

**US Army Explosive Ordnance Disposal Detachment
Operations in the Republic of Vietnam.**

ARMY CONCEPT TEAM IN VIETNAM APO SAN FRANCISCO 96384

1972

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13. ABSTRACT

The evaluation of US Army explosive ordnance disposal (EOD) detachment operations was conducted by the Army Concept Team in Vietnam (ACTIV) during the period 1 October 1971 through 15 November 1971. The purpose of the evaluation was to document and analyze US Army explosive ordnance disposal operations in the Republic of Vietnam (RVN) and to recommend changes, if necessary, in the organization, mission, doctrine and support of US Army EOD detachments during stability operations.

The evaluation concluded that: (1) The EOD-mission-oriented cellular detachment is a valid support concept; (2) The Shop Set, Ammunition and Explosive Ordnance Disposal, FSN 1385-373-4354, contains many components that are not utilized during EOD operations; (3) The doctrinal mission statements found in EOD field manuals and the assigned mission statements found in each MTOE adequately covered EOD detachment operations in RVN; (4) The munition item indexing method utilized in EOD technical reference publications is inadequate; (5) EOD support to US Army operations in RVN was adequate; (6) Doctrine does not provide adequate guidance to EOD detachments involved in clean-up operations after an ammunition depot is destroyed; (7) Administrative, logistical, and mission support required and received by EOD detachments in RVN was generally adequate.

It is recommended that: (1) All components of Shop Set, Ammunition and Explosive Ordnance Disposal, FSN 1385-378-4354, be reviewed and justified for retention; (2) The EOD technical publications indexing and cross-referencing method be reviewed

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EOD Detachment

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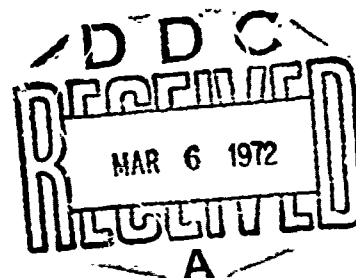
and reorganized as appropriate. (3) Doctrine pertaining to clean-up operations after an ammunition storage depot disaster be reviewed or developed, as appropriate, and included in either EOD or ammunition service doctrinal publications.

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APO San Francisco 96384

FINAL REPORT

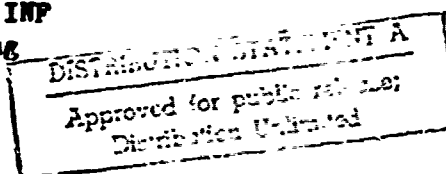
US ARMY EXPLOSIVE ORDNANCE
DISPOSAL DETACHMENT OPERATIONS
IN THE REPUBLIC OF VIETNAM

ACTIV Project No. ACG-81F



Approved: 8 FEB 1972

William K. Marr
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28 FEB 1977

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SUBJECT: Final Report - US Army Explosive Ordnance Disposal Detachment
Operations in the Republic of Vietnam (ACTIV Project No. ACG-81F)

DA, Headquarters, U.S. Army Vietnam, APO San Francisco 96375

THRU: Commander-in-Chief, US Army Pacific, APO San Francisco 96558

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

1. Subject final report is submitted for review and approval.
2. This headquarters concurs in the conclusions and recommendations as written.
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Operations in the Republic of Vietnam (ACTIV Project No. ACG-81P)

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a. Message, Headquarters, US Army, Vietnam, AVHDO-DO, 080917Z January 1971, subject: Army CD&E Program, Vietnam for FY 72.

b. Message, Headquarters, Department of the Army, ACSFOR ACTIV, 062345Z April 1971, subject: Army Combat Developments and Materiel Evaluation (CD&ME) Program, Vietnam for FY 1971 and 1972.

2. In accordance with above references, subject final report is forwarded for review and approval.

3. Request one copy of all forwarding and approval indorsements by furnished this headquarters.

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25th BOD Detachment Tuy Hoa
44th BOD Detachment, Cam Ranh Bay
59th BOD Detachment, Camp Evans
99th BOD Detachment, Long Binh
133d BOD Detachment, Chu Lai
170th BOD Detachment, Saigon
269th BOD Detachment, Da Nang
287th BOD Detachment, Phu Bai

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ABSTRACT

The evaluation of US Army explosive ordnance disposal (EOD) detachment operations was conducted by the Army Concept Team in Vietnam (ACTIV) during the period 1 October 1971 through 15 November 1971. The purpose of the evaluation was to document and analyze US Army explosive ordnance disposal operations in the Republic of Vietnam (RVN) and to recommend changes, if necessary, in the organization, mission, doctrine and support of US Army EOD detachments during stability operations.

The evaluation concluded that: (1) The EOD-mission-oriented cellular detachment is a valid support concept; (2) The Shop Set, Ammunition and Explosive Ordnance Disposal, FSN 1385-378-4354, contains many components that are not utilized during EOD operations; (3) The doctrinal mission statements found in EOD field manuals and the assigned mission statements found in each MTOE adequately covered EOD detachment operations in RVN; (4) The munition item indexing method utilized in EOD technical reference publications is inadequate; (5) EOD support to US Army operations in RVN was adequate; (6) Doctrine does not provide adequate guidance to EOD detachments involved in clean-up operations after an ammunition depot is destroyed; (7) Administrative, logistical, and mission support required and received by EOD detachments in RVN was generally adequate.

It is recommended that: (1) All components of Shop Set, Ammunition and Explosive Ordnance Disposal, FSN 1385-378-4354, be reviewed and justified for retention; (2) The EOD technical publications indexing and cross-referencing method be reviewed and reorganized as appropriate; (3) Doctrine pertaining to clean-up operations after an ammunition storage depot disaster be reviewed or developed, as appropriate, and included in either EOD or ammunition service doctrinal publications.

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SECTION I

INTRODUCTION

1. REFERENCES

a. Message, Headquarters, US Army, Vietnam, AVHDO-DO, 030917Z January 1971, subject: Army CD&ME Program, Vietnam for FY 72.

b. Message, Headquarters, Department of the Army, ACSFCR ACTIV, 062345Z April 1971, subject: Army Combat Developments and Materiel Evaluation (CD&ME) Program, Vietnam for FY 1971 and 1972.

2. BACKGROUND

Prior to this evaluation, doctrine and organization for explosive ordnance disposal (EOD) services in support of US Army combat operations in the Republic of Vietnam (RVN) had never been evaluated. HQ, USARPV recommended to DA (see reference a, above) that such an evaluation be included in the formal CD&ME program of the Army Concept Team in Vietnam (ACTIV) for FY 72. DA approval was provided by reference b, above.

3. DESCRIPTION

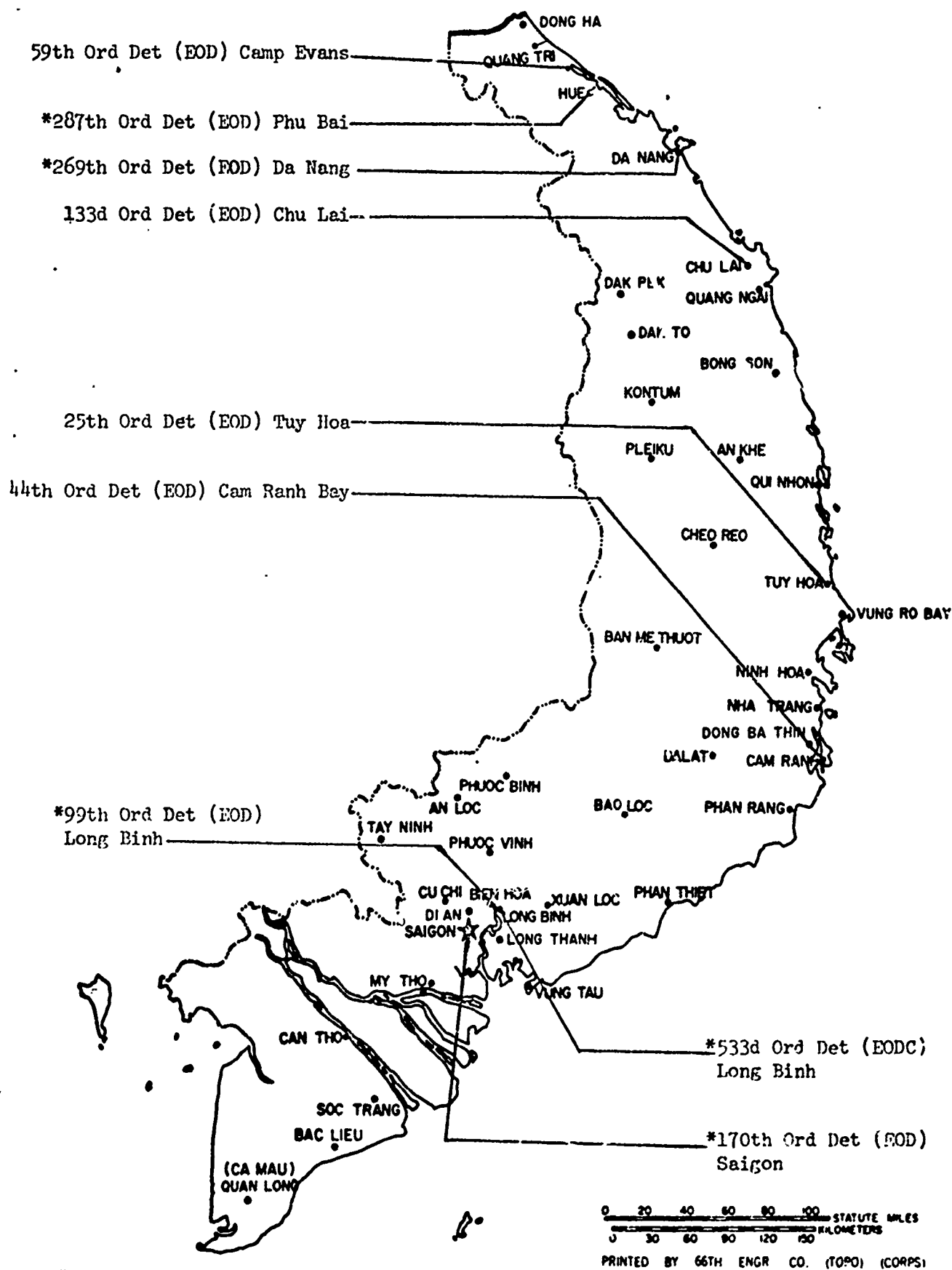
a. Army Regulation (AR) 75-15 states that the EOD mission within DA is to provide the capability to neutralize the hazards existing in explosive ordnance which because of unusual circumstances presents a possible threat to operations, installations, personnel, or materiel.

b. Table of Organization and Equipment (TOE) 9-5206, dated 25 February 1969, provides for a detachment-type organization to perform the EOD mission only. These detachments are specialized for this mission and are designed to be attached to another unit for administrative services, messing, billeting, supply, and organizational maintenance. In addition, they depend on still other units for such support as may be required for actual mission performance (e.g., military police, engineer, aviation, medical, and technical intelligence). This support is obtained, when required, through the coordinated efforts of EOD staff officers, the EOD control (EODC) detachment, the particular EOD detachment involved, and the unit from which the support is requested.

c. The US Army EOD organization in RVN consists of detachments functioning independently, but under the operational control of the EODC detachment, which in turn reports directly to the Chief, Ammunition Division, Deputy Chief of Staff, Logistics (DCSLOG), HQ, USARPV.

d. EOD detachments in RVN are differentiated into "metropolitan" and "tactical" detachments, according to their areas of primary responsibility. Metropolitan detachments operate in the cities of Saigon and Da Nang, while tactical detachments were designed to operate in a field

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*Denotes EOD units surveyed during the evaluation.

FIGURE I-1. EOD Unit Locations, 1 October 1971.

selected for study; units providing mission support to EOD detachments; units supported by EOD detachments. EOD detachment standing operating procedures (SOP), EOD incident reports, and after-action reports were examined. An analysis of data collected by interview and questionnaire was made with emphasis on EOD detachment organization, mission, command and control, and support requirements. This analysis utilized concensus of interview respondents, review of documented EOD experiences and statistics, expert opinion of the EOD-qualified evaluators, and the on-site observation and judgement of the project officer, as bases for reaching conclusions.

8. ENVIRONMENT

EOD detachments surveyed were located throughout RVN, and their areas of responsibility included all four military regions (MR's). The data collection phase of the evaluation was conducted from 1 October 1971 to 15 November 1971. During this time the southwest monsoon season prevailed, during which most of the country except the Northern Highlands and the Northeastern Coastlands receive an abundance of rainfall. Geography and weather did not have a unique impact on EOD operations. A low level of combat operations during the evaluation period was reflected in a correspondingly low level of EOD incidents.

SECTION II

DISCUSSION AND FINDINGS

1. OBJECTIVE 1 - ORGANIZATION

a. ORGANIZATION FOR EOD OPERATIONS

(1) Historical Summary

(a) EOD units, organized under MTOE 9-500D, Ordnance Service Organization, were first deployed to RVN in 1965. This original deployment consisted of an EODC detachment with five independently functioning EOD detachments under its operational control. Two ordnance ammunition battalions deployed to RVN in the same year contained organic EOD sections which were also under operational control of the EODC detachment.

(b) The number of EOD detachments and those EOD sections organic to ordnance ammunition battalions gradually increased, reaching a peak in 1968, when one EODC detachment, ten EOD detachments, and four EOD sections organic to the ordnance ammunition battalions were operational in RVN. Figure II-1 shows the end-of-year totals of EOD units/sections in country from 1965 through 1 October 1971 (when data collection began for this evaluation). Figure II-2 shows the locations of the EOD units/sections during the peak-strength year of 1968.

YEAR	DETACHMENTS		EOD SECTIONS
	EODC	EOD	AICIO
1965	1	5	2
1966	1	6	3
1967	1	6	3
1968	1	10	4
1969	1	10	3
1970	1	10	3
1971 ^{1/}	1	8	0

^{1/} As of 1 October 1971, at start of data collection for the evaluation.

FIGURE II-1. End-of-Year Profiles of EOD Units in RVN, 1965-1971.

(c) By 30 June 1971, the EODC detachment and the EOD detachments had been reorganized from MTOE 9-500D, Ordnance Service Organization,

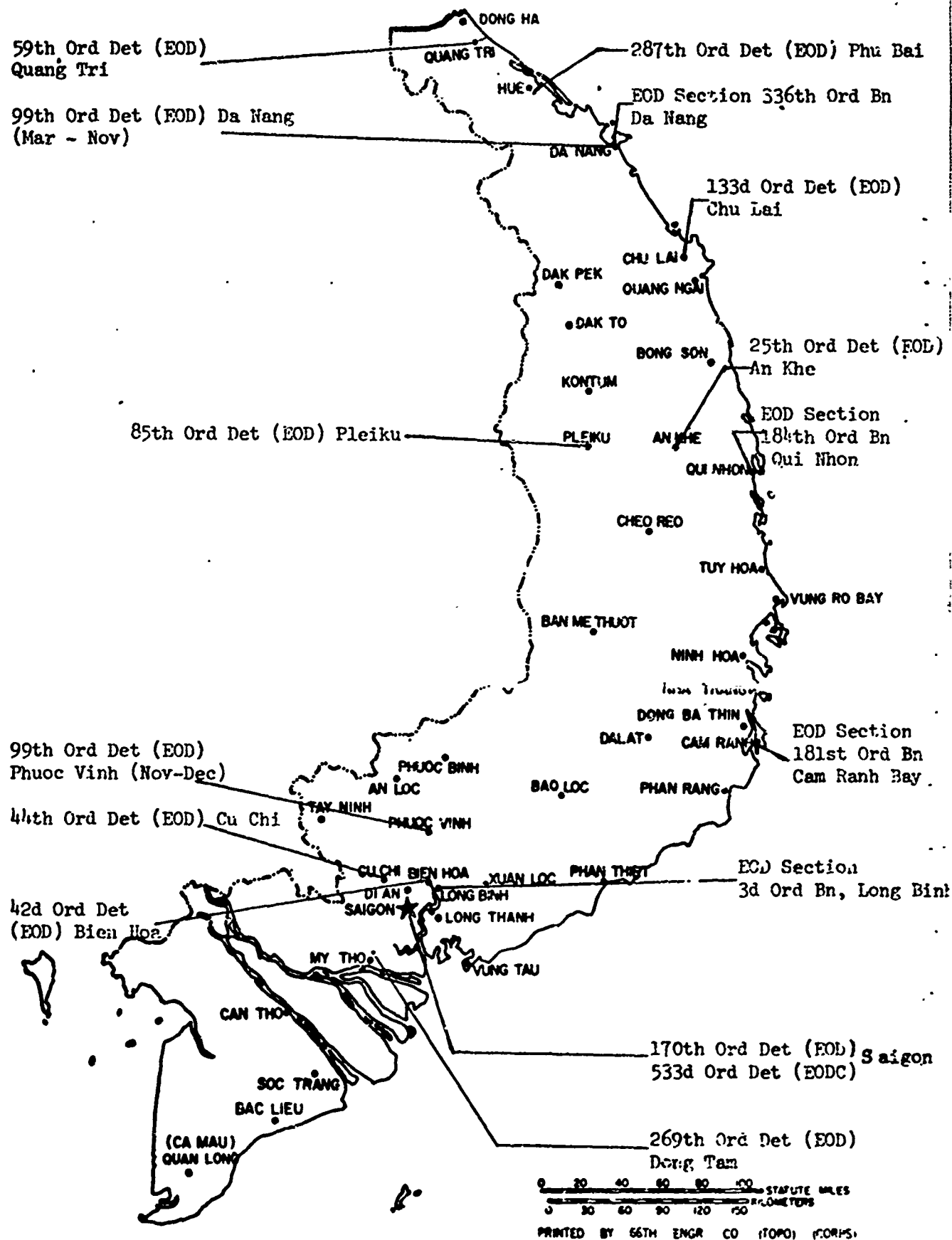


FIGURE II-2. EOD Units Operational in RVN - 1968.

to MTOE 9-520G, Explosive Ordnance Disposal Detachment. This action brought the USARV EOD detachments in line with TOE 9-520G, dated 25 February 1969, the DA-approved TOE for EOD detachments.

(2) Current Organization

(a) Figure II-3 depicts the overall Military Assistance Command, Vietnam (MACV) staff EOD relationships with major subordinate commands. The MACV staff EOD office was located in the Ammunition Branch, Materiel and Services Division, Assistant Chief of Staff J-4. The MACV staff EOD office established policy and provided guidance pertaining to EOD operations when coordination between two or more US services or Free World Military Assistance Forces (FWMAF) were involved. The MACV staff EOD office was authorized and had assigned one US Army major, military occupational specialty (MOS) 9224, EOD Staff Officer.

(b) Figure II-4 depicts the USARV organization for EOD Operations as it existed on 1 October 1971. HQ, USARV exercised overall command and control of US Army EOD detachments in RVN. The individual EOD detachments were under the direct command and control of the 533d EODC Detachment. The CC, 533d EODC Detachment reported directly to the Chief, Ammunition Division, Deputy Chief of Staff Logistics (DCSLOG), HQ, USARV.

(c) The USARV EOD staff office was located within the Ammunition Division, DCSLOG. The USARV EOD staff office was authorized and had assigned one major, MOS 09224, EOD Staff Officer. Prior to October 1970 the EOD staff officer position was filled by the CO, 533d EODC Detachment, who served in a dual capacity. The EOD staff officer was responsible for staff supervision of all EOD activities within USARV and performed coordination with MACV and US Army, Pacific (USARPAC) on an as-required basis.

(d) All personnel interviewed stated that the USARV EOD staff officer was essential to EOD operations in RVN, and that future planning for headquarters such as USARV should include the EOD staff officer position. Respondents further stated that, if personnel assets are available it is not in the best interest of EOD operations to have the commander of the control detachment also serve as the EOD staff officer.

(e) Seven of eight respondents (EOD detachment commanders and the USARV EOD staff officer) stated they considered the overall concept of the EOD-mission-oriented detachment valid, and that it provided the most economical and efficient means of conducting EOD operations and providing EOD services to US Army customer units.

b. ORGANIZATION OF EOD DETACHMENTS

(1) Authorization

The EODC detachment was organized under MTOE 9-520G by Headquarters, US Army Pacific (USARPAC), General Order (GO) 184, dated 24 March

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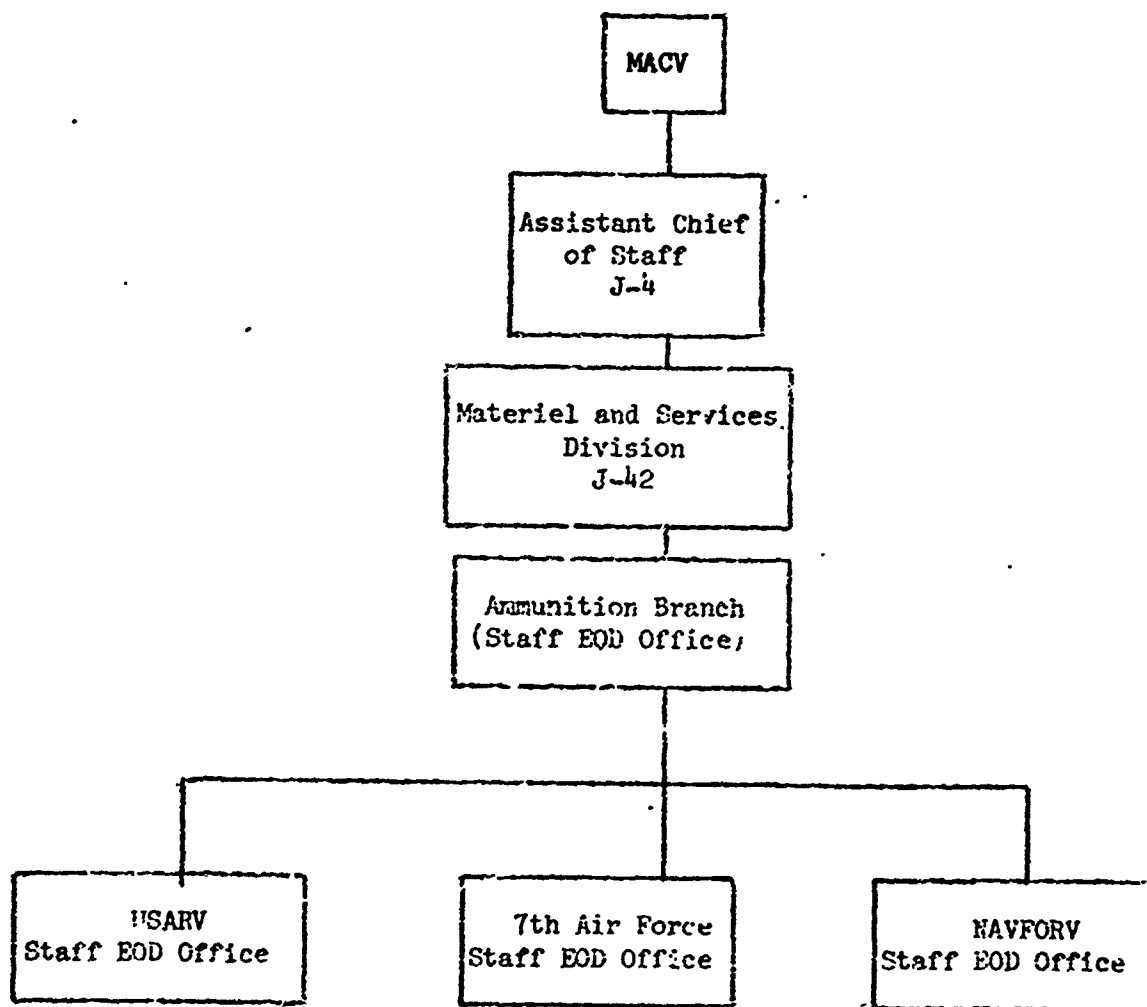


FIGURE II-3. MACV EOD Staff Relationships.

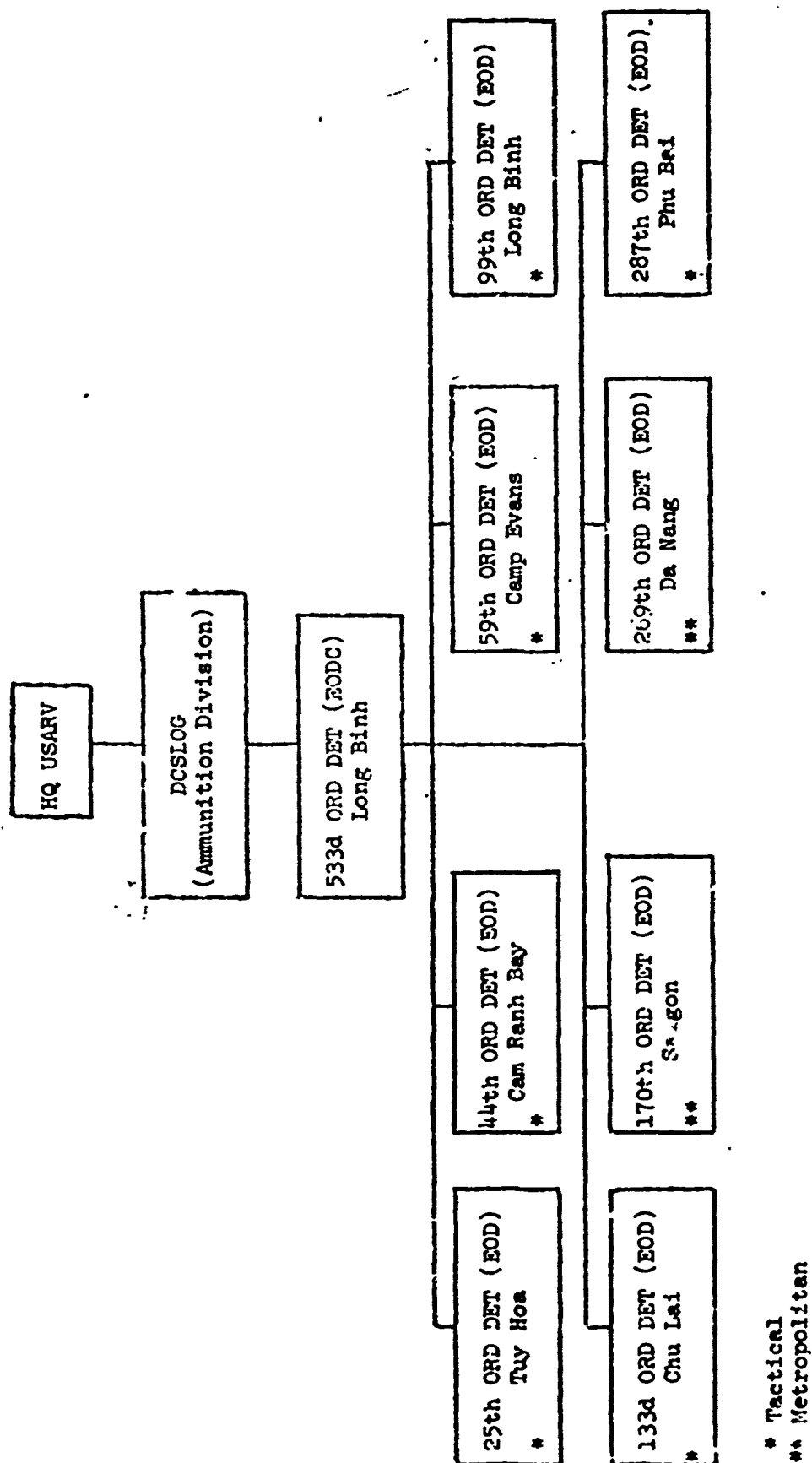


FIGURE II-4. USARV EOD Organization, 1 October 1971.

1971. Six tactical EOD detachments were organized under MTOE 9-520G by USARPAC, GO 227, dated 19 April 1971. Two metropolitan EOD detachments were organized under MTOE 9-520G by USARPAC, GO 201, dated 6 April 1971. These MTOE's reflected the authorized personnel and equipment levels for the EOD detachments operational in RVN during this study.

(2) Personnel

(a) The assigned personnel strength of the individual EOD detachments was overstrength because of the reassignment of personnel from inactivated EOD units to the remaining detachments. This action had been taken to allow personnel to meet the time requirement for a completed overseas short tour. The authorized and assigned personnel strength levels of the EOD detachments in RVN at the time of this study are presented in Figure II-5.

DETACHMENT			AUTHORIZED BY MTOE 9-520G	ASSIGNED BY USARV
533d	EODC	Det., Long Binh	8	17
25th	EOD	Det., Tuy Hoa	10	13
44th	EOD	Det., Cam Ranh Bay	10	14
59th	EOD	Det., Camp Evans	10	14
99th	EOD	Det., Long Binh	10	14
133d	EOD	Det., Chu Lai	10	9
170th	EOD	Det., Saigon	10	14
269th	EOD	Det., Da Nang	10	13
287th	EOD	Det., Phu Bai	10	10
TOTALS			88	116 ^{1/}

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^{1/} Included 17 30-day losses.

FIGURE II-5. Personnel Strength Levels During Evaluation.

(b) The organization of the EODC detachment and utilization of personnel was found to conform to the MTOE and to the appropriate field manual, FM 9-15, Explosive Ordnance Disposal Unit Operations. Figure II-6 compares the DA-approved TOE personnel authorizations for an EODC detachment, the USARPAC-approved MTOE under which the EODC detachment was operating, and a proposed change to the MTOE that had been submitted to higher headquarters for approval prior to the beginning of this study. Final approval on this change to the MTOE had not been received as of the end of this evaluation.

(c) The proposed change to the MTOE reflects a request for a personnel augmentation to provide the EODC detachment with the personnel assets needed to comply with a MACV message, dated 291030Z September 1970, directing USARV to provide two EOD-qualified enlisted men to the Combined Material Exploitation Center (CMEC) (see Figure II-7). CMEC

CONTROL DETACHMENT PERSONNEL

TITLE	GRADE	MOS	BRANCH	A	B	C
DETACHMENT COMMANDER	MAJ	09224	OD	1	1	1
EOD OPERATIONS OFFICER	CPT	09224	OD	1	1	1
EOD OPERATIONS SERGEANT	E-9	55D50	NC	1	1	1
SENIOR EOD SUPERVISOR	E-8	55D50	NC	1	1	1
EOD SUPERVISOR	E-7	55D40	NC	1	1	1
EOD SERGEANT	E-6	55D40	NC	2	1	2
MAINTENANCE SERGEANT	E-6	63C40	NC	0	0	1
SUPPLY SERGEANT	E-6	76Y40	NC	0	0	1
EOD SPECIALIST	E-5	55D30		2	0	2
DETACHMENT CLERK	E-5	71H20		0	0	1
CLERK TYPIST	E-4	71B30		2	2	1

AUGMENTATION TEAM TECHNICAL INTELLIGENCE/INERTING^{1/}

EOD SUPERVISOR	E-7	55D30	NC	0	0	2
EOD SERGEANT	E-6	55D40	NC	0	0	1
TOTAL PERSONNEL				11	8	16

^{1/} TO MEET NEEDS OF CMEC

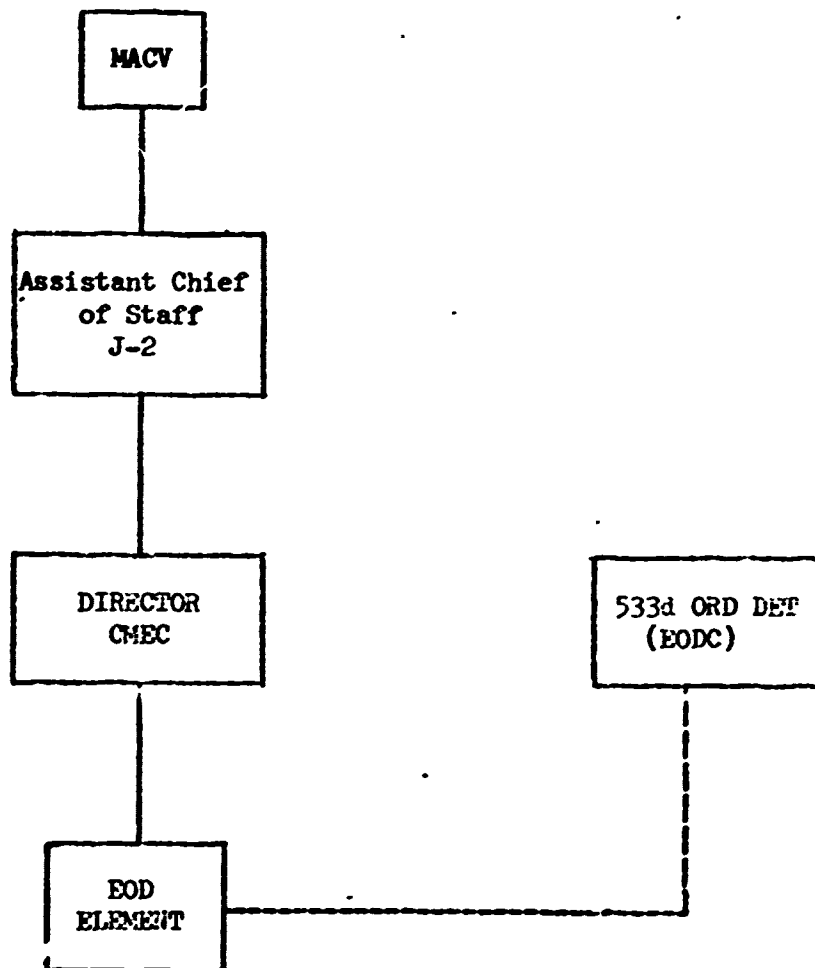
LEGEND

COLUMN A - CURRENT TOE 9-520G APPROVED 25 FEBRUARY 1969

COLUMN B - CURRENT MTOE 9-520GP501 P50171 ORGANIZED BY GO 184,
HQ USARPAC, 24 MARCH 1971

COLUMN C - PROPOSED MTOE 9-520GP501 P50172 SUBMITTED FOR APPROVAL

FIGURE II-6. EOD Detachment Personnel Organization.



————— : Operational Channel
- - - - - : Administrative Channel

FIGURE II-7. EOD Support to Combined Materiel Exploitation Center (CMEC).

operated under the direction of the MACV J-2 and was charged with the examination, evaluation, and classification of captured enemy materiel. This effort included the preparation and dissemination of tactical intelligence reports. The EODC detachment was directed to furnish two non-commissioned officers, MOS 55D, to CMEC for the purpose of inerting captured foreign munitions. Due to the overstrength position of the EOD detachments the EODC detachment was able to comply with the directive. The personnel involved remained assigned to the EODC detachment with duty at CMEC. Approval of the personnel augmentation to the EODC detachment MTOE would authorize the personnel assets needed for the CMEC activity.

(d) All EOD detachment commanders and the EODC detachment commander stated that newly assigned junior EOD specialists (MOS 55D, grades E4 and E5) coming from the COMUS FOD training facility were inadequately trained. The two major inadequacies were that (1) personnel were not trained in the use, care, and maintenance of US Army EOD-peculiar tools, and (2) personnel were unfamiliar with US Army technical FOD reference publications. A minimum of three months additional on-the-job training was considered necessary to ensure their proficiency in performing EOD duties.

(e) All EOD detachment commanders stated a need for MOS-qualified supply and maintenance personnel. They stated that the assignment of a supply sergeant, MOS 76Y40, and a maintenance sergeant, MOS 63C40, to the EODC detachment would enhance the organizational supply and maintenance operations in all detachments. The proposed change to the EODC detachment MTOE reflects a request to provide such qualified supply and maintenance personnel.

(f) Figure II-8 compares the following: (A) the DA-approved TOE 9-520G personnel authorization for an EOD detachment; (B) and (C) the approved MTOE's for the EOD detachments, metropolitan and tactical, in effect during this evaluation; (D) and (E), and changes included in the proposed MTOE's for the metropolitan and tactical detachments, respectively. The proposed MTOE's, if approved, would authorize a personnel strength identical to that authorized by the DA-approved TOE.

(3) Equipment

(a) All EOD-qualified personnel interviewed stated that, in general, the equipment authorized by the present MTOE was adequate to perform the EOD mission in RVN. Mission-essential equipment not authorized by TOE had been authorized by MTOE. Equipment authorized by MTOE was present in each detachment and was sufficient to insure adequate and timely support to any customer organization. EOD detachments in RVN were not authorized special-weapons-related equipment.

(b) The organization and utilization of equipment within the EODC detachment was found to conform with the appropriate MTOE and FM 9-15. EODC detachment personnel stated that the number of vehicles authorized by

EOD DETACHMENT PERSONNEL				A	B	C	D	E
TITLE	GRADE	MOS	BRANCH					
DETACHMENT COMMANDER	CPT	09224	OD	1	1	1	1	1
SENIOR EOD SUPERVISOR	E-8	55D50	NC	1	1	1	1	1
EOD SUPERVISOR	E-7	55D40	NC	1	1	1	1	1
EOD SERGEANT	E-6	55D40	NC	3	2	2	3	3
EOD SPECIALIST	E-5	55D30		4	2	2	4	4
EOD SPECIALIST	E-4	55D20		2	2	2	2	2
CLERK TYPIST	E-4	71B30		1	1	1	1	1
TOTAL PERSONNEL				13	10	10	13	13

Legend

COLUMN A - Current TOE 9-520G Approved 25 February 1969.

COLUMN B - Current MTOE 9-520GP502 P50171 (Metropolitan) organized by GO 201, HQ USARPAC, 6 April 1971.

COLUMN C - Current MTOE 9-520GP503 P50171 (Tactical) Organized by GO 227, HQ, USARPAC, 19 April 1971.

COLUMN D - Proposed MTOE 9-520GP502 P50172 (Metropolitan).

COLUMN E - Proposed MTOE 9-520GP503 P50172 (Tactical).

FIGURE II-8. EOD Detachment Personnel Organization.

MTOE was adequate for the performance of their control mission; however, an additional 3/4-ton truck was required to support the CDEC activity. The proposed change to the EODC MTOE includes this additional vehicle. The EODC detachment personnel also indicated no requirement for photoprocessing equipment (presently authorized) in the proposed change to the MTOE.

(c) All EOD detachment personnel interviewed stated that the KS-15, Still Camera, was too complicated to operate, and that the Polaroid camera authorized as a part of Shop Set, Ammunition and Explosive Ordnance Disposal, FSN 1385-378-4354, was adequate to meet most photographic requirements. The proposed change to the EOD MTOE, therefore, deletes the KS-15 Still Camera. A majority also stated that the shop set contained many other components that were unnecessary for EOD operations in RVN and should be deleted. The percentages of respondents attesting to nonutilization of particular shop-set tools are shown in Figure II-9.

(d) All EOD detachment commanders stated that the tools contained in the Demolition Set, Explosive, Electric/Electronic Initiating, were the most frequently used tools.

TOOLS	PERCENT OF RESPONDENTS STATING NONUTILIZATION
Hydraulic Injection Kit	100
Impact Wrench Kit	100
Rocket Wrench Kit	100
Thermal Discharge Kit	100
M47 Mine Kit	100
Demolition Charge Kit	80
Stethoscope Kit	80
Non-sparking Tool Kit	80

FIGURE II-9. Nonutilization of Shop Set Tools.

(e) All personnel interviewed in the tactical detachments stated that additional weapons were desirable for operation in RVN. The M79 grenade launcher and jeep-mounted M60 machinegun were listed as desirable weapons. A few detachments had obtained additional weapons on hand receipt from other units. The M79 grenade launcher is requested on the proposed change to the tactical detachment MTOE; however, the EODC detachment commander did not approve the inclusion of the machinegun in the proposed change to the MTOE.

(f) The two metropolitan EOD detachment commanders stated a need for a vehicle emergency-warning-device kit when operating in city traffic. This kit consists of a flashing light, siren, public address system, and a modulated wail-sound device.

(g) Other changes to the MTOE's have also been requested. Figure II-10 presents the EODC detachment equipment authorizations and proposed changes. Figure II-11 presents the same information for the metropolitan and tactical EOD detachments.

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CONTROL DETACHMENT EQUIPMENT

	A	B	C
AIR CONDITIONER: TRAILER MTD	0	0	1
ANTENNA RC-292	0	1	2
BAYONET-KNIFE W/SCAB M14	11	0	0
BAYONET-KNIFE W/SCAB M16	0	8	16
BINOCULAR 7X50	0	1	2
BREATHING APPARATUS M20	4	0	0
BURNER ASSEMBLY SPACE HEATER	4	0	0
CABLE TELEPHONE WD1/TT 1320FT	4	3	1
CALCULATOR TOXIC VAPOR HAZARD LINE SOURCE	1	0	0
CALCULATOR TOXIC VAPOR HAZARD POINT SOURCE	1	0	0
CLEANER STEAM PRESSURE 125 PSI	0	0	1
CALIBRATOR RADIAC AN/UDM6	1	0	0
CASE FIELD OFFICE MACHINE	1	2	2
CAMERA SET STILL KS 15	1	1	0
CASE FIELD OFFICE MACHINE 2GL 13W 17D	1	1	1
CHAIN ASSEMBLY, SINGLE LEG	1	0	0
CHARGER RADIAC DETECTOR	5	0	0
COMPASS MAGNETIC	2	5	5
COOK SET FIELD	1	0	0
CLOCK: MSG CTR	0	0	1
DECONTAMINATION APPARATUS	5	0	0
DESK FIELD, 2 STOOLS	4	1	2
DEMOLITION SET EXPLOSIVE, ELECTRIC/NONELECTRIC INITIATING	1	1	1
DETECTING SET, MINE	1	1	1
DETECTOR, CHEMICAL AGENTS	1	1	1
FILING CABINET, LETTER SIZE	2	4	6
FILING CABINET, TACTICAL USE	5	5	5
GENERATOR SET GAS ENGINE 1.5 KW	1	0	0
GENERATOR SET GAS ENGINE 3 KW	1	1	1
GENERATOR SET GAS ENGINE 5 KW	0	1	2
GOGGLES, SUN/WIND/DUST	5	0	0
HEADSET, MICROPHONE	2	2	0
HEATER SPACE	4	0	0
LAUNCHER GRENADE M79	0	0	3
LIGHT SET ILLUMINATION 25 OUTLET	1	1	0
METER PHOTOGRAPHIC EXPOSURE M46	1	1	1
PANEL MARKER:AERIAL LIAISON	2	2	1
PAULIN; COTTON DUCK OD	1	1	1
PHOTOGRAPHIC ASSESSORY KIT 989/P7	1	1	0
PISTOL: CAL .45 AUTOMATIC	9	6	0
POWER SUPPLY PP 1104/G	0	1	2
POWER SUPPLY PP 4765/GC	0	0	1
PROCESSING UNIT PHOTOGRAPHIC FILM	1	1	0
RADIAC SET AN/PDR 27		0	0
RADIAC SET AN/PDR 60	1	0	0
RADIACMETER IM-9/PD	11	0	0
RADIACMETER IM-93/UD	11	0	0
RADIACMETER IM-147/PD	11	0	0

FIGURE II-10. EOD Detachment Equipment (continued next page).

CONTROL DETACHMENT EQUIPMENT(CONTINUED)

	A	B	C
RADIACMETER IM-174/PD	2	0	0
RADIO SET AN/GRC-106 LESS POWER	0	1	1
RADIO SET AN/GRC-106 MTD IN TRUCK VAN	1	0	0
RADIO SET AN/GRC-106 MTD IN 1/4 TK	2	1	0
RADIO SET AN/GRC-106 MTD IN 3/4 TK	1	0	0
RADIO SET AN/VRC-46	0	1	2
RADIO SET AN/VRC-46 MTD IN CARGO TK	0	1	0
RADIO SET AN/VRC-46 MTD IN 1/4 TK	0	3	3
RADIO SET AN/VRC-46 MTD IN 3/4 TK	0	1	1
RADIOACTIVE TEST SAMPLE- RADIUM	1	0	0
REELING MACHINE CABLE HAND	1	1	1
REVOLVER CAL .38 W/4" BARREL	0	0	9
RIFLE 5.56MM	0	2	7
RIFLE 7.62MM	2	0	0
SHOP EQUIPMENT MACHINE SHOP SHELTER MTD	0	0	1
SHOP SET AMMUNITION AND EOD	1	1	2
STOP WATCH TYPE B	0	2	2
STOVE GASOLINE BURNER 5000BTU	4	0	0
TABLE FOLDING LEGS UTILITY	2	3	3
TANK PROCESSING PHOTOGRAPHIC	1	1	0
TELEPHONE SET TA-1/PT	2	2	0
TELEPHONE SET TA-312/PT	2	2	0
TENT GENERAL PURPOSE MEDIUM	2	0	0
TENT LINER COTTON	2	0	0
TEST AND HANDLING EQUIPMENT ATOMIC WEAPONS	1	0	0
TIMER INTERVAL: DIAL TYPE	1	1	0
TOOL KIT GENERAL USE TOOLS SIGNAL	1	0	0
TOOL KIT CARPENTERS	1	1	1
TOOL KIT MACHINIST	1	0	0
TRAILER CARGO 1/4 TON	2	2	2
TRAILER CARGO 3/4 TON	1	0	0
TRAILER CARGO 1 1/2 TON	2	1	0
TRUCK CARGO 3/4 TON 4X4	1	1	2
TRUCK CARGO 2 1/2 TON 6X6 W/W	1	0	0
TRUCK UTILITY 1/4 TON 4X4	2	3	3
TRUCK VAN EXPANSIBLE 2 1/2 TON 6X6	1	1	1
TYPEWRITER NONPORTABLE 13" CARRIAGE	1	2	2
TYPEWRITER NONPORTABLE 15" CARRIAGE	1	1	1
WATCH WRIST NONMAINTAINABLE	2	2	5
X-WIND MEASURING SET AN/PMO-3D	1	0	0
CAMERA SET KS 99 TOPCON	0	0	2
EMERGENCY WARNING DEVICE KIT	0	0	4
X-RAY PORTABLE BALTOGRAPH	0	0	1

Legend

- COLUMN A- CURRENT DA TOE 9-5206 APPROVED 25 FEBRUARY 1969.
 COLUMN B- CURRENT MTOE 9-520GP501 P50171 ORGANIZED BY GO 184,
 HQ USARPAC, 24 MAR 71.
 COLUMN C- PROPOSED MTOE 9-520GP501 P50172 SUBMITTED FOR APPROVAL.

FIGURE II-10, (Continued).

EOD DETACHMENT EQUIPMENT

	A	B	C	D	E
ANTENNA RC-292	0	1	1	2	1
BAYONET-KNIFE M16 W/ SCAB	0	10	10	13	13
BAYONET-KNIFE M14 W/SCAB	13	0	0	0	0
BINOCULAR 7X50	1	1	3	1	2
BREATHING APPARATUS M20	8	0	0	0	0
BURNER ASSEMBLY SPACE HEATER	4	0	0	0	0
CABLE TELEPHONE WD-1/TT 1320F	5	3	3	0	3
CALCULATOR: DOWNWIND TOXIC VAPOR HAZARD LINE SOURCE	2	0	0	0	0
CALCULATOR: DOWNWIND TOXIC VAPOR HAZARD POINT SOURCE	2	0	0	0	0
CALIBRATOR RADIAL AN/UDM6	1	0	0	0	0
CAMERA SET STILL PICTURE KS 15	1	1	1	0	0
CASE FIELD OFFICE MACHINE 22L 13W 17D	1	2	2	2	2
CHARGER RADIAC DETECTOR PB-1578/PD	5	0	0	0	0
CLOCK: MESSAGE CENTER	0	0	0	1	1
COMPASS MAGNETIC	3	5	5	5	3
COOK SET FIELD 5 MAN	2	0	2	0	2
DECONTAMINATION APPARATUS	6	0	0	0	0
DEMOLITION SET ELECTRIC/ NONELECTRIC INITIATING	2	1	2	1	2
DESK FIELD 2 STOOL	2	1	1	1	1
DETECTING SET MINE	2	1	2	1	2
DETECTOR KIT CHEMICAL AGENT	1	1	1	1	1
FILING CABINET: LETTER SIZE	4	4	4	4	4
FILING CABINET: TACTICAL USE	4	4	4	4	4
GENERATOR SET GAS ENGINE 1.5 KW	1	0	0	0	0
GENERATOR SET GAS ENGINE 3 KW	1	1	1	0	1
GOGGLES, SUN/WIND/DUST	6	0	0	0	0
HEADSET MICROPHONE H-182/PT	4	1	2	4	0
HEATER SPACE 45000BTU	4	0	0	0	0
LIGHT SET ILLUMINATION 25 OUTLET	1	1	1	0	0
LAUNCHER GRENADE M79	0	0	0	0	3
METER PHOTOGRAPHIC EXPOSURE	1	1	1	1	1
PANEL MARKER AERIAL LIAISON	2	2	2	2	2
PISTOL CAL .45 AUTOMATIC	10	0	3	0	10
POWER SUPPLY PP 1104/G	0	1	1	1	1
POWER SUPPLY PP 4763/GRC	0	0	0	1	0
RADIAC SET AN/PDR-27	2	0	0	0	0
RADIAC SET AN/PDR 60	4	0	0	0	0
RADIACMETER IM-9/PD	13	0	0	0	0
RADIACMETER IM-93/UD	13	0	0	0	0
RADIACMETER IM-147/PD	13	0	0	0	0
RADIACMETER IM-174/PD	2	0	0	0	0
RADIO SET AN/GRC-106 LESS POWER	0	1	1	1	1
RADIO SET AN/GRC-106 MTD 1/4 TRUCK	2	0	0	0	0
RADIO SET AN/GRC-106 MTD 2 1/2 TRUCK	1	0	0	0	0
RADIO SET AN/GRC-106 MTD 3/4 TRUCK	1	0	0	0	0
RADIO SET AN/PRC-25	0	0	0	0	1
RADIO SET AN/VRC-46	0	2	1	2	1
RADIO SET AN/VRC-46 MTD 1/4 TRUCK	0	8	2	8	2
RADIO SET AN/VRC-46 MTD 3/4 TRUCK	0	0	2	0	2

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FIGURE II-11. EOD Detachment Equipment (Continued next page).

EOD DETACHMENT EQUIPMENT (CONTINUED)

	A	B	C	D	E
RADIOACTIVE TEST SAMPLE- RADIUM	1	0	0	0	0
REELING MACHINE, CABLE RL-39	1	0	1	0	1
RESPIRATOR AIR FILTERING	4	0	0	0	0
REVOLVER, CAL .38 W/4" BARREL	0	9	0	1	0
RIFLE, 5.56MM	0	4	7	3	3
RIFLE, 7.62MM	3	0	0	0	0
SHOP SET AMMUNITION AND EOD	1	1	1	1	1
STOVE GAS BURNER 5000BTU	2	0	0	0	0
STOP WATCH TYPE B	0	2	2	0	2
TABLE, FOLDING LEGS	2	3	3	3	3
TARPAULIN 17X12	2	0	1	0	1
TELEPHONE SET, TA-1/PT	5	3	3	0	3
TELEPHONE SET, TA-312/PT	0	0	2	0	2
TENT, GENERAL PURPOSE MEDIUM	2	0	0	0	0
TENT LINER, COTTON	2	0	0	0	0
TEST AND HANDLING EQUIPMENT, ATOMIC WEAPONS	1	0	0	0	0
TOOL KIT GENERAL USE, SIGNAL	1	0	0	0	0
TOOL KIT ,CARPENTERS	1	1	1	1	1
TRAILER, CARGO 1/4 TON	2	2	2	2	2
TRAILER, CARGO 3/4 TON	1	0	2	0	2
TRAILER, CARGO 1 1/2 TON	2	0	0	0	0
TRUCK, CARGO 3/4 TON W/W 4X4	1	1	2	1	2
TRUCK, CARGO 2 1/2 TON W/W 6X6	1	0	1	0	1
TRUCK, MAINTENANCE TELEPHONE 2 1/2 TON W/W 6X6	1	0	0	0	0
TRUCK, UTILITY 1/2 TON 4X4	2	4	2	4	2
TRUCK,VAN 2 1/2 TON 6X6	1	0	0	0	0
TYPEWRITER ,NON-PORTABLE 13" CARR	1	2	2	2	2
WRIST WATCH, NON-MAINTAINABLE	2	2	2	5	5
X-WIND MEASURING SET AN/PMO-30	2	0	0	0	0
EMERGENCY WARNING DEVICE KIT	0	0	0	4	0

Legend

- COLUMN A- CURRENT TOE 9-520G APPROVED 25 FEBRUARY 1969,
- COLUMN B- CURRENT MTOE 9-520GP502 P50171 (METROPOLITAN)
ORGANIZED BY GO 201, HQ USARPAC, 6 APR 71.
- COLUMN C- CURRENT MTOE 9-520GP503 P50171 (TACTICAL)
ORGANIZED BY GO 227, HQ USARPAC, 19 APR 71.
- COLUMN D- PROPOSED MTOE 9-520GP502 P50172 (METROPOLITAN),
- COLUMN E- PROPOSED MTOE 9-520GP503 P50172 (TACTICAL).

FIGURE II-11, (Continued).

c. Findings ^{1/}

(1) Explosive ordnance disposal support to US Forces in RVN was provided by EOD detachments operating under the direct command and control of an EOD control detachment [II-1a(2)(b); p. II-3].

(2) The EODC detachment commander reported directly to the Chief, Ammunition Division, DCSLOG, HQ, USARV [II-1a(2)(b); p. II-3].

(3) EOD personnel in RVN considered the EOD staff officer position in DCSLOG, HQ, USARV, essential to EOD operations [II-1a(2)(d); p. II-3].

(4) The USARV EOD staff officer and detachment commanders considered the EOD-mission-oriented detachment a valid EOD support concept [II-1a(2)(e); p. II-3].

(5) The EODC detachment and the EOD detachments were organized under MTOE 9-520G by appropriate USARPAC General Orders [II-1b(1); p. II-3].

(6) EOD-qualified personnel assigned to USARV EOD detachments exceeded by 30 the number of spaces authorized [II-1b(2)(a); p. II-6].

(7) The EODC detachment furnished EOD-qualified personnel to the Combined Materiel Exploitation Center [II-1b(2)(c); p. II-6].

(8) EOD detachment commanders considered newly assigned enlisted men, MOS 55D, grades E-4 and E-5, inadequately trained by CONUS EOD training facilities [II-1b(2)(d); p. II-9].

(9) EOD commanders expressed a need for MOS-qualified supply and maintenance personnel at the EODC detachment [II-1b(2)(e); p. II-9].

(10) Respondents stated that equipment authorized the detachments by MTOE was adequate to perform the EOD mission in RVN [II-1b(3)(a); p. II-10].

(11) A majority of respondents stated that Shop Set, Ammunition and Explosive Ordnance Disposal, contained many components that were not required or utilized in RVN [II-1b(3)(c); p. II-10].

(12) All EOD detachment commanders stated that the tools contained in the Demolition Set, Electric/Nonelectric Initiating, were the most utilized [II-1b(3)(d); p. II-10].

^{1/} Numbers in parenthesis refer to the paragraphs of the report which support each finding.

(14) Tactical FOD detachment personnel stated a desire for additional weapons such as the M79 grenade launcher and jeep-mounted M60 machinegun [II-1b(3)(e); p. II-11].

(15) The "metropolitan" FOD detachment commanders expressed a need for vehicle emergency-warning-device kits when operating in city traffic [II-1b(3)(f); p. II-11].

2. OBJECTIVE 2 - MISSIONS, TRAINING, AND MISSION PERFORMANCE

a. Mission and Roles

(1) Doctrinal Missions

Mission statements for explosive ordnance disposal detachments are generally the same in each of the two EOD doctrinal publications. FM 9-14, Explosive Ordnance Disposal Service, dated April 1971, and FM 9-15, Explosive Ordnance Disposal Unit Operations, dated August 1970, both contain doctrinal material pertaining to EOD operations. FM 9-14 states the doctrinal mission of EOD detachments as follows:

"The mission of the EOD detachment is to perform final reconnaissance, identification, render safe, and disposal of unexploded explosive ordnance which has been fired, launched, dropped, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or materiel. The EOD team can also dispose of ammunition or explosives which have become hazardous to handle or unserviceable by damage or deterioration when the disposal of such items is beyond the capabilities of personnel normally assigned the responsibility for routine disposition. EOD units generally are not responsible for mine field clearance; responsibility for this operation is assigned to all Army units to the extent necessary for their continued movement, operation, or bivouac.

"EOD units are responsible for providing support in the detection, location, and disposal of improvised explosive devices and sabotage devices to the Secret Service upon request.

"Training military and civilian personnel in Explosive Ordnance Reconnaissance are normal functions performed by EOD units. Other courses dealing in explosives or explosive ordnance may be taught from time to time upon request. Liaison with supported military units and civil authorities must be maintained in order that the supported units may know what EOD services are available and that effective service may be provided.

"EOD units are requested to stand by for immediate deployment in case of an incident occurring during the movement of nuclear or chemical munitions."

(2) Assigned Missions

(a) EOD unit assigned missions are stated in AR 75-15, Responsibilities and Procedures for Explosive Ordnance Disposal, and in the mission statement portion of the MTOE organizing each unit. AR 75-15 states the EOD mission in general terms as follows:

"The EOD mission within the Department of the Army is to provide the capability to neutralize the hazards existing in explosive ordnance, which, because of unusual circumstances, present a possible threat to operations, installations, personnel, or materiel. The principal role of EOD is to assess an explosive ordnance situation beyond the capability of the normal supply, maintenance, or operational skills available, determine the appropriate action to eliminate or contain the hazard, and execute the necessary EOD actions. An additional role of EOD is to assure, through appropriate application of safety rules, safeguards, and EOD techniques, that no undue risk or hazard is involved in handling, disassembly, or transporting explosive ordnance items and components during the clean-up phase following an EOD incident."

(b) The MTOE that organized the EODC detachment in RVN listed the EODC detachment mission as follows:

"To provide command and operational controls to all EOD detachments, and operational control of EOD sections of Ordnance Battalion (Armo) TOE 9-86F. To maintain balanced and flexible explosive ordnance disposal support to US and Free World Forces in the area of responsibility of USARV. This control will consist of, but not be limited to the following: 1) Dispatching units to incident locations, reported through this unit; 2) Receive and process EOD reports, to include consolidation of statistical information received from assigned units; 3) Insure operational readiness of units through continuous and regular inspections and visits; 4) Dispatching qualified personnel to assist units in all phases of unit operations; 5) The control and/or coordination of all personnel actions on assigned EOD qualified personnel; 6) Assign areas of operation, and direct the geographical location of EOD activities to insure optimum EOD support; and 7) Maintaining radio communication on a twenty-four hour basis with USARV EOD activities."

(c) The MTOE that organized the two "metropolitan" EOD detachments listed their mission as follows:

"To provide balanced and flexible explosive ordnance disposal support to their assigned metropolitan areas and all US and Free World forces within their province. This support will consist of, but not be limited to the following: 1) Pursuing an aggressive program of liaison visits to units in the assigned area, with the purpose of familiarizing unit personnel with the area, and of informing supported units of services available; 2) Initiating and pursuing an explosive ordnance reconnaissance training program designed to instruct the individual soldier on identification, hazards, and reporting procedures applicable to unexploded munitions; 3) The recovery, evaluation, rendersafe, and/or disposal of all unexploded munitions or clandestine devices; 4) The providing of advice and assistance; within the unit capability, to supported units in technical matters relating to ammunition or explosives; 5) Maintenance of communications on a twenty-four hour basis within their own unit and subordinate and higher commands; 6) Maintain the ability to respond to a request for EOD assistance in the assigned metropolitan area within five minutes of receipt of the request; 7) Respond to a request for assistance outside the metropolitan area within 20 minutes; and 8) Augment the responding team or dispatch a second or third within thirty minutes."

(d) The "tactical" EOD detachments were located outside the major cities and were usually collocated with or near major tactical unit headquarters. The tactical EOD detachment MTOE listed the assigned mission as follows:

"To provide balanced and flexible explosive ordnance disposal support to their assigned areas of operation and all US and Free World Forces within their province. This support will consist of but not limited to: 1) Pursuing an aggressive program of liaison visits to units in the assigned area, with the purpose of familiarizing unit personnel with the area, and of informing supported units of services available; 2) Initiating and pursuing an explosive ordnance reconnaissance training program designed to instruct the individual soldier on

identification, hazards, and reporting procedures applicable to unexploded munitions; 3) The recovery, evaluation, render-safe, and/or disposal of all unexploded munitions or clandestine devices; 4) Providing advice and assistance, within the unit capability, to supported units in technical matters relating to ammunition or explosives; 5) Maintain communications on a twenty-four hour basis within their own unit and subordinate and higher commands; 6) Respond to a request for EOD assistance in the assigned area within five minutes; 7) Maintain one or two on-site teams as required; and 8) Augment the responding team or dispatch a second or third team within thirty minutes."

(e) All EOD unit commanders and staff officers stated that the doctrinal and assigned missions were adequately stated and that they correctly reflected the EOD mission in RVN.

(3) Missions and Roles Unique to RVN

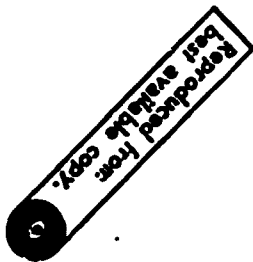
The table of organization and equipment for an EOD detachment provides personnel and equipment for performing the mission of explosive ordnance disposal. FM 9-15, EOD Unit Operation, states that the assignment of missions for which the unit was not specifically created is to be avoided whenever possible. All detachment commanders interviewed stated that their units were not performing any missions that could be considered unique to EOD operations in RVN. There were, however, certain EOD-mission-related functions performed by EOD detachments that may have occurred only in RVN. These mission-related functions will be discussed in the next paragraph.

(4) Mission Related Functions

(a) Because of their skill with ordnance demolition and their technical knowledge of ammunition, EOD personnel were called on to perform functions closely related to explosive ordnance disposal operations. Both FM 9-14 and FM 9-15 list and discuss many EOD-mission-related functions that may be assigned to an EOD unit.

(b) All detachment commanders interviewed stated that Chapter 8, FM 9-14, described the majority of the mission-related functions performed by their respective detachments.

(c) There were some mission-related functions performed by EOD personnel that are not specifically addressed in FM 9-14 and FM 9-15. Not all detachments performed all of these additional mission-related functions; however, at least one detachment of the five surveyed on the subject reported involvement in one of the following:



1. Fragment Analysis
2. Crater Analysis
3. Inspection of abandoned equipment for boobytraps
4. Inspection of downed aircraft for boobytraps
5. "Amnesty box" pick-up
6. Hospital pick-up of munitions taken from KIA or WIA

personnel.

b. Command and Control

(1) Policy and Regulations

(a) Joint service regulations, AR 75-14, OPNAVIST 8027.1D, AFR 136-8, and MCO 8027.1A assign explosive ordnance disposal responsibilities to the Departments of the Army, Navy, Air Force, and Marine Corps. MACV Directive 75-1 implemented the joint service regulation and prescribed policies and responsibilities for all US explosive ordnance disposal activities within RVN. USARV Supplement 1 to AR 75-15 prescribed responsibilities and procedures for explosive ordnance disposal within USARV.

(b) All detachments surveyed had on hand the appropriate regulations and directives.

(c) All detachment commanders interviewed stated that the EOD directives and regulations in effect in RVN were adequate and provided satisfactory guidance for the conduct of explosive ordnance disposal operations.

(2) Communications

(a) Communications between the MACV EOD staff office and the USARV EOD staff office were conducted by means of telephone, message, and letter.

(b) The USARV staff EOD office and the EODC detachment were collocated at Long Binh. Primary means of communication were telephone and daily personal contact.

(c) The primary means of communication between the EODC detachment and the EOD detachments was the telephone. Alternate means consisted of radio, courier, and letter.

(d) All EOD detachments were required to contact the EODC detachment at least once daily with a personnel status report. This contact was usually accomplished by telephone.

(e) The most significant communications innovation affecting US Army EOD operations was the establishment of a single RVN-wide EOD emergency radio frequency. All EOD units were responsible for monitoring this frequency at all times. All EOD detachment personnel stated that this EOD frequency provided US forces with an immediate means of requesting EOD support.

(3) Workload Priorities

The MACV EOD staff office established in-country priorities when more than one US armed service was involved. Within USARV, the EODC detachment commander established workload priorities using either MACV Directive 75-1 or professional judgement as the basis. In most instances adequate EOD personnel and equipment were available to meet mission requirements; hence, the establishment of workload priorities did not present a significant problem.

(4) On-Site EOD Teams

(a) During stability operations in RVN, separate on-site teams consisting of two EOD-qualified personnel with a noncommissioned officer in charge performed final reconnaissance, rendering-safe, and/or disposal procedures. The on-site teams were established and operated separate from their parent detachments in order to support a specific area, unit, or mission, and they were usually organized on a semipermanent basis. The on-site team concept was rated as highly successful, by all EOD detachment commanders contacted during this study, as a solution to the problem of utilizing limited assets to provide EOD support over a large area of RVN.

(b) The recommendation for establishing an on-site team usually originate with an EOD detachment commander. The EODC detachment commander then applied the following criteria in approving the establishment of a team at a particular site: Location 50 miles or more from the parent EOD unit; and an EOD incident rate of five incidents per week in the proposed area. In addition, on-site teams were sometimes established by direction of higher headquarters to support specific military operations or units.

(5) Publications

Each of the five EOD detachments surveyed maintained a complete library of EOD technical publications consisting of US Army, US Navy, US Air Force, and National Bomb Data Center documents on conventional and improvised munitions of both domestic and foreign origin. All detachment commanders indicated that the technical content of the EOD publications maintained in these libraries had been adequate to meet mission requirements and stated that they considered their publications libraries essential in maintaining proper technical control over EOD

operations. The following opinions were expressed regarding specific deficiencies, excess materials, and suggested means for improving the libraries:

(a) All detachments surveyed indicated having no requirement for the EOD guide cards (laminated cards containing EOD procedures for a particular munition);

(b) Each of the five detachments surveyed, and both EOD staff elements, expressed dissatisfaction with the actual organization of the EOD technical library;

(c) All EOD personnel interviewed expressed a need for a complete cross-indexing system to enable retrieval of all available technical data pertaining to all configurations of any given munition;

(d) Fifty seven percent of the personnel interviewed stated that the EOD technical publications were overclassified, containing a large proportion of unclassified data within classified documents;

(e) All five detachment commanders expressed a need for a joint service technical publications system in lieu of the separate service publications system;

(f) All detachment commanders stated that US Army EOD operations in RVN did not require National Bomb Data Center information.

(g) Both the commander of the EODC detachment and the USARV EOD staff officer suggested that the entire EOD technical library be put on microfiche.

(6) Training

All detachment commanders stated that due to the small number of personnel authorized, cross-training lessened the impact of losing key personnel at crucial times. They therefore considered cross training essential to EOD unit operation in RVN. Unit training and also individual instruction/orientation was conducted in each of the five EOD detachments surveyed in this study. Topics most generally included in the training schedule were the following:

(a) EOD refresher training; this consisted of a periodic review, for all assigned personnel, of the common munitions routinely encountered in each unit's area of operation.

(b) New-munition familiarization; new munitions were continually being introduced in RVN, and as new technical information was made available, formal classes were conducted to insure that all personnel were aware of the new munitions, their hazards, safety precautions, and safe disposal procedures.

(c) Radio procedures; due to the rapid turnover of personnel, units conducted frequent refresher training to insure that proper radio voice procedures were being utilized and that technical operating procedures were being followed correctly.

(d) Driver training; EOD personnel must, in many cases, respond to calls for assistance on an emergency basis; therefore, defensive driving techniques and road-net familiarization within the area of operation were stressed in all detachments.

(e) Unit orientation; new members of each unit received intensive orientation pertaining to the overall nature of the unit's area of operation (e.g., map reading, road-net familiarization, radio procedures, liaison visits to supported units, weapons training, physical security, and road and vehicle security).

(f) Maintenance and supply training; since the detachments had no organic maintenance/supply personnel, EOD technicians were cross-trained in these skills.

c. Mission Performance

(1) Customer Support

(a) During the conflict in RVN the EOD detachments provided support to various branches of the Army. Figure II-12 shows a percentage breakdown, by year, of the EOD incidents responded to, by type of unit supported (e.g., in 1968, 29 percent of the EOD incidents responded to were in support of combat units, 45 percent in support of combat support units, and 26 percent in support of combat service support units). No attempt was made in this study to analyze the meaning of these percentages; their purpose is simply to show the distribution of EOD support.

(b) Fifteen units that received EOD support on a recurring basis were surveyed. All fifteen commanders of these customer units stated that their EOD support had been timely and highly satisfactory. Many customer-unit commanders also stated that the EOD detachments had conducted an aggressive and outstanding training support program for their units (training support rendered to customer-units will be discussed in more detail in paragraph II-2c(6), below).

(2) EOD Incident Records

Due to the great number of EOD incidents responded to daily by EOD detachments in RVN, the administrative burden of completing DA Form 3265-R, EOD Incident Report (see Annex C) was more than could be accomplished effectively. To alleviate this problem, an EOD Incident

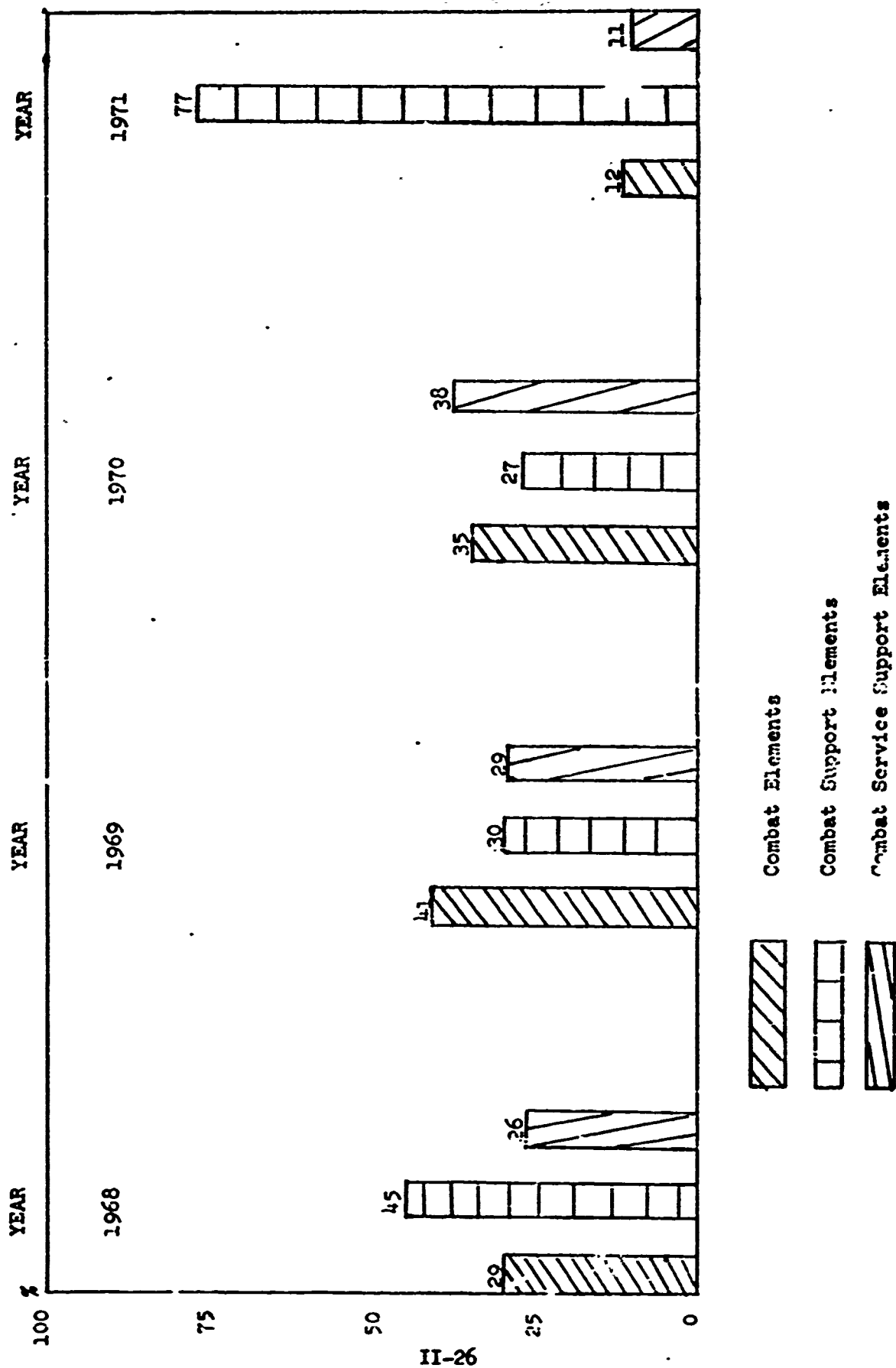


FIGURE II-12. Distribution of MOD Support, by Types of Units.

Journal, USARV Form 590 (see Annex D), was initiated in order to keep an accurate record of all routine incidents. DA Form 3265-R was then used only to record the events surrounding an extremely dangerous or unusual incident. EOD detachment commanders estimated that this action reduced their administrative workload pertaining to EOD incident records by 75 percent (an example of an "unusual incident" report is included as Annex E). The EOD detachments also summarized all monthly activities by a report to the EODC detachment, on USARPAC Form 250-R, EOD Monthly Activity/Status Report (see Annex F).

(3) EOD Incident Rates

Total EOD incidents responded to by US Army EOD detachments in RVN during the years 1969 through August 1971 are shown in Figure II-13. Total monthly EOD incidents rates for each of the eight EOD detachments operational in RVN at the beginning of this study can be found in Annex G. Total man-hours and total vehicle mileage expended in response to incidents occurring during 1970 and 1971 are shown in Figure II-14.

(4) Destruction of Ordnance

Destruction of large quantities of captured foreign ordnance and unserviceable US ordnance was accomplished by the EOD detachments in RVN. During the years 1969 through August 1971, 355 tons of foreign ordnance and 6,673 tons of unserviceable US ordnance were destroyed. EOD detachment commanders stated that, although routine destruction of captured or unserviceable US ordnance was not a specific mission of EOD, their detachments performed this service because the necessary qualified personnel were available. Many EOD detachment personnel stated the opinion that destruction of captured or unserviceable US ordnance should be an assigned EOD mission.

(5) US Embassy Support

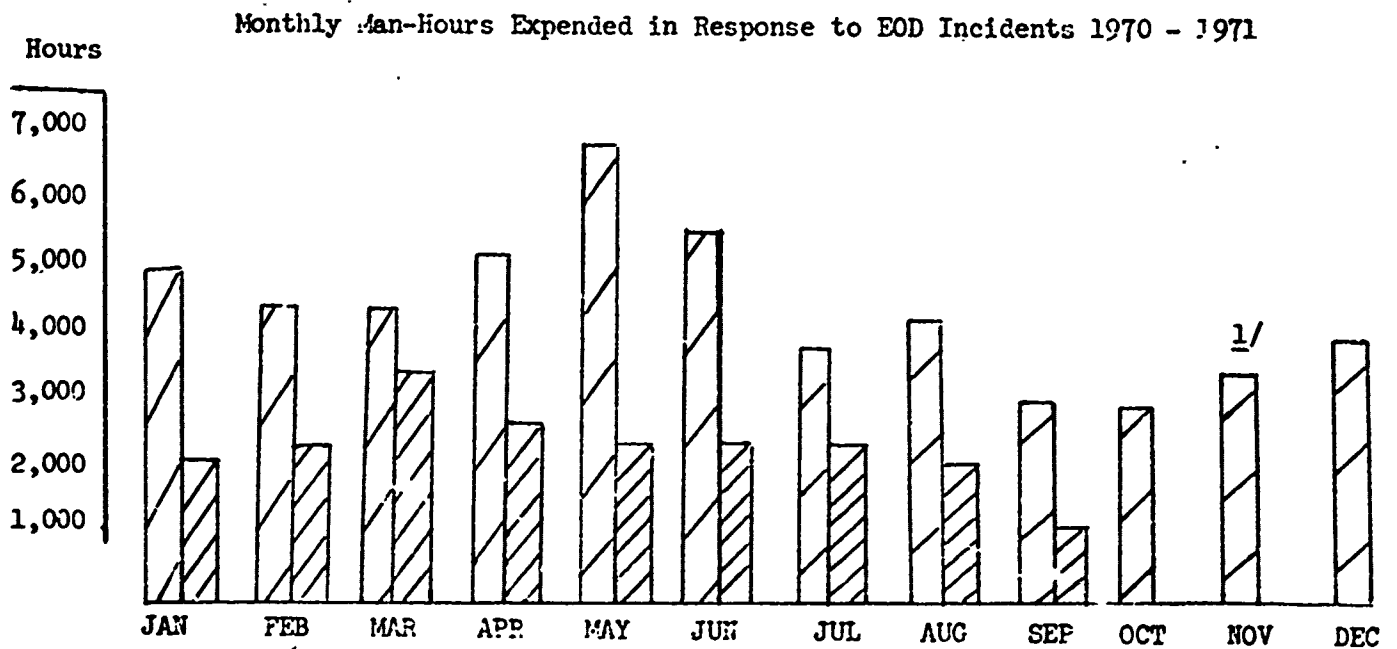
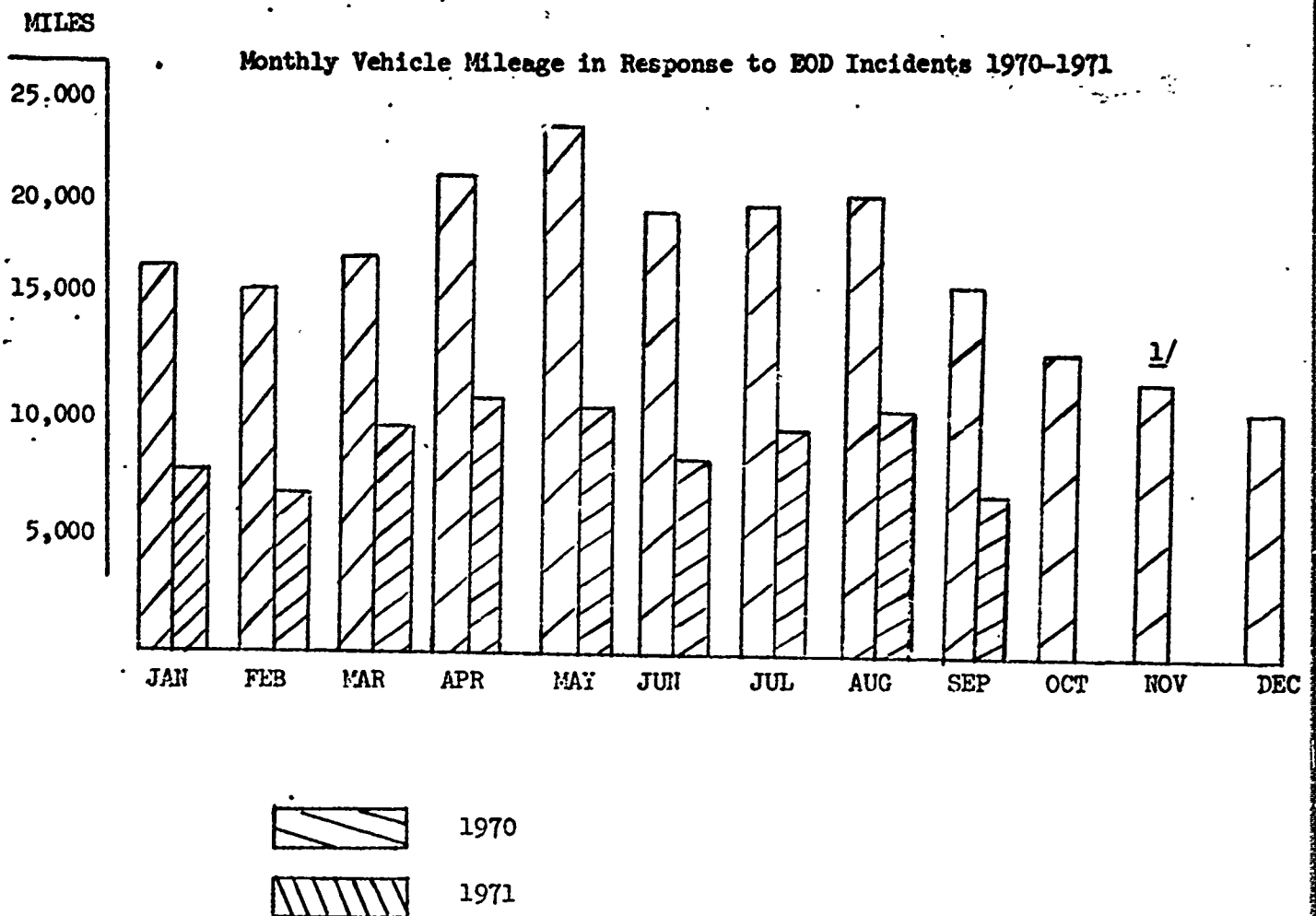
The metropolitan detachment in Saigon provided EOD support to the U.S. embassy and to the U.S. Secret Service on an as-required basis. This support consisted mainly of participation by EOD-qualified personnel in the security procedures which were put into effect when VIP's were present in RVN. Figure II-15 shows the scope of the support during the years 1969 through August, 1971.

(6) Customer Training Support

The doctrinal and assigned mission statements for the EOD detachments provided guidance and instruction for each detachment to conduct EOD-mission-related training classes for units in their respective areas of operation. Classes taught were as follows: (a) Explosive Ordnance Reconnaissance Training; (b) Explosive Safety Training; (c) Land Mine and Boobytrap Training; (d) Emergency Destruction Training. Figure II-16 outlines the numerical scope of the EOD customer training program in RVN during the years 1969 through August 1971.



FIGURE II-13. Total Monthly MOD Incidents - 1969 - 1970 - 1971.



1/ October through December 1971 not available.

FIGURE II-14. Mileage and Man-Hour Expenditure Rates 1970-1971.

YEAR	Number of EOD Missions	Man-Hour Expenditure
1969	51	1099
1970	58	1294
1971 <u>1/</u>	57	1393

1/ Through 31 August 71

FIGURE II-15. EOD Support to the US Embassy.

<u>Explosive Ordnance Reconnaissance Agent Training</u>			
<u>YEAR</u>	<u>CLASSES HELD</u>	<u>STUDENTS</u>	<u>INSTRUCTOR MAN-HOURS</u>
1969	644	44258	3564
1970	517	23455	2464
1971 <u>1/</u>	218	6310	574

<u>Explosive Safety Training</u>			
1969	130	3192	1406
1970	65	1256	485
1971 <u>1/</u>	32	612	82

<u>Land Mine and Boobytrap Training</u>			
1969	264	13088	2339
1970	98	1752	641
1971 <u>1/</u>	40	968	238

<u>Emergency Destruction Training</u>			
1969	117	5546	1204
1970	13	350	98
1971 <u>1/</u>	6	82	19

1/ Through August 1971

FIGURE II-16. EOD Customer Training Program.

d. EOD Operations Doctrine

(1) Doctrine found in FM 9-14, Explosive Ordnance Disposal Service, and FM 9-15, EOD Unit Operations, states that EOD detachments are usually deployed on a basis of one per 30,000 troops to be supported. During 1968 there were 15 EOD units (detachments and sections) operational in RVN. The number of operational EOD units and the above-mentioned basis of deployment closely approximated the US Army troop strength in RVN. Doctrine concerning the deployment of EOD detachments on a basis of one per 30,000 troops was considered valid by all EOD personnel interviewed.

(2) Doctrine found in FM 9-14 and 9-15 states that one EODC detachment has the capability to command and control from five to nine EOD detachments. In RVN during the peak period of EOD unit strength, the EODC detachment had operational control over ten EOD detachments and four EOD sections from the ammunition battalions. Many EOD personnel who had served during the peak troop-strength period of 1968 and early 1969 stated that during that time the EODC detachment had been severely pressed to supervise ten EOD detachments and four EOD sections and to exercise adequate control. The EOD unit commanders and staff officers interviewed stated that during stability operations such as those conducted in RVN, an EODC should not be expected to control more than nine units, particularly in view of the rapid turnover in personnel and the inexperience of most detachment commanders. They were all of the opinion that, when the number of EOD units in country exceeded the limit of nine set forth in doctrinal guidance, another EODC detachment, with field grade commander, should have been authorized and placed in control of the EOD units operating within MR's 1 and 2.

(3) All EOD unit commanders and staff officers interviewed stated that doctrinal publications do not provide guidance for conducting clean-up operations in the event of destruction of a large ammunition storage complex. They further stated that the lack of uniform guidance had caused each clean-up operation to be left to the ingenuity of the personnel on the scene, and that this had often exposed personnel to unnecessary hazards.

e. Findings

(1) Doctrinal missions for EOD detachments are stated in FM 9-14 and FM 9-15 [II-2a(1); p. II-18].

(2) Assigned missions for each EOD detachment in RVN were stated by the MTOE that organized each separate detachment [II-2a(2); p. II-19].

(3) EOD detachments were designated "metropolitan" or "tactical" according to their location and mission [II-2a(2)(c) and (d); p. II-20].

(4) EOD personnel in RVN considered the doctrinal and assigned missions for EOD units to be adequately stated [II-2a(2)(e); p. II-21].

(5) EOD detachments performed some mission-related functions not specifically mentioned in FM 9-14 or FM 9-15 [II-2a(4)(c); p. II-21].

(6) MACV and USARV had implemented Department of The Army policy through appropriate directives and regulations pertaining to EOD operations [II-2b(1)(a); p. II-22].

(7) A single EOD emergency radio frequency was used throughout RVN [II-2b(2)(e); p. II-23].

(8) The EOD detachments established on-site teams that operated remote from the parent detachment [II-2b(4)(a); p. II-23].

(9) The criteria for the establishment of an on-site team were an EOD-incident rate of five incidents per week and the proposed location of the on-site team being at least 50 miles from the parent unit [II-2b(4)(b); p. II-23].

(10) All EOD personnel interviewed expressed dissatisfaction with the indexing method used in the EOD publications systems [II-2b(5)(c); p. II-24].

(11) EOD detachment commanders stated that crosstraining of personnel lessened the impact of losing key personnel from their small authorized strengths [II-2b(6); p. II-24].

(12) Individual and unit training was conducted in each of the five EOD detachments surveyed during this study [II-2b(6); p. II-24].

(13) All customer unit commanders interviewed stated that they had received adequate and timely EOD support from their supporting EOD detachment [II-2c(1)(b); p. II-25].

(14) EOD detachments conducted EOD-related training for customer units in their areas of operation [II-2c(1)(b); p. II-25].

(15) Doctrine found in FM 9-14 and FM 9-15 states that EOD detachments should be deployed on a basis of one detachment per every 30,000 troops to be supported [II-2d(1); p. II-31].

(16) All EOD personnel interviewed concerning the deployment of one EOD detachment per 30,000 troops considered that doctrine valid [II-2d(1); p. II-31].

(17) Doctrine found in FM 9-14 and FM 9-15 states that one EODC detachment can supervise and control from 5 to 9 EOD detachments [II-2d(2); p. II-31].

(18) EOD unit commanders and staff officers stated that, during stability operations such as those being conducted in RVN, no one EODC detachment should be expected to control more than nine EOD units [II-2d(2); p. II-31].

(19) EOD unit commanders and staff officers stated that, when the number of EOD units in-country exceeded the limit of nine set forth by doctrinal guidance, one additional EODC detachment, with field grade commander, should have been authorized to control the EOD units in MR's 1 and 2 [II-2d(2); p. II-31].

(20) EOD unit commanders and staff officers stated that doctrinal publications do not provide guidance for conducting clean-up operations in the event of destruction of a large ammunition storage complex [II-2d(3); p. II-31].

3. OBJECTIVE 3 - SUPPORT

a. EOD Detachment Support Requirements

(1) Administrative and Logistical

(a) The EOD detachments in RVN were attached to larger units for administrative and logistical support. Figures II-17, II-18, II-19, II-20 and II-21 show the operational, administrative, and logistical relationships of each EOD detachment surveyed on-site for this study.

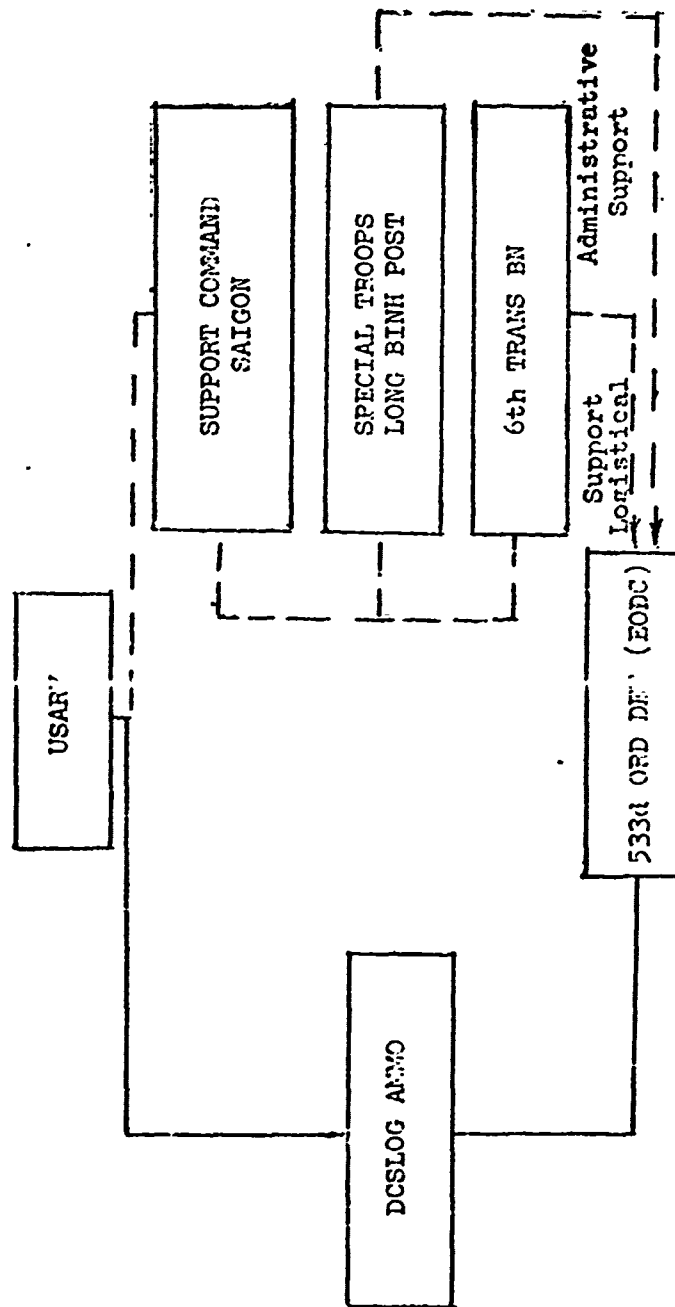
(b) All attachments to larger units for support were directed by general order and were closely monitored by the USARV EOD staff officer.

(c) All five EOD unit commanders who were interviewed regarding the administrative and logistical support provided their units indicated that it was adequate except in the area of personnel records management. Numerous delays in the receipt of permanent-change-of-station orders, promotion orders, and awards and decorations were cited as examples of inadequate support in the personnel area.

(d) During the period of this study, the USARV EOD staff officer and the commander of the EODC detachment instituted action to have all personnel records management for all EOD detachments in RVN centralized and located at the personnel service company servicing the EODC detachment. This action allowed close supervision, by the EODC detachment commander, of all EOD personnel action and provided substantial improvement in this area.

(2) Mission Support

(a) Mission support as defined in FM 9-15 (e.g., military police, engineer, aviation, medical, technical intelligence) to EOD



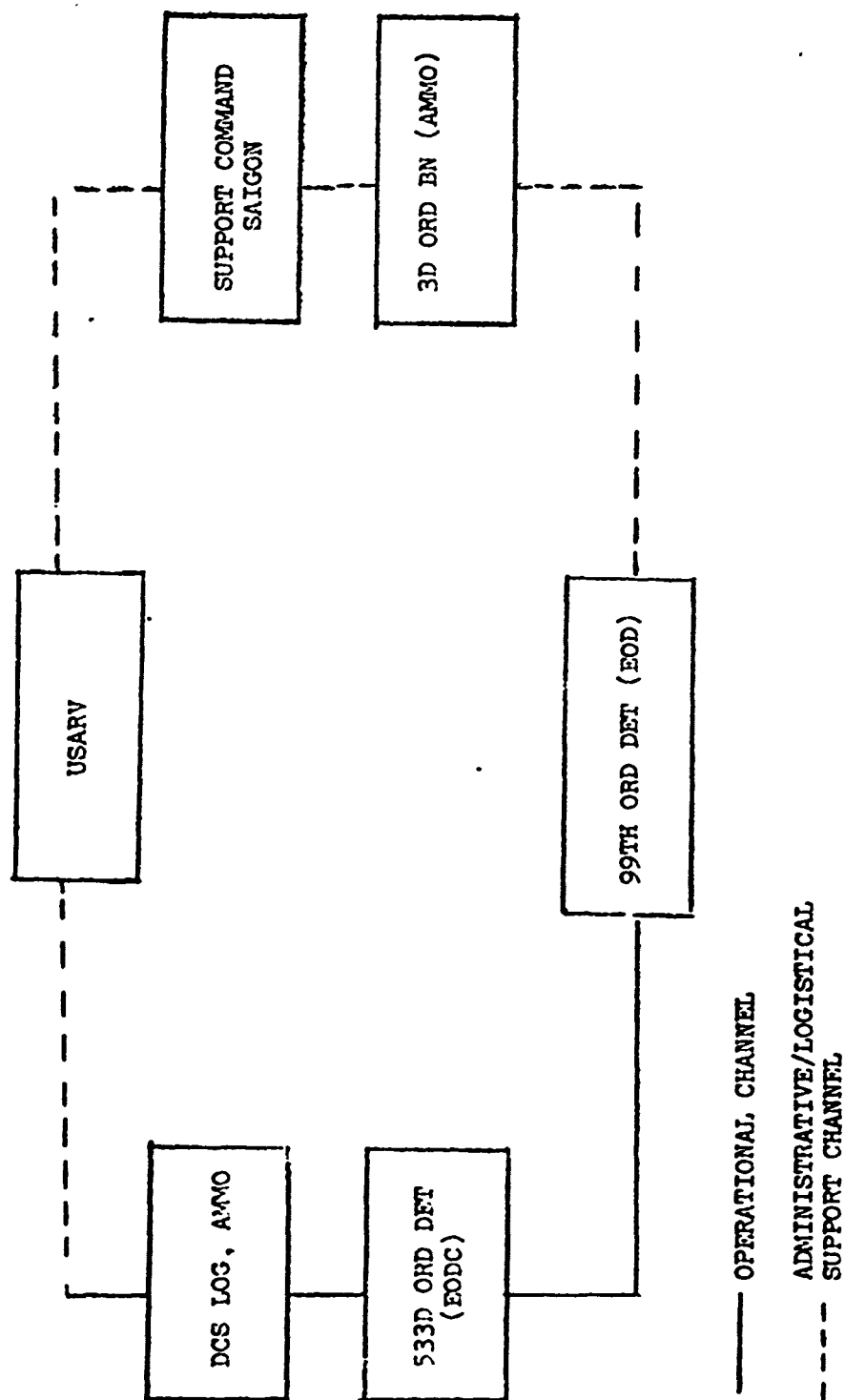
II-34

_____: OPERATIONAL CHANNEL

-----: ADMINISTRATIVE/LOGISTICAL CHANNEL

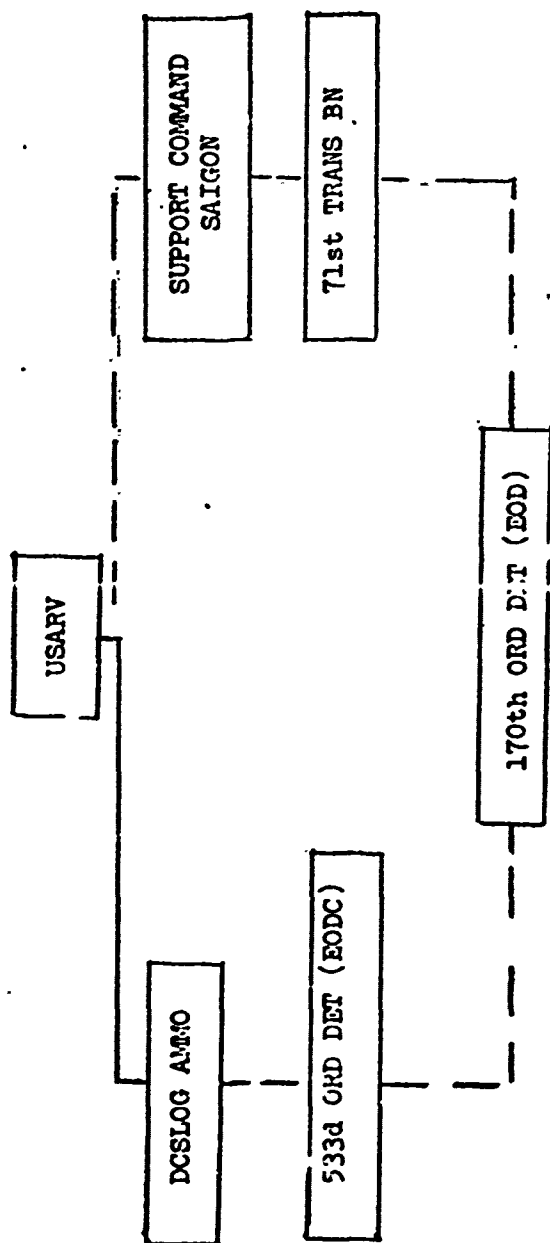
GO 1264, HQ USARV, 19 May 70

FIGURE II-17. 533d EODC Detachment Support Channel.



GO 488, HQ, Saigon Sup Com, 14 May 71

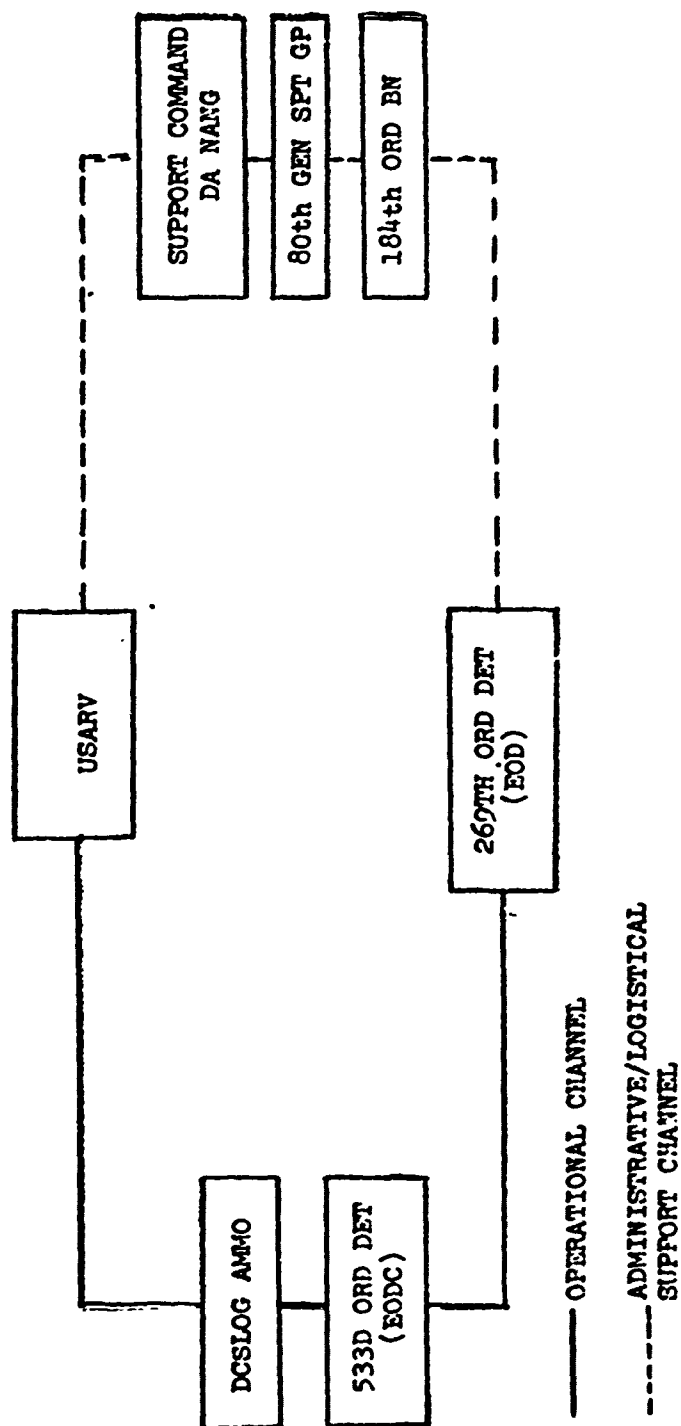
FIGURE II-18. 99th BOD Detachment Support Channel.



_____ : OPERATIONAL CHANNEL

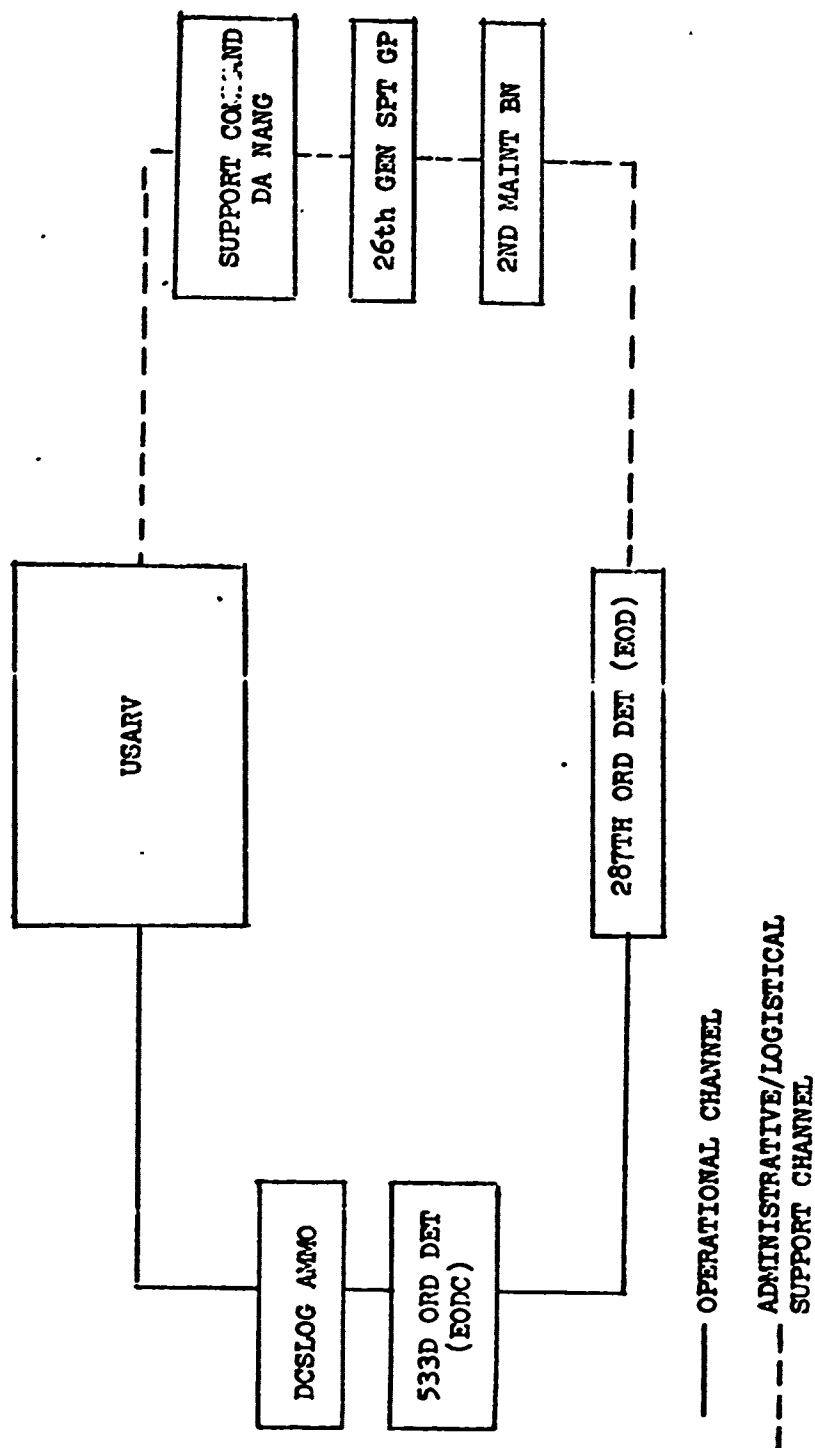
----- : ADMINISTRATIVE/LOGISTICAL CHANNEL -- GO 67, HQ SAIGON SUP COM, Jun 69

FIGURE II-19 170th EOD Detachment Support Channel.



GO 447 HQ, Da Nang Support Command, 4 Aug 71

FIGURE II-20. 269th EOD Detachment Support Channel.



GO 182, HQ US Army Support Command, Da Nang, APO 96349,
dated 28 June 1970.

FIGURE II-21. 287th EOD Detachment Support Channel.

detachments was stated to be adequate by all EOD detachment commanders interviewed.

(b) Four out of five detachment commanders stated that the majority of their EOD missions in RVN was accomplished without a requirement for mission support from other service units.

(c) Transportation to an EOD incident by air was stated to be the most common mission support service required from other units. For example, during the period 1 January 1970 through 31 August 1971, a total of 2,274 hours were expended by EOD personnel in flight time to and from EOD incidents. Timely return from the EOD incident site was stated to be the most deficient area in mission support. An incident report attached as Annex II depicts this inadequacy. All five EOD detachments surveyed confirmed that return air travel from an incident was a major problem because each detachment was authorized limited personnel assets and a two- or three-man team stranded at a remote site for lack of transportation resulted in a reduction of up to 30 percent of the unit's capability to respond to new incidents.

b. Findings

(1) EOD detachments were attached, by general order, to larger units for administrative and logistical support [II-3a(1)(a),(b); p. II-33].

(2) All EOD unit commanders interviewed stated that the administrative and logistical support provided their units was adequate except in the area of personnel records management [II-3a(1)(c); p. II-33].

(3) Personnel records of all EOD detachment personnel in RVN have been centralized and are monitored by the EODC detachment commander [II-3a(1)(d); p. II-33].

(4) Mission support as defined in FI 9-15 was considered adequate by all EOD detachment commanders interviewed [II-3a(2)(a); p. II-33].

(5) Four out of the five EOD detachment commanders interviewed stated that the majority of their EOD missions in RVN were accomplished without a requirement for mission support from other service units [II-3a(2)(b); p. II-39].

(6) Transportation by aircraft to the site of an EOD incident was the most common mission support requirement [II-3a(2)(c); p. II-39].

(7) Timely return from the site of an EOD incident was a deficient area of mission support [II-3a(2)(c); p. II-39].

SECTION III

CONCLUSIONS AND RECOMMENDATIONS

1. CONCLUSIONS

Based upon the findings in this report, it is concluded that:

- a. The EOD-mission-oriented detachment organization is a valid support concept.
- b. The Shop Set, Ammunition and Explosive Ordnance Disposal, FSN 1385-378-4354, contains many components that are not utilized during EOD operations.
- c. The doctrinal missions statement found in EOD field manuals and the assigned mission statements found in each MTOE adequately covered EOD detachment operations in RVN.
- d. The munition item indexing method utilized in the EOD technical reference library is inadequate.
- e. EOD support to US Army operations in RVN was adequate.
- f. Doctrine does not provide adequate guidance for EOD detachments who may be involved in clean-up operations after the destruction of a large ammunition depot.
- g. Administrative and logistical support received by the EOD detachments in RVN was adequate, except in the area of personnel records management.
- h. Mission support received by the EOD detachments in RVN was adequate.

2. RECOMMENDATIONS

It is recommended that:

- a. All components of Shop Set, Ammunition and Explosive Ordnance Disposal, FSN 1385-378-4354, be reviewed for justification for retention.
- b. The EOD technical publications library indexing and cross-reference system be reviewed and reorganized as appropriate.
- c. Doctrine pertaining to clean-up operations after an ammunition storage depot disaster be reviewed (or developed, as appropriate) and included in either EOD or ammunition-service doctrinal publications.

ANNEX A

BIBLIOGRAPHY

- | | |
|-------------------------------------|---|
| 1. Army Regulation
75-14 | Responsibilities for Explosive Ordnance Disposal. |
| 2. Field Manual 9-14 | EOD Service. |
| 3. Field Manual 9-15 | EOD Unit Operations. |
| 4. Supply Catalog
1385-94-CL-P01 | Ammunition and EOD. |
| 5. TOE 9-520G | Explosive Ordnance Detachments. |

ANNEX B

GLOSSARY

1. Administrative Control - Direction or exercise of authority over subordinate or other organizations in respect to administrative matters; i.e., personnel management, supply, services, and other matters not included in the operational missions of the subordinate or other organizations.
2. Combat Service Support - The assistance provided operating forces primarily in the fields of administrative services, chaplain service, civil affairs, finance, legal service, maintenance, medical service, supply, transportation, and other logistical services.
3. Combat Support - Operational assistance furnished combat elements (infantry, artillery, armor) by other designated units.
4. Command and Control - An arrangement of personnel, facilities, and the means for information acquisition, processing, and dissemination, employed by a commander in planning, directing and controlling operations.
5. Doctrine - Fundamental principle by which the military forces, or elements thereof, guide their actions in support of national objectives. It is authoritative but requires judgement in application.
6. Explosive Ordnance - Bombs and warheads; guided and ballistic missiles; artillery, mortar, rocket, and small arms ammunition; all mines, torpedoes and depth charges; demolition charges; pyrotechnics; clusters and dispensers; cartridge and propellant-actuated devices; electro-explosive devices; clandestine and improvised explosive devices and all similar or related items or components which are explosive items combined with fusionable or radioactive materials, fusion fuel, and chemical/biological agents.
7. Explosive Ordnance Disposal Incident - The suspected or detected presence of unexploded or damaged explosive ordnance which constitutes a hazard to operations, installations, personnel or materiel.
8. Operational Control - The authority granted to a commander (1) to direct forces assigned, so that the commander may accomplish specific missions or tasks, usually limited by function, time, or location; (2) to deploy units concerned and to retain or assign tactical control of those units. It does not include authority to assign separate employment of components of the units concerned. Neither does it, of itself, include administrative or logistical control.

9. Stability Operations - That type of internal defense and internal development operations and assistance provided by the Armed Forces in order to maintain, to restore or to establish a climate of order within which responsible government can function effectively, and without which progress cannot be achieved.

ANNEX C

EXPLOSIVE ORDNANCE INCIDENT REPORT

For use of this form, see FM 9-15 and 9-16; the proponent agency is U.S. Continental Army Command.

1. UNIT
NUMBER2. CONTROL
NUMBER3. UNUSUAL ☐4. ROUTINE ☐**SECTION A: INITIAL INFORMATION**

5. DATE/TIME REPORTED

9. INCIDENT LOCATION

11. ITEM(S) REPORTED

6. REPORTED BY

7. PHONE NUMBER

10. WHO TO CONTACT

8. ADDRESS

SECTION B: ACTION BY EOD

12. PERSONNEL DISPATCHED

13. DATE/TIME

14. TRAVEL DATA

15. MAN-HOURS

A. DPRT

A. AIR-FLYING TIME

A. TRAVEL

B. ARR

B. VEH-MILEAGE

B. INCIDENT

C. COMPL

16. CONFIRMED IDENTIFICATION

17. DISPOSITION

18. INCIDENT NARRATIVE (INCLUDE ALL SIGNIFICANT DETAILS AND PROBLEMS)

19.

AUTHENTICATION

A. TYPED NAME, GRADE OF UNIT COMMANDER

B. TELEPHONE NO.

C. DATE

Page 33 of 34

[illegible]

USARV Form 590 28 Apr 70

ANNEX E

EXPLOSIVE ORDNANCE INCIDENT REPORT For use of this form, see FM 9-15 and 9-16; the proponent agency is U.S. Continental Army Command.		1. UNIT NUMBER	2. CONTROL NUMBER 133-1186-70	3. UNUSUAL <input checked="" type="checkbox"/>	4. ROUTINE <input type="checkbox"/>
SECTION A: INITIAL INFORMATION					
5. DATE/TIME REPORTED 07 1030 June 70	9. INCIDENT LOCATION 91st Evac Hosp		11. ITEM(S) REPORTED Dud 40mm in arm of ARVN		
6. REPORTED BY CPT Thompson	10. WHO TO CONTACT CPT Thompson				
7. PHONE NUMBER					
8. ADDRESS 91st Hosp					
SECTION B: ACTION BY EOD					
12. PERSONNEL DISPATCHED CPT Pedley SSG Kent	13. DATE/TIME		14. TRAVEL DATA	15. MAN-HOURS	
	A. DEPT 1035		A. AIR-FLYING TIME	A. TRAVEL	
	B. ARR 1040		B. VEH-MILEAGE	B. INCIDENT	
		C. COMPL 1210	4	3	
16. CONFIRMED IDENTIFICATION 1 ea ctq 40mm HE(B568) in patients right arm.			17. DISPOSITION Removed, taken to a safe area and destroyed.		
18. INCIDENT NARRATIVE (INCLUDE ALL SIGNIFICANT DETAILS AND PROBLEMS) MSG Gaddy received a call for EOD assistance from the 23rd Med Det, LZ Bronco at 1030 hours, 7 June 1970. A high explosive 40mm grenade penetrated the right arm above the elbow of an ARVN. MSG Gaddy instructed the MED EVAC personnel to secure the ARVN's arm and to place flak jackets over his arm and body. MSG Gaddy notified the 91st Evacuation hospital and requested an area outside the hospital be prepared for the removal of the dud 40mm grenade. CPT Pedley and SSG Kent departed for the 91st Evac Hosp at 1035 hours. The surgeon and nurses were briefed on the operation of the 40mm grenade and were requested to wear flak jackets during the operation. At this time two retaining walls were constructed with sand bags. The distance the grenade had traveled before impact was unknown. Upon arrival of the ARVN at 1100 hours the wound was inspected to determine the location of the grenade. After probing with a needle the grenade was located approximately ninety degrees to the ARVN's left and three inches above the hole of entry. The surgeon made a two inch incision on the right side of the wound to permit removal of the grenade. After the grenade was visible the EOD team removed the grenade to a safe area and destroyed it. The EOD team returned to the CP at 1210 hours.					
19. AUTHENTICATION					
A. TYPED NAME, GRADE OF UNIT COMMANDER S/ William R. Pedley, CPT ORDG CMDG			B. TELEPHONE NO.	C. DATE 8 Jun 70	

EGO MONTHLY ACTIVITY/STATUS REPORT (USARPAC Suppl 2 to AF 75-15)						PERIOD COVERED		REPORTS CONTROL SYMBOL PSU 196			
TO		FROM		DATE							
1. INCIDENTS COMPLETED:		# INVOLVING EXPLOSIVES		# INVOLVING IED'S W/EXPLO		# INVOLVING IED'S W/O EXPLO		TOTAL MAN-HOURS EXPEND		TOTAL VEHICLE MILEAGE	
2. EGO TRAINING SPT:		ECR COURSES		EXPLOSIVE SAFETY CLASSES		LAND MINE & BOOBY TRAP COURSES		EMERGENCY DESTRUCTION COURSES		DISPLAYS	
NO CONDUCTED											
NO PERS TRAINED OR ATTENDING											
MANHOURS EXPENDED											
3. MISC EGO SPT ACTIVITIES:		SECRET SVC SUPPORT		VIP SPT		NAICP SBY & EXER		CBAICP SBY & EXER		DISPOSAL OF	
NUMBER										RANGE CLEARANCE	
MANHOURS EXPENDED											
MILEAGE											
4. NUMBER OF HAZARDOUS ITEMS RECOVERED OR DESTROYED ON INCIDENTS:											
SMALL ARMS				EXPLO BOMBS, SHELLS, ETC.				BULK EXPLOSIVE ITEMS			
NUMBER		TONS		NUMBER		TONS		NUMBER		TONS	
A. U.S.											
D. FOREIGN											
C. TOTAL											
5. NUMBER OF HAZARDOUS ITEMS DESTROYED AUTHORIZED BY ACR'S OR LETTER OF AUTHORITY:											
SMALL ARMS				EXPLO BOMBS, SHELLS, ETC.				BULK EXPLOSIVE ITEMS			
NUMBER		TONS		NUMBER		TONS		NUMBER		TONS	
A. U.S.											
D. FOREIGN											
C. TOTAL											
LIAISON VISITS:				U.S. MILITARY				FOREIGN MILITARY			
A. NUMBER										TOTAL	
D. MANHOURS EXPENDED											
C. VILLAGE											

DET.	YEAR	MONTH												TOTAL
		J	F	M	A	M	J	J	A	S	O	N	D	
25th	1969	73	64	142	78	133	186	181	140	153	158	271	131	1674
	1970	250	242	267	337	263	220	142	130	150	164	130	104	2399
	1971	157	139	132	172	172	115	100	93	87	*	*	*	1167
44th	1969	235	282	403	213	202	140	191	166	113	116	112	205	2383
	1970	129	131	159	157	128	93	57	56	28	45	34	3	1020
	1971	0	87	52	66	65	55	65	84	*	*	*	*	474
59th	1969	81	100	136	83	101	103	85	128	60	68	76	80	1101
	1970	79	109	91	116	91	103	101	140	70	48	68	88	1104
	1971	80	187	207	148	108	134	124	70	*	*	*	*	1058
99th	1969	160	180	107	109	160	157	131	135	192	150	154	201	1836
	1970	180	174	183	179	245	179	169	121	158	158	152	133	2031
	1971	114	98	135	109	93	94	108	133	*	*	*	*	884
133d	1969	164	184	165	151	203	212	191	208	224	163	201	244	2347
	1970	203	161	204	286	283	194	176	172	104	90	87	70	2030
	1971	117	127	147	128	99	93	74	60	*	*	*	*	845
170th	1969	157	229	180	159	207	147	125	143	129	125	100	134	1835
	1970	119	178	195	147	133	123	97	117	97	83	99	161	1508
	1971	155	110	147	105	140	138	87	110	*	*	*	*	996
269th	1969	100	153	113	172	131	122	72	145	78	88	79	52	1305
	1970	116	81	97	65	89	56	69	44	66	60	48	62	855
	1971	60	52	92	71	86	65	106	97	*	*	*	*	629
287th	1969	190	200	184	222	186	205	163	218	139	135	121	181	1944
	1970	163	201	225	211	285	230	225	235	155	128	142	112	2314
	1971	137	127	173	194	168	125	87	96	*	*	*	*	1107

* Not available

Monthly Incident Rate, By Unit 1969, 1970, 1971.

ANNEX H

EXPLOSIVE ORDNANCE INCIDENT REPORT

For use of this form, see FM 9-15 and 9-16; the proponent agency is U.S. Continental Army Command.

1. UNIT
NUMBER

3-400-70

2. CONTROL
NUMBER3. UNUSUAL ☒4. ROUTINE ☐**SECTION A: INITIAL INFORMATION:**

5. DATE/TIME REPORTED

220100 MAR 70

9. INCIDENT LOCATION:

FSB MACE

11. ITEM(S) REPORTED

Explosion in 4.2 Mortar Area

6. REPORTED BY

SGT Wilkins

7. PHONE NUMBER

10. WHO TO CONTACT

8. ADDRESS

HCOIC Red Dog Tower

SECTION B: ACTION BY EOD

12. PERSONNEL DISPATCHED:

SFC Ogden

SP5 Malkiewieg

13. DATE/TIME

A. DEPT 0600

B. ARR 0745

C. COMPL 1830

14. TRAVEL DATA

A. AIR-FLYING TIME

3 hrs

B. VEH-MILEAGE

8 miles

15. MAN-HOURS

A. TRAVEL

7

B. INCIDENT

25

16. CONFIRMED IDENTIFICATION

Fragment analysis only - Tentative ID M67 Hand Grenade. No Explosive hazard.

17. DISPOSITION

N/A

18. INCIDENT NARRATIVE (INCLUDE ALL SIGNIFICANT DETAILS AND PROBLEMS)

Incident was reported to this unit at 0100 hours as an explosion in an area storing 4.2" mortar rounds. EOD Team departed unit for 199th Inf Bde Helicopter pad at 0600 hours, departed pad at 0705 hours and arrived at FSB Mace at 0745 hours.

Upon arrival the EOD Team was briefed by Maj Mooney as to reason for request for EOD assistance. The evening before one US soldier had been killed by an explosion in a bunker. The Major requested that EOD attempt to identify the cause of the explosion in cooperation with the CI personnel on the scene. Recovered fragments indicated that the cause of the explosion was probably an M67 type hand grenade. No safety pin or safety lever were located near the incident site. The EOD Team were finished with their procedures at 0830 hours. At this point it was learned that the unit being supported was unable (or unwilling) to provide return transportation for the EOD Team. At 1730 hours the EOD Team managed to obtain a ride on a helicopter operated by the 25th Division. Team arrived at unit at 1830 hours.

It should be noted that the EOD Team expended on 7 man hours on EOD procedures and travel time and 18 man hours of wasted time attempting to obtain transportation. Recommended that some command policy be implemented to reduce the all too frequent occurrence of the above situation since EOD support is spread too thinly to loose this many man hours of unproductive time.

19.

AUTHENTICATION

A. TYPED NAME, GRADE OF UNIT COMMANDER

S/ Terry M. Weekly, Capt ORDC

B. TELEPHONE NO.

N/A

C. DATE

22 Mar 70