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OAG D/A ltr 29 Apr 1980
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CONFIDENTIAL
DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

SUBJECT: Operational Report - Lessons Learned, Headquarters, 87th Engineer Battalion

To: SEE DISTRIBUTION

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1. Forwarded as inclusion is Operational Report - Lessons Learned, Headquarters, 97th Engineer Battalion for quarterly period ending 31 January 1967. Information contained in this report should be reviewed and evaluated by CDC in accordance with paragraph 6f of AR 1-19 and by CONARC in accordance with paragraph 6c and d of AR 1-19. Evaluations and corrective actions should be reported to ACSFOR OT within 90 days of receipt of covering letter. (1) 11 Feb 67 (2) 15 P.

2. Information contained in this report is provided to the Commandants of the Service Schools 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
Major General, USA
The Adjutant General

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Commanding Officers
69th Engineer Battalion (Const)
87th Engineer Battalion (Const)
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DEPARTMENT OF THE ARMY
HEADQUARTERS, 87th Engineer Battalion (Const)
APO 96312

BGACDB...OF 11 February 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for
Quarterly Period Ending 31 January 1967

THRU; Commanding Officer
35th Engineer Group (Const)
ATTN: EGA-3
APO 96312

Commanding General
18th Engineer Brigade
APO 96377

Commanding General
United States Army, Vietnam
ATTN: AVCD-DH
APO 96307

Commander In Chief
United States Army, Pacific
ATTN: GPOP-MH
APO 96558

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

SECTION I, SIGNIFICANT ORGANIZATION OR UNIT ACTIVITIES

1. Construction operations included completion of the following projects: [continued]
OPEN STORAGE SHELDS. This project consisted of placing 186 cubic yards of concrete for 39 each 39'x195' shed footers. Hauled were 441,531 cubic yards of fill in the addition to 8 each storage sheds. The project started 17 June 1966 and expended a total of 36,046 man hours and 22,812 equipment hours. It was completed 30 November 1966.

b. Delong Pier #1. The project started 25 October 1966 with a mission to construct an 830' causeway for a Delong Pier. Expended were 8480 man hours and 31,512 equipment hours. A total of 70,705 tons of fill were hauled and placed. 2861 cubic yards of blast rock were placed on the pier nose and sides. 5 inch (-) rock was used to choke the blast rock to prevent erosion of fill. The causeway was stabilized with cement to a depth of 10 inches and surfaced with 2 inch compacted hot mix asphalt. The project was completed 27 November 1966.

c. PX Containment Area. Construction was started on 6 November 1966. The project consisted of 16 each buildings and the stabilization of 1/4 miles of roadway. Hours expended were 25,201 man hours and 5,111 equipment hours. 455 cubic yards of concrete were placed and 31,800 square feet of living space were constructed. This project was completed 7 February 1967.

d. PX Interior. This project started on 20 September 1966 consisted of constructing and painting all interior walls in the main Cam Ranh Bay Post Exchange. The building's south end was partitioned in order to provide adequate office and merchandise storage space. Two coats of gray enamel paint were placed on the concrete floors. Sliding doors were constructed and a parking hardstand was stabilized. 10,525 man hours and 1321 equipment hours were expended on this project which was completed 11 December 1966.

e. 6100 M-n Cantonment Area Dispensary. This project started 29 July 1966, consisted of erecting a standard 10'x100' building to include partitions for a doctors office, storage room, treatment rooms etc. It was completed 19 Dec 1966. 983 man hours were expended.

f. Depot Area Double Quonset. This project started 6 November 1966, consisted of erecting a double quonset on a self help basis. One 100 and two 1D from this unit supervised a self help detachment to erect and complete the building by 19 December 1966. Expended were 1967 man hours and 102 equipment hours.
South Beach Amphitheater. This project started on 10 October 1966, consisting of preparing and leveling an area to house an open air theater, the construction of the stage, and hardstand stabilization from the road to the stage area. A total of 300 man hours and 839 equipment hours were expended. Over 2,600 cubic yards of fill were hauled and a VIP stand was also constructed. The project was completed 20 December 1966.

Tank Farm #2. This project was a joint venture by the U.S. Army and HMK which provided 200,000 barrels of POL storage area. Twenty six tank pads, transfer pump pad, flood pump pad, manifold pad, and truck loading pad were placed for a total of 1016 cubic yards of concrete construction. 26 burms around tanks were built and 14 miles of road were constructed using red sand. Five culverts have been installed across roads for POL pipes. The project was completed 6 February 1967 and expended 22,437 man hours and 11,627 equipment hours.

61st Medical Quonset. This project started 16 January 1967 consisting of the erection of a 20'x18' quonset took 210 man hours and 80 equipment hours to build. The project was completed in four days.

Warehouse Buildings. This project consisted of constructing 3 each 20'x130' warehouse buildings in the 6100 Man Combat Area. It was started on 23 November 1966 and expended 2,489 man hours and 630 equipment hours before the project completion on 7 January 1967. Over 7,800 feet of storage space were constructed.

6100 Man Combat Area Chapel. This project started 16 August 1966 consisted of constructing a 60'x100' "A" Frame building to be used as a chapel. A total of 612 man hours and 2138 equipment hours were expended on the project. It was completed 61 December 1966.

6100 Man Combat Area Supply Self Service Center. This project started 12 November 1966 and completed twelve days later consisted of the construction of a standard 60'x100' building. Included in the project was the construction of numerous storage shelves. 1,050 man hours and 115 equipment hours were expended completing the task.
EGACBB.OP
SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), For Quarterly Period Ending 31 January 1967. (Cont) dtd 11 Feb 67

m. 6400 Man Cantonment Area Library. A standard 40'x100 building was constructed with partitions for offices, reading rooms and book storage areas was started 18 August 1966. 2,261 man hours and 267 equipment hours were expended on the project which also included the construction of adequate amount of book shelves required. The task was completed 28 September 1966.

n. Army Airfield Rehabilitation. The task was to rehabilitate and extend an existing airfield to a total length of 2800 feet and a width of 80 feet with 25' shoulders on back side. 1700 feet were stabilized to the depth of 10" using 2 parts RC-3 and 1 part gasoline. It was applied at a rate of 6 gallons per square yard. 1100 feet was stabilized using sand cement. MBA1 matting was placed the length of the runway to test a field modification of the matting. 229,666 feet of matting was used on the runway. A total of 23,650 man hours and 9,707 equipment hours were expended on the project which was completed on 28 November 1966.

o. Operation Byrd. This combat support mission started 11 September 1966 supporting the 2nd Bn, 7th Cav, 1st Ady Cav, Div. A total of 16,200 man hours were expended repairing an airfield, constructing LST ramps, road improvement, construction of a logistical area, and providing other engineer support required. The exercise ended 2 January 1967.

2. In addition to the projects completed during this period, significant progress was made on the following.

a. Reefer Storage. This project is a self help project and will provide 80 each 1600 square feet reefer for cold storage. Eighty reefer have been erected wired and are being used. Scope of work was changed to include painting of reefer. To date, 32 reefer have been painted.

b. Road Maintenance. This unit maintained approximately 12.5 miles of roads, placed 24' hot mix asphalt on approximately 5 miles of main road and stabilized 1½ miles with asphalt sand or sand cement.
c. Coral and Quarry Operations. Operations are on a continuing basis. During this reporting period, 26,610 tons were excavated and 18,100 tons crushed, expending 18,233 man hours and 17,153 equipment hours to this operation.

d. 97th MP Cantonment Area. This project started 22 December 1966 consists of excavating 350,000 cubic yards of fill to prepare new living quarters for the 97th MP Battalion. To date 590 cubic yards of concrete have been placed, 2 each 20'x130' double story billets have been constructed, 4 each 20'x18' quonsets were constructed in a "U" shape for use as the Battalion Headquarters. Presently, 15,805 man hours and 10,535 equipment hours have been expended. In the near future the following structures will be added to the complex, 7 each 20'x100' two story barracks, 1 each 50'x150' 500 man mess hall, 3 each 20'x50' day rooms, 3 each 250 man showers, 3 each 10'x33' 13 hole latrines, 2 each 20'x8' quonsets, 2 each 12'x56' grease racks, 1 each 32'x33' Maintenance shop, 1 each 50'x100' PSP hard stand and 1 each 20'x20' POL pad.

c. Quarter Master Laundry Extension. This project started 30 January 1967 consists of extending the existing laundry facility at Cam Ranh Bay. To date, 225 cubic yards of concrete have been place and 156 man hours and 151 equipment hours have been expended.

f. Operation Support. One reinforced construction platoon with equipent and one reinforced Earth-moving platoon with equipment have been committed to this operation which started 23 November 1966 and will terminate tentatively 15 March 1967. Work includes repairing and extending an airfield constructed on a sand-clay soil, building various types helipads, refueling areas and supply storage areas. Three days of extensive rains are the only weather problem encountered to date. Construction progress is significantly hampered during resupplying operations. Most bulk items, if not flown to the airbase, must be shipped by L.S.U. to an area approximately 15 miles from the inland base. A large portion of the construction effort must be diverted to unload the L.S.U. and safely transport the materials to the airbase.
SECTION 2. PART 1. OBSERVATION (LESSONS LEARNED)

1. PERSONNEL.
   a. ITEM: Shortage of experienced personnel affected the capability of the unit within certain areas.

   (1) DISCUSSION: The battalion has experienced shortages of personnel in MOS's 05B20, 31B20 (Support Personnel), 52F20 and 51C20 (Experienced Construction Personnel), 62B20 and 62F30 (Construction Machine Operators). No shortage exists at the end of the reporting period in MOS 62B20 due to a large influx of personnel during the month of January in the MOS. Communications personnel are required to establish and maintain proper means of communication and to effectively coordinate projects at varied locations. Of the authorized four (4) radio mechanics the unit has presently one (1) assigned.

   (2) OBSERVATION: Replacement personnel, arriving to gaining unit, should be made available prior to departure of key personnel in order that a smooth transition in the unit's effectiveness be maintained.

2. OPERATIONS.
   a. ITEM: Sand cement stabilization.

   (1) DISCUSSION: There is a lack of suitable material in Cam Ranh Bay to stabilize sub-bases prior to paving. Sand cement stabilization has been extensively used and has been very successful. The cement content of the sand-cement mixture is approximately 10% and the moisture content 12%. The sand cement is most efficiently mixed in a concrete batch plant or a 165 mixer, transported to the job site using 5 ton dump trucks or 18 yard scrapers, placed, graded, and rolled to optimum density.

3. TRAINING.
   a. ITEM: Training During Period.

   (1) DISCUSSION: During the report period the training program has been expanded and training is being conducted in the following areas:

   (a) Weapons firing (quarterly)

   (b) Preventive Maintenance classes for platoon leaders, platoon sergeants, and operators.
SUBJECT: Operational Report—Lessons Learned (RCS CSFOR-65), For Quarterly Period Ending 31 January 1967. (Cont) dt1 11 Feb 67

(c) On the job training with emphasis on training of heavy equipment operators.

(d) Weekly command information classes, and other formal training as outlined in LR 350-1

(e) Familiarization classes on the D7-E tractor for maintenance personnel and operators.

(f) Weekly officer symposiums on construction practices and experiences.

(2) OBSERVATION: Maintenance classes and symposiums greatly improve construction production and efficiency.

h. MAINTENANCE

a. ITEM: Battalion Maintenance

(1) DISCUSSION: Battalion maintenance status report for the period ending 31 January 1967.

(a) Third echelon job orders:

1. Total received: 1372
2. Total completed: 1336
3. Total outstanding: 39

(b) Repair Parts:

1. Normal supply channels:

a. Total requisitions submitted 1781
b. Total requisitions completed 1345
c. Total requisitions outstanding 1389

2. Red Ball supply system:

a. Total requisitions submitted 672
b. Total requisitions completed 796
c. Total requisitions outstanding 320

Items of equipment exchanged thru maintenance float or depot turn-in and issue:

(a) Fourteen (14) D7E Dozer
(b) One (1) Cat 12 Grader
(c) Four (4) 1/4 ton trucks
(d) One (1) 3/4 ton Truck
SUBJECT: Operational Report-Lessons Learned (RCS OSPOR\$), For Quarterly Period Ending 31 January 1967. (Cont) dtd 11 Feb 67

(e) Seventeen (17) 1.5KW Generators
(f) Two (2) 2½ ton Trucks
(g) One (1) 1½ ton Cargo Trailers
(h) Four (4) Water Trailers
(i) Five (5) 5CFM Air Compressors
(j) Two (2) 250 CFM Air Compressors
(k) Four (4) Welding Machines
(l) One (1) 5KW Generator

(2) OBSERVATION: Maintenance classes and symposiums greatly improve construction production and efficiency.

SECTION 2, PART II, RECOMMENDATIONS: NONE

WILLIAM L. DURHAM
LTC, CE
Commanding
EDA-3 (17 February 1967) 1st Ind
SUBJECT: Operation Report Lessons Learned For The Period 1 November 1966 Thru 31 January 1967 (RCS CSFOR-65),


TO: Commanding General, 18th Engineer Brigade, APO 96377

1. In accordance with Department of the Army Regulations and US Army Regulation 870-2, dated 19 July 1966, Subject: Operational Reports - Lessons Learned (RCS CSFOR-65), the subject report is forwarded for the 87th Engineer Battalion (Const).

2. The report adequately covers the major activities of the 87th Engineer Battalion (Const). Observations are generally concurred in. The following additional recommendations and comments are furnished.

   a. Reference Section 2, Part 1, Paragraph 1. Personnel shortages mentioned have existed throughout the 35th Group for the period involved. The 87th Engineer Battalion has submitted routine requisitions for projected personnel losses. These have been submitted seven (7) months in advance of dates of projected losses as required. Personnel requisitioned in this matter have not always arrived and vacancies thus created have not been subsequently requisitioned for. It is important to keep in mind that emergency requisitions can be made for critical shortages.

   b. Reference Section 1 Paragraph 2f. The following information is furnished on operational support at Song Tao.

   1. Personnel on the job site included two (2) Officers and 114 enlisted men.

   2. Equipment on the job included:

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<th>Quantity</th>
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<tr>
<td>850M</td>
<td>5 each</td>
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<tr>
<td>20 ton crane</td>
<td>1 each</td>
</tr>
<tr>
<td>D/E dozer</td>
<td>4 each</td>
</tr>
<tr>
<td>16S mixer</td>
<td>1 each</td>
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<tr>
<td>5 ton dump trucks</td>
<td>4 each</td>
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<td>grader</td>
<td>1 each</td>
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<tr>
<td>10 ton roller</td>
<td>1 each</td>
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<td>5 ton cargo trucks</td>
<td>3 each</td>
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<td>5 ton tractors</td>
<td>3 each</td>
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<tr>
<td>25 ton low beds</td>
<td>6 each</td>
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<tr>
<td>50 ton roller</td>
<td>1 each</td>
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<tr>
<td>front loader</td>
<td>1 each</td>
</tr>
<tr>
<td>sheepfoot rollers</td>
<td>2 each</td>
</tr>
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</table>


   4. Only 3 days of rain hampered the project.
SUBJECT: Operation Report Lessons Learned For The Period 1 November 1966 Thru 31 January 1967 (BCS CSPOR-65)

5. Soil on site was a poorly graded sand and a gravel sand. Subgrade value was fair to good. Subbase value was fair. Base value was poor. Drainage was excellent. CBR's of 10-40 were obtained.

6. Work consisted of a 3,500 foot runway of MB41, a 180' x 750' parking apron, a forward support area, and a forward area support heliport.

FOR THE COMMANDER:

WILLIAM W. YAHN
Major, CE
Adjutant
SUBJECT: Operational Report - Lessons Learned (RCS CSPOR-65) For Quarterly Period Ending 31 January 1967

Headquarters, 18th Engineer Brigade, APO US Forces 96377 1 APR 1967

TO: Commanding General, U.S. Army Engineer Command, Vietnam, (Prov), ATTN: AVCC-BC, APO US Forces 96491

1. Operational Report - Lessons Learned for period ending 31 January 1967 for the 87th Engineer Battalion (Construction), as indorsed, is considered an adequate narrative of the unit's activities and accomplishments during this quarter.

2. This Headquarters concurs with the observations of the submitting commander, as indorsed by Headquarters, 35th Engineer Group (Construction).

FOR THE COMMANDER:

[Signature]

THOMAS K. SMITH
Major, CE
Adjutant
SUBJECT: Operational Report-Lessons Learned (220 CS/XO-65) for quarter ending 31 January 1967

HEIDELBERG, DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY, VIETNAM
VIEUX-VENEUIL (VNV), APO 964 17 APR 1967

TO: Commanding General, United States Army, Vietnam, APO: AVNCS-DH, APO 96307

1. The subject report, submitted by the 7th Engineer Battalion (Const), has been reviewed by this headquarters and is considered adequate.

2. This headquarters concurs with report as inclosed.

FOR THE COMMANDER

[Signature]

J. J. O'BRIEN
Colonel, C
Chief of Staff

12
AVHGC-DST (11 Feb 67)  4th Ind
SUBJECT: Operational Report-Lessons Learned for the Period Ending
31 January 1967 (RCS CSFOR-65)

HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96307 8 MAY 1967

TO: Commander in Chief, United States Army, Pacific, ATTN: GPO-OT
APO 96558

1. This headquarters has reviewed the Operational Report-Lessons
Learned for the period ending 31 January 1967 from Headquarters, 87th
Engineer Battalion (Construction) as indorsed.

2. Reference Paragraph 1, Page 6, and Paragraph 2a, 1st Indorse-
ment, concerning personnel shortages: USARV requisitions have been
submitted; however, there remains a command-wide shortage of 05B20.
Currently the US Army Engineer Command Vietnam has 76 MOS 31B20
assigned against an authorization of 84, which compares favorably
with the command position in this MOS. In MOS's 52F20 and 51G20 there
are still command-wide shortages although requisitions have been sub-
mitted. Recommend DA take all possible actions to fill requisitions
in the grades and MOS's required.

FOR THE COMMANDER:

[Signature]

E.L. KENNEDY
CPT, AGC
Asst Adjutant General
SUBJECT: Operational Report—Lessons Learned for the Period Ending 31 January 1967 (RCS CSFOR-65), HQ 87th Engr Bn (Const) (U)

HQ, US ARMY, PACIFIC, APO San Francisco 96558 9 JUN 1967

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

1. (U) This headquarters concurs in the basic report as indorsed.

2. (C) Reference paragraph 1, Part I, Section II; paragraph 2a, 1st Indorsement; paragraph 2, 4th Indorsement.

   a. Data available to this Headquarters shows the following overall MOS status for USARV as of 31 March 1967:

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<tr>
<td>05B</td>
<td>Radio Operator</td>
<td>1927</td>
<td>1844</td>
</tr>
<tr>
<td>31B</td>
<td>Field Radio Mechanic</td>
<td>851</td>
<td>1089</td>
</tr>
<tr>
<td>51C</td>
<td>Structures Specialist</td>
<td>210</td>
<td>97</td>
</tr>
<tr>
<td>52F</td>
<td>Electrician</td>
<td>275</td>
<td>200</td>
</tr>
<tr>
<td>62E</td>
<td>Construction Machine Operator</td>
<td>3327</td>
<td>3932</td>
</tr>
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   b. Additionally, USARV was short in other Engineer enlisted MOS in the 51 (Construction and Utilities) and 52 (Power Production and Distribution) Career Groups on 31 March 1967 as follows:

<table>
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<th>MOS</th>
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<tbody>
<tr>
<td>51F</td>
<td>Pipeline Specialist</td>
<td>91</td>
<td>77</td>
</tr>
<tr>
<td>51H</td>
<td>Construction Foreman</td>
<td>371</td>
<td>310</td>
</tr>
<tr>
<td>51K</td>
<td>Plumber</td>
<td>222</td>
<td>143</td>
</tr>
<tr>
<td>51Q</td>
<td>Terrain Analyst</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>52C</td>
<td>Power Pack Specialist</td>
<td>59</td>
<td>34</td>
</tr>
<tr>
<td>52D</td>
<td>Gas Turbine &amp; Generator Repairman</td>
<td>248</td>
<td>222</td>
</tr>
<tr>
<td>52E</td>
<td>Power Station Operator</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>52F</td>
<td>Electrician</td>
<td>275</td>
<td>200</td>
</tr>
</tbody>
</table>
SUBJECT: Operational Report-Lessons Learned for the Period Ending 31 January 1967 (RCS CSFOR-65), HQ 87th Engr Bn (Const) (U)

c. Recommend Department of the Army take action to fill USARV's authorized requirements for enlisted personnel in MOS 05B and in MOS Career Groups 51 and 52.

FOR THE COMMANDER IN CHIEF:

[Signature]

BEAVRIN /Sgt;
CPT, Actr

AQ
Asst AG