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AUTHORITY
AGO D/A ltr 29 Apr 1980

DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGDA (M) (17 Dec 69) FOR OT UT 693143 23 December 1969

SUBJECT: Operational Report - Lessons Learned, Headquarters, Phu Lam Signal Battalion, Period Ending 31 July 1969

SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation in accordance with paragraph 4b, AR 525-15. Evaluations and corrective actions should be reported to ACSFOR OT UT, Operational Reports Branch, within 90 days of receipt of covering letter.

2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

1 Incl
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DEPARTMENT OF THE ARMY
HQS, PHU LAM SIGNAL BATTALION (USASTRATCOM) (PROVISIONAL)
APO San Francisco 96243

RGPLMB-S3 10 August 1969

SUBJECT: Operational Report of the Phu Lam Signal Battalion for Period Ending 31 July 1969.

TO: See Distribution

1. Section 1 Operations: Significant Activities.

a. The Phu Lam ASC developed a comprehensive subscriber assistance program with the objective of providing consistently improving service to all connected tributary stations. During this period ASC personnel made 34 subscriber assistance visits to its tributaries.

b. AUTODIN Seminars were conducted on 26-27 May and 14-15 July to familiarize personnel from connected tributaries with the operation of the ASC. The Seminars proved to be an effective management tool to reduce reject rates, to clarify JANAP 128 format, and to increase personnel contact thus making future problem areas easier to solve.

c. The Phu Lam ASC reject rate reduction program was highly successful during the last six months. The Phu Lam ASC and her tributaries are justly proud of the accomplishments reflected by the average monthly reject rate percentages listed below for Mode I and Mode V Tributaries:

MONTH	MODE I	MODE V
Jan	12.2	12.2
Feb	10.1	11.0
Mar	6.8	8.6
Apr	6.0	6.8
May	4.5	5.4
Jun	5.0	6.1
Jul	4.2	5.4

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d. The ASC maintained an overall efficiency of 99.71 for the first six months of 1969. This was the highest overall efficiency of all eight overseas ASC's currently under O&M contract.

e. Three SECORDS were activated during July 1969 by the 532nd Sig Co AUTOSEVOCOM Platoon. The activation of the Nha Trang, Pleiku, and Qui Nhon SECORDS enhanced the AUTOSEVOCOM system in Vietnam greatly.

f. Three special secure voice terminals were installed and maintained during July 1969 by the 532nd Sig Co AUTOSEVOCOM Platoon in support of President Nixon's visit to Vietnam.

g. The Armed Services AUTOSEVOCOM Evaluation Project Team stated in their final report to the Defense Communication Agency that the NECOS-SAM operated by the 532nd Sig Co AUTOSEVOCOM Platoon is an excellent example of how a NECOS should operate.

h. The SATCOM Platoon of the 532nd Sig Co completed 90% of a system overhaul without requiring any downtime. The suggested overhaul period is seven days downtime.

i. Throughout the quarter the improved training and performance of the ROKA personnel in operating the Korean HF SSB system was reflected in the system efficiency. The system has performed for the past 5 months as follows:

MONTH	TRANSMIT	RECEIVE
March	74.8	67.4
April	95.3	49.4
May	82.1	80.2
June	96.9	91.1
July	96.5	91.2

2. Section 2 Lesson Learned: Commanders Observation, Evaluation and Recommendation.

a. Personnel: None

b. Operations:

(1) Reduction of Rejects on UNIVAC 1004.

(a) Observation: By initiating proceedures of operators reading format lines one thru four, line 15 and the ECM functions of every message, and checking the format before transmission, it has been possible to reduce the number of 1004 rejects in this station.

(b) Evaluation: In the past, a contributing factor in the high reject rate has been due to a large percentage of improperly prepared traffic by tribs. In order to help eliminate rejected messages, we have trained 1004 operators to read format lines one thru four; line 15 and the ECM Functions of every message transmitted by the 1004. These tapes do not contain any printing, therefore it is necessary to train the operators to read the Baudot Code. By detecting format line errors prior to transmission, the tape can be corrected on the Tape Recall Unit before it is transmitted. This procedure has enabled us to reduce the volume of 1004 rejects.

(c) Recommendation: That 1004 operators be trained to read the Baudot Code so that they can determine format errors and correct them prior to transmission.

(2) Two Week Test Period Utilizing Black Tape on the UNIVAC 1004.

(a) Observation: A contributing factor causing high reject rates by this station has been misreads. Black tape has enabled us to nearly eliminate misread problems that can be controled in no other way.

(b) Evaluation: The use of black teletype tape has made it possible to reduce rejects by one half over a one week test period. Standard teletype tape containing more than six per cent oil has caused many misreads. Black tape (FSN 7530-551-3731) is available thru normal supply channels. The carbon in the black tape blocks the infra-red portion of the spectrum, thus reducing misreads.

(c) Recommendation: That black tape be used exclusively for transmitting messages via the 1004; thus reducing the number of messages rejected by ASC's.

(3) Specially Conditioned Circuits for Data and Secure Voice.

(a) Observation: Data and Secure Voice Circuits must meet DCA S-3 conditioning standards for amplitude and delay distortion. Determining circuit parameters requires special test equipment, trained personnel, and scheduled downtime.

(b) Evaluation: Some communications trunks provide voice-grade circuits which meet DCA S-3 conditioning standards for amplitude

and delay distortion without added conditioning equipment. There is no need to routinely determine circuit parameters on such circuits. When these circuits fail to meet DCA S-3 standards path problems or channel equipment failures are usually the cause and conditioning equipment alone would not improve the circuit.

(c) Recommendation: No parameter measurements or conditioning should be required on circuits for which the entire path consists of one link of the following carrier systems with less than two miles of transmission cable: AN/UCC-4, AN/FCC-17, AN/TCC-13, AN/TD-352 and AN/TD-660.

(4) Distribution Frame Inspection.

(a) Observation: A variety of technicans of varying degrees of skill levels install jumpers on distribution frames.

(b) Evaluation: As time goes on, jumpers with poorly soldered or poorly wrapped connections accumulate in a frame. Pulling on jumpers to trace circuitry degrades solder joints which leads to intermittent, noisy or open circuits that are extremely difficult to find.

(c) Recommendation: Site OIC's should make a careful joint-by-joint inspection of their frames quarterly. With practice, inspection of one seven-foot vertical frame takes about ten minutes. These quarterly inspections reduce outages considerably.

(5) AUTOSEVOCOM Dial Telephone Central Office AN/FTC-31.

(a) Observation: Current surges caused by lightning or unknown voltage transients in cables connected to the AN/FTC-31 sometimes damage solid state circuitry.

(b) Evaluation: Line driver modules CDH-8A (FSN 5862-933-5694) fail at an excessive rate, in one case four per month. Normal cable protectors hold surges to about 350 volts which is too high for solid state circuitry. Electrical surges can be eliminated by adding a pair of silicon diodes across each cable pair. The diodes should be 1 amp 50-volt epoxy-cased type. One diode on each cable pair is connected with its cathode on the ring lead and its anode on the tip; the other has its cathode on the tip and its anode on the ring. These diodes limit surges to about 0.7 volts but easily pass normal AN/FTC-31 signaling or speech signals which are below 0.4 volts.

(c) Recommendation: That silicone diodes be utilized to protect all line driver modules CDH-8A and other solid state central office

equipment associated with the AN/FTC-31 Switch.

(6) AUTOSEVOCOM Narrowband Subscriber Terminals.

(a) Observation: Lining up a narrowband subscriber terminal requires that a test frequency approximately 1000HZ be sent to the distant end.

(b) Evaluation: This 1000HZ test tone is produced by an audio oscillator which may not be available to the repairman.

(c) Recommendation: The red telephone will provide a good line up test tone of 941HZ. Pushing any pair of buttons in the bottom row of the touch-tone keyset will place a 941HZ test tone on the line. This procedure can be used as an expedient when an audio oscillator is not available.

(7) Reject Rate Program.

(a) Observation: The ASC were reporting daily to its tributaries rejects which occurred in only five categories of rejects.

(b) Evaluation: Connected tributaries were experiencing a high percentage of rejects in five additional categories. By not counting these rejects the ASC was not giving its tributaries a true picture of the problems which they were experiencing.

(c) Recommendation: That other ASC's monitor all ten (10) fields of rejects instead of five. The following are the reasons for rejects currently being monitored at the Phu Lam ASC:

Invlaid R.I. Field

Invalid R.I.

Incorrect channel sequence number

Invalid Security Field

Invalid block/card/count

Invalid header

Invalid EOM

No EOM received this station

Suspected straggler

Two corrective SOH's received

(8) ASC UPS Area

(a) Observation: Ducting which exhausts cold air from inside the shield into the motor generator control cabinets in the ASC UPS area should be removed. Condensation on the outside of the ducting has been experienced under certain atmospheric conditions and some moisture has penetrated to the inside of the cabinets.

(b) Evaluation: The present arrangement of ducting is not compatible with this equipment. The condensation problem could, over a period of time, cause corrosion of components, culminating in serious operation and maintenance problems. Outside ventilation is normally supplied at the bottom of the cabinet and exhausts at the top. The installed system is in opposition to this practice, since the cold air enters at the top of the cabinet and, with no diffusion, flows directly on the voltage regulator panel which is located at the top of the cabinet. Furthermore, the design of the air intake system called for the opening provided for exhaust of hot air at top of the cabinet door to be sealed off. It is entirely possible that the above conditions create an imbalance which also has many variables and results in instability.

(c) Recommendation: Recommend investigation and re-design. Return all UPS equipment to its original configuration, as delivered, with the exception of modifications which have been duly processed and approved by the Contracting Officer.

(9) Additional Fixed Defense Device

(a) Observation: Friendly villages on or near defense perimeters of isolated sites create serious hazards in the use of claymore mines as part of static defense.

(b) Evaluation: When a defensive perimeter is completely covered by fixed, command detonated claymore mines the killing radius may extend into nearby villages. The E8 gas launcher may be used to effectively seal sections of a perimeter which cannot be covered by claymores. The E8 is simple to install and can be set to cover an area of 40 meters by 275 meters. It can be installed in a fixed location to be fired by trip wire or electrically on command. The dispenser pattern may be accurately laid to interlock with other defensive devices.

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SUBJECT: Operational Report of the Phu Lam Signal Battalion for Period Ending 31 July 1969.

(c) Recommendation: All isolated sites be provided with E8 gas dispensers to seal gaps in defensive fires resulting from the danger to civilian areas.

c. Training: None

d. Intelligence: None

e. Logistics: None

f. Others: None

L. J. Riley

1 Incl
Org Chart

L. J. RILEY
LTC, SigC
Commanding

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SCCPV-RG-MO (10 Aug 69) 1st Ind
SUBJECT: Operational Report of the Phu Lam Sig Bn (USASTRATCOM) (PROV) for Period Ending 31 July 1969 (RCS: CSFOR-65) (WHBM 99-00)

HEADQUARTERS, USASTRATCOM Regional Communications Group (Vietnam), APO 96243

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington D.C. 20310
Commanding General, 1st Sig Bde (USASTRATCOM), ATTN: SCCPV-PO-CR, APO 96384

1. Concur with basic correspondence except as indicated below.

2. Reference Section 2, Lessons Learned: Commander's observations, Evaluations and Recommendations.

2b(5)(c) - Concur. Action has been completed. Diodes have been installed as circuit protector. The modification has been successful.

2b(7)(c) - Do not concur with PLM's recommendation that all ASC's monitor ten categories of rejects as opposed to five. The NHA switch, for example, utilizes a UNIVAC 1004 in its traffic service section which does not have the capability of reject recognition that the IBM 360/20 does at PLM.

JOHN E. HOOVER
Colonel, SigC
Commanding

SCCPV-OP-SD (10 Aug 69) 2nd Ind
SUBJECT: Operational Report of the Phu Lam Sig Bn (USASTRATCOM) (PROV) for Period Ending 31 July 1969, RCS CSFOR-65 (R1)

DA, HQ, 1st Signal Brigade (USASTRATCOM), APO 96384 13 September 1969

TO: Commanding General, United States Army Vietnam, ATTN: AVHGC-DST, APO 96375

1. Subject report is forwarded in accordance with USARV Regulation 525-15.

2. This headquarters has reviewed the report and concurs in it as indorsed with the following comments and/or exceptions:

a. Paragraph 2b(5), page 4. Concur in the recommendation. NECOS is going to initiate an EIR on this to insure widest dissemination.

b. Paragraph 2b(6), page 5. Information contained in the recommendation has been passed to all narrow band maintenance personnel.

c. Paragraph 2b(8), page 6. This headquarters has initiated an action to review the entire matter of ASC environmental control.

FOR THE COMMANDER:

T. E. MULLENNIEX
LTC, AGC
Adjutant General

CF:
Commanding General, United States Army Strategic Communications Command, ATTN: DCSOPS, SCC-OPS-RT, Fort Huachuca, Arizona 85613
Commanding Officer, USA Regional Communications Group, APO 96243
Commanding Officer, Phu Lam Signal Battalion, APO 96243

AVHGC-DST (10 Aug 69) 3d Ind
SUBJECT: Operational Report of the Phu Lam Signal Battalion for Period Ending 31 July 1969, RCS CSFOR-65 (R1)

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375 22 OCT 1969

THRU: Commanding General, United States Army Strategic Communications Command-Pacific, APO 96557

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT, APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 July 1969 from Headquarters, Phu Lam Signal Battalion (USASTRATCOM) (Provisional).

2. Comments follow:

a. Reference item concerning "Specially Conditioned Circuits for Data and Secure Voice," section II, page 3, paragraph 2b(3); nonconcur. Whether conditioning equipment is or is not required should be based upon actual measurements. The ability of given carrier systems to surpass given standards should be measured, not assumed. The objection to the practice of routinely conditioning narrowband trunks is justified. Joint AUTOSEVOCOM evaluation project teams recommend a continuation of all efforts to keep transmission lines completely within specifications, even where they are not out of alignment in a sufficient degree to cause serious degradation of the system. The 1st Signal Brigade has arranged for appropriate test and analysis equipment to make the required measurements and should do so on a periodic basis.

b. Reference item concerning "Additional Fixed Defense Device," section II, page 6, paragraph 2b(9); concur. Experience has shown that the E8 Launcher with 35mm CS Cartridges will effectively restrict enemy movements and temporarily impair his ability to fight. USARV Reg 700-20 outlines the procedures required to obtain additional equipment.

FOR THE COMMANDER:

B. A. GOODWIN
MAJ, AGC
Assistant Adjutant General

Cy furn:
Phu Lam Sig Bn
1st Sig Bde

SCCP-OP (10 Aug 69) 4th Ind
SUBJECT: Operational Report of the Phu Lam Signal Battalion for Period Ending 31 July 1969

Headquarters, U. S. Army Strategic Communications Command-Pacific, APO San Francisco 96557 17 NOV 1969

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT, APO 96558

1. Subject report is forwarded in accordance with AR 525-15.

2. This headquarters has reviewed subject report and offers the following comments:

a. Reference paragraph 2b(2), page 3. Concur that black tape is desirable for UNIVAC 1004 paper tape transmissions; however, do not concur with the recommendation that black tape be used exclusively. As an example, the exclusive use of black tape at a manual tape relay center is not desirable since it would require additional in-station processing (conversion from either buff, yellow, green or red tapes as received from the tributaries to black tapes) prior to transmission on the UNIVAC 1004. The use of any colored tape should be based on operational requirement.

b. Concur with the remainder of the report as indorsed.

FOR THE COMMANDER:

Frank C. Mahin

FRANK C. MAHIN
COL, GS
Chief of Staff

CF: w/o Incl
CG USARV, APO 96375
CG 1st Sig Bde, APO 96384
CO Regional Comm Go, APO 96243
CO Phu Lam Sig Bn, APO 96243

GPOP-DT (10 Aug 69) 5th Ind
SUBJECT: Operational Report of HQ, Phu Lam Signal Battalion (USASTRATCOM) (Provisional) for Period Ending 31 July 1969, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 20 NOV 69

THRU: Commanding General, US Army Strategic Communications Command, Fort Huachuca, Arizona 85613

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, D. C. 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

C. L. SHORT
CPT, AGC
Asst AG

CF:
DA, ACSFOR
CG, USASTRATCOM-PAC

SCC-PO-CERA (10 Aug 69) 6th Ind
SUBJECT: Operational Report of HQ Phu Lam Signal Battalion for period ending 31 July 1969

Headquarters, US Army Strategic Communications Command, Fort Huachuca, Arizona 85613 5 DEC 1969

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, DC 20310

This headquarters has reviewed and concurs in subject report as indorsed.

FOR THE COMMANDER:

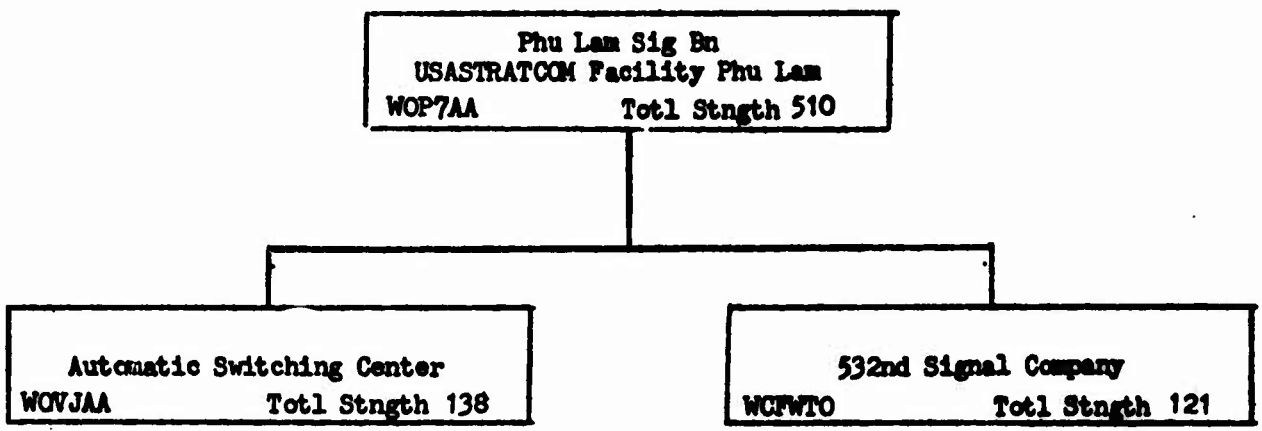
R. A. Mall

R. A. MALL
Captain, AGC
Asst Adj Gen

CF (w/o incl)
HQ US Army, PAC
CG USASTRATCOM, PAC

SUBJECT: Operational Report of the Phu Lam Signal Battalion for Period Ending 31 July 1969.

Organizational Structure



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Experiences of unit engaged in counterinsurgency operations, 1 May 69 to 31 July 69.

5. AUTHOR(S) (First name, middle initial, last name)

CO, Phu Lam Signal Battalion

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