penetrating Rescue Seats: The forest penetrating rescue seats procured under an ENSURE request arrived and were distributed in June. A total of 40 seats were programmed for the brigade's eight CH-47 Chinook companies. Basis of issue was five per company. The inherent capabilities of the Chinook equipped with the forest penetrators make them extremely valuable for SAR operations.

#### D. PLANS OPERATIONS AND TRAINING

1. (FOUO) A total of one battalion, nine aviation companies and seventeen detachments were added to the strength of the 1st Aviation Brigade during the quarter. The following units arrived in RVN on dates indicated:

2 May 67	188th AHC 603rd TC Det 154th Med Det 4th Sig Det
4 May 67	268th Cbt Avn Bn 225th Surv Apln Co 821st Sig Det 589th TC Det
7 May 67	189th AHC 604th TC Det 6th Sig Det 519th Med Det

DECLASSIFIED

DAIM-FAR-RR # 19-mm DATE: 17 June 1987

~~CONFIDENTIAL~~

AVBA-C

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65) (U)

23 May 67	191st AHG 606th TC Det 26th Sig Det 240th AHG 619th TC Det 932nd Sig Det
31 May 67	205th ASHC 612th TC Det 534th Med Det
3 Jul 67	185th Recon Apln Co
17 Jul 67	21st Recon Apln Co 622nd Sig Det
23 Jul 67	199th Recon Apln Co
28 Jul 67	244th Surv Apln Co 537th Sig Det 502nd TC Det

2. (FOUO) A platoon of three CH-54 heavy helicopters was detached from the 478th Aviation Company, An Khe, and attached to the 222nd Combat Spt Aviation Battalion stationed at Vung Tau. This attachment now provides a heavy lift capability in III and IV Corps Tactical Zones.

3. (U) MTOE's listed below were forwarded to CG, USARV, on dates indicated for study and approval.

MTOE 1-207E (ATC Company) 15 June 1967  
MTOE 1-256F (HHC Avn Bn) 21 June 1967  
MTOE 1-252F (HHC Avn Gp, Augmentation) 21 June 1967  
MTOE 1-252F (HHC Avn Gp) 21 June 1967  
MTOE 29-701T (HHC Avn Bde) 21 June 1967

4. (C) Because the Viet Cong are increasing the use of mines and booby traps in helicopter landing zones, the subject of landing zone preparation was studied. Investigation has revealed a lack of adequate preparation devices for delivery by US Air Force strike aircraft. The most readily available items are the 1000/2000 lb MK 83/84 bombs used in conjunction with MK1 fuze extenders. Present Air Force safety criteria preclude use of this device although the 1st Marine Air Wing has used it with a great deal of success for this purpose. Briefings were conducted for Deputy CG, USARV, recommending command emphasis to obtain an LZ preparation device. A further recommendation was made that a message to DA be prepared requesting action at DA level to procure a weapon suitable for LZ preparation, such as the Fuel Air Explosive (FAE).

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

AVBA-C

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65) (U)

5. (U) Aircraft revetments: A limited number of aircraft revetments have been constructed using available material. As a temporary measure, water or earth filled 55 gallon drums, sandbags, PSP, damaged part containers and unusable bags of wet cement have been used. Steel matting, pickets and culvert sections are now becoming available in sufficient quantities to construct permanent revetments. USARV has directed the Engineer Command to provide equipment and technical assistance in constructing permanent fixtures. Procedures for ordering structural material and instructions on its use have been disseminated to all units.

6. (C) 1st Aviation Brigade units have been tasked to test and evaluate modified manpacked personnel detectors mounted in UH-1 helicopters. To date, a lack of spare parts and shortage of repair technicians have adversely affected this program. Bi-monthly reports forwarded to USARV have reflected the problems associated with the equipment. Final analysis of the device will be compiled and forwarded upon completion of tests.

7. (U) Evaluation of the CAR-15 sub-machinegun by 1st Aviation Brigade units was completed on 9 June 1967. All units felt the weapon should be included as a TOE item for issue to aircrew members. It was recommended that the CAR-15 be issued in addition to the revolver, Cal 38.

8. (U) Fourteen (14) Xenon searchlights, ASS-1 for 1st Aviation Brigade units were received on 12 July 1967. Installation has been completed on 13th Combat Aviation Battalion, 210th Combat Aviation Battalion and 12th Combat Aviation Group aircraft. Utilization during this reporting period has been limited. Units are required to submit reports thirty (30) days after installation, stating degree of utilization and effectiveness of the device. A delay was encountered during mounting since the system was designed to be mounted on B and C model UH-1's only. A field modification was incorporated allowing the kit to be installed on UH-1D aircraft. Removal of the system for day operations allows for full utilization of the searchlight aircraft for both day and night missions.

9. (U) Standardization:

a. The Brigade Standardization Officer visited units on a recurring basis to monitor established orientation and standardization programs. Periodic check rides were given to unit standardization instructor pilots and to qualify selected instructors pilots to be standardization pilots.

b. The maintenance of instrument and night proficiency has been encouraged and the Brigade Standardization Officer has made staff visits to aid and advise units on establishing and conducting instrument and night training programs.

10. (FOUO) Training:

a. The Vietnam Air Force (VNAF) UH-1 pilot transition program has shown continual improvement. Class number 4, consisting of 15 aviators,

AVBA-C

~~CONFIDENTIAL~~

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65) (U)

was graduated 15 July 1967, and class number 5 of 15 aviators is scheduled to graduate 15 August 1967. A VNAF training conference was conducted 12 May 1967 to discuss and clarify some areas that had caused minor problems in previous classes. Representatives from VNAF, USAF and all 1st Aviation Brigade units engaged in the training program were present at the conference. The results of the conference have been shown by a smoother and more closely coordinated training program.

b. AAMTAP. 1st Aviation Brigade units have been allocated 112 quotas for attendance at AAMTP aircraft or engine courses. All brigade units have profited from these school quotas by the increased knowledge and proficiency of assigned maintenance personnel.

c. New Equipment Training Team (NETT)

(1) XM-21 Aircraft Armanent Subsystem: 1st Aviation Brigade units received 24 quotas for classes on the XM-21 helicopter armament subsystem conducted by a new equipment training team. The training enhanced the units' capability of maintaining the XM-21 armament system.

(2) OH-6A: Training of brigade personnel on the OH-6A was suspended due to slippage in the deployment schedule of OH-6 aircraft to RVN.

d. G-2 Air and Imagery Interpretation Course: The brigade received 2 quotas to the G-2 Air and Imagery Interpretation Course. The course is designed to increase the knowledge and skill of newly assigned imagery interpreters. The brigade is currently programmed to receive 4 quotas per month for the school thru the end of the calander year.

e. Headquarters, 1st Aviation Brigade published Change 1 to Training Memorandum 1 on 1 May 1967 to implement instructions contained in change 1, USARV Regulation 350-1. This change directed that training of newly assigned personnel would be conducted in accordance with appendix V, USARV Regulation 350-1 as changed.

11. (U) Flight Status Orders Section: During the quarter ending 30 July 1967 the flight status orders section received and processed 1800 requests for flight status. The increased number of requests being processed is largely due to this headquarters gaining ten additional aviation units. The present system is regulated and maintained by information furnished by the individual units. This system is continuing to improve. With a few notable exceptions, requests for flight status orders were processed in a more expeditious manner than in previous quarters. The majority of requests returned without action were the result of the units not complying with applicable regulations. All units have been advised of the procedures to follow.

~~CONFIDENTIAL~~

AVBA-C

~~CONFIDENTIAL~~

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS CSFOR-65) (U)

## 12. (FOUO) Air Traffic Control and Flight Information:

a. Presently there are two (2) completely equipped Air Traffic Control (ATC) Mobile Combat Teams (MCT) deployed and operational. These teams are equipped with tower, GCA, NAVAIDS and associated equipment to support tactical operations. Five more ATC MCT will be configured and employed when personnel and equipment are made available.

b. The 125th Air Traffic Company is currently supporting or operating 26 towers, 4 flight operation centers, 3 flight coordination centers 12 flight following stations and 9 GCA sites. Equipment used is both standard A and special. This headquarters has submitted MTOE's for 35 ATC airfield operating detachments. It is anticipated that each AOD will be equipped with tower and GCA equipment.

## 13. (U) Research and Development:

a. The brigade continues to work with ACTIV in the evaluation of aircraft, armament and equipment. During this quarter, units of the brigade participated in the following tests:

- (1) Night tactical formation light system.
- (2) Man packed personnel detectors in the aerial role.
- (3) Radar sensing altimeter.

b. Other tests that brigade units have participated in have been completed and final analysis is being prepared.

## E. LOGISTICS

1. (U) Smoke Generators: Latest information received from USARV G-3 Project Officer for ENSURE number 150, is that contract has been awarded for 121 each. Item will start arriving around December this year.

## 2. (U) Aircraft Maintenance and Armament:

a. Input of UH-1D helicopters to RVN is still running short of attrition rates for this period. Status as of 20 July 67 depicts 15 assault helicopter companies with less than twenty-one (21) UH-1D helicopters assigned. Relief in this area with a fill to twenty-three (23) UH-1D aircraft per company is expected late in 1st quarter FY 68.

b. UH-1C model helicopters continue to be in critical short supply as deliveries do not equal current attrition rates. Projected shortages will not be overcome until the AH-1G helicopter arrives in-country in significant numbers.

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~  
AVBA-C

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65) (U)

c. Shortages of armament subsystems, already special managed items of equipment, are further magnified by inadequate supplies of appropriate wiring kits for subsystem installation. This situation is further aggravated by a less than 100% UH-1B and UH-1C helicopter wiring modification to accept armament subsystems.

d. L-13 engine special tools are in critical short supply. Units recently deployed to RVN were lacking necessary special tools at the KD team level. Maintenance support packages prepared in CONUS for deploying units were shipped without the units' being aware of these shortages prior to arrival in RVN; consequently, corrective action was further delayed.

e. Attitude indicators continue to be items in short supply, especially in UH-1 type helicopters. Attitude indicators now are special managed items because of their high dollar value and high demand experience. Investigation revealed that excessive numbers of these items were being turned in by units as unserviceable that were not in fact unserviceable. The problem area has been isolated in the cable connector pins located at the rear of the attitude indicator.

#### F. INFORMATION

1. (U) During the report period all areas of the brigade information program expanded. The meeting held with all subordinate unit IO's during the last report period resulted in considerable increase in both quality and quantity of internal, external and hometown news releases during this report period. The success of such meetings has resulted in the establishment of a program to conduct one such meeting at least every six months.

2. (U) Authorized photo and tape equipment has not been received. Despite the monitorship of USARV-IO, cameras, light meters, photographic darkroom equipment and dependable portable tape equipment continues to be non-available. The UHER tape recorder which was brought to RVN by the 12th Public Information Detachment has been inoperable and turned in to USARV-IO (Audio Visual Section) for nearly 60 days, with no promise of completion date due to non-availability of repair parts.

3. (U) Media Liaison has expanded considerably during this period. It was found that assigning one officer full time to the duty of meeting and greeting media representatives and informing them of potential aviation stories resulted in spectacular successes. During the report period 8 television specials were filmed, nearly 40 correspondents covered FIREFLY activities and more than 100 informal press interviews were held - all directly related to coverage of Army aviation activities.

~~CONFIDENTIAL~~  
AVBA-C

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65) (U)

## G. SIGNAL

1. (FOUO) With expected arrival of the AN/VSC-2 HF/SSB radio set during this quarter, new equipment training for DS/GS maintenance, and operator training was conducted and completed. Eleven sets were allocated to the brigade in June; six were issued to the 12th Aviation Group, and five to the 17th Aviation Group. The July shipment did not arrive prior to the end of the period.
2. (FOUO) The BOI for the AN/VSC-2 HF/SSB radio sets was approved and submitted, as per the recommendations made by this headquarters during the previous quarter.
3. (FOUO) The command communications consoles AN/ASC-10 began arriving during this quarter, and are being forced issued to the units. By the end of the period, approximately 50 percent of the total issue will have been completed.
4. (U) Recently assigned OH-23G aircraft in the brigade are equipped with the AN/ARC-45 (UHF/AM radio that has 12 preset frequencies. Only two of the preset channels are compatible with existing airfield and flight following assigned frequencies. The radio cannot be utilized to its fullest capability. A recommendation was made to USARV that a standardization of ARC-45 frequencies be made with those now standard in RVN.
5. (U) Numerous staff visits were made to all avionics detachments and subordinate headquarters signal sections. The purpose of these visits were to acquaint the signal section with the problem areas encountered in various areas. Several new detachments arrived during this period, and all were visited shortly after arrival. The problem areas encountered were personnel shortages, improper organization, and units arriving short of equipment. All of these areas are being resolved.
6. (FOUO) Avionics maintenance support elements (TOE 11-500 RL teams, TOE 55-510T AB team, and organizational) continue to arrive in-country without all of the authorized complement of personnel and equipment. This creates a burden on already overloaded avionics support elements and requires further "thinning" of in-country resources to provide the necessary support. Additionally, the shortage of personnel and equipment in the DS units increases the workload of the GS maintenance activities because equipment normally repairable at the DS level must be evacuated as beyond the capability of the DS units. An undesirable side effect is the necessity to evacuate an entire component when only a module is defective or only an alignment problem exists.
7. (FOUO) MTOE's 1-258F and 55-510T (AB Team) are under preparation. Included will be a more equitable and realistic distribution of avionics personnel within the current strength ceiling. Grade and MOS structure

~~CONFIDENTIAL~~

14 August 1967

AVBA-C  
SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65) (U)

will be revised in order to more adequately support the organic aircraft electronic systems. Tool and test equipment lists will reflect that required to support the total avionics inventory of the supported unit including retrofitted and more modern systems.

8. (FOUO) In preparation for the relocation of the brigade to Long Binh, a complete telephone installation plan was submitted to USARV. It was requested that requirements be filled by 10 August or earlier so that adequate telephone service would be available to the brigade staff and sections upon arrival at Long Binh.

9. (U) The relocation of the teletype circuits was requested from TSN to Long Binh. In addition, due to the separation of the brigade from the 210th Aviation Battalion, a new sole user teletype circuit was requested. This would give the brigade secure teletype communications with both groups and separate battalions.

10. (U) A total of 241 outgoing messages were transmitted by brigade communication center, and 311 were received.

#### H. SURGEON

1. (U) The shortage of flight surgeons present for duty in Vietnam continued. Emergency requisitions submitted to cover this shortage have not been filled. This headquarters has corresponded directly with the Aviation Branch of the Surgeon General's Office in an effort to keep Department of Army fully informed, and to forecast flight surgeon requirements for the next year. To ease the impact of this shortage some general medical officers were used to fill flight surgeon slots and, when practical, flight surgeons administered to more than one unit.

2. (U) Several detachments were reassigned and relocated to more evenly distribute aviation medicine resources. The 774th Medical Detachment (OA) was reassigned from the 145th Combat Aviation Battalion, Bien Hoa, to the 13th Combat Aviation Battalion, Can Tho; the 772nd Medical Detachment (OA) was reassigned from the 222nd Combat Aviation Battalion, Vung Tau, to the 214th Combat Aviation Battalion at Bear Cat. The moves were made to provide medical coverage in Can Tho and Bear Cat where aviation buildups were occurring. Three new detachments arrived in-country during this period. Two were reassigned from their parent units to provide medical support elsewhere. The 519th Medical Detachment (OA) was reassigned from the 52nd Combat Aviation Battalion at Pleiku to the 282nd Assault Helicopter Company at Da Nang. The 534th was reassigned from the 11th Combat Aviation Battalion at Phu Loi to the 14th Combat Aviation Battalion at Chu Lai. These moves introduced army aeromedical coverage for the first time to the Da Nang and Chu Lai areas.

3. (U) A problem arose at Pleiku involving the 52nd Combat Aviation

AVBA-C

~~CONFIDENTIAL~~ 14 August 1967SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65) (U)

Battalion aeromedical dispensary which was caused by an excessive number of non-aviation personnel receiving care at that facility. As a result, a general medical officer was assigned to reduce the work load on the aviation medical officers.

4. (U) The Airmens Fragmentation Helmet, (AFH-1) recently supplied to this theater, was the subject of a detailed questionnaire completed by aviation personnel. The questionnaire, completed by approximately 300 aviators and flight crew members, revealed many problems related to sizing, comfort and wearability which has resulted in poor overall acceptance and utilization. A report, compiled from data furnished by this questionnaire, has been forwarded to appropriate R&D agencies for corrective action.

5. (U) During this period, ACTIV completed its evaluation and report on the fire retardant NOMEX flight suit. The report failed to provide impetus to the establishment of a requirement for this vitally needed piece of equipment and recommended that a two layer suit was preferable to a one layer suit in RVN. This headquarters recommended a one layer suit. USARV forwarded an ENSURE requirement for approximately 35,000 one piece, one layer NOMEX flight suits, agreeing that a two layer suit would be unacceptable in this climate. Department of Army approved the ENSURE for the requested quantity of suits, however as a two piece design. A rebuttal was prepared and submitted by this headquarters restating a preference for the one layer, one piece suit because of considerations of comfort and fatigue.

6. (U) A policy change was made within this command allowing the use of Dapsone as an anti-malarial prophylactic for aviation personnel. This change was made based on the experience of the 1st Air Cavalry Division which used this drug among its aviators without adverse side effects.

7. (U) The 1st Aviation Brigade sponsored a USARV wide flight surgeons conference which a majority of flight surgeons and aviation medical officers were able to attend. The conference was held in June in conjunction with a quarterly USARV aviation safety meeting. This conference was very valuable in allowing for the exchange of ideas and discussions of common problems.

8. (U) Brigade regulations 40-1 and 40-2 were published and distributed during this period. These regulations were published to standardize and improve the accuracy of recurring medical reports.

## I. SAFETY

1. (U) During the period 1 May to 31 July 67, this section was engaged in routine accident prevention duties. In addition to normal staff and liaison visits to subordinate units, a tour was made of selected units in the 13th Combat Aviation Battalion, 12th Combat Aviation Group and 17th

~~CONFIDENTIAL~~

AVBA-C

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65) (U)

Combat Aviation Group. The purpose was to gather data on the best means of preventing lost rotor RPM accidents. An experienced engineer test pilot of the Bell Helicopter Company accompanied the brigade standardization and safety personnel on this tour. Conclusions drawn and action taken are discussed in lessons learned, section II, of this report.

2. (U) Hours flown during this period continued to show an increase. The accident rate based on 100,000 flying hours leveled out and dropped slightly from 33.6 to 32.3. In the human factor category, 29% of the accidents were attributed to loss of RPM. In the materiel factor category, 17% involved engine failures. Engine failures reflect the severe environmental conditions in which equipment is required to operate, and less than ideal facilities available for inspection and maintenance.

## SECTION II

## PART I

## LESSONS LEARNED

A. PERSONNEL: None

B. OPERATIONS:

1. (C) Item: Landing zone preparation.

a. Discussion: At the present time the U. S. Air Force is unable to deliver an acceptable device for landing zone preparation. The 1st Marine Air Wing is presently employing 1000/2000 lb general purpose bombs with the MK 1 fuze extender (called a Daisy cutter) for landing zone preparation in I Corps Tactical Zone. This device is reported to be 70% effective in detonating mines and booby traps.

b. Observation: During this quarter there were three reported instances of aircraft being damaged by mines and booby traps in landing zones. A device, such as the daisy cutter, could be successfully used for landing zone preparation providing Air Force safety criteria is met.

2. (FOUO) Item: Usefulness of Hasty Revetments.

a. Discussion: Rocket and mortar attacks on Phuoc Vinh, 27 July, and Phu Loi, 29 July, confirmed the value of hasty (i.e. barrel) revetments. Although aircraft were damaged in both cases, the number damaged and extent of damage were significantly reduced by the protection offered by earth-filled barrel.

~~CONFIDENTIAL~~

AVBA-C

~~CONFIDENTIAL~~

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65) (U)

b. Observation: Revetments constructed in accordance with the Engineer Command drawings will afford greater protection than earth filled barrels. Construction priority should be directed toward construction of standard revetments for unprotected aircraft, than the improvement of hasty revetments.

## 3. (FOUO) Item: CH-47 Dropped Loads

a. Discussion: Increasing numbers of dropped or jettisoned loads have resulted in destruction of valuable equipment. During the period 1 May to 26 June 67, a total of 22 loads were dropped or jettisoned during CH-47 helicopter operations. A review of incidents revealed seventeen of the loads were dropped because of improper rigging or unserviceable rigging equipment. The remaining loads were dropped because of hook malfunctions or jettisoned because of in-flight emergencies.

b. Observation: Supported units are responsible for rigging of loads. CH-47 units are required to provide a mobile training team to instruct supported units in proper external load rigging procedures. Units are often unable to properly store and maintain rigging equipment, causing rapid deterioration. In addition, facilities to test rigging equipment are inadequate to support Vietnam requirements.

## C. TRAINING AND ORGANIZATION:

## 1. (U) Item: GCA controller proficiency.

a. Discussion: Recently, several complaints have been registered regarding the quality of ground controlled approaches. Complaints have included poor communication procedure, incomplete knowledge of approach profile, and inadequate or erratic guidance commands.

b. Observation: Past experience and spot checks indicate that a GCA controller's proficiency is directly proportional to his continuous training. A lay-off of short duration results in a marked reduction in proficiency and competence. During periods of good flying weather, aviators do not request sufficient numbers of practice approaches to enable controllers to maintain a high state of proficiency. Contributing to the overall problem of controller proficiency is the rapid turn-over of military personnel and the introduction of civilian GCA controllers. As more civilian personnel are hired, this problem should be significantly reduced.

## D. INTELLIGENCE: None

## E. LOGISTICS:

## 1. (U) Item: Ceramic body armor for pilots and crewmembers of 1st Aviation Brigade.

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DAIM-FAR-RR # 19-mm DATE: 17 June 1987

AVBA-C

~~CONFIDENTIAL~~ 14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GCFOR-65)(U)

a. Discussion: Currently an acute shortage of Ceramic Body Armor exists. 753 additional sets are required. 1st Log Command has no assets and will not have any for approximately 6 months due to a strike at the manufacturing plant.

b. Observation: If the strike is not settled shortly, AMC should open procurement accounts with other firms.

2. (U) Item: Class I supply point located at Can Tho.

a. Discussion: Class I supply point operated by the 1st Logistical Command became operational 15 July 1967. This facility was established to alleviate the problem of transporting rations from Saigon to 1st Aviation Brigade units located throughout the Delta. On 20 August 1967, the Can Tho Airfield will become partially closed for repairs. It is estimated that construction will take three months. This will again result in a problem should the Air Force refuse to land at the airfield while under construction.

b. Observation: The Air Force airfield at Binh Tuy, which is approximately 4 miles away will have to be used or units will again have to use organic helicopters. Transportation will have to be closely coordinated in order to preclude perishables from becoming thawed or spoiled.

F. MEDICAL:

1. (U) Item: Aircrewman's Fragmentation Helmet (AFH-1).

a. Discussion: Since the new fragmentation helmet (AFH-1) has been found to fit poorly and is uncomfortable, the opinion has been advanced by some that it be done away with altogether. However, even in its short period of use, this helmet has been accredited with saving four lives. Wound data show that the head is the most important anatomic site for which ballistic protection is still required.

b. Observation: The new ballistic helmet, properly modified for improved fit, comfort, and wearability, is an effective and needed item of equipment for Army aircrewmembers in RVM.

2. (U) Item: Injuries received by hostile action to Army aircrewmembers during flight.

a. Discussion: Data was gathered and analyzed on 72 cases of injuries received by hostile action (IRHA's) to Army aircrewmembers during flight to evaluate the effectiveness of armor against bullets and fragments. The 72 cases represented a random sample.

b. Observation: The data showed that:

(1) Crewmembers of the UH-1 ran the greatest risk of being hit.

AVBA-C

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GCFOR-65) (U)

14 August 1967

(2) UH-1 aircraft commander, pilot, crewchief, and door gunner all have an equal risk of being hit.

(3) Small arms fire constitutes the major threat.

(4) Considering the caliber of arms predominately used by the enemy, aircraft and body armor of existing strength could afford air-crewmembers adequate protection if placed and worn in such a way that it could shield the entire body or the majority of the body.

(5) The chest protector was well accepted and widely utilized having remarkable success in practically eliminating wounds to the chest, back, abdomen, and pelvis.

(6) The chest protector must be worn properly, i.e. suspended by its harness, to afford maximum protection.

(7) The need for crewchiefs and doorgunners to sit on their back plates to protect themselves from rounds coming up from below, will be eliminated when seat armor is available to them.

(8) The flak vest worn over the chest plate will absorb fragments from rounds splattering against the chest plate which otherwise act as secondary missiles.

(9) Of wounds encountered, 7% were fatal, 33% were superficial, and 60% ranged from more than superficial to less than fatal.

(10) The head was the most significantly vulnerable anatomic area, injuries to which resulted in death.

(11) The risk of being hit by more than one intact round is extremely small, but one round can injure more than one crewmember.

(12) The most frequently hit anatomic sites were hand and wrist (18%), head (17%), upper leg (15%), and foot and ankle (11%). The upper extremity as a whole accounted for 38% and the lower extremity for 40% of all injuries.

(13) Both the helmet visor and the combat boots afforded significant protection.

(14) A significant number of injuries were caused by rounds coming up from below through the aircraft floor or chin bubble. Floor armor could eliminate many of these if placed in critical areas of the cockpit and cabin.

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AVBA-C

~~CONFIDENTIAL~~

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GCFOR-65) (U)

(15) The aircraft's own armament causes some wounds as when machine gun ammunition hit by enemy rounds explodes, or a doorgunner fires into the cockpit of his own aircraft.

## G. SAFETY:

## 1. (U) Item: Prevention of lost RPM accidents.

a. Discussion: Lost RPM accidents continue to be the most predominant cause for aircraft accident losses in the 1st Aviation Brigade. In an attempt to develop a new approach toward reducing such losses, several meetings were held with operational aviators. Comments were solicited and questions asked concerning the advantages and disadvantages of the GO-NP-GO system presently in use. The consensus of opinion was that while the present GO-NO-GO placard was satisfactory when properly maintained, interpreted and used, pilots needed what amounted to a "Rule of Thumb", that could be used for any take-off or landing situation, which would provide valid information for making an immediate judgement as to whether or not the aircraft was capable of the performance to be demanded of it. As a result, an additional GO-NO-GO method was recommended and implemented to supplement the existing GO-NO-GO procedure. This change was predicated on the fact that:

(1) A normal take off is possible if aircraft can hover at 4 feet.

(2) A confined area take off is possible if aircraft can hover at 10 feet.

(3) A vertical take off is possible if aircraft is capable of hovering at 25 feet.

b. Observation: Success of this method cannot be determined with any validity at this time, although lost RPM accidents decreased from a total of 11 in May, to 8 in June and 5 in July. Some part of the decrease can be attributed to the introduction of more powerful turbine engines.

## 2. (U) Item: Reduction of the mid-air collision hazard.

a. Discussion: The 1st Aviation Brigade recently sought to reduce the mid-air collision hazard by painting a white stripe on the top of UH-1 rotor blades. The white stripe is 24 inches wide across the chord of each blade midway between the tip and hub.

b. Observation: Findings were favorable in that white stripes resulted in a marked improvement in the ability of the human eye to detect UH-1 helicopters against dark backgrounds when viewed from above.

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## SECTION II

## PART II

## RECOMMENDATIONS

A. PERSONNEL: None

B. OPERATIONS:

1. (U) That action be taken to procure a weapon suitable for landing zone preparation that is compatible with present USAF strike aircraft delivery systems.

2. (U) That a time replacement criteria be established for sling and rigging equipment in lieu of the present method of drop testing. Further recommend minimum serviceability criteria be established for sling and rigging equipment and published in appropriate DA training manuals. This headquarters has directed more extensive use of pathfinder personnel at rigging sites to assure proper rigging and to make last minute inspection of equipment. This should reduce or eliminate dropped loads caused by faulty rigging.

3. (U) In order to expedite movement of military and civilian electronic repairmen (I.E. CCA repairmen) it is recommended that a movement priority be established that will eliminate delays experienced by these personnel at aerial ports.

C. TRAINING AND ORGANIZATION: None

D. INTELLIGENCE: None

E. (U) LOGISTICS: Recommend a high priority be given to the repair of Can Tho airfield to reduce the impact of air resupplied items being diverted to Binh Tuy.

F. SAFETY: None

G. MEDICAL:

1. (U) Increased priority should be placed by the Office of the Surgeon General on the allocation of an adequate number of doctors for training as flight surgeons.

2. (U) The airman's fragmentation helmet (AFH-1) should be improved in terms of fit, comfort and wearability. Modification kits should be made available for those helmets already in use.

3. (U) Any aircrewman's helmet adopted for use in RVN should afford ballistic protection as a minimum requirement.

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DAIM-FAR-RR # 19-Ann DATE: 17 June 1987

~~CONFIDENTIAL~~

AVBA-C

14 August 1967

SUBJECT: Operational Report - Lessons Learned for Period Ending  
31 July 1967 (RCS GSFOR-65)

4. (U) Additional aeromedical research on aviator fatigue, psychological factors causing aircraft accidents, and adequacy and need for aircrew protective armor is required. Due to limited in-country resources, special study teams should come from CONUS.

5. (U) Consideration should be given to seat armor for door gunners and crew chiefs or, as an alternate, to armor plating portions of the floor to provide similar protection.

6. (U) Efforts should be directed toward developing a chest plate-flak vest combination that will afford protection from secondary fragments, and eliminate the requirement to wear a separate flak vest over the existing chest plate.

~~G. P. SEMEFF, JR.~~  
Major General, USA  
Commanding

2 Incl

1. Commander's Notes
2. Hawk Talk

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