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ARMY CONCEPT TEAM IN VIETNAM
APC San Francisco 96243

ACTIV-AAD

17 February 1966

SUBJECT: Night Airmobile Operations in RVN

THRU: Director
Joint Research and Test Activity
APO US Forces 96309

TO: Commanding General
United States Military Assistance Command, Vietnam
APO US Forces 96243

1. The attached informal report is forwarded for your consideration.
2. Recommend approval.

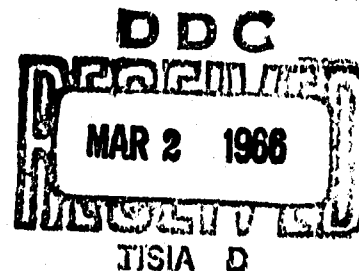
Merrill G. Hatch

1 Incl
Report - Night Airmobile
Operations in
RVN (U)

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ARMY CONCEPT TEAM IN VIETNAM
APO San Francisco 96243

ACTIV--AAD

NIGHT AIRMOBILE OPERATIONS IN REPUBLIC OF VIETNAM

1. (U) PURPOSE

The purpose of this study is to determine ways and means of improving night airmobile operations in the Republic of Vietnam (RVN).

2. (U) METHOD

Interviews were held and questionnaires were completed to obtain the qualified professional opinion of key aviation officers and ground commanders with combat experience in Vietnam.

3. (C) DISCUSSION

a. (U) General

The Viet Cong, using the hours of darkness as natural cover, have successfully conducted night operations over a period of years in the RVN. In addition, the North Vietnamese Army, now operating in South Vietnam, also prefers night attacks to daylight operations. The ability to strike suddenly at night normally gives the insurgent the advantage of surprise. Conversely, he is reluctant to stand and fight during daylight hours. Friendly forces are thus faced with the requirement to make contact with and defeat the enemy by conducting an ever increasing number of night airmobile operations.

b. (C) Night Environment in the RVN

Flight conditions at night in the RVN are usually only minimally satisfactory except during periods of moonlight. Rural areas away from the few towns and cities are extremely dark and a visible horizon is lacking, especially in mountain and jungle areas. These conditions are most prevalent in the I, II, and III ARVN Corps areas. Because of this night environment, navigation becomes more difficult and airplanes and helicopters have to be flown by using instrument flight procedures. Night operations in the RVN therefore require a high level of air crew proficiency.

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c. (c) Night Airmobile Operations by 1st Cavalry Division

In the past, 1st Cavalry Division aviation units in the RVN have conducted night extraction, medical evacuation, and resupply. However, to date only one unit has conducted an actual night air assault into a landing zone under fire. On 3 and 4 November 1965, the 1/9 Air Cavalry Squadron, 1st Cavalry Division (Airmobile), operating in the II ARVN Corps area (highlands), was faced with a situation requiring extraction or air assault. Because of close, continuous contact with the enemy, extraction would have been nearly impossible and would not have accomplished the assigned mission. The commander decided to reinforce. Two factors were in favor of the operation: friendly troops were in control of the landing zone (LZ), and a three-quarter moon provided adequate illumination. The operation involved 5 trips by 10 troop transport helicopters escorted by 2 to 4 armed helicopters. Although conducted under adverse conditions with moderate to heavy enemy fire in the LZ, this night air assault was successful because the unit was highly trained and proficient in night techniques of helicopter operation and formation flying. In addition, unit personnel were motivated with a can-do attitude which, it would appear, was the key to the operation. This successful night operation establishes the feasibility of night airmobile operations in the RVN. Also, it emphasizes the fact that units properly motivated and trained can successfully accomplish such missions.

The assault helicopter battalions of the 1st Cavalry Division have recently conducted training in night operations in the RVN and are proficient in night air assault operations up to battalion size. The technique of employment is basically the same as for day air assault, except that surveillance aircraft with an infrared (IR) capability would be employed for 2 to 3 nights prior to the operation and especially during the early morning hours of the day of the operation. Also, a more thorough and detailed reconnaissance is required of the LZ, adjacent areas, and nearby suitable LZ's for decoy purposes. In addition, sometime prior to the operation a landing is made in the LZ and in other nearby suitable LZ's for decoy purposes during daylight hours to verify the presence or absence of stumps, elephant grass, and man-made obstacles. At present, the release point (RP) must be a natural or man-made feature identifiable from the air at night. Flares may be dropped from unit helicopters for approximately 1 minute to allow the first lift of pathfinders and a security force to land. The security force immediately secures the LZ while the pathfinder team prepares a lighted T or glide slope indicator (GSI). Also, when necessary, the team clears brush or other obstacles from the area of intended landing. With the LZ established, the pathfinder team directs the following lifts, normally flying a tight formation, into the LZ. Flares are not employed on the follow-on lifts, but a heliborne illumination system could be well used to assist the pathfinder team and security force in the establishment of the LZ and for reconnaissance of the adjacent area. (See ACTIV

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report "Heliborne Illumination System", 25 October 1965. This report recommended that research be continued to produce a standard improved heliborne illumination device to replace the present in-country produced system).

Two problems have been encountered by the aviation units of the 1st Cavalry Division in the preparation for night air assault operations in the RVN: lack of navigational/landing aids, and the lack of a suitable night formation lighting system.

The major problem when conducting night airmobile operations is the lack of navigation/landing aids to mark the RP. Since terrain features and man-made obstacles normally are not suitable for marking RP's at night, a beacon is required. A usable beacon should be air drop-able from Army fixed-wing airplanes and helicopters and have a self-destruction capability, a 12-hour duration, and a 5-mile range in mountainous terrain and/or from under the jungle canopy.

A second problem with night airmobile operations is the difficulty in helicopter formation flight. The present navigational lights are minimally satisfactory when used as an aid to formation flight. Units have developed field-fixes in an effort to solve this problem but these are only partially satisfactory. Recently, in CONUS, a helicopter night formation lighting system has been tested and shows promise as a partial answer to the lack of a suitable formation aid. This system should be further tested in the CONUS to determine its suitability for use with large formations of helicopters at night.

Another problem, for which a solution is not readily available, was encountered by the 1st Cavalry Division as well as other aviation units in I, II, and III (Northern half) ARVN Corps areas. Landing zones are limited in some sections of these areas even for day airmobile operations and the number is further reduced for night operations. Many of the LZ's are small and are surrounded by dense vegetation and high trees which limit their use. In addition, elephant grass and high stumps are natural obstacles in some LZ's which prevent helicopters from landing.

d. (C) Separate Aviation Battalions

The three aviation battalions supporting II, III, and IV ARVN Corps areas have problems similar to the 1st Cavalry Division. The 13th Aviation Battalion (IV Corps) and the 145th Aviation Battalion (III Corps) have conducted night extraction, resupply, medical evacuation, and numerous night armed helicopter raids in conjunction with a heliborne illumination system. However, significant night air assault operations have not been conducted by any of the three separate aviation battalions. Two problem areas, in-country training of newly qualified rotary wing aviators and the lack of authorized pathfinders, are directly related to night airmobile operations by the separate aviation battalions. The problems discussed in paragraph c above also apply

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to these units except that in the delta (IV ARVN Corps), suitable and abundant LZ's are available.

Newly qualified rotary wing aviators lack proficiency in daylight operations under visual flight rule (VFR) conditions and lack familiarization in night operations, i.e. formation flying and landing in areas with a lighted T or glide slope indicator (GSI). These aviators require several weeks of training after arrival in the RVN to become fully qualified for day airmobile operations and considerable additional training is required before these aviators are qualified for night air assault operations. Flying hours used for this in-country training also will reduce the flight hours now available for day airmobile operations. In addition, qualified pathfinders are mandatory for night air assault and extraction but some of the separate aviation battalions are not authorized these personnel.

e. (C) Ground Elements

Infantry commanders believe that night airmobile operations can be conducted by ground units proficient in day airmobile operations but that night training exercises would be desirable prior to the first night mission. Subjects to be stressed in this training include: assembly, unit formations, coordination of fire support, means of identifying friend or foe, night vision, and night orientation.

f. (C) Pathfinders

All units stressed the importance of using qualified pathfinders trained in airmobile techniques, especially for night operations. A common complaint was that students graduating from the present pathfinder course require extensive unit training and practical work, especially in air traffic control procedures, to become qualified for airmobile operations. Therefore, the present pathfinder course at the United States Army Infantry School (USAIS) should be re-oriented to emphasize helicopter operations. Air traffic control procedures must be stressed. Several hours of classroom instruction, followed by field exercises, are necessary to fully qualify a student in this subject.

4. (C) FINDINGS

a. A requirement exists for night airmobile operations in the RVN.

b. The key to successful night airmobile operations, especially night air assault, is a can-do attitude and highly proficient air crews.

c. Reconnaissance of the LZ and adjacent areas must be thorough and detailed, and a landing during daylight hours must usually be made in the LZ (except IV ARVN Corps) prior to the operation to verify the exact condition of the LZ.

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d. A heliborne illumination system would assist in most phases of night airmobile operations.

e. The major drawbacks to night airmobile operations are:

- 1) The lack of a suitable air droppable beacon to mark the RP.
- 2) The lack of qualified pathfinders.

f. Present navigational lights and local field-fixes are minimally satisfactory when used as aids to night formation flight.

g. Newly qualified rotary wing aviators require additional training after arrival in the RVN to qualify for day operations and extensive training would be required for night operational qualification.

h. Some of the separate aviation battalions are not authorized pathfinder teams.

i. Pathfinder teams trained in airmobile operations are mandatory for night airmobile operations but the present pathfinder course conducted by the USAIS does not qualify an individual for pathfinder duties in airmobile operations.

5. (C) RECOMMENDATIONS

a. An improved heliborne illumination system should be designed and procured for employment in the RVN.

b. A suitable beacon for marking the RP should be developed with the following features: air droppable from Army fixed-wing airplanes and helicopters, self-destruction capability, 12-hour duration, and 5-mile range in mountainous terrain and/or from under the jungle canopy.

c. Airmobile qualified pathfinder teams should be authorized for all helicopter battalions located in the RVN.

d. Procurement of a tactical helicopter night formation lighting system should be expedited.

e. The rotary wing aviator course at the US Army Aviation School should be revised to provide additional flight training in both day and night tactical flight formations, and in night landing procedures using a lighted T and GSI.

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f. The pathfinder course at USAIS should be re-oriented to emphasize airmobile operations involving up to battalion-size heliborne forces.

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