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DEPARTMENT OF THE ARMY
HEADQUARTERS, 6TH BATTALION, 56TH ARTILLERY
APO SAN FRANCISCO 96227

AVAARCO 9 May 1966

SUBJECT: Operational Report on Lessons Learned for the Period 1 January 1966 to 30 April 1966. (RCS CSG PO-28 (R1))(U)

TO: Commanding General
Headquarters, United States Army, Vietnam
ATTN: AVC
APO US Forces 96307

1. (U) In compliance with AR 525-24 and USARV Cir 870-1 w/change 1, the Operational Report on Lessons Learned for the period 1 January 1966 to 30 April 1966 is herewith submitted.

2. (U) Organization for combat.

UNIT	COMMANDER
6th Battalion, 56th Artillery	Lt Col James L. Hollis
Headquarters Battery	Capt Richard V. Martinelli Capt Herbert A. Kitchin
Battery A	Capt James B. McCoy
Battery B	Capt Isaac L. Smith Capt Joe B. Harvey
Battery C	Capt Herbert A. Kitchin Capt William H. Forster
Battery D	Capt Edward S. Graham, Jr.

SECTION I. (C) Significant Organization or Unit Activities.

1. (C) GENERAL

a. During the reporting period, the units of this battalion continued in their primary mission of providing air defense against low and medium altitude targets in the Bien Hoa, Long Binh, Saigon and Tan Son Nhut areas of the Republic of Vietnam. This was accomplished by maintaining operational sites in the Bien Hoa and Tan Son Nhut areas.

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Batteries A and C located at Tan Son Nhut Air Base, RVN, provide primary coverage for Saigon, Tan Son Nhut Air Base and surrounding areas. Batteries B and D, located at Bien Hoa Air Base, provide primary coverage for Bien Hoa, Long Binh and surrounding areas.

b. Headquarters and Headquarters Battery was moved from it's previous location on Tan Son Nhut Air Base to a position six (6) KM ENE of Bien Hoa, RVN. This move took place during the period 21-24 March 1966 and was a result of operational necessity and a planned runway at Tan Son Nhut Air Base. The initial work on this site began on 10 March 1966 and consisted of clearing the area of brush, building roads, constructing a perimeter fence, and construction of latrines and showers. Since the relocation, a chapel, mess hall and four (4) 20 ft by 70 ft concrete pads have been constructed. These concrete pads, each with two (2) GP Med tents, house eighty (80) enlisted men. Officers and the remaining enlisted men live in general purpose medium tents with wooden floors. Immediate plans call for the construction of twelve (12) additional 20 ft by 70 ft concrete pads for troop billeting, a 20 ft by 100 ft headquarters building, a 20 ft by 50 ft dispensary, a 20 ft by 70 ft personnel administration building, officer billets, an enlisted men's club, and an officer's mess. Headquarters Battery, through the assistance-in-kind program, employs 100 common laborers and six (6) carpenters to aid in site construction.

c. On 30 March 1966, the Institute of Heraldry, US Army notified this unit that the Distinctive Insignia for the 56th Artillery had been amended by the addition of the crest to the coat of arms.

BLAZON

CREST: On a wreath or and gules, on a mound vert a hurst of five trees proper, the holes interlaced with an arrow fesswise or and issuant in base trident of the first surmounting and interlocking a torii sable.

SYMBOLISM

The crest commemorates the award of the Distinguished Unit Citation given the organization in World War II for Hurtegen Forest by hurst of trees and the arrow. The trident and torii allude to the Presidential Unit Citation (Navy) awarded the organization for action in Inchon during the Korean War.

d. During the period 25-28 April 1966, this unit was inspected by the USARV AGI Team. The final results of this inspection have not been received. Comments during the exit briefing of the team indicate that there are no unsatisfactory areas and that all units can satisfactorily accomplish their missions. Battery D, Personnel Operations, and Maintenance Operations received laudatory remarks from the IG, USARV for outstanding results in their areas.

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1. a. There have been three (3) major changes of command in the battalion during the period of this report. Effective 1 February 1966, 1st Lt Joe B. Harvey, OF103703, formerly Executive Officer of Battery C, assumed command of Battery B; Capt Isaac L. Smith, 05313541, became the Assistant Operations Officer. Effective 18 April 1966, Capt Herbert A. Kitchin, 069[illegible]1, formerly Commander Battery C, assumed command of Headquarters Battery; Capt Richard V. Martinelli, 02286395, was transfered to the 10[illegible] Aviation Group. Effective 18 April 1966, Capt William L. Forster, 05309983, formerly of the 97th Artillery Group (AD), assumed command of Battery C.

b. Distinguished visitors during the period of this report included:

VISITOR	TITLE	DATE OF VISIT
General Besson	CG, Army Materiel Command	12 Jan 66
General Westmoreland	CG, MACV and USARV	14 and 16 Jan 66
Col Potts Lt Col McClure	G3, USARV	26 Jan 66
Brig Gen Trang	CG, III Corps Arty	28 Jan 66
Brig Gen Seitz	Asst Deputy CG, USARV	1 Feb 66
Lt Gen Engler	Deputy CG, USARV	7 Feb 66
Col Dickerson	G2, USARV	15 Mar 66
Maj Gen Seitz	Commandant, Fort Sill	22 Mar 66

2. (C) PERSONNEL

a. On 31 December 1965, this unit was understrength forty-eight (48) enlisted personnel. Losses since that date have numbered 231 with 342 gains in the [illegible] period, giving a current overstrength of sixty (60) EM. All officer TOE slots are filled. The bulk of personnel input has been in MOS 64D and 16E who have just completed basic. They are providing an excellent training base for replacing the lower grade launcher crewmen, and fire control operators as well as other simular type MOS' which can be trained by OJT. Critical requirements still exist for highly skilled technicians in long school trained MOS. These shortages existed upon deployment from CONUS and have continued to exist during the period of this report. As the unit approaches the completion of the tour in RVN these vacancies combined with reassignment losses become more accute and will have an adverse effect on the mission of the unit.

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b. The following is a list of critical personnel shortages:

MOS	JOB TITLES	AUTH	ASG
22J	Hawk Missile Mechanic	33	27
22K	Hawk Internal Guidance Repairman	8	7
23R	Hawk Continuous Wave Radar Mechanic	17	16
23T	Hawk Search Radar Repairman	10	6
25J	Operations Central/Coder-Decoder Ground Repairman	5	4
31E	Field Radio Repairman	2	1
31M	Radio Relay & Carrier Attendant	25	20
36A	Wireman	26	13
52B	Power Plant Operator-Mechanic	59	43
52D	Gas Turbine & Generator Repairman	8	7
63A	Auto Mechanic Apprentice	16	11
63C	Track Vehicle Mechanic	5	2
63F	Recovery Specialist	6	4
76D	Ord Supply & Ord Spec	16	15
76C	Signal Supply & Part Spec	1	0
91B	Medical Spec	12	10

c. Input of senior grade enlisted personnel has been sufficient to provide for an orderly transition during the peak turnover which will occur in August and September 1966. Orders have been received for the replacement of the Sergeant Major and all First Sergeants. Of the thirty-one (31) E-7s authorized in the battalion, twenty-six (26) individuals have been programmed for assignment.

d. Officer replacements do not present a problem area at present. Thirty-one officers and WO are programmed for arrival beginning in July 1966.

e. The first reportable battle casuality of this unit occurred on 13 April 1966 at 0030 hours at Tan Son Nhut, RVN. Private E-2 Richard D. Kays, RA 13 619 995 was wounded by metal fragments in his right foot, when Tan Son Nhut came under hostile fire. Private Kays was not physically present with this unit, but was assigned. He has subsequently been treated and released and is physically with the headquarters battery of this unit.

f. Three awards have been presented during the reporting period. The Army Commendation Medal was awarded Capt Beverly W. Stubbs, Battalion S-4 and First Lieutenant Roger K. Fisher, XO, Battery A, upon their departure in March and April 1966 respectively. Sp5 John Le Blanc, Headquarters Battery, was awarded USARV Certificate of Achievement upon his departure in March 1966 for his contribution to the battalion as the chief of the military pay section of this battalion.

g. The Unit Personnel Section of this battalion was inspected by the USARV Personnel Management Team from 11 to 13 January 1966. While no adjectival or numerical rating was given, only minor errors were noted during the visit and was attributed to the structure and set up of the unit personnel operations.

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3. INTELLIGENCE ACTIVITIES

a. Intelligence activities for the reporting period were devoted to obtaining and maintaining current intelligence information on the air and ground threat, advising the units on their perimeter defenses and defense plans, and supervising the Sentry Dog Program.

b. This unit has not had any contact with enemy forces except for occasional sniper fire which resulted in no casualties. The proficiency of the unit to defend itself is being continuously improved upon by elaborating on existing defenses and conducting or participating in exercises, both unit and joint, to maintain individual and unit proficiency. When the battalion headquarters occupied its new position liaison and communications were established with the 173d Airborne Brigade, II Field Forces Vietnam and Local Forces for the purpose of obtaining support (air, artillery and ground) in in the event of an attack on the unit.

c. The sentry dog replacement program became fully operational in April when the pipeline replacement program from Okinawa was established. The 212th Military Police Company (Sentry Dog) was given the responsibility for operating a replacement center for Army dogs in Vietnam. Prior to this program being put into effect this unit retrained four (4) Sentry Dog Teams to replace handlers who had rotated to the States. One (1) dog was retired from the sentry dog program. A medical evaluation determined that he was of no further value to the service. Some dog food was found to be contaminated with worms and bugs upon issue, however substitute foods were available.

4. (C) OPERATIONS

a. During the reporting period, new tactical sites were selected for Headquarters and Headquarters Battery, Battery A and Battery B. The sites selected provide better radar coverage and a more balanced defense that consequently allow dispersal of firing units into a configuration that enhances the air defense of the battalion's area of responsibility. An area at Long Binh, coordinates YT 045102, was selected for Hq & Hq Btry. Occupation of the new position by tactical elements of the headquarters initiated at 0900 hours, 22 March 1966, and was completed by 1800 hours. Administrative elements infiltrated into position during the period 21 through 24 March 1966. No loss of tactical control or administrative support by the headquarters was experienced during the move. An area located at YT 083119 was selected for the permanent site of Battery B. Selection of the site was approved by higher headquarters and site construction began in March but has been temporarily stopped because of a change in priority assigned to the project by the engineer headquarters responsible for construction. The permanent site for Battery A has been chosen at XT 804061. Negotiations for procurement of the land are being conducted. Should the area be denied, alternate positions have been selected.

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b. Training conducted during this period has been directed towards maximizing operational efficiency of the battalion. Air defense exercises have been conducted twice a week. Operator training using the AN/TPQ-21 Simulator has been conducted at each battery for a period of a week during each month. Results of the training effort have been tested by missileman's qualification program and operational readiness evaluations. As a result of the missileman's qualification program, 95% of the battalion personnel tested have qualified as Basic Hawk Missilemen. Twenty-seven (27) operational readiness evaluations have been administered to the firing batteries; one (1) by USARPAC, three (3) by USARV, five (5) by 97th Artillery Group and eighteen (18) by battalion headquarters. All evaluations resulted in a battery status rating of superior or satisfactory. Overall battalion operational capability was reflected by the 11,257.98 hours the battalion was operational out of 11,520 possible hours (97.7%).

c. VHF communications between battalion headquarters, Battery A, and Battery C were periodically degraded by excessive interference during the period 22 March through 15 April 1966. The VHF equipment was eliminated as the source of the problem through systematic tests and checks. A change of frequency bands eliminated the problem. It is indicated that the high density of VHF equipment operating in this area is approaching a saturation of the VHF frequency bands authorized.

d. A study was conducted during this reporting period on the adequacy of the AN/TPS-1G Surveillance Radar as a battalion surveillance radar. That study led to the conclusion that the AN/TPS-1G is inadequate in that it is incapable of:

(1) Detecting targets with small radar reflective areas at maximum range.

(2) Providing low altitude detection.

(3) Providing height information essential for identification of aircraft in safe zones and corridors.

(4) Defeating modern radar countermeasures.

e. It was recommended by this headquarters that the AN/TPS-1G be replaced by a lightweight, three dimensional radar. Results of the study, and recommendations for the solution of problem areas encountered were reported in a letter submitted by this headquarters to 97th Artillery Group on 18 April 1966.

5. (C) LOGISTICS

a. Supplies:

(1) Class I: Rations have been plentiful although pro-

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blems were experienced in obtaining fresh milk and other dairy products for the two batteries located at Tan Son Nhut. These problems were caused by lack of proper security pass for vendor's delivery truck personnel, which has been corrected. Additional refrigerators have been received by each unit and adequate refrigeration is now available.

(2) Class II & IV: Supplies of these classes are still difficult to obtain. Many items have been on back-order in excess of ninety days. Some of the most critical of these items include: tropical fatigues and boots; tents, G.P. medium; typewriters; and hand tools.

(3) Class III: There have been no significant difficulties in the supply of petroleum products. It is anticipated that problems will develop during the monsoon season due to condensation, and plans are being formulated to install filters to maintain purity of liquid products.

(4) Class V:

(a) Conventional: No significant problems have occurred with respect to conventional ammunition with the exception of pyrotechnics (parachute flares) and chemical items, which are in short supply.

(b) Missiles: The entire basic load has been replaced by newer missiles embodying the latest modifications. The first increment of missiles was received on 26 February 1966 and the replacement program was completed on 30 March 1966. The new missiles have all been checked out and no significant problems were encountered.

(5) Repair Parts: During the relocation of the Headquarters and Headquarters Battery from Tan Son Nhut to Long Binh, the Direct Support Platoon continued all operations in support of the firing batteries with the exception of PLL replenishment requisitions within the Technical Supply activity which closed operations for seventy-two hours. This activity was supported through arrangements with the 79th Ordnance Detachment (GS).

(a) During the report period the Technical Supply received 4068 requisitions and issued 3432 parts. Of these 4068 requisitions, all were against repair parts and chassis used through normal attrition. The following items were issued in excess of normal attrition:

1. FSN 2990-831-3875, Actuator for 45KW, 400 cycle generator, twenty-two each.

2. FSN 2990-966-9164, Actuator for 45KW, 60 cycle generator, fifteen each.

3. FSN 6115-055-2666, Belt set for 45KW, 60 cycle generator, thirty each.

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(5) Lack of repair parts has continued to be critical, or has become critical, in the following areas:

1. Loader-Transporters: Two loader-transporters are presently deadlined for lack of repair parts. One has been deadlined for the entire period of the report due to non-availability of two final drive assemblies, one was requisitioned on 21 November 1965 and one was requisitioned on 14 January 1966. The other loader-transporter has been deadlined since 19 March 1966 due to non-availability of a boom support assembly. This assembly was requisitioned on 19 March 1966. Latest "expected delivery dates" recorded on the AMC-139 report is 31 July 1966 on the final drive assemblies and 31 March 1966 on the boom support assembly. As of the date of this report the boom support assembly has not been issued to this organization.

2. Scooploaders (Clark Model 175 AN-23).

(a) This organization has assigned by TO&E four each Scooploaders (Clark Model 175 AN-23). One of these scooploaders was deadlined on 22 December 1965 for a main hydraulic pump assembly and other major repairs, the parts required to repair the scooploader were placed on requisition on 22 December 1965. After ninety days all parts required for repair except the main hydraulic pump assembly had been received and at that time the scooploader was evacuated to the 79th Ordnance Battalion for repair or replacement. As of this date this organization has not been informed as to the final disposition of this scooploader.

(b) Ten tires for the remaining scooploaders have been placed on requisition, the date of the earliest requisition was 22 December 1965, none of these requisitions have been filled as of this date. The three remaining scooploaders have been kept operational through the loan of tires from local engineer units. This item of equipment is essential in the proper preparation of firing battery sites and it is imperative that they be kept operational to perform this mission.

3. IFF: Six diodes, type IN627, were placed on requisition on 15 November 1965. This requisition was cancelled in January 1966, stating no reason for the cancellation. The diodes were re-requisitioned in January 1966 and were again cancelled, with no reason stated. The diodes have been requisitioned again and are needed for proper maintenance and repair of the IFFs within this organization.

(6) Major Item Shortages:

(a) At present this battalion is short five 2½ ton cargo trucks. This shortage was occasioned by trucks loaned to transportation units in January by direction of Headquarters US Army Vietnam, which have become uneconomically repairable. Although this shortage is not seriously

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degrading the battalion's material readiness posture, it may be expected to worsen since forty-eight vehicles are still on loan to transportation units.

(b) Four additional M295 Semi-trailor Repair Parts Vans are required by the battalion's Direct Support Platoon for storage of repair parts. The battalion is engaged in preparation of an MTOE which will incorporate this requirement.

b. Maintenance (Conventional): During the past ninety days this unit has maintained an average deadline rate of 2.04%. This extremely low deadline rate has resulted in letters of commendation from both the Commanding Officer, 97th Artillery Group (AD) and Headquarters, US Army Vietnam. The only major problem encountered has been the continued lack of a Coupling Drive, FSN 2590-999-5434 for Truck, Wrecker, M543A2. Lack of this part at field maintenance support level has caused the wrecker to be deadlined for the entire report period.

c. Maintenance (M/MK): The technical repair shops of the Direct Support Platoon processed 1032 maintenance requests during the report period. Of these jobs, 593 were performed on the repair of individual chassis and 439 were performed on major pieces of equipment.

(1) Generators, 45KW, 60 cycle (tactical): A high deadline rate for the lack of actuators and fan belts was experienced during the report period. It was determined that the actuators were failing due to contaminated hydraulic fluid. Steps have been taken by all using units within this organization to protect the hydraulic fluid from contamination, and the failure of these items has decreased considerably during the month of April. The failure of fan belts was determined to be caused by improper adjustment of the fan belt tension, this situation has been corrected through training of the operators. The above corrective actions have alleviated the problem area to the point that the supply is able to keep up with the demand.

(2) Generators, 45KW, 400 cycle (tactical): The actuator problem which was experienced during the report period has been alleviated in the same manner as in the case of the 60 cycle generators mentioned above, however a new problem of a high rate of failures in exciter power supplies was experienced in the months of March and April. Nine of these exciters have been requisitioned and five generators are presently deadlined for this item. The latest information reported on the AMC-139 report states that the exciters are being procured for direct shipment and a "probable delivery date" of late April can be expected. As of the date of this report all nine exciters are still due in.

(3) This organization is assigned by TO&E, thirty-six 45KW, 400 cycle generators with a backup of ten float generators of the same type. In order to maintain sustained 100% battalion operation

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there is a requirement for a minimum of twenty-eight of these generators to be operating simultaneously. At present thirty-six of these generators are being carried Amber due to total hours of operation (2700 hours). Twenty-five of these generators are on requisition as authorized by TB 5-6100-201-15 (Repair by Replacement) for operating time in excess of 4000 hours.

(4) Radar Set AN/TPS-1G, serial number 198 presently in this organization is over three years old, has 4627 hours running time on the meter and requires excessive field maintenance, constant adjustment and parts replacement. A replacement AN/TPS-1G was requisitioned on 25 February 1966. Under the provisions of SB 11-464, dated 23 July 1964, Radar Sets AN/TPS-1G in the hands of using activities which meet one or more of the following criteria should be considered for replacement:

(a) Sets which have been in continuous operation for a period of two and one half years or longer.

(b) Sets which have more than 6000 operating hours on running time meters or operator logs and have been in use two years or longer.

(c) Sets which require excessive field maintenance or require constant adjustment or parts replacement due to deterioration under unusual climatic or environmental conditions.

d. Services:

(1) The relocation of the Battalion Headquarters and Headquarters Battery on 24 March 1966 generated several problem areas primarily because it was necessary to complete the move prior to the beneficial occupancy date established by the engineers.

(2) Construction materials have been issued and construction of facilities vital to the health and welfare of the troops is being accomplished on a self help basis, with very limited engineer heavy equipment support.

(3) Alpha and Bravo Batteries have yet to move to their permanent positions due to lack of sufficient engineer priority to have the area prepared, and the fact that land acquisition for Alpha has been delayed by the lack of suitable and available real estate.

e. Medical: The health of the command has been excellent. The medical section has expended a large proportion of its effort in preventive medicine functions to maintain this state of health. Semi-permanent field sites in a tropical climate require constant command attention through field sanitation teams to insure protection against

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insect and rodent vectors of disease. Diazinon insecticide is sprayed three times weekly in messes, latrines and showers and twice weekly in troop tents and quarters. This is more frequent than recommended applications, but has been the minimum required to control insects. Local streams and wells are contaminated to a degree that all water used on the sites must be purified and chlorinated by Army engineers prior to use. This battalion is using water at a rate of about 7 gallons per man per day for all purposes. This plus the water requirement for the sentry dogs necessitates that each battery devote one 2½ ton truck with two 600 gallon tanks full time to procure water. Running water latrines with septic tanks are not feasible with present water sources; thus, burn-out barrel latrines are used to dispose of human excretia. Mess wastes are hauled off sites to sanitary fill areas. Waste waters are drained to soakage pits. Individual measures to protect against disease are stressed in training sessions and enforced in troop billets. As a result of these and other efforts, infectious disease has not appreciably affected manpower reserves.

SECTION II (C) LESSONS LEARNED AND COMMANDER'S RECOMMENDATIONS.

1. (C) LESSONS LEARNED

TENT DAMAGE

a. ITEM: Deterioration and damage of tents.

DISCUSSION: With the large number of troops in RVN still living in tents and the shortage of replacement tents that exists, emphasis must be placed on proper erection and maintenance of all tents. It has been noted that many tents are improperly erected and staked. If this condition exists, severe damage may result from the high winds that normally accompany the rains. After the tents are erected, many items have been built or placed in them which rub on the roof. This condition, coupled with natural deterioration from the elements, greatly reduces the life of existing tents. There are numerous steps that can be taken to minimize damage to both new and existing tents:

(1) Insure that all tents are erected properly and staked accurately.

(2) After tents are erected, insure that:

(a) Partitions, etc, which are built inside of the tent do not rub on the roof.

(b) Boxes and other items placed in the tent do not rub on the roof.

(c) Conduct frequent inspections to detect all holes and tears in the minor stage.

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OBSERVATION: That emphasis be placed on proper erection and staking of all tents. After erection, that precautions be taken to minimize damage to all tents.

Snakes and Scorpions/Medical

b. ITEM: Snake and scorpion bites can be painful and/or deadly.

DISCUSSION: There are numerous types of snakes found in this part of the world. Some of these snakes are harmless, some cause severe pain and others are deadly. There are many scorpions in this area also, but their bite is normally only painful. Both snakes and scorpions are frequently found in bunkers and storage areas and in some instances even in combat boots. There are numerous steps that can be taken to minimize the chances of being bitten by snakes or scorpions.

(1) That all perimeter and personnel bunkers be thoroughly searched daily for snakes and scorpions.

(2) That care be taken when moving stacks of lumber, etc. which have been stored for several days or longer.

(3) That care be taken when reaching into boxes, sacks and etc. which have not been moved for several days.

(4) That all personnel shake out and thoroughly check their combat boots prior to putting them on.

OBSERVATION: That all personnel be briefed on the different types of snakes and scorpions common to this area. That all personnel be made aware of steps to be taken to minimize their chances of being bitten by snakes or scorpions.

HAWK Equipment Storage

c. ITEM: Accumulation of moisture in deadlined HAWK equipment.

DISCUSSION: In several instances HAWK equipment has been deadlined awaiting parts for extended periods of time. On these occasions the equipment was closed and sealed from the elements to the greatest possible degree; however, it was found that upon receipt and installation of the repair parts in the deadlined equipment that moisture and/or condensation had accumulated inside equipment housings. This moisture created additional problems when equipment check-out was attempted.

OBSERVATION: Consideration should be given to the feasibility of keeping deadlined equipment in the highest state of energization, consistant with equipment safety, in order to maintain internal heating and drying.

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Failure of HAWK Components

d. ITEM: Unusually high failure rate of certain HAWK components.

DISCUSSION: (C) Since arrival in the theater, this organization has experienced an unusually high rate of the following components within the HAWK equipment; wiring harnesses, interconnecting cables, circuit breakers, and High Power Illuminator Radar heat exchangers. It is questionable as to the cause or reason for these failures. The extreme change from the low atmospheric humidity at Fort Bliss, Texas, to the constant high humidity of this area possibly could have caused deterioration of materials; or the failures might be due to the age of the equipment; or both combined could possibly be the reason for these failures. The HAWK equipment age within this organization is in excess of three years old and possibly could be an indicator of the cause of the failure. Most of the wiring harnesses and interconnecting cables that have failed have not been stocked within this command.

OBSERVATION: A considerable time period between the failure of the component, procurement, shipment and receipt of a replacement has been experienced by this organization. Although the previous demands for these items have not justified a stockage level at depot, a precautionary pre-stockage could have alleviated this problem area.

Failure of Hydraulic Actuators

e. ITEM: Contaminated hydraulic fluid can cause failure of hydraulic actuators.

DISCUSSION: This organization has experienced a high failure rate of hydraulic actuators on 45KW, 400 cycle, Stewart-Stevenson, Model 52300 generators. Failures appear to have been caused by contamination and accumulation of foreign matter in the hydraulic fluid tank.

OBSERVATION: It is felt that failures can be reduced to an acceptable rate by the following organizational maintenance procedures which have been published and disseminated to the using units:

(1) After each fifty hours of operation, the air breather filter on the actuator hydraulic fluid tank will be cleaned with solvent and blown dry with compressed air.

(2) At a minimum of thirty day intervals, the actuator hydraulic fluid tank will be removed from the generator and cleaned thoroughly with solvent, followed by a rinsing with hydraulic fluid in order to remove all traces of solvent. After replacing the hydraulic fluid tank, the actuator will be flushed with clean hydraulic fluid by "bleeding" of the actuator. (Note: extreme care will be taken to prevent any foreign matter from entering and contaminating the fluid in the tank while it is being filled.

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Repair Facility

f. ITEM: Controlled environment repair facility for High Power Illuminator Radar high voltage power supplies and hydraulic actuators.

DISCUSSION: Upon arrival in this theater, it was learned that an urgent need existed for a controlled environment (temperature and humidity) repair facility for the effective repair of the high voltage power supplies for the High Power Illuminator Radars and for repair of the hydraulic actuators for the 400 cycle and the 60 cycle, 45 KW generator. Experience of this organization has shown that high voltage power supplies repaired under uncontrolled conditions fail before 100 hours of operation. The design life after proper servicing of this component should be around 1000 hours.

Within a twenty-five week period, this organization experienced a useage of seventy-four hydraulic actuators. Requisition of this component from CONUS has taken from two to four weeks, if at that time, a controlled environment repair facility had been available, fifty percent of these actuators could have been repaired by this organization. As of the date of this report, the required repair facility has been requisitioned by this organization and construction is expected to begin by the end of May 1966.

OBSERVATION: The minimum requirements for such a repair facility are:

(1) A minimum of 400 square feet working area.

(2) A floor that can withstand a pressure of 400 pounds per square foot.

(3) Twice the amount of air conditioner BTUs required under normal conditions to maintain a seventy-two degree Farenheight temperature for the size of facility constructed (extreme heat is generated during the repair of this component which necessitates the additional cooling capability.

Sentry Dogs

g. ITEM: Sentry Dog Utilization

DISCUSSION: The climate has a definite bearing on the performance of sentry dogs. Consideration should be given to the age of dogs being assigned to Vietnam.

OBSERVATION: That an age limit be established for sentry dogs selected for service in Vietnam since the climate has such a detrimental effect on their performance.

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2. (C)COMMANDER'S RECOMMENDATIONS: It is recommended:

a. That a light weight, three dimensional radar, with capability against electronic counter measures, capable of rapid emplacement, and transportable by either helicopter or 2½ ton vehicle be procured for use at group/battalion level.

b. That command emphasis from the highest possible authority be devoted to assuring that a sufficient amount of repair and replacement parts are maintained in the inventory to assure timely equipment repair.

c. That a comprehensive study be made of the sentry dog program to discriminate between the actual value of the dogs and sentimental attachment thereto; and to determine whether the troop effort required to support the dog causes him to be a burden rather than a valuable adjunct to the security of a field organization.

James L. Hollis
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Lt Colonel, Artillery
Commanding

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