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UNITED STATES ARMY
COMBAT DEVELOPMENTS COMMAND
OPERATIONAL REPORT - LESSONS LEARNED
QUARTERLY REPORT

NOVEMBER 1970

Classified by CG 1st Avn Bde
SUBJECT TO GENERAL DECLASSIFICATION
SCHEDULE OF EXECUTIVE ORDER 11652
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DEPARTMENT OF THE ARMY
HEADQUARTERS
UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
FORT BELVOIR, VIRGINIA 22060

CDCRE-O

10 FEB 1970

SUBJECT: Operational Reports - Lessons Learned

SEE DISTRIBUTION

1. Reference AR 525-15, Operational Reports - Lessons Learned, 20 November 1970 and CDC Supplement 1 to AR 525-15, 20 January 1970.

2. Attached are copies of the November 1970 USACDC report to Department of the Army of the status of evaluation of Operational Reports - Lessons Learned.

3. Request each addressee review the report to determine if actions contemplated by other addressees require supportive action in areas for which they have proponency. Actions so taken will be reported under the provisions of the above applicable reference.

4. The report to Department of the Army is considered to be informational only. Actions required to complete needed changes to doctrine, materiel, or organizations must be undertaken separately. Further, inclusion of an item in the report does not preclude reconsideration of a contemplated action if new information or further review warrants such reconsideration.

FOR THE COMMANDER:

William S. Barrett

WILLIAM S. BARRETT
Colonel, GS
Deputy Chief of Staff

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as

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1. (U) Reference: Senior Officer Debriefing Report: MG John M. Wright, 101st Airborne Division (Airmobile), 11 May 1970.

2. (U) Item: Clearing of Mines and Booby Traps by Bulk Flame Drops.

3. (U) Individual's Comments (Extracts): The enemy's extensive use of mines and booby traps required an effective method of both detecting and neutralizing these devices and reducing the number of accidental detonations during clearing operations. A thickened fuel/flame mixture consisting of either mogas or JP-4 and three to six percent M-4 thickener provided excellent results in burning wet vegetated areas. During clearing operations in a large mined area and booby trapped area in Phong Diem District, the employment of flame drops resulted in 13 secondary explosions and the exposure or neutralization of 27 booby traps of various types. The accidental detonation rate in the area was reduced from 40 to 15 percent.

4. (U) USACDC Discussion: The above mix of fuels seems to be quite effective in the clearing of explosive mines and booby traps. However, its role as a defoliant is strictly limited, and flame's effectiveness as a defoliant has been challenged by other reports.

5. (U) USACDC Action: This use of bulk flame drops from helicopters is discussed in FM 20-33, Combat Flame Operations (July 1970). The use of flame drops to clear mined and booby trapped areas will be added as a change in the near future.

1. (U) Reference: Operational Report - Lessons Learned, US Army Medical Command, Vietnam, 30 April 1970.

2. (U) Item: Administrative Training of Veterinary Officers.

3. (U) Unit Comments (Summary): Veterinary Officers arriving in RVN are often placed in a position as an OIC of a substation, XO of a larger unit, or occasionally CO of a Veterinary Unit such as a JA Team. Background in administration, military justice, and use of Army Publications would be extremely valuable to new Veterinary Officers who have difficulties in trying to perform their professional mission, yet successfully control their units administratively. Veterinary Captains with no prior training in non-professional aspects of commanding a unit have many problems attempting to accomplish missions while simultaneously learning and supervising the necessary unit administration. It is recommended that consideration be given to increased administrative non-technical training in the Officer Basic Course given to newly commissioned Veterinarians.

4. (U) USACDC Discussion: A review of the MFSS 6-8-C20 POI for basic veterinary officer students indicates only a few hours of administration are given including military justice training. The veterinary officer receives additional training in administrative subjects at the Army Medical Department Veterinary School at Chicago. All veterinary officers serve several months in CONUS prior to movement to RVN which further provides OJT administrative training. Only a small percentage of the young veterinary officers command or serve as executive officers in TOE units since so few (about 14) exist world-wide.

5. (U) USACDC Action: Ultimate publication of a procedural guide for use in support of TOE 8-680G will help solve the need for more administrative training.

1. (U) Reference: Operational Report - Lessons Learned, 3d Squadron, 17th Cavalry, 31 October 1969.

2. (U) Item: AH-1G Crewmember Sidearms.

3. (U) Unit Comments (Summary): The weapon assigned AH-1G crewmembers under TOE 17-98T is inadequate for self-defense. The inability to utilize aircraft weapon systems coupled with the limited maximum effective range of the .38 caliber pistol necessitates a submachine gun 5.56, FSN 1005-930-5595, or similar weapon be incorporated into future TOE. USARV indorsement to unit report supported this contention.

4. (U) USACDC Discussion: Concur. Crewmembers should be armed with a lightweight defensive shoulder weapon.

5. (U) USACDC ACTION: USACDC has incorporated this recommendation into TOE 7-357H, Assault Helicopter Company by providing two submachine guns (caliber .45) in each AH-1G aircraft. The M177 submachine gun (caliber 5.56) would not fit into the present AH-1G aircraft without modification.

1. (U) Reference: Operational Report - Lessons Learned, US Army Medical Command Vietnam, 30 April 1970.

2. (U) Item: Veterinary Slots in Transportation Command Positions (Port Veterinarians).

3. (U) Unit Comments (Summary): It has become clear the Army Veterinary personnel assigned to transportation command units are being less than fully utilized due to improved methods of shipping by self-contained shipping containers. Shipping of subsistence in refrigerated vans and other modern means prevents adequate subsistence inspection because sampling at ports without off loading entire shipments is practically impossible. Those subsistence items entering country by older methods (e.g. Hold Cargo) account for a minute amount of the total imported subsistence. It is recommended that veterinary slots be deleted from transportation command units, and personnel be reassigned to Area Veterinary Unit Commanders. It is also suggested that subsistence inspection of hold cargoes become an additional mission of the area Veterinarian, and that refrigerated vans be inspected at their destination depot in conjunction with normal off loading rather than at the ports.

4. (U) USACDC Discussion: USACDC agrees that veterinary slots should no longer be organic to the Transportation Terminal Commands for the following reasons: although veterinary personnel were organic to the units in Vietnam and it worked out well for an extended time, there are situations where the veterinary mission fails to be performed; when the veterinary personnel are organic to the TTC Area, veterinary tasks not directly related to the mission of the TTC can suffer; dissemination of technical information to the veterinary personnel in the TTC can be a problem; standardization of veterinary service among veterinary units under medical command with the service of veterinary personnel organic to a nonmedical unit can be a problem; and containerization of perishable and dry subsistence stores has drastically changed the location and methods of inspection regarding ports. There will always be a need for veterinary inspections at ports where food and animals are received, stored or shipped, but when containerization is used the intensity of inspection locations has to be where the produce can be examined in more detail than is practicable at ports. Inspection needs at ports have not changed where bulk products are stored in the cargo holds.

5. (U) USACDC Action: TOE 55-121D, 16 March 1959, has been rescinded and replaced by TOE 55-112G, HHC, Trans Terminal Gp, dated 10 February 1969. No veterinary personnel are organic to this unit, and the capability clause states that veterinary support will be dependent on units of TASCOM medical command for staff advice and unit level medical service. TOE 55-131E, dated 24 March 1964, with 7 changes, still includes one veterinary officer and 3 EM. This TOE will be dropped when TASTA is fully implemented. Some units still are organized under the old table.

X

1. (U) Reference: Operational Report - Lessons Learned, 3d Brigade, 9th Infantry Division, 31 January 1970.

2. (U) Item: Night Airmobile Raids.

3. (U) Unit Comments (Summary): The successful execution of night airmobile operations enhances the advantages of mobility and shock action. Certain conditions must be met before the night airmobile raid can be successful. They are the following: a minimum of 50 percent natural illumination is necessary for navigation, gunships should fire suppressive fire on the target or as close as possible to pin the enemy down, and artillery or mortar illumination should be used after the element is on the ground.

4. (U) USACDC Discussion: CDC does not agree that certain conditions are a must prior to conducting night airmobile raids. Although 50 percent natural illumination and gunship suppressive fires are desirable, these conditions are not considered essential to a successful night airmobile raid. FM 31-36 (TEST) and FM 57-35 contain current doctrine for night airmobile raids.

5. (U) USACDC Action: No further action is necessary since procedures are adequately explained in FM 31-36 (Test) and FM 57-35.

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1. (U) Reference: Operational Report - Lessons Learned, 25th Infantry Division, 31 January 1970.

2. (U) Item: Coordinated Targeting.

3. (U) Unit Comments: By making intelligence available to a larger number of potential users the brigade S2 has been able to recommend profitable targets for a greater variety of assets. Airstrike targets, sniff areas, possible ambush sites, and guidance on radar employment are examples of areas where the S2 can assist the commander in asset utilization by employing all available intelligence sources to determine enemy locations and movement. It is recommended that full use be made of S2 to provide targeting information for all assets.

4. (C) USACDC Discussion: The BICC/BIC system will employ BICC in direct support of and under the staff supervision of the S2/G2 at all levels from maneuver battalion through corps. In addition, BIC will be deployed in support of division artillery, direct support artillery units and the armored cavalry squadron. Under the TARS-75 concept, all-source information will be centralized for rapid dissemination to higher, lower and adjacent level BICC/BIC for utilization by commanders. The BICC/BIC system promises to make available more intelligence to more potential users more expeditiously than the present intelligence support system permits.

5. (U) USACDC Action: CDC will continue to monitor/assist Project MASSTER evaluations with a view toward early implementation of the BICC/BIC concepts.

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1. (U) Reference: Operational Report - Lessons Learned, 145th Aviation Battalion, 31 January 1970.

2. (U) Item: Ammunition for the XM-35 Armament System (20mm) on the AH-1G.

3. (C) Unit Comments (Summary): The present 20mm linked ammunition issued for the XM-35 Armament System used on the AH-1G is severely limited because it offers no versatility as to terrain and type targets engaged. The issue ammunition FSN 1305-143-7034 consists of four rounds of HE and one tracer. It has been found that the HE round is good against targets where instant detonation is desired, such as with troops in the open, sampans, etc. However, it is ineffective in trees, against bunkers, against covered positions, etc. The present situation in RVN does not allow for loading of the aircraft for particular missions, and therefore an AH-1G must be capable of engaging targets of all types in all types of terrain, on very short notice. To meet the requirement of the varied terrain and targets encountered, HE, Armor Piercing, Incendiary, and tracer ammunition has been developed, however, the present linked configuration does not lend itself to effectiveness against varied targets. It is recommended that the ammunition for the XM-35 20mm gun system be linked with all four type rounds in the belt, so that once loaded, the aircraft can effectively engage in all type targets, in varied terrain, whenever encountered. The ammunition could be linked with HE, Tracker, Armor Piercing, and Incendiary in one belt to provide this flexibility. The 334th Aviation Company (Attack Helicopter) is evaluating present ammunition and targets, and will submit a report with recommendations in the near future.

4. (U) USACDC Discussion: None.

5. (U) USACDC Action: USACDC action is being deferred pending receipt of report with recommendations from the 334th Aviation Company (Attack Helicopter) cited in above paragraph.

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1. (U) Reference: Operational Report - Lessons Learned, 145th Aviation Battalion, 31 January 1970.

2. (U) Item: Tracer Burnout with CTG, 20mm Electric Prime, TP-T, XM-220E1.

3. (C) Unit Comments (Summary): Recent use of the XM-35 20mm system on the AH-1G, using the tracer cartridge, has proven that the tracer burnout limits the effective distance from targets at which the AH-1G can engage. This is a particularly undesirable characteristic when enemy 12.7 mm or 37mm automatic weapons are encountered. Tracer burnout with the TP-T, XM-220E1 Cartridge seems to occur at an estimated range of 2000 meters. The range of enemy weapons far exceeds this burnout range. For optimum tactical advantage, it is desirable that the tracer range of the 20mm cartridge be extended to approximately 3000 meters slant range to give AH-1G pilots the ability to begin attacks at that distance, adjust on target, and place effective fire on enemy gun positions prior to reaching the present range at which they must engage. This is particularly desirable in view of the enemy's customary employment of heavy automatic weapons in pairs or trios, located in different positions to cover each other. By having a longer range, the AH-1G could engage one at long range, then maneuver to place fire on others as their positions are located. Therefore, it is recommended that the tracer burnout range of the XM-220E1 20mm cartridge be extended to a minimum of 3000 meters. The 334th Aviation Company (Attack Helicopter) will prepare a report on the employment of this weapons system when more experience is gained in its tactical employment.

4. (U) USACDC Discussion: None.

5. (U) USACDC Action: USACDC action is being deferred pending receipt of evaluation report from the 334th Aviation Company (Attack Helicopter) cited in above paragraph.

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1. (U) Reference: Operational Report - Lessons Learned, 44th Medical Brigade, 31 January 1970.

2. (U) Item: Military Stress Diet for Military Dogs.

3. (U) Unit Comments (Summary): The US Air Force desires to feed all of their dogs a "Military Stress Diet" (MSD) to replace Gaines Meal, horse meat, and other foods currently being used. If a MSD can be used to feed all military dogs in RVN, all other types of dog food now in use can be eliminated thereby reducing the types of dog food in military supply channels and depots. One pallet of MSD has been ordered for trial in Sentry and Scout Dogs. It will be evaluated as to acceptance (palatability) and adverse affects. If MSD is evaluated favorably, it should be substituted for dog foods presently in use.

4. (U) USACDC Discussion: The Intraservice Purchase Description to be used for procurement of the Military Stress Diet is ready for supply to potential bidders. Preliminary tests with the ration look good. Actual field use will determine its ultimate value. If it proves efficacious, the ration also has great commercial potential.

5. (U) USACDC Action: USACDC will continue to monitor MSD trials.

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1. (U) Reference: Operational Report - Lessons Learned, 101st Airborne Division (Airmobile), January 1970.

2. (U) Item: IFR Test Drops.

3. (C) Unit Comments (Summary): The test being conducted is to determine the feasibility of aerial resupply under IFR conditions using ground control radar (GCA). Four separate airdrop tests have been conducted under simulated IFR conditions with both CH-47 and C-130 aircraft. Twelve CH-47 loads were dropped an average of 351 meters from the desired impact point, while 23 C-130 aircraft loads averaged 169 meters from the desired impact point. Tests are being continued in conjunction with MACV mandatory monthly combat essential (training) air drop missions.

4. (U) USACDC Discussion: A requirement does exist for tactical resupply under IFR conditions. The results of this test should be considered for integration into QMR, Controlled Air Drop Cargo System, USACDCSA, ACN 07566 and SDR, Army Aircraft Terminal Control Facility, ACN 2126, USACDCAVNA.

5. (U) USACDC Action: USACDC will monitor future ORLLs and other reports for the results of this test.

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1. (U) Reference: Operational Report - Lessons Learned, 145th Aviation Battalion (Combat), 31 January 1970.

2. (U) Item: Lack of Marking Capability in 1968 AH-1G Aircraft.

3. (U) Unit Comments (Summary): The unit recommends a HE/Smoke 2.75 inch FFAR round for marking landing zones and targets which now must be done orally or with ordnance. The 2.75 inch FFAR composite HE/Smoke round, warhead M-157 and M-158, are not stock in Vietnam at the present time. The 12th Combat Aviation Group and United States Army Vietnam nonconcur, did not agree and recommended using the 2.75 inch FFAR with the white phosphorous warhead as a marking sound.

4. (U) USACDC Discussion: A requirement for AH-1G target marking capability does exist. While the 2.75 inch FFAR white phosphorous does make an excellent marking round, the effects of the warhead are not always desirable. USACDC has an SDR (ACN 5855) for a smoke marking munition and aerial dispenser. Successful development of the XM 119, which is presently in the engineering test stage, should meet this requirement.

5. (U) USACDC Action: Development of the XM 119 will continue to be monitored by CDC.

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1. (U) Reference: Operational Report - Lessons Learned, 145th Aviation Battalion, 31 January 1970.

2. (U) Item: Lack of Target Marking Capability in 1968 Model AH-1G Aircraft.

3. (C) Unit Comments (Summary): Models of the AH-1G prior to 1968 have a smoke dispenser system which gives these aircraft the capability of marking targets and landing zones. The 1968 model AH-1G was produced with a new model smoke dispenser system for which the dispensers were not procured or placed on the aircraft as an operational system. This has severely limited the capability of the aircraft to mark targets and landing zones. There is a definite need for target marking capability in the AH-1G. Present lack of such a system requires pilots to orally indicate targets, to mark them with ordnance, or to fly low to ensure that other aircraft can be shown the exact location. A smoke rocket (2.75 inch FFAR) with an HE warhead was produced which could provide this capability. However, present stocks in RVN are old and defective so that no present capability exists. The smoke dispensers designed for the 1968 model AH-1G aircraft are being tested and are not expected to be available until late 1970. It is recommended that sufficient quantities of HE/Smoke rockets, 10 lb warheads, M-157 and M-158, should be made available to units in RVN. This will allow target marking for AH-1G aircraft with no smoke dispensers, or with inoperative dispensers.

4. (U) USACDC Discussion: The XM-118 smoke grenade dispenser will begin deployment in Jan 71. The Rocket Control Display System (RCDS), which will provide a selective smoke marking capability, is scheduled for deployment in May 1971.

5. (U) USACDC Action: USACDC will continue to monitor problems associated with the lack of target marking capabilities.

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1. (U) Reference: Operational Report - Lessons Learned, 1st Infantry Brigade, 5th Infantry Division (Mechanized), April 1970.

2. (U) Item: Emergency Aircraft Navigation.

3. (U) Unit Comments (Summary): During periods of reduced visibility helicopter missions can be flown using artillery illumination fire as a navigation guide.

4. (U) USACDC Discussion: This comment should be considered for integration into aviation techniques and procedures for limited visibility operations. However, although the position of the flare can easily be ascertained by visual reference, the unlit cannister will continue for another 1,000 to 1,500 meters along the gun target line. The gun target line must be known to the aviator to preclude flying through the trajectory of the cannisters.

5. (U) USACDC Action: That consideration will be given to incorporating this into FM 57-35 Airmobile Operation, at the time of the next revision.

X

1. (U) Reference: Operational Report - Lessons Learned, 145th Aviation Battalion, 31 January 1970.

2. (U) Item: Washing of Aircraft in US Army Aviation Units.

3. (U) Unit Comments (Summary): Most units recognize the need to reduce wear and damage to aircraft caused by the dusty and dirty environment in which they operate. However, as no equipment is provided for this in the TO&E, Aviation units are required to use makeshift methods such as "buckets of water", handheld fire extinguishers, converted fire trucks, converted fuel pump systems, etc. These often prove only partially satisfactory, and divert supply items intended for other purposes. It is recommended that TO&E's of aviation units of all types operating in RVN be changed to add equipment with which to wash aircraft. The most practical and least costly system would seem to be the issue of a pump and hoses to be used in conjunction with the standard issue water trailer (400 gallon - M-149). Since the trailers are already standard in most units, it would require only the addition of pumps and hoses to give aviation units the needed capability to wash aircraft. The 334th Aviation Company (Attack Helicopter) is experimenting with methods of adapting the water trailer for use in washing aircraft. A report will be sent forward when the most satisfactory method is found.

4. (U) USACDC Discussion: On 31 December 1969, CDC requested AMC to inventory current equipment and proposals from industry to determine available washing equipment for cleaning Army aircraft. AMC determined that the USAF spraying unit, cleaning compound, trailer mounted, FSN 4940-141-8717 would partially satisfy the requirement for a cleaning vehicle. Thirty vehicles were procured; twenty-nine are to be sent to RVN; one will be sent to Ft Rucker, Alabama for a Military Potential Test (MPT).

5. (U) USACDC Action: CDC will continue to monitor and evaluate this problem and recommend action, as appropriate.

1. (U) Reference: Operational Report - Lessons Learned, 80th General Support Group, Period Ending 31 January 1970.

2. (U) Item: Failure of Landing Legs on 12-ton S&Ps.

3. (U) Unit Comments (Summary):

a. The Group has experienced a very high failure rate of landing legs on the 12-ton Stake and Platform Trailers. The failure consists primarily of the lower half of the leg bending and becoming unserviceable. Due to the non-availability of replacement legs, a program has been instituted in the DSU's of the Group to manufacture suitable legs for use on these trailers. It is recommended that expeditious action be taken to obtain a sufficient quantity of landing legs in the supply system and that an evaluation of subject landing legs be conducted to determine how they can be strengthened to prevent failure.

b. Headquarters, US Army Support Command, Da Nang concurs and states that the action taken by the 80th General Support Group to manufacture and repair suitable legs for 12-ton S&P trailers is quite adequate. The headquarters has insured that replacement legs are on requisition and is taking necessary follow-up action to insure requisitions are filled as soon as legs become available in country. Headquarters, 1st Logistical Command states that the program initiated by the 89th GS GP to fabricate replacement legs is adequate to sustain internal requirements until requisitions with follow-ups submitted by Da Nang SUPCOM insure sufficient on-hand quantities to support repair requirements; experience with other users of the M127A2 trailer indicates that additional training and orientation of drivers in trailer operation and care will reduce landing leg malfunctions.

4. (U) USACDC Discussion:

a. This is a recurring reported deficiency. In a letter from the USACDC Liaison Detachment in Vietnam, to Headquarters, USACDCCSSG, it was requested that an engineering analysis of field modified M127-series trailer landing legs be undertaken. ACTIV also requested they be furnished with a monthly progress report effective 19 June 1970.

b. The following is extracted from an Operational Report - Lessons Learned of the 6th Transportation Battalion, dated 31 January 1970.

"During the report period it was observed that many 12-ton S&P trailers were being deadlined as a result of damaged landing legs. An investigation of this problem revealed that the landing legs on the current fleet of trailers were, at best, questionable in their ability to support the maximum weight capacity of the S&P. To alleviate the problem, this battalion, in conjunction with the 159th Terminal Battalion, and the 3d Ordnance Battalion, commenced an immediate study of the situation. The result of the study was the formulation of class V loading schematics to be followed when loading ammunition onto the

trailers. Through test and evaluation, it was determined that the distribution of weight over the trailer legs was the governing factor. The loading schematics proved to be very successful in that they presented a clear pictorial view of how the majority of the weight would be placed toward the rear of the trailer, therefore, lessening stress on the landing legs and gear. By closely monitoring the loading schematics, this battalion has enjoyed a sizeable decrease in trailer deadline resulting from damaged landing legs. There remains, a definite shortage of serviceable landing legs in this area. ... It is recommended that units develop load plans for transport of high density class V on S&P trailers to minimize weight on landing legs... and that more replacement landing legs be made available to this theater."

c. Defective landing legs have been recognized in paragraph 34, TB 750-981-4, Equipment Improvement Report and Maintenance Digest, dated October 1969. A new type landing leg is now being procured. However, in the interim, it is recommended that the unit apply procedures on loading 12-ton S&P trailers to reduce stress on landing legs, as outlined above.

5. (U) USACDC Action: Copies of this report have been furnished to appropriate commands and USACDC will continue to monitor and evaluate this problem.

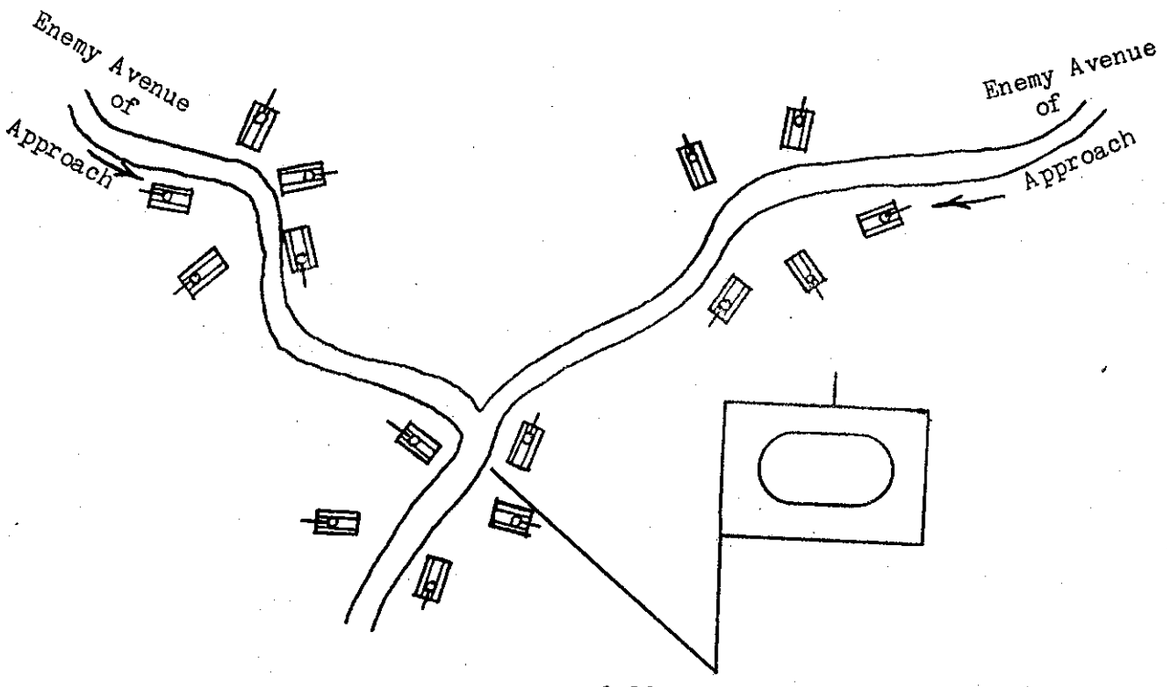
1. (U) Reference: Operational Report - Lessons Learned, 25th Infantry Division, 31 January 1970.

2. (U) Item: Mutually Supporting Ambush.

3. (U) Unit Comments (Summary): A natural tendency for armor is to laager at night, especially if no supporting infantry is available. Since night hours are primarily used by the enemy in movement to an attack, maximum use of all available techniques is necessary to stop or slow these night movements.

4. (U) USACDC Discussion: Infantry tactics are suited for the establishment of night ambushes; however, armor using mutually supporting platoon size strong points and REINFORCED WITH RIFLEMEN (FM 17-1, Change 1, para 436d) could result in interdiction of enemy night movements. A tank company CP could be established in the vicinity of a road/trail junction with tank platoons located 500m to 1000m away on the roads/trails leading to the junction. One platoon could be set up as an ambush (FM 17-1, Change 1, para 437b) on each of the two enemy avenues of approach. The third platoon could be used as CP security and as a reaction force to either of the ambush platoons. Platoons would coil astride the enemy avenues of approach at predetermined critical points. (See sketch--not drawn to scale.) Note location of the company CP.

5. (U) USACDC Action: Consideration will be given to include in revised editions of armor doctrinal field manuals (specifically, FM 17-1) the establishment of night ambushes, where terrain will permit, rather than going into the normal laager.



1. (U) Reference: Operational Report - Lessons Learned, 80th General Support Group, 31 January 1970.

2. (U) Item: Security Vehicles for Convoy Operations.

3. (U) Unit Comments (Summary):

a. Hardened organic vehicles, dedicated to provide security for line haul operations, are not authorized by TOE for transportation units whose primary mission is to provide combat service support over land lines of communication on a daily basis. Transportation units within this command perform line haul missions daily, in two or more directions, and on many occasions make turn-around trips. The lack of organic security vehicles leads to materiel not being moved, upon occasion, with established priorities. Also, since the organic vehicles are supporting the security requirements for one or more convoys daily, proper maintenance is not performed causing considerable down-time and creating backlogs. It is recommended that additional vehicles for security be authorized to augment organic vehicles or that all TOE, of transportation units with line haul mission, be modified to include a security platoon with adequate hardened vehicles, weapons, and communications.

b. Headquarters, US Army Support Command, Da Nang concurs that additional vehicles for security be authorized to augment organic vehicles within transportation units. However, it disagrees that a security platoon be authorized with adequate hardened vehicles because there are, at present in ICTZ, inadequate Military Police forces to provide security for line haul convoys. It therefore recommends a special authorization of two V-100 armored reconnaissance vehicles be made for each truck platoon with a line haul mission to provide adequate convoy security. Headquarters, 1st Logistical Command requested Department of the Army in November 1969 to research the feasibility of having V-100's organic to transportation units. At that time, the matter was studied by the Combat Developments Command. It does not concur with the suggestion for the implementation of a security platoon within TOE transportation units since the 18th Military Police Brigade is acquiring additional V-100's and personnel resources to absorb the convoy security missions previously held by organic transportation TOE personnel.

c. Headquarters, US Army, Vietnam comments that convoy escorting is a Military Police mission. Additional XM-706 Commando Cars, and/or personnel spaces for convoy escorts should be given to the Military Police. These increased resources would be used to escort all convoys moving through their area, not just the convoys of one particular organization.

4. (U) USACDC Discussion:

a. On 18 June 1969, representatives from the USACDC Transportation Agency and HQ USACDCCSSG attended a meeting with the USACDC Military Police Agency to conduct a page-by-page review of the Armored Car doctrine as developed by

the Military Police Agency. Subject doctrine was published as Change 1, Chapter 19, 8 September 1969, FM 19-4, Military Police Support, Theater of Operations. CDC representatives concurred in the doctrine presented with the stipulation that the basis of issue of Car, armored, light, 4x4, XM-706, to Military Police units should be sufficient to provide adequate route and motor convoy security by Military Police elements. This will reduce or eliminate the requirement of transportation truck units of providing security (hardened) vehicles from within their organic resources.

b. Reference letter, CDCCD-C, Headquarters, US Army Combat Developments Command, subject: Armored Cars in Transportation Units, 16 May 1969, addressed to USACDC Liaison Detachment, Vietnam, with copies furnished to Headquarters, USACDCCSSG and USACDCCSG. Paragraph 2a of above referenced letter is quoted as follows:

"This headquarters supports the concept that: (1) Convoy security, when required, is provided by Military Police or appropriate tactical elements in accordance with FM 31-16, Counterguerrilla Operations. (2) Base security can best be assured by following the concepts contained in existing FM's, such as FM 19-45-1 (TEST), Rear Area Protection, and FM 31-81 (TEST), Base Defense."

c. Attention is invited to page 350 (classified), subject: Armored Car Doctrine, Senior Officer Debriefing Report: MG J. M. Heiser, Jr., CG, 1st Logistical Command, 2 August 1968 to 23 August 1969 (U) and the classified final report, XM706, Armored Car in Military Police Operations (U), 8 June 1970, prepared by the Army Concept Team in Vietnam (ACTIV Project Number ACG-70F). Paragraph 39d, page VIII-5, referenced report, outlines recommended Basis of Issue for the XM706 to military police units.

d. Copies of this report have been furnished the USACDC Military Police Agency; US Army Transportation School; USACDC Liaison Detachment, Vietnam; USACDC Armor Agency; USACDC Combat Support Group; HQ, US Army, Vietnam; HQ, 1st Logistical Command, Vietnam; HQ, US Army Support Command, Saigon; HQ, US Army Support Command, Da Nang; 18th Military Police Brigade; USACDC Combat Arms Group; and 80th General Support Group, Vietnam, by the USACDC Transportation Agency.

5. (U) USACDC Action: This headquarters will furnish a copy of this report to Director of Army Transportation, DCSLOG, and Department of the Army, Army Concept Team in Vietnam. CDC will continue to monitor the problems associated with security vehicles for convoy operations.

1. (U) Reference. Operational Report - Lessons Learned, US Army Medical Command, Vietnam, 30 April 1970.

2. (U) Item: Consolidation of the 44th Medical Brigade and USARV Surgeon's Office forming the United States Army Medical Command Vietnam (Provisional).

3. (U) Unit Comments (Summary):

a. The USARV Surgeon's Office and Headquarters, 44th Medical Brigade were duplicating effort in a number of functional areas. A study group was appointed by the USARV Surgeon to determine the feasibility of combining the two facilities into a Medical Command. The new command must perform all functions at both activities with no loss in efficiency. The study was based on the following three assumptions: that the present staff relationships between the USARV Surgeon and the General and Special Staffs of Headquarters USARV would continue, that the present administrative and staff support provided by Headquarters USARV to the Surgeon's Office would continue, and that space to house the new Medical Command would be made available.

b. The organization and functions of the proposed Medical Command would be:

(1) The CG, Medical Command would also serve as the Surgeon, USARV, with the Deputy Commander serving as the Deputy Surgeon, USARV.

(2) The organization chart shown below provides an organization that is adequate to command presently assigned units and would facilitate future reduction as necessary. The Dental Surgeon and the Veterinarian are also Commanders of the 932d Medical Detachment and the 522d Veterinary Professional Service respectively, thus eliminating the requirement for carrying manpower spaces in the headquarters for these two offices.

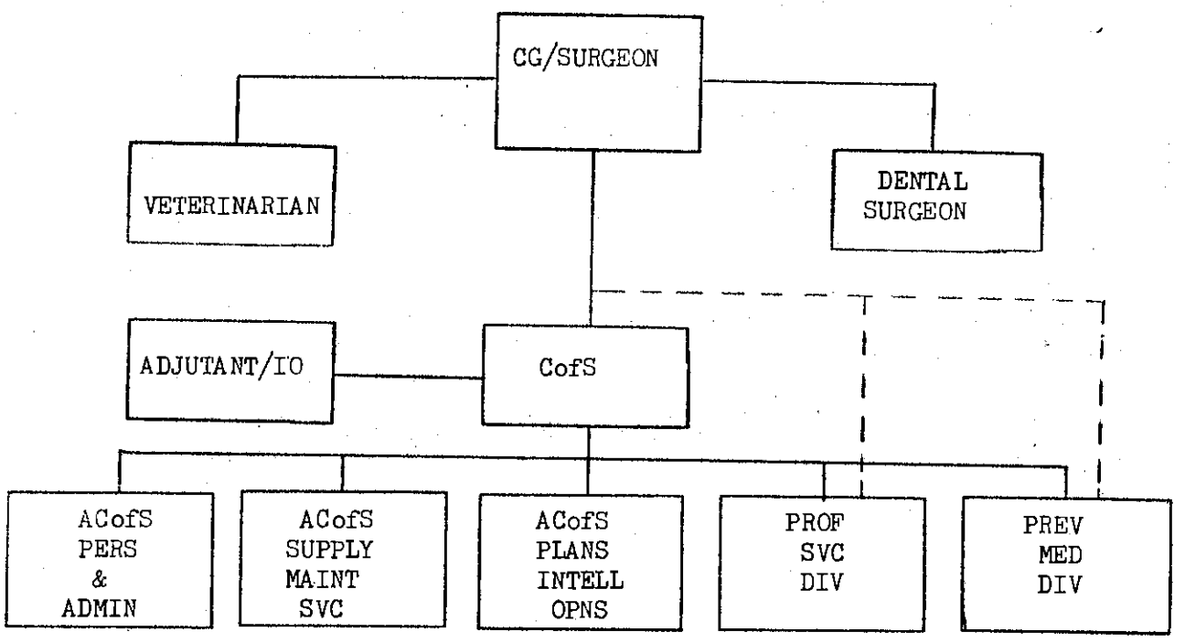
(3) The manpower resources for this reorganization were taken from the Table of Distribution and Allowances, Headquarters, USARV for the Surgeon's Office (55 spaces), and MTOE submitted by the 44th Medical Brigade (99 spaces), plus a Table of Distribution and Allowances augmentation to the 44th Medical Brigade (7 spaces).

(4) This study revealed that an overall 17% reduction could be realized by combining the staffs into a single organization with no loss of function or reduction in efficiency. The proposed Medical Command requires 134 spaces out of the combined 161 spaces allowing a savings of 11 officers, 12 enlisted men and 4 local nationals.

(5) After approval of the proposed organization, the US Army Medical Command was activated 1 March 1970, with the following results: eliminated duplication of effort in the functional areas of command to include dental and veterinary control, administration, and plans and operations;

enhanced the management of medical personnel and reduced manpower requirements without degrading the efficiency of medical operations; and improved responsiveness and flexibility to change in medical support requirements. It is recommended that the dual function concept of the Surgeon also commanding the subordinate medical unit be considered at all levels as a method of reducing manpower requirements and gaining best utilization of limited medical resources.

USA MEDICAL COMMAND VIETNAM



4. (U) USACDC Discussion: Additional information has been solicited and examination of this "dual function" concept is currently in process.

5. (U) USACDC Action: Information contained in these paragraphs will be considered during future revision actions to applicable TOE.

1. (U) Reference: Operational Report - Lessons Learned, 3rd Armored Division, 30 April 1970.

2. (U) Item: 5KW Generators Assigned to the Medical Battalion.

3. (U) Unit Comments (Summary): The 5KW Generators assigned to the 45th Medical Battalion under MTOE 8-35E provide only 17.5 amps of power. To properly operate the field sterilizers assigned to the battalion, a power source of greater than 25 amps is necessary. It is recommended that the problem be studied and evaluated by the Army Medical Department Research and Development personnel.

4. (U) USACDC Discussion: A review of the technical characteristics of the instrument sterilizer organic to the 45th Medical Battalion reveals that the sterilizers only require 1200 watts of power or approximately 11 amps of current. The 45th Medical Battalion has authorization for the following power generation sources: 12 ea 5 KW GED Generators, 7 ea 3 KW GED Generators, and 16 ea 1.5 KW GED Generators. The 5 KW generator providing power to the sterilizers produces 5000 watts of power which is more than adequate to power a sterilizer. Therefore, the only determination that can be made by this headquarters is that the 5 KW generator is being overloaded, or a short exists somewhere within the units. Normal "trouble-shooting" techniques should reveal the problem.

5. (U) USACDC Recommendation: It is recommended that the 45th Medical Battalion "trouble-shoot" the system to determine the cause or isolate the sterilizer to one of their other power sources.

[redacted]

1. (U) Reference: Operational Report - Lessons Learned, 97th Military Police Battalion, 31 January 1970.

2. (U) Item: A requirement exists for a suitable helmet receiver.

3. (C) Unit Comments: A number of deficiencies are inherent in the use of the H-161/GR headset in the armored wheeled vehicle (XM-706 Armored Car). First, while the headset provides a positive link to the intercom system, it has little capability for attenuating ambient noise levels. Secondly, the H-161/GR head set is uncomfortable when worn under the steel combat helmet. This poses for the crewman the unenviable choice of wearing a protective helmet or remaining linked to the intercom system. It is unrealistic to assume that crewmen are wearing both the helmet and the headset at all times, considering the discomfort that this course of action would bring them. The crewmen of the XM-706 Armored Car (V-100) commonly ride in at least a semi-exposed position to afford themselves a maximum degree of visibility. Therefore, a need exists for an item of equipment which provides both a positive intercom link and a degree of ballistic protection. The CVC helmet possesses both of these qualities and also greatly attenuates ambient noise levels.

4. (U) USACDC Discussion: The requirements for suitable helmet receiver was addressed in the QMDO for the Tactical Radio Communications System in paragraph 4i, Audio Accessories, ACN 10250.

5. (U) USACDC Recommendation: Crewmen of the XM-706 Armored Car (V-100) utilize the Combat Vehicle Crewmen (CVC) helmet pending development of suitable helmet receiver.

[redacted]

1. (U) Reference: Operational Report - Lessons Learned, 44th Medical Brigade, 31 January 1970.

2. (U) Item: Infestation of Cereal Products.

3. (U) Unit Comments (Summary): Large quantities of cereal products have been condemned in RVN due to insect infestation. Infestation of cereal products can be prevented by improving the processing and insect proof packaging scheme. It is suggested that flour for use in RVN be required to have larva destruction by heat or chemical means during processing followed by packaging in hermetically sealed drums or cans.

4. (U) USACDC Discussion: Although improved processing techniques and insect proof packaging helps prevent insect infestation of cereal and cereal products, the production of insect-free products and packaging required to keep them that way is often prohibitive in cost. The use of the fumigant phostoxin (aluminum phosphide) has proven very effective in controlling the infestation of cereal products.

5. (U) USACDC Recommendations: Complete information with regard to the use of this fumigant (aluminum phosphide) is available from the Defense Procurement Support Center in Philadelphia. USARV should have this information provided to all food service facilities.

1. (U) Reference: Operational Report - Lessons Learned, 44th Medical Brigade, 31 January 1970.

2. (U) Item: Hospital Package without Extensive Site Preparation.

3. (U) Unit Comments (Summary): The Army Medical Department has constantly attempted to improve Field Army level medical service. During WW II TOE hospitals in the combat zone were mobility oriented, constantly displacing to new locations in order to be closer to the casualties. This concept of deployment continued on through the early stages of the Vietnam war. With the development of the MUST hospital and its extensive use in the combat zone, through 1967 and 1968, commanders thought that the ideal mobile hospital treatment package was now in the inventory. At the time the MUST was being utilized in Vietnam, other types of treatment facilities were also being utilized. For example the Air Force has made extensive use of the modular plant at aeromedical casualty staging facilities. The prefabricated quonset-shaped hospital has been used by certain US Army evacuation hospitals. The Australians are utilizing a prefabricated gabled hospital at Vung Tau. There is a very definite trend taking place in Vietnam from the mobility concept toward fixed-type facilities. This shift in emphasis necessitates a second look at our available resources. All of the aforementioned hospitals have inherent problems which make it extremely difficult to actually assess one as being superior to the others. For example, the MUST hospital is extremely vulnerable to enemy mortar/rocket attack due to the inflatable elements. In order to reduce this vulnerability, a system of revetments have been constructed and the MUST "encased" within the defense structures. This action minimizes the mobility concept as certain difficult to obtain material handling equipment is required to extract the unit from its encasement. In Vietnam "surgical", "field" and "evacuation" hospitals are names only. All hospital units essentially perform similar functions due to an assigned area mission. A good example is one 60 bed surgical hospital operating a 125 bed plant while an evacuation hospital with a normal operating allowance of 400 beds operates only 133 beds. It is apparent then that a more ideal situation would allow for a "type" facility or unit that could be expanded or drawn down as the mission changes. The unit should not be tied down to a specific TOE but have a series of assemblages with parameters approximating the current evacuation hospital on one end of the spectrum and the surgical hospital at the other extreme. The essential element necessary is flexibility. Hospital mobility has not been a matter of concern during this conflict. It has been more efficient to move the patient to the hospital by centrally controlled helicopters than to bring the hospital to the patient. In addition, air superiority has not been challenged during the conflict which could be a limiting factor in any future engagement. It is recommended that proponents of force development and/or research and development study the feasibility of a single type hospitalization unit equipped with modular-type buildings and a flexible Table of Organization and Equipment that can be modified to support a given mission.

4. (U) USACDC Discussion: The Brigade comments offer substantial reinforcement to the doctrinal concepts and organizational structuring that have been embodied in the proposed TOE 8-123H, Combat Support Hospital. The ideal that has been expressed in the unit comments (i.e., to have a "type" facility or

unit that can be expanded or drawn down as the mission changes or a medical unit that can be modified to accommodate shifting patterns of medical and surgical workload) are the very features which are inherent in the basic design of the Combat Support Hospital. This is especially true when it is augmented and/or modified by modular teams from either TOE 8-640, Medical Facility Expansion Teams, or any of the some 100 cellular teams to be found in the 8-600 series TOE.

5. (U) USACDC Recommendation: That the requirements as stated in the Operational Report be brought to the attention of OACSFOR, DA, who is presently reviewing the proposed TOE for the Combat Support Hospital for its admission to the force structure. The 44th Medical Brigade requirements and recommendations should serve as substantive, valid justification for the hospital's approval.

1. (U) Reference: Operational Report - Lessons Learned, 97th Military Police Battalion, 31 January 1970.

2. (U) Item: Requirement exists for a Pole Trailer Capable of Transporting 90-Foot Poles.

3. (U) Unit Comments (Summary): This battalion was faced with the task of moving approximately five hundred 90-foot poles from the Newport docks to local and line haul destinations. Previous attempts at transporting the lengthy poles with standard pole "dollies" proved time consuming and unsafe. Realizing the problem, this battalion fabricated a unique pole carrier consisting of the first five feet of a salvaged 12-ton S & P trailer with angle iron uprights welded to prevent lateral shift of the poles. This platform was placed on the fifth wheel of a 5-ton tractor and the "king pin" engaged. The heavier ends were placed on a standard single axle pole trailer. The poles were secured with chains and binders.

4. (U) USACDC Discussion: Transportation of five hundred 90-foot poles is a unique requirement peculiar to the situation in South Vietnam and cannot be considered a standard construction item in the field army warranting TOE modification. The field expedient addressed seems valid for the situation. Suitable pole trailers are also available as commercial items under the ENSURE program.

5. (U) USACDC Recommendation: If the requirement to transport 90-foot poles is a continuing requirement, it is recommended that action be initiated to purchase suitable pole trailers under the ENSURE program.

1. (U) Reference: Debriefing comments of an officer assigned as Maintenance Officer of Newport Army Terminal and as Commanding Officer of a Terminal Transfer Company in Vietnam, USACDCTA, 21 Sep 70.

2. (U) Item: Comments Concerning Failure of the Terminal Transfer Company to Receive an Advance Copy of the Cargo Manifest for Roll-on/Roll-off Ships.

3. (FOUO) Individual's Comments (Excerpts):

"...Did not receive advance copy of vessel manifests prior to the Roll-on/Roll-off ships' arrival in port." With RO-RO ships officer said they often had to physically go on board the ship to get the manifest.

"...The advance copy of the cargo manifest is required by the Terminal Transfer Company to allow for port clearance planning and preparation for movement of cargo."

"...An advance copy of the cargo manifest should be provided to the Terminal Transfer Company prior to arrival at the port."

4. (U) USACDC Discussion: USACDC concurs with the debriefee.

5. (U) USACDC Recommendation: It is recommended that this problem be brought to the attention of the Military Traffic Management and Terminal Service. In addition a copy of this debriefing will be furnished to the Director of Army Transportation, DCSLOG.

1. (U) Reference: Operational Report - Lessons Learned, 145th Aviation Battalion, 31 January 1970.

2. (U) Item: Emergency Jettison of Canopy on the AH-1G.

3. (U) Unit Comments (Summary): During the period 17 December thru 22 December 1969, the 334th Aviation Company (Attack Helicopter) had two occasions during which emergency jettison of the canopy doors was necessary to allow the crew to escape. On both occasions the forward canopy doors would not jettison. The problem seems to be that the present jettison system provides for release of the canopy door by unlocking the lower latch, and then pulling the emergency release latch. Often, in a crash, the aircraft comes to rest on the left side, preventing jettison, or jamming the door so that it cannot be opened. Another possibility is that the person in the aircraft is physically injured and cannot unlock one or both of the latches. It is recommended that the canopy jettison system be redesigned to allow jettison of canopy panels on both sides of the cockpit, front and rear, so that either the pilot or copilot can jettison canopy doors on either side of the cockpit with a minimum of physical exertion. The 334th Aviation Company (Attack Helicopter) is preparing an EIR, with recommendations for canopy jettison systems redesign, to eliminate this unfavorable situation.

4. (U) USACDC Discussion: An ECP to provide an emergency jettison of canopy for the AH-1G has been submitted. Approach is to use an explosive cord to separate the canopy from the aircraft.

5. (U) USACDC Recommendation: CDC recommends that a TECOM test of this device be conducted prior to its acceptance.

CONFIDENTIAL

1. (U) Reference: Operational Report - Lessons Learned, 11th Armored Cavalry Regiment, 31 January 1970.

2. (U) Item: Development of a new Antimining Device to Counter Random Mining.

3. (C) Unit Comments (Summary): It has become quite common for tracks to be lost while "busting" jungle. Since it is not practical to mine sweep while "busting" jungle, the VC/NVA random mining tactics have been costly.

4. (C) USACDC Discussion: Development of vehicular mounted mine detector/ neutralizers should and must be accelerated for off-road situations. This point was discussed at the US Army Mine-Countermine Conference on 6-8 October 1970. A conclusion of that conference was that a higher priority should be placed on development of a vehicular off-road mine detector/neutralizer. This report was forwarded to ACSFOR.

5. (C) USACDC Recommendation: That AMC be given higher priority to develop an effective off-road vehicular mine detector/neutralizer in accordance with 11th ACR and conference recommendations.

CONFIDENTIAL

CONFIDENTIAL

1. (U) Reference: IFFORCEV Tactical Notes, 4th Infantry Division, January 1970.

2. (U) Item: XM3 - Airborne Personnel Detector Utilization.

3. (C) Unit Comments (Summary): The APD is flown as part of a hunter-killer team in the 4th Division using two OH-6A (LOH) and two AH-1G (COBRA). Until recently the conventional formation was one LOH w/APD low, and one Cobra low, providing cover; one Cobra high, guiding the low LOH, and one LOH serving as a rescue ship. The flight formation has been changed as follows: One LOH w/APD remains low, the second LOH now flies 50 to 100 feet above and behind the detector ship. Both LOHs have M60 machine guns mounted in the left door. Ammo boxes are mounted on the left side of each aircraft. The two Cobras fly at 1000 to 1500 feet with one guiding the detector ship. The APD operator meters are now mounted in an aluminum stand and placed in the floorboard of the LOH. This allows for better viewing by the operator and the mounting of the M60 machine gun in the left door. The M60 MG in the second LOH now provides the immediate cover to the detector ship previously supplied by the low Cobra. The LOH is better for this due to its small size and maneuverability. When heavy readings are obtained with the APD, the second LOH does not have to come from high altitude to VR the area as previously required. This has taken the Cobra out of the kill zone.

4. (U) USACDC Discussion: The above recommendation for the use of the LOH and COBRA helicopters in a fire support and plotter role on APD missions is an effective means of engaging targets of opportunity and covering the APD helicopter.

5. (U) USACDC Recommendation: CONARC consider the techniques of using COBRA's and LOH's in the APD mission with a view toward incorporating in CONARC School Training Program.

CONFIDENTIAL

1. (U) Reference: VEEA Gas Incident Information as extracted from captured NVA document by COMUSMACV (CDEC), 11 July 1970.

2. (U) Item: NVA/VC use of RCA.

3. (U) Extracted Comments: "We should improvise captured chemical agents into explosive charges, and launch them against enemy controlled areas or use them in shelling attacks at night or during the day. It would be better if we used them in small continuous attacks."

"Stuff toxic agents into hand grenades and shaped-charge grenades (after removing the explosives). Use these grenades for attacks against enemy military posts during the night and especially on windy and rainless nights. With these toxic agents, (in our possession) we can scatter leaflets to appeal to the enemy troops to either side with use or be harassed and oppressed with mortar rounds containing toxic agents. All these measures are aimed at causing tension in their minds. If we continue to attack the enemy with toxic agents day after day he will soon be poisoned, weary, confused, and lose all desire to fight. We can also throw toxic agent hand grenades into the enemy fortifications to compel him to get out. We can then use firepower to annihilate him."

"If possible, we should improvise 82mm or 60mm mortar round by replacing some of the explosive with toxic agents, and also add fragments of iron."

"If the enemy troops want to operate, they must wear protective masks. As a result they will not hit targets accurately and their firing will become sporadic."

4. (U) USACDC Discussion: The VEEA program utilizes intelligence information gained from prisoner of war interrogations and captured NVA/VC documents for input to the system which may be useful to the users of the VEEA program. The sources are of questionable reliability; however, in this case the enemy use of dud munitions to fabricate their own RCA munitions is supported by both prisoner testimony and captured NVA/VC documents. NVA/VC documents constantly refer to "toxic" agents in speaking of the RCA CS. No use of actual toxic agents is implied by these erroneous references.

5. (U) USACDC Recommendation: This use of RCA munitions by the NVA/VC should be included in CONARC school training programs.

1. (U) Reference: Debriefing comments of an officer assigned as Maintenance Officer of Newport Army Terminal and as Commanding Officer of a Terminal Transfer Company in Vietnam, USACDCTA, 21 Sep 70.

2. (U) Item: Comments Concerning Training of Military Cargo Checkers.

3. (U) Individual's Comments (Excerpts):

"...The present cargo documentation system functions properly, but additional training is required for military checkers in documentation." At the time this officer was in Vietnam cargo was checked off the ship as it landed on the dock either by a manual tally on a machine listing or hatch summary. TCMD's were used for in-port control of cargo. More training is recommended for military checkers in documentation.

4. (U) USACDC Discussion: Accurate checking and documentation of discharged cargo is essential for cargo accountability. Therefore, we concur with the Debriefee's recommendation.

5. (U) USACDC Action: This observation is being forwarded to the US Army Transportation School for evaluation and possible emphasis in training requirements. In addition a copy of this report will be furnished to the Director of Army Transportation, DCSLOG.

CONFIDENTIAL

1. (U) Reference: Operational Report - Lessons Learned, 80th General Support Group, Period Ending 31 January 1970.

2. (U) Communications Equipment for Convoy Operations.

3. (C) Unit Comments (Summary):

a. Organic communications equipment in transportation units whose primary mission is line haul is not adequate to provide suitable communications when two convoys are moving in different directions with two or more serials. Minimum requirements for communications within convoys are two radios per serial. Transportation units that are required to provide two convoys, with two serials each, experience extreme difficulty since they are authorized only two AN/VRC-47 and two AN/VRC-46 radios. It is recommended that additional radios be authorized in order to carry out the units' mission or that the TOE of transportation units with line haul missions be modified to include adequate radios.

b. Headquarters, US Army Support Command concurs with the recommendation and states that the various missions assigned line haul units in South Vietnam do create different requirements for communications and command and control vehicles; transportation units should be authorized temporary loan of radios when the actual need exceeds the authorization. Headquarters, 1st Logistical Command also agrees but notes that temporary loan of equipment is, at best, an interim solution. At the present time theater-wide shortages of commo equipment do not permit temporary loan of radios from depot stock.

4. (U) USACDC Discussion: The requirement for additional radios in transportation line haul units is valid. However, the temporary loan of radios is not the solution to the problem. To obtain authorization for additional radios to support convoy operations, MTOE action should be initiated by the unit.

5. (U) USACDC Action: A copy of this report will be furnished to the Director of Army Transportation, DCSLOG, by this headquarters.

CONFIDENTIAL

1. (U) Reference: Operational Report - Lessons Learned, 101st Airborne Division, 30 April 1970.

2. (U) Item: Adjustment of 105mm CS Munitions.

3. (U) Unit Comments (Summary): Adjustment procedures for cartridge, tactical CS, XM 629 in firing table 105-AS-2, supplement 1, requires that a 200 meter bracket be established with shell high explosive, and then the adjustment continued with CS. Experience in this division has been that the requirement outlined above results in unnecessary expenditure of CS rounds and, when fired on targets in close proximity to friendly forces, introduces the possibility of CS drifting into friendly positions. It is suggested that the following procedures be established for adjustment of CS missions: use shell high explosive in adjustment to within 100 meters of the target; use shell smoke (HC) in subsequent adjustment insuring that the smoke drifts over the target; fire one verifying high explosive round; correct final data for shell CS; and fire for effect, saturating the target area with the agent.

4. (U) USACDC Discussion: USACDC concurs in the use of the recommended adjustment procedures with two exceptions. If the effect of the wind can be determined from observation of the HE during adjustment, then the portion of the mission using the marking round and the verifying HE round should be omitted. The observer should then correct for wind in his call for FFE. If it is necessary to use a marking round to determine the effect of the wind, it is recommended the shell white phosphorus be used in place of shell smoke (HC) since it will provide a more visible cloud. It should be noted that FT 105-AS-2, Provisional Supplement 1, is remiss in mentioning the desirability of surprise fire. Paragraph 13-5 of FM 6-40 states in part that "Adjustment should be avoided if at all possible...to achieve surprise."

5. (U) USACDC Recommendation: Recommend referral of this item to the US Army Field Artillery School as it impacts on artillery observer techniques and the firing table data used in computations for firing CS muntions. Recommended changes, if any, should be forwarded to Firing Tables Branch, Ballistic Research Laboratories for incorporation into appropriate firing table.

ACRONYMS AND SIMILAR TERMS

ACN	-	Action Control Number
ACofS	-	Assistant Chief of Staff
ACR	-	Armored Cavalry Regiment
ACSFOR	-	Assistant Chief of Staff for Force Developments, DA
ACTIV	-	Army Concept Team in Vietnam
ADMIN	-	Administration
ADP	-	Automatic Data Processing
AMC	-	Army Materiel Command
APD	-	Airborne Personnel Detector
AR	-	Army Regulation
BIC/BICC	-	Battlefield Information Center/Battlefield Information Control Center
CDC	-	US Army Combat Developments Command
CG	-	Commanding General
CO	-	Commanding Officer
COBRA	-	AH-1G Aircraft
CofS	-	Chief of Staff
COMUSMACV	-	Commander of US Forces, MACV
CONARC	-	Continental Army Command
CONUS	-	Continental United States
CS	-	O-chlorobenzalmalononitrile (tear gas)
CVC	-	Combat Vehicle Crewman
CTZ	-	Corps Tactical Zone
DA	-	Department of the Army
DCS	-	Deputy Chief of Staff
DCSLOG	-	Deputy Chief of Staff for Logistics, DA
DIV	-	Division
DSU	-	Direct Support Unit
EIR	-	Equipment Improvement Report
ENSURE	-	Expedited Non-Standard Urgent Requirement for Equipment
FFAR	-	Free Flight Aerial Rocket
FM	-	Field Manual
FSN	-	Federal Stock Number
FT	-	Firing Tables
GCA	-	Ground Controlled Radar
GED	-	Gas Engine Driven
GP	-	Group

ACRONYMS AND SIMILAR TERMS (Cont'd)

HE	- High Explosive
HHC	- Headquarters and Headquarters Company
HQ	- Headquarters
IBCS	- Integrated Battlefield Control System
ICTZ	- First Corps Tactical Zone
IFFORCEV	- 1st Field Force, Vietnam
IFR	- Instrument Flight Rules
IO	- Information Officer
INTELL	- Intelligence
KW	- Kilowatt
LOH	- Light Observation Helicopter
MACV	- Military Advisory Command, Vietnam
MAINT	- Maintenance
MASSTER	- Mobile Army Sensory System Test, Evaluation and Review
MED	- Medical
MFSS	- Medical Field Service School
MPT	- Military Potential Test
MSD	- Military Stress Diet
MTOE	- Modification TOE
MUST	- Medical Unit Self-Contained, Transportable
NVA	- North Vietnamese Army
OACSFOR	- Office of ACSFOR
OIC	- Officer in Charge
OPNS	- Operations
ORLL	- Operational Reports - Lessons Learned
PERS	- Personnel
POI	- Program of Instruction
PREV	- Preventative
PROF	- Professional
QMDO	- Qualitative Materiel Developments Objective
QMR	- Qualitative Materiel Requirement
RCA	- Riot Control Agent
RCDS	- Rocket Control Display System
RO-RO	- Roll on-Roll off
RVN	- Republic of Vietnam

ACRONYMS AND SIMILAR ITEMS (Cont'd)

S&P	-	Stake and Platform
SDR	-	Small Development Requirement
SUPCOM	-	Support Command
SVC	-	Service
TARS-75	-	Tactical Reconnaissance and Surveillance 1975
TASCOM	-	Theater Army Support Command
TASTA-70	-	The Administration Support-Theater Army 1970
TB	-	Technical Bulletin
TC	-	Training Circular
TDA	-	Table of Distribution and Allowances
TECOM	-	Test and Evaluation Command, AMC
TM	-	Technical Manual
TOE	-	Table of Organization and Equipment
TOS	-	Tactical Operations System
TRANS	-	Transportation
TTC	-	Transportation Terminal Command
USACDC	-	United States Army Combat Developments Command
USACDCCSG	-	USACDC Combat Support Group
USACDCCSSG	-	USACDC Combat Service Support Group
USACDCAVNA	-	USACDC Aviation Agency
USACDCSA	-	USACDC Supply Agency
USACDCTA	-	USACDC Transportation Agency
USAF	-	United States Air Force
USARV	-	United States Army Vietnam
VC	-	Viet Cong
VEEA	-	Vietnam Essential Elements of Analysis
VR	-	Visual Reconnaissance
XM	-	Experimental
XO	-	Executive Officer