UNCLASSIFIED

[redacted]

HQ USAREUR & 7th Army

AFTER ACTION REPORT for REFORGER 76 (U)

UNCLASSIFIED

REGRADED BY AUTHORITY OF DOD DIR 5200.10R BY RAKERS ON 7 DEC 84

CLASSIFIED BY DSOPS USAREUR
SUBJECT TO GENERAL DECLASSIFICATION SCHEDULE OF EXECUTIVE ORDER 11652
AUTOMATICALLY DOWNGRADED AT TWO YEAR INTERVALS
DECLASSIFIED ON 31 DECEMBER 1982

This information is furnished with the understanding that it will not be disclosed to any non-NATO nation without the consent of the United States; that it will not be used for other than military purposes; and that the information will be accorded substantially the same degree of security protection as such information has in the United States. This information will be disclosed only on a need-to-know basis under applicable NATO CONFIDENTIAL paper and will not be further disclosed without the specific approval of the United States.

Volume III

PART 1

[redacted]

[redacted]

UNCLASSIFIED

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY, EUROPE and SEVENTH ARMY
APO 09403

AEAGC-E

25 March 1977

SUBJECT: USAREUR After Action Report for Exercise REFORGER 76 (Vol III) (U)

SEE DISTRIBUTION

Inclosure 1 is Volume III, Part 1 (of four parts), of the USAREUR and Seventh Army After Action Report for Exercise REFORGER 76 (U)(clas).

FOR THE COMMANDER IN CHIEF:

W. H. Smith
W. H. SMITH
MAJ, AGC
Asst AG

1 Incl
as (clas)

Telephone: Clas inquiries: 490-0123
ext 6733; unclas inquiries
HBG Mil (2121-8812/7755).

DISTRIBUTION: Special (See incl 12, vol I, Executive Summary.)

This information is furnished with the understanding that it will not be disclosed to any non-NATO nation without the consent of the United States; that it will not be used for other than military purposes; and that the information will be accorded substantially the same degree of security protection as such information has in the United States.

This information will be disclosed only on a need-to-know basis under applicable NATO regulations as a NATO CONFIDENTIAL paper and will not be further disclosed without the specific approval of the United States.

This letter is regraded UNCLASSIFIED when separated from classified inclosures.

UNCLASSIFIED

[redacted]

HEADQUARTERS
UNITED STATES ARMY, EUROPE
AND SEVENTH ARMY
APO 09403

TITLE PAGE

1. The title of this document is: Volume III USAREUR and Seventh Army After Action Report for Exercise REFORGER 76, Part 1 (U). The USAREUR After Action Report is contained in three volumes and distributed in accordance with Incl 12 to Volume I. The three volumes are listed below:

a. Vol I: Executive Summary - Provides a summary of the exercise to include significant problem areas.

b. Vol II: USAREUR Staff After Action Reports/Areas of Special Interest - Compilation of USAREUR Staff After Action Reports intended for internal use by HQ USAREUR (HQ USAREUR distribution only).

c. Vol III: Subordinate/CONUS REFORGER Unit Command After Action Reports - Compilation of CONUS and USAREUR Unit REFORGER 76 After Action Report (HQ USAREUR Staff and selected command distribution). This volume, due to bulk, is published in four parts as indicated in Table of Contents.

2. This is a CONFIDENTIAL Document. It will be handled, stored and transmitted in accordance with applicable regulations.

3. The title of this document is UNCLASSIFIED.

4. This information is furnished with the understanding that it will not be disclosed to any non-NATO nation without the consent of the United States; that it will not be used for other than Military purposes; that the information will be accorded substantially the same degree of security as such information has in the United States. This information will be disclosed only on a need-to-know basis under applicable NATO regulations as a NATO CONFIDENTIAL paper and will not be further disclosed without the specific approval of the United States.

HEADQUARTERS
UNITED STATES ARMY, EUROPE
AND SEVENTH ARMY
APO 09403

REFORGER 76 AFTER ACTION REPORT (VOL III)

TABLE OF CONTENTS

VOL III: Subordinate/CONUS REFORGER Unit Command After Action Reports.

[redacted]

DEPARTMENT OF THE ARMY
HEADQUARTERS V CORPS
APO 09079

UNCLASSIFIED

AETVGC-E

22 NOV 1976

SUBJECT: REFORGER 76 V Corps Final After Action Report (U)

SEE DISTRIBUTION

Inclosure 1 is Part b, Volume I, the V Corps Final After Action Report for Exercise REFORGER 76 (U) (Clas).

FOR THE COMMANDER:

1 Incl
as (clas)

JAMES L. WIDNER
CPT, AGC
Asst AG

Telephone: Clas inquiries:
444 ext 4110
unclas inquiries:
FM (2311-)6441/7302

DISTRIBUTION: Special (See incl 36, Part b, Vol I)

This information is furnished with the understanding that it will not be disclosed to any non-NATO nation without the consent of the United States; that it will not be used for other than military purposes; and that the information will be accorded substantially the same degree of security protection as such information has in the United States.

This information will be disclosed only on a need-to-know basis under applicable NATO regulations as a NATO CONFIDENTIAL paper and will not be further disclosed without the specific approval of the United States.

This letter is regraded UNCLASSIFIED when separated from classified inclosures.

TAB A

Classified by: DSOPS USAREUR
Subject to General Declassification Schedule of Order 11652
Declassify on: 31 DEC 82

UNCLASSIFIED

[redacted]

HEADQUARTERS
V CORPS
APO 09079
20 OCT 1976

TITLE PAGE

1. The title of this Document is: REFORGER 76 V Corps Final After Action Report (U). This report is a portion of Volume I of 3 Volumes, and is distributed in accordance with Incl 36 to Part b, Volume I. The three volumes are as shown below:

a. VOLUME I — Consists of Part a: The V Corps Interim After Action Report or Initial Impression Report, which was previously submitted. This is a summary of tactical observations compiled from corresponding subordinate unit and staff section reports, and was submitted in short narrative form to HQ USAREUR, immediately after the end-of-exercise critque was completed.

Part b: The V Corps Final After Action Report. This document is a comprehensive summary of exercise matters compiled from staff section and subordinate unit reports and is submitted to HQ USAREUR herewith. (Maximum Distribution).

b. VOLUME II — Consists of detailed annexes to the V Corps Final After Action Report, the latter portion of which are mainly for internal use. These annexes are divided into three groups: Corps general purpose data; Internal after action reports of V Corps staff sections (for internal use only): and Reports of Special purpose REFORGER 76 organizations, such as the Umpires or the Joint Visitors Bureau. (V Corps Staff Distribution).

c. VOLUME III — Consist of Final After Action Reports of subordinate commands, CONUS REFORGER units, and other units invited to submit a report. (V Corps Staff and Selected Command Distribution).

2. This is a CONFIDENTIAL Document. It will be handled, stored and transmitted in accordance with applicable regulations.

3. The title of this document is UNCLASSIFIED.

4. This information is furnished with the understanding that it will not be disclosed to any non-NATO nation without the consent of the United States; that it will not be used for other than military purposes; and that the information will be accorded substantially the same degree of security protection as such information has in the United States. This information will be disclosed only on a need-to-know basis under applicable NATO regulations as a NATO CONFIDENTIAL paper and will not be further disclosed without the specific approval of the United States.

TAB A

HEADQUARTERS
V CORPS
APO 09079
20 OCT 1976

REFORGER 76 V CORPS FINAL AFTER ACTION REPORT (U) (Vol I, Part b)

TABLE OF CONTENTS

1. VOLUME I: Part a. The V Corps REFORGER Interim After Action Report or Initial Impression Report, which constitutes part a of Volume I of V Corps Reports, was previously submitted to HQ USAREUR.

2. VOLUME I: Part b. The REFORGER 76 V Corps Final After Action Report and Inclosures. The first twelve inclosures below are for general information. They contain details of the nine paragraphs of the basic report plus information on three other matters: Planning Milestones, coordination procedures, and interoperability. All other inclosures, except for Distribution (Incl 36), consist of the final summary paragraph (Par 9) of the detailed after action reports of Corps staff sections and special purpose REFORGER organizations. The detailed reports are in Volume II.

BASIC V CORPS FINAL AFTER ACTION REPORT

TAB A

UNCLASSIFIED

3. VOLUME II: Detailed Final After Action Reports of V Corps staff and Special Purpose REFORGER organizations. VOLUME II reports are designated by annex letters a through aj, as listed in paragraph 2 above. VOLUME II Reports are on file in the G3 Exercise Division, HQ V Corps.

4. VOLUME III: Subordinate Commands, CONUS REFORGER Unit Commands, and other Units invited to submit a report. VOLUME III Reports are on file in the G3 Exercise Division, HQ V Corps.

a. 3d Armored Division.

b. 8th Infantry Division.

c. 101st Airborne Division (AASLT).

d. V Corps Artillery (41st and 42d Field Artillery Groups).

e. 11th Armored Cavalry Regiment.

f. 13th (GE) Panzer Grenadier Brigade (Invited to Submit a Report).

g. 130th Engineer Brigade.

h. 3d Support Command.

i. 11th Aviation Battalion.

j. 32d Signal Battalion.

k. 709th MP Battalion.

TAB A

DEPARTMENT OF THE ARMY
HEADQUARTERS V CORPS
APO 09079

AETVGC-E 20 October 1976

SUBJECT: REFORGER 76 V Corps Final After Action Report (U)
(Volume I, Part b, Final After Action Report)

SEE DISTRIBUTION

1. (U) REFERENCES. (See Inclosure 1 for details.)

a. USAREUR and Seventh Army OPORD 6-76 for Exercise CERTAIN FORCE/ REFORGER 76, CONFIDENTIAL, dated 30 June 1976.

b. V Corps Circular 350-8 V Corps Field Exercise Umpiring Directive, UNCLASSIFIED, dated 1 August 1976.

c. V Corps Circular 350-23 for FTX GORDIAN SHIELD, CONFIDENTIAL, dated 1 July 1976, with Changes 1 through 4.

d. V Corps Letter of Instruction CERTAIN FORCE/REFORGER 76 for implementation of exercises other than GORDIAN SHIELD, CONFIDENTIAL, dated 12 August 1976.

2. (C) MISSIONS. (See Inclosure 2 for details.)

a. Plan and conduct V Corps opposing forces FTX GORDIAN SHIELD employing V Corps units, the 101st Abn Div (AASLT) (-) and supporting CONUS units, 1st Bn, 75th Infantry (RANGERS), 13th Panzer Grenadier Brigade, a Belgian Mechanized Infantry Battalion, and other Allied ground units as may be identified. Exercise to have five maneuver brigades, the 11th ACR, and control elements; and to fully exercise the capabilities of the 101st Abn Div (AASLT). FTX to interface with air exercise COLD FIRE 76.

(1) Five Brigades

(a) Two from 8th Inf Div, V Corps

(b) Two from 101st Abn Div (AASLT) (CONUS)

(c) One from 5th (GE) Panzer Division (13th Panzer Grenadier Brigade)

TAB A

Classified by: DSOPS USAREUR
Subject to General Declassification Schedule of Order 11652
Declassify on: 31 DEC 82

(2) Control Elements

(a) Control Headquarters

(b) Umpires

(c) Maneuver Damage Control

(d) Joint Visitors Bureau

(e) Press Center

b. Plan for and practice interoperability incorporating allied units into FTX GORDIAN SHIELD, and providing units and/or umpire elements for incorporation into allied Corps FTXs.

(1) Allied units in FTX GORDIAN SHIELD

(a) 13th Panzer Grenadier Brigade, 5th Panzer Division, German Army

(b) 16th Battalion Cyclists, Belgian Army (Mech Infantry)

(c) 13th Battalion of Dragoons, French Army (Long Range Reconnaissance Patrol Unit)

(d) 300th (GE) Long Range Reconnaissance Patrol Company.

(2) V Corps units and/or umpire elements provided to allied Corps FTXs.

(a) I (GE) Corps FTX GROSSER BAER. Umpires for 3d Bde, 2d Armored Division (Bde 75).

(b) I (Belgian) Corps, 1st (BE) Div FTX BLAUWE DIEMEL. 2-36 Mech Inf Bn, 3d Armored Division, and TF 2-327 Airmobile Inf, 101st Abn Div (AASLT), both with umpires and logistic support.

(c) I (BR) Corps, 4 (BR) Div FTX COOL GIN. TF 1-187 Airmobile Inf, 101st Abn Div (AASLT), with umpires. Logistic support provided by 21st SUPCOM (1 Sup Bde).

(d) I (BR) Corps, 4 (BR) Div FTX SPEAR POINT. 2-28th Mech Inf Bn, 1st Bde, 8th Inf Div, and 1-70th Armored Bn, 4th Bde, 4th Inf Div (Bde 76), with umpires and logistics support.

c. Assume operational control of participating CERTAIN FORCE/REFORGER 76 and Allied Forces units during the conduct of FTX GORDIAN SHIELD.

d. Plan and conduct other CERTAIN FORCE/REFORGER 76 support activities as stated, implied or derived for V Corps.

e. Participate in CPX ABLE ARCHER 76 and provide support to CONUS TOC Groups deploying to NORTHAG for same.

3. (C) UNIT PARTICIPATION. (See Inclosure 3 for details and tabular data.)

a. V Corps participated in REFORGER 76 in accordance with USAREUR OPORD 6-76. The Corps was organized to meet the missions outlined in paragraph 2 above, with Corps staff and subordinate unit participation as follows:

(1) The Corps staff provided planning services, projecting requirements and assets and writing the FTX GORDIAN SHIELD Circular and the "other than GORDIAN SHIELD" LOI. (The Umpire Circular was written by the umpire headquarters staff and edited and published by the Corps staff.) The Corps staff provided initial and subsequent tasking of Corps units. The staff provided the control headquarters and press center for FTX GORDIAN SHIELD, with planning/executive agents for the following control activities provided by Corps units:

(a) Umpires - 1st Bde, 3d Armored Division

(b) Maneuver Damage Control - 559th Engineer Bn, 130th Eng Bde

(c) Joint Visitors Bureau - 2d Bn, 92d Field Arty, V Corps Arty

(2) The V Corps staff provided, from within its personnel assets, a Tactical Command Post operating forward of the BLUE Corps Tactical Operations Center during the CPX immediately prior to the FTX. The purpose was to test TAC CP concepts and operations. During the period prior to complete deployment in sector by the 101st Airborne Division (AASLT), and division assumption of OPCON of forces in sector, the BLUE Battle Staff controlled Corps Task Force GORDIAN. This task force consisted of the 11th Armored Cavalry Regiment and the 13th Panzer Grenadier Brigade.

b. The 3d Armored Division provided:

(1) A General officer and one brigade, with considerable personnel and materiel from other division assets for the Umpire headquarters and organization. The Division also provided staff personnel to write updated umpire procedures and to train all Corps umpires for control and arbitration of the maneuver. A second brigade provided umpires for the 101st Abn Div (AASLT).

(2) A two battalion force for participation in the maneuver. This element was transferred from ORANGE to BLUE to change force ratios as required during the FTX.

(3) One battalion with umpire for FTX BLAUWE DIEMEL.

c. The 8th Infantry Division provided:

(1) Division command and control for the ORANGE force, including the majority of the ORANGE umpires.

(2) The majority of the ORANGE maneuver force, including two maneuver brigades.

(3) Umpires for FTX GROSSER BAER (from Bde 76).

(4) Two battalions with umpires to FTX SPEAR POINT.

d. The 101st Airborne Division (AASLT) provided:

(1) Division command and control for the BLUE force.

(2) The majority of the BLUE force, including two maneuver brigades.

(3) One battalion to FTX BLAUWE DIEMEL. One battalion to FTX COOL GIN.

e. V Corps Artillery participated with approximately half of 41st Artillery Group supporting the ORANGE force and half of 42d Artillery Group supporting the BLUE force. Also provided the bulk of the Joint Visitors Bureau.

f. The 11th Armored Cavalry Regiment provided command and control and a two squadron cavalry element for the BLUE forces.

g. The 13th (GE) Panzer Grenadier Brigade provided command and control and a three battalion element for the BLUE force, constituting one maneuver brigade.

h. The 130th Engineer Brigade provided engineer battalions for Maneuver Damage Control, and to the BLUE and ORANGE forces.

i. The 3d Support Command provided support to both BLUE and ORANGE forces.

j. The 11th Aviation Battalion provided support for the Control Headquarters, Umpires, and the ORANGE forces, and a large portion of the aviation umpires.

k. The 32d Signal Battalion, 709th MP Battalion, 302d ASA Battalion, and 165th MI Battalion provided general support to the Corps.

l. The eight US Military Communities provided support to maneuver activities, with Giessen providing the site for the Control Headquarters, and Frankfurt heavily involved in the reception and redeployment of the 101st Airborne Division (AASLT).

4. (C) CONCEPT.

a. Overall Concept. The Corps concept for execution of REFORGER 76 missions was to:

(1) Conduct an opposing forces Corps FTX, interfaced with an air exercise.

(2) Provide units and/or umpires to Allied Corps FTXs.

(3) Support general REFORGER 76 activities.

(4) Participate in a SHAPE CPX and support CONUS TOC groups deploying to NORTHAG for same.

b. Corps FTX GORDIAN SHIELD. In the Corps FTX proper, the concept was to develop and exercise opposing forces in a free maneuver with necessary control elements. The CONUS based 101st Airborne Division (AASLT) was to be introduced into the FTX in such a manner that the division could fully exercise its unique capabilities in the European environment, against an appropriately developed threat force. Operations with Allied forces were to be improved through incorporation of Allied units into both of the opposing forces in the V Corps FTX.

c. Interoperability. Operations with the Allies was to be strengthened through V Corps and CONUS unit participation in Allied Corps FTXs. The concept for GROSSER BAER was to provide V Corps umpires only. For BLAUWE DIEMEL the initial concept was to provide an organic Corps Mech Bn; and a CONUS Airmobile Battalion Task Force, practicing rapid disengagement of the Airmobile unit from the V Corps battle, followed by displacement and reentry into combat in another Corps sector. The concept for the move evolved so that when executed, it was a deliberate, rather than a hasty operation. The concept for COOL GIN, with a single CONUS Airmobile Battalion Task Force, evolved similarly from a hasty to a deliberate move. SPEAR POINT was conceptualized and executed as a Mech and Armor Battalion force participating in an Allied Corps FTX.

d. General Support of REFORGER Activities. V Corps was to participate in the exercise of administrative and logistical support activities along the lines of communication, during deployment and redeployment of CONUS forces between the Benelux ports and the area of operations. Additionally, the Corps was to provide umpires for the 101st Airborne Division throughout their stay in the Federal Republic of Germany.

e. SHAPE CPX and support of CONUS TOC Groups. The Corps was to participate, and provide communications and administrative support for CONUS TOC Groups deploying to NORTHAG for SHAPE CPX ABLE ARCHER.

f. Exercise Objectives.

(1) Train commanders and staffs in joint and combined arms operations with emphasis on NBC, electronic warfare, tactical air support, air defense, and airspace management.

(2) Examine concepts, doctrine and techniques for defense and identify areas for further study.

(3) Exercise air assault forces in European combat operations.

(4) Promote multinational training and interoperability among allied forces and identify areas requiring further study.

g. Phasing. V Corps activities were accomplished in four functional phases: planning, preparation, field operations, and the post exercise phase.

(1) Planning. Activation of the Corps G3 Exercise planning staff was followed by maneuver concept and scenario development. Next, assets and requirements were projected, and an accounting system for both developed. Planning milestones and a warning order with initial concept and tasking were disseminated. Following that, there was detailed planning for maneuver force activities and necessary Corps control organizations, a movement plan; and coordination with the Air Force, with VII Corps and the Allied Corps, and with local officials. Finally, directives for the Corps FTX, umpire procedures, and "other than GORDIAN SHIELD" matters, with a budget, were published.

(2) Preparation. The initial G3 Exercise planning staff was augmented, Corps staff involved, and REFORGER control elements such as the Umpires and the JVB activated. Plans for unit movement, reception, and administrative and logistic support were implemented. The Corps control headquarters was then designed and constructed, communications installed and final changes to instructions published.

(3) Field Operations. A warm-up CPX preceded the FTX, which, while a relatively free maneuver, exercised both forces in the offense and defense. Concurrent with the V Corps FTX Corps units were participating in Allied FTXs.

(4) Post Exercise. Participants returned to home stations, except for V Corps umpires remaining with CONUS units during the following VII Corps FTX. FTX SPEAR POINT and CPX ABLE ARCHER were conducted, after action reports prepared, and plans made for preservation, storage and transmission of files and drawings.

5. (C) SIGNIFICANT ACTIVITIES.

a. The execution of REFORGER missions by the Corps followed the concept stated above. Significant activities of all four functional phases are listed below; however note that USAREUR OPORD 6-76 has six phases, which correspond as shown. Details of maneuver activities with maps which show force ratios, are at Inclosure 5.

b. Phase 1: Planning (Not listed as a phase in USAREUR OPORD).

Preliminary USAREUR REFORGER 76 Concept conference held.

Initial G3 Exercise planning staff activated.

Corps maneuver concept developed.

Scenario outline developed.

Maneuver plan drafted.

Maneuver damage control plan developed.

Maneuver rights obtained.

Accounting system for validated requirements and available assets developed. Requirements and assets projected. Personnel and equipment tasking integrated. Data on CONUS units obtained.

Planning milestones schedule drafted.

Budget planning initiated.

Warning order with concept and initial taskings provided to Corps units.

Details of maneuver force tactical activities were developed, as outlined below.

Concept and organization for BLUE and ORANGE Corps Battle Staffs developed.

Concept for employment of Tactical Air and rotary wing aircraft developed.

Corps maneuver forces structure detailed.

Detailed planning to insure full exercise of the capabilities of the 101st Abn Division (AASLT) conducted.

Airborne operation planning initiated.

Corps control concept developed, special purpose REFORGER control organizations created, and details of control organization activities coordinated, as outlined below.

Corps Control Headquarters concept evolved.

Main Control element in Corps Headquarters detailed, to include airspace control planning.

General development of the field headquarters site (Giessen) planned.

Corps Control, ORANGE Battle staff, BLUE Battle staff, SUPCOM, Umpire, Maneuver Damage Control, Joint Visitors Bureau, and Press Center facilities detailed.

Umpire procedures updated to include Air Assault operations, and coordinated with VII Corps.

Environmental Impact Assessment conducted and maneuver damage control plan adjusted to maneuver plan.

Joint Visitors Bureau concept developed.

Public Affairs/Press Center concept evolved.

Pre-exercise conferences and briefings with officials of areas affected by the maneuver were held.

Movement of V Corps, Allied and REFORGER units into and out of the exercise area planned.

Participation, movement and support of Corps and CONUS units in Allied FTXs coordinated and planned.

GROSSER BAER
BLAUWE DIEMEL
COOL GIN
SPEAR POINT

Interface of GORDIAN SHIELD and Air Exercise COLD FIRE 76 coordinated and planned.

GORDIAN SHIELD Circular published.

Umpire Circular published.

REFORGER "Other than GORDIAN SHIELD" LOI published.

Budget developed, and budget guidance published.

c. Phase 2: Preparation (Phase I Reception and Assembly and Phase II Preparation for Combat in USAREUR OPORD).

Initial G3 Exercise planning staff augmented.

Corps staff REFORGER exercise participation increased.

Special purpose REFORGER organizations activated and personnel and equipment from Corps assets allocated.

Support at arrival airfield (Rhein Main AFB) for CONUS based units provided.

Convoy movements of CONUS based units through arrival airfield, IUAA, MUAA, and to the exercise forward assembly areas coordinated and supported.

V Corps and allied units moves from home station into the FTX area of operations coordinated.

Forward assembly areas for reception of CONUS units and allied units in the FTX area planned and prepared.

Administrative and logistic support in the exercise area developed.

Organizations readied for exercise.

Field communications established.

Real world field control of Corps units activated.

Availability of senior officers for control insured.

Changes to GORDIAN SHIELD Circular published.

Changes to Umpire Circular published.

Changes to "Other than GORDIAN SHIELD" LOI published.

BLUE and ORANGE OPLANS, and Control Lines document published.

Final instructions on transition from assembly areas behind restraining lines into initial contact issued.

OPCON of CONUS and allied units, assumed on arrival in exercise area.

d. Phase 3: Field Operations, including Corps FTX (Phase III FTX in USAREUR OPORD).

V Corps warm up CPX conducted.

V Corps opposing forces Field Training Exercise GORDIAN SHIELD conducted.

V Corps and CONUS units and/or umpire packets participated in Allied Corps FTXs.

GROSSER BAER
BLAUWE DIEMEL
COOL GIN

e. Phase 4: Post Exercise (Phase IV, Post Exercise and Redeployment, Phase V CPX ABLE ARCHER (SHAPE), and Phase VI, FTX SPEAR POINT to USAREUR OPORD)

European based US units moved to home stations.

Allied units moved to home stations.

CONUS based units moved to VII Corps FTX LARES TEAM.

Umpires for 101st Airborne Division moved to LARES TEAM with CONUS units.

Corps headquarters, attached and collocated units departed Field Site (Giessen).

Corps Control Center (Giessen) deconstructed, and modular wall panels stored at Nhabollenbach Army Depot.

RON sites for REFORGER vehicle convoys moving through the V Corps area to storage sites/departure airfields supported by V Corps.

Departure airfield at Rhein Main AFB supported with elements from Hanau, Frankfurt, and Wiesbaden Military Communities.

The Joint Visitors Bureau and Press Center disbanded except for planning staff to write after action report, with personnel and vehicles returned to their parent units, and files and drawings stored. Field site material placed into storage at Nhabollenbach Army Depot.

Umpires and Maneuver Damage Control wrote after action reports, and reverted to tactical unit status.

Participation of Corps units and/or umpire packets in Allied Corps FTX/SHAPE CPX.

FTX SPEAR POINT
CPX ABLE ARCHER

Corps staff control organizations, subordinate units prepared after action reports.

Preservation, storage and transmission of after action reports, files, drawings, and blue prints accomplished by Corps staff and units.

6. (C) ATTAINMENT OF EXERCISE OBJECTIVES.

a. The planning and conduct of FTX GORDIAN SHIELD, a two-sided free play field training exercise, and the planning for and participation in Allied field training exercises was intended to accomplish the four objectives stated in paragraph 4f, exercise objectives above. Attainment of objectives is summarized below.

b. The training of commanders and staffs in Corps level maneuvers was successful. However, the requirement for some commanders to act in part as controllers, and the requirement for Corps, Division, and Brigade line and staff to provide control and umpire personnel reduced the integration of command and staff. Free movement of commanders and staff in the battle area introduced an artificially high level of battlefield information, not characteristic of combat. Achievement of training objectives in NBC was marginal. Electronic warfare objectives achievement was moderate. Training in tactical air support, air defense and airspace management activities were particularly valuable aspects of the exercise.

c. The FTX provided valuable opportunities to examine concepts, doctrine, and techniques for defense. Areas for further study were identified during the conduct of the exercise and a Corps Staff Task Force, (TF Charlie) was immediately activated to conduct intensified study of Corps command and control techniques.

d. Air assault forces were fully exercised in European combat operations. Detailed planning and structuring generated a realistic situation into which the 101st Airborne Division (AASLT) was injected.

e. Multinational training and interoperability among allied forces was fully attained. Areas for further study were identified, and will be pursued.

7. (C) PROBLEMS AND RECOMMENDED SOLUTIONS.

a. Four principal problems were surfaced on REFORGER 76.

(1) Tactical command and control of the major Corps elements in the field in a fast paced battle, particularly reporting and communication, need to be more responsive.

(2) Administrative and support aspects of tactical interoperability with Allied units in the field require strengthening, particularly when units smaller than brigade sized task forces are working with NATO allies. The requirement for translating written orders and limited familiarity with supply STANAGs are two examples of administrative and support problems.

(3) Administrative procurement and funding procedures for other nation support of US movement and logistics are not functionally standardized or sufficiently practiced.

(4) Provision of communications personnel and equipment to CONUS units which arrive for exercises with insufficient organic internal communications unduly constrains V Corps communications flexibility.

b. Solutions for these problems are:

(1) Corps staff conduct study to determine techniques for improvement of command control reporting and communications, followed by implementation of improved organization and procedures.

(2) Corps staff and HQ USAREUR study of administrative aspects of tactical interoperability, with increased circulation of STANAG publications. Better knowledge of standardization agreements for interchangeable components of both weapons and equipment and of supplies, and common operations procedures will hone a sharper edge on our joint combat operations.

(3) Corps staff and HQ USAREUR development of international procurement and funding procedures and dissemination of these procedures will facilitate flexible response.

(4) DA development of plans for supporting deploying CONUS units with communications personnel and equipment from other than European based TOE units will preclude an overload on European units.

c. Other noteworthy problems are the following, for details of which see inclosure 7:

(1) In a fast paced battle ability to define targets for nuclear or chemical strikes in the main battle area is limited.

(2) The Close Air Support system used during REFORGER becomes saturated at the 125 sortie a day level.

8. (C) LESSONS LEARNED.

a. The principal lessons learned from REFORGER 76 were:

(1) The Corps HQ profited from the exercise and should repeat the experience often.

(2) Standing NATO agreements must be more widely disseminated, and interoperability should be practiced continually.

(3) International support procedures should be strengthened and simplified.

(4) Operations plans should be reviewed for adequacy of command control/communications assets to meet the operational requirements of the fast paced battle envisioned under Soviet doctrine.

b. Additionally, the following lessons were learned.

(1) The active defense concepts outlined in FM 100-5, dated 1 July 1976, are highly effective in the European environment.

(2) Multilingual personnel are essential to successful interoperability of NATO forces.

(3) Units should not provide their own umpires.

(4) Generating force ratios where threat forces outnumber defending forces by at least 2 to 1 establishes a challenging training environment in which the U.S. Army can learn to fight outnumbered and win.

9. (C) SUMMARY, ASSESSMENT, AND RECOMMENDATIONS.

a. Summary

(1) GORDIAN SHIELD was a seven day field training exercise conducted from 4 to 11 September 1976 by major elements of V Corps, with participation by Belgian, French and German Army units, by the US 101st Airborne Division (Air Assault), and aircraft from several allied nations operating under command of the 4th Allied Tactical Air Force. The exercise area in Land Hesse, northeast of Frankfurt, lay in a quadrilateral generally bounded by northing lines through Giessen in the west, Fulda in the east, and by easting lines through Kassel in the north, and Budingen in the south. Maneuver play moved north-south so that aircraft movement could avoid the Air Defense Identification Zone, ADIZ, and other flight restrictions near the interzonal border east of Fulda.

(2) ORANGE forces, attacking from near Kassel south into the maneuver quadrilateral, were two brigades, nine maneuver battalions, of the 8th Infantry Division (Mech), reinforced by the 16th Battalion Cyclists, Belgian Army, (Mech Inf), and the 13th Battalion of Dragoons, French Army (LRRP), supported by seven battalions of artillery and one air defense battalion, divisional and nondivisional. At the outset ORANGE outnumbered BLUE by more than two to one in every force category; in some categories the ratio was nearer three to one. This was done to permit realistic training of BLUE under force ratios approximating those V Corps can expect to face should the enemy attack in NATO's Central Region. In addition, ORANGE forces were trained in standard Soviet tactics, so that BLUE might experience the normal pattern of Soviet force deployments during an attack.

(3) BLUE forces defended initially along a line parallel to, and generally north of, the Bad Hersfeld-Alsfeld-Giessen autobahn. At the outset BLUE consisted of five maneuver battalions: the 11th Armored Cavalry Regiment with two squadrons in the east; the 13th Panzer Grenadier Brigade, 5th Panzer Division with three battalions in the west; both squadrons forward, and the panzer battalion of 13th PzG Brigade in reserve behind the brigade's two forward battalions.

(4) ORANGE attacked south just after midnight on 6 September. Commander, V Corps, as Commander BLUE, sought to overcome ORANGE force advantage on the ground by applying massive air power. USAF air was not available on 6 September, and allied air did not fly until afternoon on the 6th. As a result ORANGE pressed hard, causing Commander BLUE to ask CENTAG for release of the US 101st Airborne Division (Air Assault), the CENTAG reserve. The division was released late morning 6 September, BLUE forces in the battle were attached to the 101st and mid afternoon the division air assaulted two brigades of infantry into center sector between the 11th Cavalry and 13th PzG Brigade.

(5) By midafternoon 7 September ORANGE was well into the 101st Division rear, and approaching the point where the maneuver quadrilateral to the south could no longer support maneuver. At this point, the Corps Commander transferred two tank battalions from ORANGE to BLUE, attached them to the 13th PzG Brigade, and ordered BLUE to generate sufficient combat power in the west to allow 13th PzG to attack. The change in force ratios was sufficient to permit BLUE to attack, first with 13th PzG, then as ORANGE shifted forces to defend against this attack, with the 11th Cavalry in the east. BLUE pressed his attack on the 8th, and under lowering skies and in rain on the 9th. BLUE continued the attack on the 10th with late morning air assaults into the rear of ORANGE forward defense positions. The air assault terminated the maneuver early afternoon 10 September.

b. Assessment

(1) The attempt to generate a battle which in force ratios and pace of action approximated best estimates of what Central Region forces would have to content with was highly successful. ORANGE forces learned a great deal about the real enemy in their attempt to copy his tactics and methods for use against the maneuver enemy. BLUE learned equally as they attempted to match the pace of battle set up by ORANGE. The result was that command control was strained to the limit, especially from brigade/regiment to division, and division to corps. The close air support command control system was saturated at about the 125 sortie a day level. BLUE staffs and commanders were physically and mentally drained after about 72 hours of continuous action. BLUE Corps and Division commanders were forced to go personally to at least brigade level command posts to find out about the battle. Sequential reporting and the mass of traffic generated jammed teletype nets; message centers could not function quickly enough even when the traffic flowed. The pace of battle required frequent movement of brigade and division command posts, outstripping the ability of the VHF system to move, set up, and provide adequate command control. CEOI's proved excessively cumbersome to use and inhibited rapid communications.

(2) Both forces used the active defense in battle phases in which they defended. The use of battalion/squadron battle positions proved the best scheme for fighting an enemy who outnumbers the defender. Both sides came away convinced that this form of defense is superior to other methods.

(3) Integration of 13th PzG Brigade into BLUE, attachment of two US tank battalions to the brigade, and subsequent operations with the brigade, all were highly successful. Liaison teams with radios operating in the brigade command post were provided for command control of US forces in the brigade, and are essential. Apart from that unique feature, there were no difficulties with tactical concepts or operational procedures.

(4) V Corps concepts for employment of the 101st Division were not exercised; therefore no meaningful assessment can be made of the ability of the division to reinforce antitank defenses in situations where terrain and the presence of other defensive forces permits them to thicken up the antitank defensive scheme. There can be no question however that the division should not be committed in open terrain, in the face of the enemy main attack, without armored forces on the ground in the area of committment.

c. Recommendations

(1) In future field exercises, a concerted effort must be made at all levels to generate force ratios and battle dynamics US forces can expect when confronting the Soviet enemy, or forces using Soviet tactics.

(2) The current command control system must be carefully reviewed and then revised to improve its capability to command and control a fast paced battle on the modern battlefield. Such a review and revision must include the technical capabilities of equipment, integration of secure equipment into the systems, internal operations of message centers and staffs, methods for overcoming bottlenecks produced by sequential reporting, volume traffic, and the absence of real priority discriminators in the system.

(3) GORDIAN SHIELD was in all respects an unqualified success. It is imperative that the Corps take the field at least annually in an exercise of this size and scope. The impact on readiness and troop morale alone is worth the cost. The opportunity to start up command control systems, to exercise interoperability at all levels, and the unparalleled opportunity for the soldiers to practice their skills are worthy of the highest priority in allocation of time, money, and people effort.

36 Incl
as

DONN A. STARRY
Lieutenant General, USA
Commanding

DISTRIBUTION:
See Inclosure 36

1. CINCUSAREUR msg, AEAGC-E, DTG 020634Z Feb 76, Subj: USAREUR Conduct - REFORGER 76 (U).

2. CINCUSAREUR msg, AEAGC-E, DTG 291200Z Mar 76, Subj: CERTAIN FORCE/REFORGER 76 Warning Order (U).

3. USAREUR & 7th Army OPORD 6-76, AEAGC-REF 76, dtd 30 Jun 76, Subj: OPORD 6-76 for Exercise CERTAIN FORCE/REFORGER 76 (U).

4. USAREUR & 7th Army Ltr, AEAGC-REF 76, dtd 31 Aug 76, Subj: Letter of Instruction Number Two Hundred and One - Peacetime: REFORGER 76 Post - FTX Activities. w/chg 1/.

5. V Corps Cir 350-23, AETVGC, dtd 1 July 76, Subj: FTX GORDIAN SHIELD.

6. V Corps LOI CERTAIN FORCE/REFORGER 76, dtd 12 Aug 76.

7. V Corps msg AETVGC-E, DTG 071501Z Apr 76, Subj: Warning Order - CERTAIN FORCE/REFORGER 76 (U).

8. V Corps DF, AETVGC-E, dtd 16 Apr 76, Subj: Notification of the Intended Conduct of Field Maneuvers (U).

9. V Corps msg, AETVGC-E, DTG 181725Z Jun 76, Subj: Highway Clearances for V Corps Exercise GORDIAN SHIELD and CERTAIN FORCE/REFORGER.

10. V Corps msg, AETVGC-E, DTG 251425Z Jun 76, Subj: FTX GORDIAN SHIELD. (Dates unit's must be in field).

11. V Corps Ltr, AETVGC-E, dtd 8 Jun 76, Subj: LOI, Concept for Umpiring, Controlling and Assessing Players in FTX GORDIAN SHIELD.

12. V Corps Ltr, AETVGC-E, dtd 23 Jul 76, Subj: Umpire Tasking, Organization and Schedule for FTX GORDIAN SHIELD.

13. V Corps msg, AETVGC-E, DTG 240630Z Mar 76, Subj: Aircraft Requirements - FTX GORDIAN SHIELD (U).

14. V Corps Ltr, AETVGC-E, dtd 25 May 76, Subj: Environmental Impact Assessment (EIA). V Corps FTX GORDIAN SHIELD (U).

15. V Corps msg, AETVGC-E, DTG 010945Z Jul 76, Subj: BLUE Forces Auto-CEOI for FTX GORDIAN SHIELD (U).

16. V Corps Fact Sheet, AETVGD-P, dtd 21 Jun 76, Subj: Logistics Interoperability During REFORGER.

17. V Corps msg, AETVGC-E, DTG 280820Z Jul 76, Subj: Planning for Airborne Operations in FTX GORDIAN SHIELD (U).

18. V Corps Ltr, AETVEA-S, dtd 20 Jul 76, Subj: Vehicle Safety Lighting Equipment.

19. V Corps Reg 350-8, dtd 1 Aug 76, Subj: V Corps Field Exercise Umpire Directive.

20. V Corps msg, AETVGC-E, DTG 251225Z Aug 76, Subj: FTX GORDIAN SHIELD Control Procedures.

21. V Corps Ltr, AETVGC-E, dtd 19 Aug 76, Subj: GORDIAN SHIELD 76 Warm Up CPX.

22. V Corps Ltr, AETVGC-E, dtd 30 Aug 76, Subj: Pre-Exercise Phase CPX GORDIAN SHIELD 76.

23. V Corps LOI 1-76, dtd 5 Aug 76, Subj: Planning and Operation of V Corps Control Headquarters (U).

24. V Corps msg, AETVGD-T, DTG 251536Z Aug 76, Subj: V Corps Policy and Guidance regarding Highway Clearances for Redeployment from FTX GORDIAN SHIELD/CERTAIN FORCE REFORGER 76.

Classified by: DSOPS USAREUR
Subject to General Declassification Schedule of Order 11652
Declassify on: 31 DEC 82

25. V Corps msg, AETVGC-E, DTG 011530Z Sep 76, Subj: Multinational Training and Interoperability with Allied Units during FTX GORDIAN SHIELD (U).

26. V Corps msg, AETVGC-E, DTG 200905Z Aug 76, Subj: Use of Smoke Generators - FTX GORDIAN SHIELD.

27. V Corps msg, AETVGC-E, DTG 020821Z Aug 76, Subj: REFORGER Umpire School Transportation.

28. V Corps msg, AETVGC-E, DTG 131645Z Aug 76, Subj: 8ID Vehicle Augmentation - FTX GORDIAN SHIELD.

29. V Corps msg, AETVGC-E, DTG 131710Z Aug 76, Subj: Communications Spt Package for Ger PzG Bde (U).

30. V Corps DF, AETVGC-O, dtd 1 Sep 76, Subj: CTOC Manning.

31. V Corps Administrative Order 3-76, dtd 30 Aug 76, Subj: GORDIAN SHIELD (U).

32. 1st Bde, 3AD Ltr, AETFOA-SJ, dtd 9 Jul 76, Subj: REFORGER 76 Joint Umpire School.

33. 8ID msg, AETHGC-SC, DTG 121245Z Jul 76, Subj: Utilization of Threat Artillery and ADA Ranges for Exercise GORDIAN SHIELD (U).

1. (C) OVERVIEW. Plan and conduct opposing forces FTX GORDIAN SHIELD, and other CERTAIN FORCE/REFORGER 76 Exercise activities involving V Corps, in a six phased operation:

a. Phase I (10-30 Aug) Reception and assembly (in VII Corps area) of 101st Airborne Division (AASLT) and non-divisional units.

b. Phase II (31 Aug - 6 Sep) Preparation for combat.

c. Phase III (6 Sep - 17 Sep) Field Training Exercises

I (Ge) Corps FTX GROSSER BAER	6-10 Sep (German)
V Corps FTX GORDIAN SHIELD	7-11 Sep (US)
2-36 Inf in FTX BLAUWE DIEMEL	6-16 Sep (Belgian)
TF 2-327 Inf in FTX BLAUWE DIEMEL	12-14 Sep (Belgian)
TF 1-187 Inf in FTX COOL GIN	13-17 Sep (British)
VII Corps FTX LARES TEAM	13-17 Sep (US)

d. Phase IV (18 Sep - 1 Oct) Post Exercise Activities and Redeployment (18 Oct).

e. Phase V (25-29 Oct) CPX ABLE ARCHER (SHAPE) (18 Oct deployment).

f. Phase VI (30 Oct - 12 Nov) FTX SPEAR POINT (British)

4th Bde, 4th Inf in I (Br) Corps FTX SPEAR POINT (Not a part of Autumn Forge)

2. (C) Develop a V Corps opposing forces Field Training Exercise concept, control plan (to include airspace management), scenario outline, and umpire plan. Ground force participation to be five maneuver brigades, to include two V Corps brigades, two brigades of the 101st Abn Div (AASLT)(CONUS) and the 13th Panzer Grenadier Brigade of the 5th Panzer Division. Forces to include 1st Bn 75th Infantry (Rangers) (CONUS), a Belgian Mechanized Infantry Battalion, and other allied units. Scenario to fully exercise the unique capabilities of the 101st Abn Div (AASLT) (-); and to be interfaced with concurrent air exercise COLD FIRE 76, through coordination with Headquarters CENTAG.

3. (C) Provide the following FTX GORDIAN SHIELD control elements: Umpire (to include umpire group for 101st Abn throughout CERTAIN FORCE/REFORGER); Maneuver Damage Control; Joint Visitors Bureau (in coordination with 32d AADCOM); and Press Center.

4. (C) Be prepared to assume operational control of CERTAIN FORCE/REFORGER 76 and Allied Forces for conduct of FTX GORDIAN SHIELD.

5. (C) Interoperate with I (Ge) Corps FTX GROSSER BAER, providing umpires for 3d Bde, 2d Armored Division (Bde 75).

6. (C) Interoperate with I (Belgian) Corps, 1st (Be) Division FTX BLAUWE DIEMEL, providing: 2d Bn, 36th Inf, 3d Armd Div, with umpires and logistic support; and Task Force 2d Bn, 327th Inf, 101st Airborne Division (AASLT), with umpires and logistic support.

7. (C) Interoperate with I (Br) Corps, 4 (Br) Division exercises. For FTX COOL GIN provide task force 1st Bn, 187th Inf, 101st Airborne Division (AASLT), with umpires. For FTX SPEAR POINT, provide one Mech Infantry Battalion and one Armored Battalion from 4th Bde, 4th Inf Div, plus supporting elements and umpires.

8. (C) Participate in and provide support to CONUS TOC Groups deploying to NORTHAG for CPX ABLE ARCHER 76.

9. (C) Develop necessary administrative procedures for REFORGER, such as emergency leave evacuation procedures. Provide or coordinate, within capabilities, personnel and administrative support during period of operational control of REFORGER units. Assist CONUS units in tracking unit members hospitalized in MEDDAC facilities. Provide quartermaster clothing sales, recreational services, and postal services for REFORGER units.

10. (C) Provide intelligence support to units participating in FTX GORDIAN SHIELD/ REFORGER 76. Provide Electronic Warfare support to the tactical operations for FTX GORDIAN SHIELD/REFORGER 76.

11. (C) Provide supply, maintenance, field service and transportation for Corps Forces and as directed to other units and activities in the Corps area. Provide or arrange for the same supply and services for US Forces participating in FTX BLAUWE DIEMEL and FTX SPEAR POINT. Provide highway regulation and traffic control of exercise forces within Corps area.

12. (C) Assist 4th Transportation Brigade in establishing reception facilities at Aerial Ports of Debarkation and Embarkation; and to operate holding area control centers at APOEs or other sites, to include planned back up admin/log support in the event of delayed troop movement.

13. (C) Provide FTX GORDIAN SHIELD highway regulation, and traffic management (to include traffic control points); remain overnight and convoy support center sites and traffic control support (to include road signs); rail and highway movement planning and coordination with USAREUR, 4th Trans Bde, and host nation.

14. (C) Test selected unit capability for expedited repair through controlled cannibalization.

15. (C) Plan, install, operate, maintain, and coordinate communications support.

16. (C) Provide installation support and utilities such as sanitary facilities (latrines), refuse collection and disposal, and fire prevention and protection.

17. (C) Provide commercial vehicle transportation support for REFORGER missions.

UNIT PARTICIPATION GORDIAN SHIELD

BLUE FORCES

UNIT	NO. OF PARTICIPANTS	TOTAL
101st Airborne Division (Air Assault)	10,800	
11th Armored Cavalry Regiment	2,500	
42d Field Artillery Group	950	
54th Engineer Battalion	1,000	
13th (German) Panzer Grenadier Brigade	3,900	
3-59th Air Defense Artillery	300	
300th (German) LRRPs	35	
19th Maintenance Battalion	200	
	19,685	19,685

ORANGE FORCES

8th Infantry Division	11,500	
41st Field Artillery Group	1,450	
1-75th Infantry (Rgrs)	525	
1-1st Air Defense Artillery	500	
13th Regimental (French) de Dragoons (LRRPs)	110	
2d Bn Cycle, 16 (Belgian) Division (Mech Inf)	644	
85th Maintenance Battalion	200	
	14,929	14,929

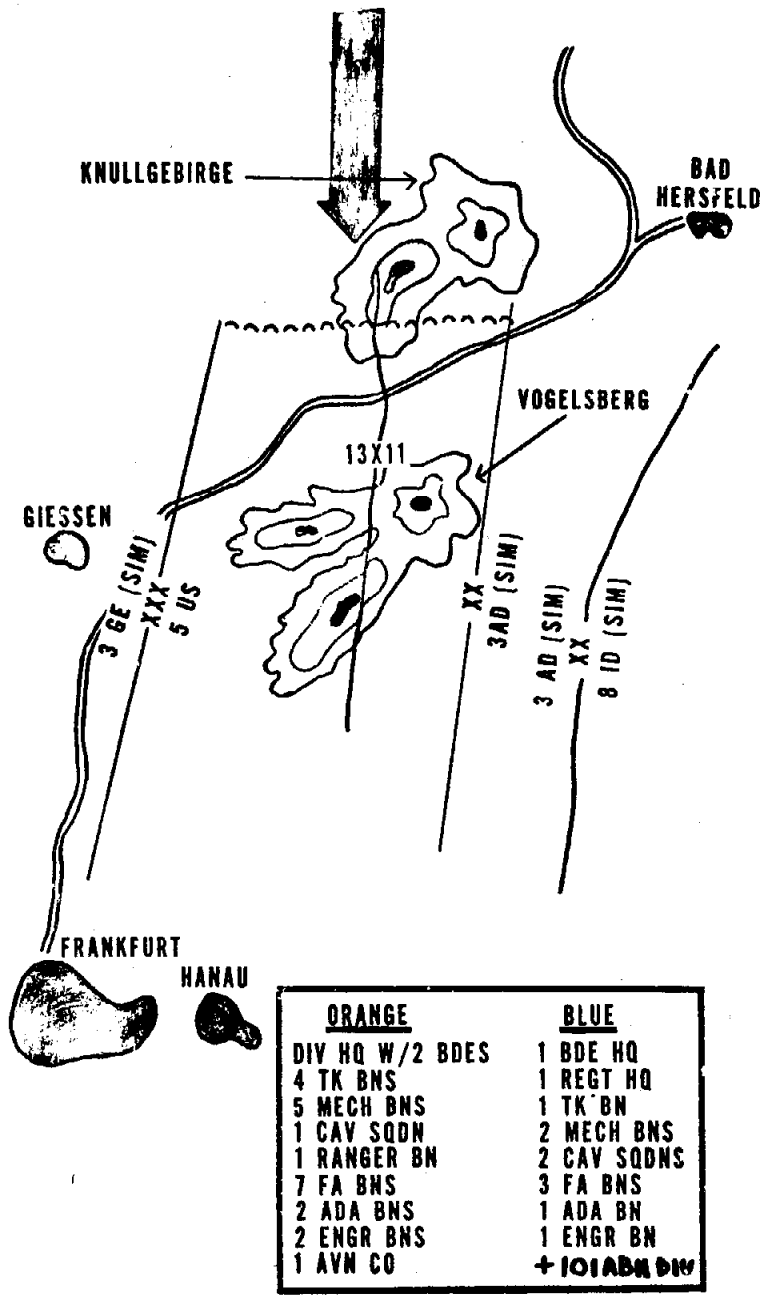
MISCELLANEOUS

CORPS	482	
UMPIRE	1,000	
JVB	350	
3d SUPCOM	3,360	
MISC CONUS	1,050	
MISC EUROPE	1,300	
	9,542	9542
TOTAL		44,156

Classified by: DSOPS USAREUR
Subject to General Declassification Schedule
of Order 11652
Declassify on: 31 DEC 82

1. This inclosure summarizes the GORDIAN SHIELD/REFORGER 76 maneuver activities with brief narrative and maps.

UNCLASSIFIED

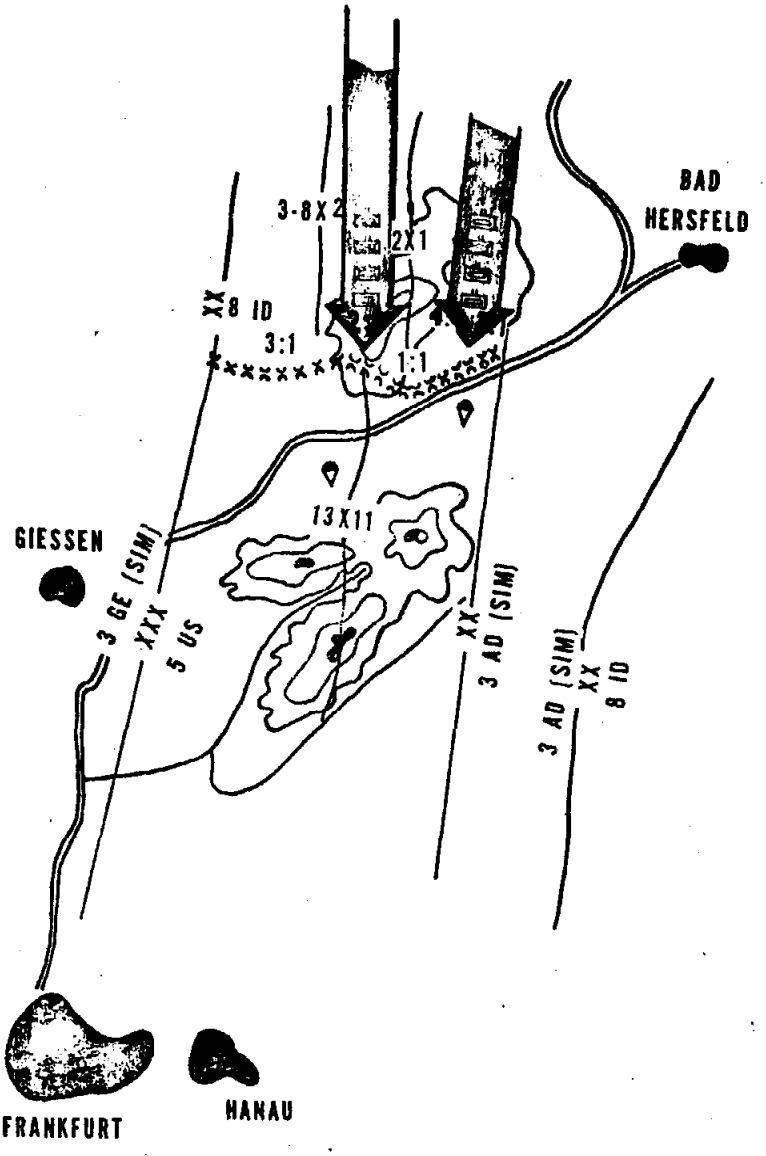


2. The background Scenario/Overview for the week long FTX was as follows:

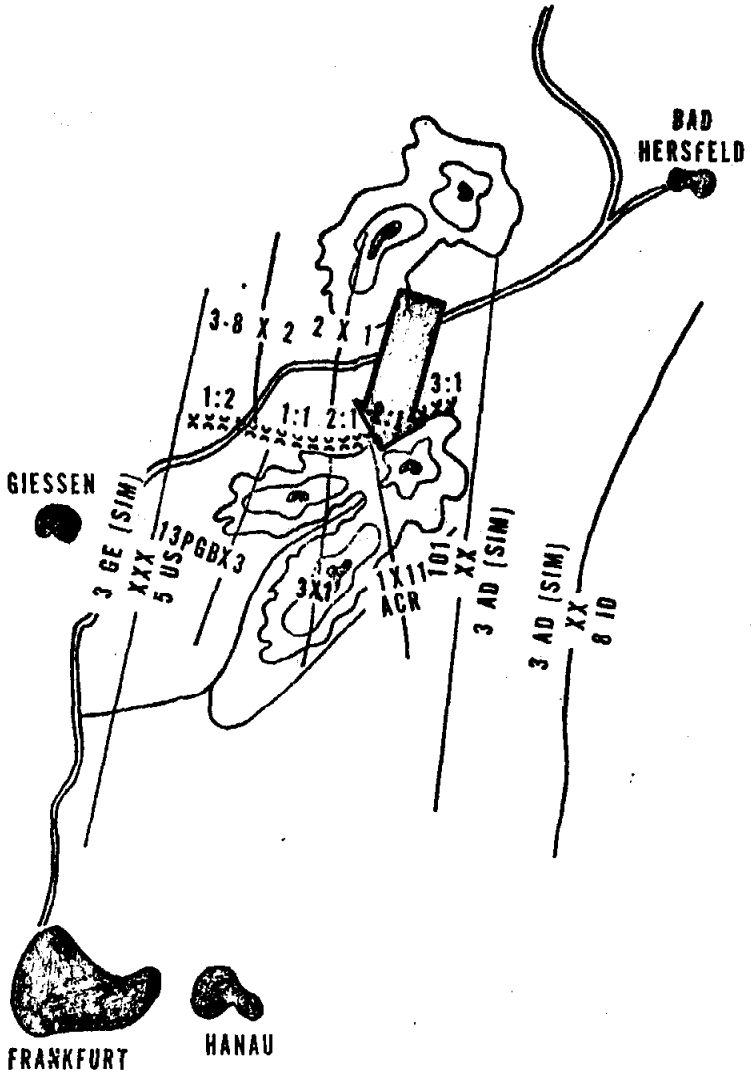
a. HQ CENTAG depicted through the use of a Master Incident List (MIL) an ORANGE violation of the Political/Military Boundary beginning 1 Sep 76 (D-Day).

b. (1-4 Sep 76). In the V Corps sector, the ORANGE effort was comparatively light with the ORANGE intent to fix V Corps units. Continued ORANGE successes in the III German Corps sector created a bulge in that sector that affected the 3AD (simulated) northern flank. ORANGE forces generated a major thrust from south of KASSEL in the direction of ALSFELD with the intent of penetrating the BLUE force FDA and continuing south to secure crossings over the Main River, vicinity of HANAU. The ORANGE attack centered on the III and V Corps boundary. COMCENTAG directed that the Corps boundary be shifted to the west and V Corps responded to this attack by committing BLUE forces (11 ACR and 13 PGB).

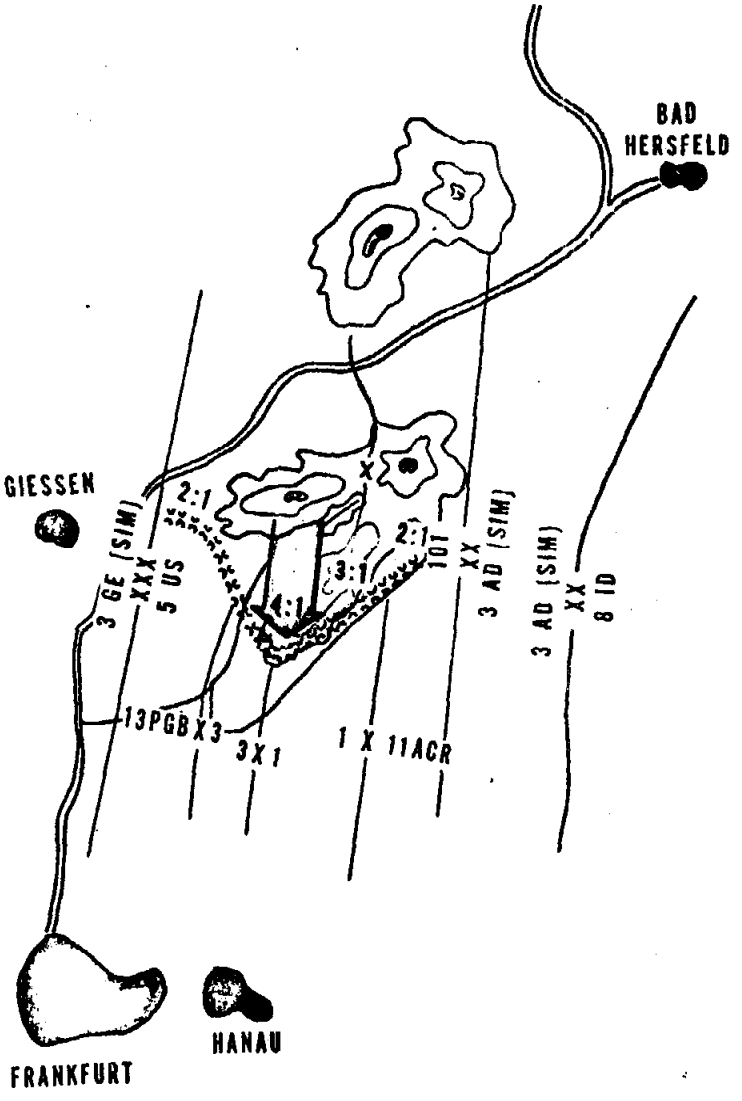
c. (5 Sep 76). The V Corps forces moved into selected defensive positions between ALSFELD and the KNULLGEBIRGE MOUNTAINS.



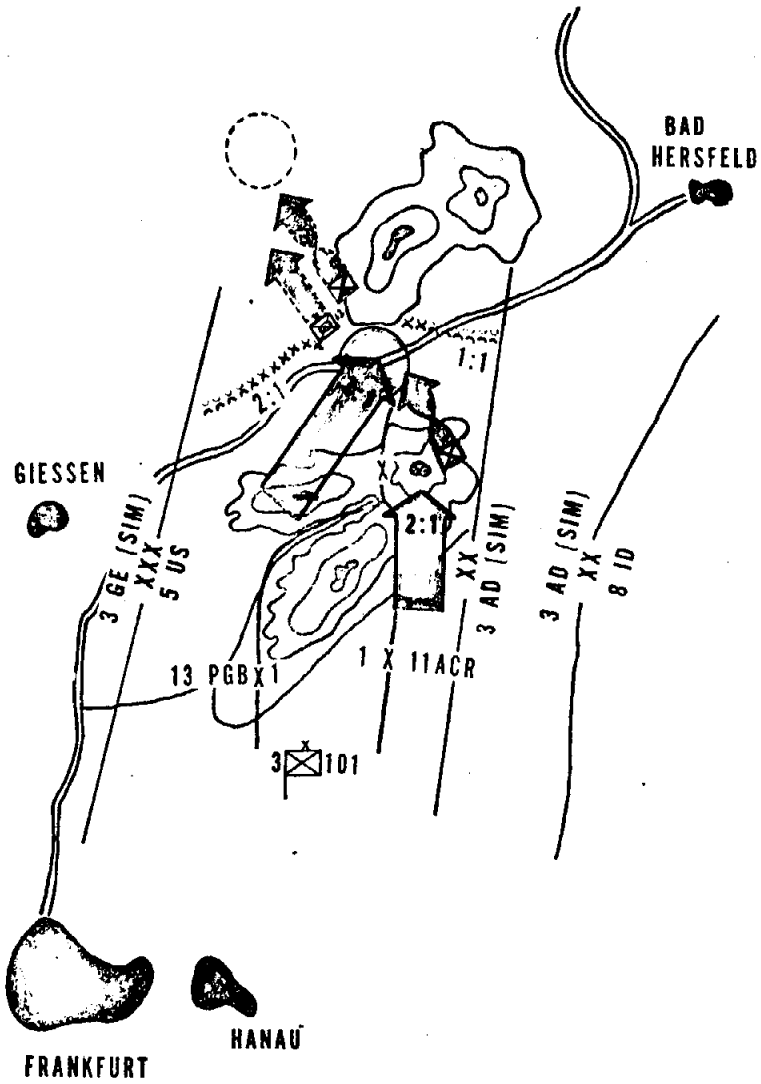
d. (6-10 Sep 76). The 101st ABN Division was released to Corps on 6 Sep 76 to increase the combat ratio in favor of Blue forces in the area of the penetration.



(1) The Orange forces continued the attack to the south and the employment of the 101st ABN Division was unable to stop the attack.



(2) Orange forces continued to push Blue forces until late on 8 Sep 76 at which time two armor and one artillery battalion(s) was moved from the Orange forces and given to the 13th PGB.



(3) On 9 Sep 76, 13th PGB and 11th ACR attacked to the north and occupied terrain along PL APFEL.

(4) 13th PGB and 11th ACR continued the attack on 10 Sep 76 with two battalions air assaulting at 100845Z Sep 76 into Orange held territory.

e. (10-12 Sep 76). FTX GORDIAN SHIELD terminated. Upon termination, the forces remaining in the V Corps area assembled at predesignated assembly areas and returned to home stations in accordance with movement plans.

(G1)

1. (U) PROBLEM: Personnel Replacement vs Troop On Ground for training.

DISCUSSION: Procedures for the requisitioning of personnel replacements begin at the unit level with the submission of a casualty report. At each level of command these reports are consolidated. Major subordinate commands would then either submit personnel casualty estimates or submit critical shortage of personnel reports. Based on these reports and the personnel daily summary (PDS), personnel messages would go to the unit announcing the input of replacements. Replacement operations were never really exercised during GORDIAN SHIELD. A field system could be devised where personnel would not be evacuated but the system would be exercised by use of "casualty tags". Troops who are judged casualties would be returned to duty within 4 hours for training. Unit combat power scores would be adjusted to reflect the casualties until replacements arrived.

RECOMMENDATION: Develop a casualty/replacement system to more realistically exercise replacement operations without removing troops from the training environment. Secondly on a test basis tere is a need to selectively play the plan/system is a field training exercise.

(G1 8ID)

2. (U) PROBLEM: Personnel play throughout the exercise was unrealistic.

DISCUSSION: There appeared to be little control in the assessment of casualties by the umpires. Casualty play often did not match the tactical situation. The percentages of KIA/WIA/MIA were also unrealistic, with the number of KIA far exceeding other types of casualties. Only a minimal number of soldiers were assessed as casualties requiring evacuation through medical channels (30 for the entire exercise). The majority were assessed by the umpires with the stipulation that they could be automatically "revived" within a 2 or 5 hour period. This automatic replacement flow has the following adverse effects:

a. Did not exercise medical evacuation precedures and personnel.

b. Did not allow for exercise of the replacement facilities and personnel.

c. Caused problems in reporting casualties to higher headquarters. There was confusion as to whether casualties which were assessed/replaced within one reporting period (0001 - 2400 hours) were to be reported at all.

RECOMMENDATIONS:

a. Pre-determined casualty assessment tables should be developed for use by umpires. They should assist the umpire in tetermining realistic figures of KIA/WIA, based on the combat power, (including weapons, terrain and combat support) of the opposing sides.

b. An established percentage of the total number of casualties from each engagement will be required to be evacuated to exercise the medical evacuation system. These personnel will be returned as representative of the required replacements.

c. All personnel assessed as casualties will remain in that status until correctly reported through Division level and subsequently returned to the unit on paper as a replacement.

(G2)

3. (C) PROBLEM: Communications.

DISCUSSION: We are all aware of the problem we had insofar as maintaining communications. The problem appears to have a 3-fold aspect: First, equipment reliability, maintainability, and time to install/set up; second, operator training/proficiency; and third, assuming both problems above are eliminated, the adequacy of the communications from the viewpoint of the number of nets, the number of items of equipment within each net, redundancy and alternate communications links built into each net. Each staff section, as a first course of action, should clearly identify those organizations, agencies, and units with which it must communicate; second, identify the options for establishing such communications; third, the equipment necessary; and fourth, the personnel required to operate the equipment. All four of the above must include not only communications within the Corps and between Corps and its subordinate units, but also communications necessary laterally with III German Corps, VII Corps, CENTAG, the US Air Force, and allied air force agencies. This includes the tactical air control center, and Air Force tactical operations center, and 4ATAF. Once this is done, all staff sections should compare the above with the radio equipment and personnel currently authorized in TO&E documents. In doing this they should identify both the equipment and personnel authorized at ALO 1 and that authorized under their current ALO. When this has been done we should all have a clearer picture of exactly what we need and also be able to determine the shortfalls in both personnel and equipment. We may find that in some cases increasing the ALO will assist in resolving the problem.

RECOMMENDATION: The G2 section, in conjunction with VII Corps and DCSI, USAREUR, will proceed generally along the path outlined above insofar as intelligence communications are concerned. General Dillard, DCSI, USAREUR, will host a meeting to specifically address communications problems - both those surfaced during REFORGER and those we have known about for a long time; in most cases they are the same problems.

(G2)

4. (C) PROBLEM: Inflight Reports.

DISCUSSION: Ideally, our maneuver commanders should be able to talk to aircraft flying over their sector whether it is in a close air support or an air reconnaissance role. On the close air support side, they should be able to talk to the air crews - even if it is through a forward air controller - in order to make modifications to the target area or provide more specific guidance on the target. The pilot, on the other hand, should be able to communicate with the ground commander to identify any new targets which could affect the commander's operations. This cannot now be done with any degree of satisfaction. The problem is even worse on the air reconnaissance side. There is no satisfactory system to pass inflight information to the ground commander. We have for years been using the tactical air control net to do so. While this works on small scale exercises and maneuvers, it will not work on a large scale exercise, and in no way will it work in a real world combat situation. The forward air controllers will have too much to do to be handling inflight reports. Their primary emphasis has got to be in guiding the strike aircraft into their target. TRADOC, CACDA, and DA Force Developments have all been involved in the subject but it has been a tough one to really pin down.

RECOMMENDATION: That the G2 clearly delineate the inflight reports problems and the options available for handling it.

(G2)

5. (U) PROBLEM: Personnel Shortages.

TAB A

DISCUSSION: In our normal exercises in which each of the staff sections plays an ORANGE, BLUE, or control role, we find out that although we are "manned for war" we are certainly not "manned for peace." Instead of operating a normal G2 shop, we are operating three mini G2 shops. During REFORGER we received the support of 13 additional personnel from HQ, USAREUR. I have discussed the subject with General Dillard, and he has offered for consideration by his staff and ours an option which would have him provide the G2 ORANGE and controller elements, allowing the G2 section to operate as a full section devoted to BLUE. We have also looked at the possibility of interchanging with VII Corps, whereby we provide personnel for their exercises and they provide them for ours. This may be a little more difficult to achieve since we quite often find that either we are out on exercises during the same period or our exercises follow too closely to one another's, and the impact on normal operations would thus be too severe. It is an area we are exploring.

RECOMMENDATION: That G2 ORANGE and controller elements be obtained from outside V Corps assets for REFORGER exercises.

(G3)

6. (C) PROBLEM: Situation Reporting.

DISCUSSION: The control element was unable to rely on the current tactical reporting system to maintain an adequate portrayal of the disposition, situation, status, and plans of player units with which to develop, in light of impending crisis, alternative courses of action for consideration by the exercise director. The inadequacies of the information system itself were further compounded by unreliable communications (particularly during displacement of subordinates command posts), unfamiliarity with reports requirements, and lack of standard formats and submission times. The problem was ameliorated on occasion by incorporating data obtained from the Umpire TOC; however, the information picture remained vague throughout the exercise. Although this problem is aggravated by attachment/OPCON of "non-Corps" units, it is not unique to REFORGER exercises and similar difficulties would be encountered in other corps operations in the field.

RECOMMENDATION:

a. Improve the Tactical Reporting System by:

(1) Revising the information system, to include development of brevity codes and fixed formats adaptable to burst transmission techniques.

(2) Establishing "Tactical Information Monitors" to transmit critical information directly from each Bde/Div to Corps by means of dedicated communications resources.

(3) Manning the CTOC with personnel to monitor subordinate command radio nets and gather situation information directly.

b. During exercises, coordinate/correlate control and umpire information gathering through a common director and collection system.

(G3)

7. (C) PROBLEM: Development of optimum Corps FTX Control Headquarters concept, organization and staffing.

DISCUSSION: When V Corps headquarters controls the Corps from a field site during a REFORGER Field Training Exercise, it must accomplish the following nine functions:

1. Control and reporting on plans and operations of subordinate BLUE Forces

2. Control and reporting on plans and operations of subordinate ORANGE Forces

3. Control and reporting on plans and operations of subordinate elements supporting both BLUE and ORANGE FORCES

4. Umpiring and arbitration of the maneuver

5. Maneuver damage control and reporting

6. Provision of briefings, escorts, and guest services for distinguished visitors

7. Provision of press briefings, escorts, and press services

8. Control and reporting of real world matters (other than FTX matters) requiring Corps General Officer decisions during the course of the FTX, (covered by SGS).

9. Central decision data display, coordination, and control of all of the functions above, with information exchange between all staff and special purpose REFORGER organizations.

The V Corps Control Headquarters organization for GORDIAN SHIELD at the field site evolved as one with a Central (overall) Control Element; Separate BLUE and ORANGE Corps level G2/G3 Battle Staffs in tactical vans; Consolidated G1 and G4 Staffs; an Umpire Headquarters; Maneuver Damage control headquarters; Joint Visitors Bureau and Press Center, and an SGS Office. The requirement for submission of separate BLUE and ORANGE situation reports to Headquarters CENTAG; and for Operational Summaries to Headquarters USAREUR was a factor in the establishment of physically separate BLUE and ORANGE Battle Staffs, adjacent to the central control element. A second factor leading to the 1976 structure was a desire to exercise the V Corps TOC van system. A third factor was the desire to provided secrecy and functional separation for the two battle staffs, so that the data reported to each respective Battle Staff would be less subject to compromise, providing a better free play control system. All of these factors combined to create a layering of functional elements within the Control headquarters, staffed from assigned Corps headquarters personnel, without augmentation for other organizations.

The central overall control element, in combination with the BLUE and ORANGE battle staffs was therefore occasionally awkward and thinly manned: meeting multiple requirements with an underdeveloped central control concept and plan. The organization had inadequate depth both for continuous complete segregation of BLUE and ORANGE activities, and for meeting with finess the many visitors to the control and battle staffs who were hosted by command and control personnel, and the numerous non routine requirements which arise in the overall control element during a REFORGER exercise. The net effect of attempting to meet the central control requirements with existing planning and available personnel assets was that optimum control was not achieved. The requirements, assets, and possible options for control of the FTX require proportionately more study than they were given, in order to maximize the overall return to V Corps in future REFORGERs.

RECOMMENDATION. Improve the V Corps FTX Control Headquarters concept, organization and manning in the future by:

(1) Deliberate study of control related matters found in REFORGER 76 After Action Reports of V Corps, VII Corps, and Allied Corps, to include control headquarters interface with umpire elements.

(2) Conduct of V Corps, VII Corps joint planning conference to share experience and develop possible concepts, organizations and manning for this infrequently required but essential control organization.

(3) Conduct of V Corps, VII Corps meetings with Allied Corps, to share experience and concepts, and refine results produced from V Corps, VII meeting.

(4) Identification of additional personnel assets not assigned to the Corps staff, to organize and operate the central control element of the Corps Control headquarters would free G2 and G3 personnel to become more directly involved in the decision making process of the BLUE/ORANGE Battle Staff and still provide strong central control.

(G3)

8. (C) PROBLEM: Communications support of the air traffic control (ATC) system.

DISCUSSION: The 14th ATC unit, 5th Signal Command, is tasked to operate the Corps' Flight Operations Center (FOC); however, it is inadequately staffed and lacks necessary equipment to perform its assigned mission. For FTX GORDIAN SHIELD, the unit was finally able to borrow enough equipment to initially survive. Similarly, both divisions attempted to establish Flight Coordination Centers (FCC) relying on borrowed equipment which had not been fielded or tested in this role. Consequently, communications outages prevailed and an efficient system of FCC.FOC interface never naterialized.

RECOMMENDATION: V Corps does not possess the resources to solve this problem; however, it is an area currently being addressed by TRADOC. This headquarters should indorse the proposal to organize ATC battalions which are properly staffed, equipped and trained to fulfill the responsibility for air traffic control within the Corps area. Divisions operating within the Corps would no longer be responsible for this function.

(G3)

9. (C) PROBLEM: Close Air Support (CAS) Command and Control Saturation.

DISCUSSION: The NATO ASOC, composed of German and US personnel, worked well together supporting the ground forces. The attempt to generate a battle which in force ratios and intensity approximated best estimates of what would be encountered strained the command control to the limit. As reflected in the Immediate Air Request Net, the CAS command and control system became saturated at about the 125 mission a day level. A variety of factors influenced this saturation: the level of ASOC/DASC combined training, non-compliance with mission request procedures, HF frequency interference, ECM and radio relay requirements. Safety and political restraint also existed, i.e. safety flying restrictions and ADIZ restrictions.

RECOMMENDATION: That full Tactical Air Control system exercises be developed including G2/3 or S2/3 elements at each echelon. Such exercises could raise the capacity and capabilities of the present CAS command and control system to the support level required on the envisioned battlefield.

(G3)

10. (C) PROBLEM: Communications, Reliability and Procedures.

DISCUSSION: Communications both FM and multichannel at times proved unreliable during the exercise. Radio operation personnel lack training in set-up and break-down procedures, changing RC-292 antenna elements to coincide with frequency changes, and acting as a Net Control Station. Operator training, inadequate equipment, and commanders consideration for communications when jumping CPs contributed to the down-time of multichannel communications.

RECOMMENDATION: Increased quality training of radio operator personnel and commander awareness of Tactical CP displacement requirements.

(G3)

11. (C) PROBLEM: Targeting in the forward area.

DISCUSSION: Characteristics of the real battle, rapid movement, continuously changing line of contact, and entangelment of forces in contact caused problems of targeting in the forward area. Poor communications contributed to the difficulty in determining exact unit locations in the forward area. The firing units ability to effectively engage forward area targets requires precise locations in a timely manner.

RECOMMENDATION: That additional emphasis be placed on accuracy and speed of transmission request for forward area target engagement.

(G3)

12. (C) PROBLEM: Excess Radio Communications.

DISCUSSION: The transmission of required information severely strains the tactical communication capability of deployed units. Operational data required to control and coordinate the tactical situation must have the highest priority, using the most rapid communication means available. The German telephone system offers an unused alternative for routine message handling of administrative information. Use of existing facilities is advantageous in reducing FM radio transmissions, and not vulnerable to detection and neutralization, and are not subject to electronic countermeasures. Detection probability is lessened and increased surviveability on the battlefield is attained through decreased unit FM radio transmissions.

RECOMMENDATION: That the existing German telephone system be used for routine admin message transmission in future field training exercises.

(G3)

13. (U) PROBLEM: Use of Chemical Weapons.

DISCUSSION: The pace of the battle generated a fluid situation that limited the player units ability to use chemical weapons. Difficulty in identifying exact unit locations along the forward defensive area due to poor communications was also a contributing factor. A lack of formal guidance and well defined procedures on the release and employment of chemicals would be beneficial to using units.

RECOMMENDATION: Development of a simple and standardized chemical employment system within USAREUR.

(G3)

14. (U) PROBLEM: Use of smoke generating devices.

DISCUSSION: The use of smoke generators was not addressed in the Environmental Impact Assessment submitted by V Corps. USAREUR Reg 350-22, para 10.e. requires advance coordination with local German authorities prior to using smoke in a maneuver area. Smoke generators produce an oil aerosol which eventually precipitates and coats the surface of buildings, vehicles, and vegetation with a light film of oil. The oil film depends on meteorological conditions, and the quantify of oil used. The oil film presents a potential hazard to crops by rendering them unfit for consumption or processing. Another hazard in using smoke is the chance of causing traffic accidents due to diminished visibility. An incident in 1973, involving civilians, prompted the Ministry of Defense to forbid the use of smoke generating devices outside of training areas. Reference: Ltr, FMOD FU H III 2-AZ: 90-13-65-95, dated 24 May 1974, subj: Use of Smoke Generating Devices.

RECOMMENDATION: That requests be made to Federal Ministry of Defense describing the proposed use of smoke generating devices. The following areas should be addressed:

a. Number of smoke generators to be used.

b. Location of each smoke generating site.

c. Number of smoke generators at each site.

d. Dates and length of time smoke generators will be used.

e. Estimated quantity of oil to be used at each site.

f. Normal land use within smoke envelopment area.

g. Type of crops and proximity of population centers and highways within the envelopment area.

h. Meteorological conditions under which will (and will not) be used.

(G3)

15. (U) PROBLEM: USAFE Staff Officer Participation on the Umpire Planning Staff.

DISCUSSION: The umpire planning group wrote the high performance aircraft umpiring procedures without the benefit of Air Force expertise. Close Air Support (CAS) umpire procedures were written from the Army point of view and not as the Air Force perceived them to be. Numerous USAFE commitments precluded Air Force participation in writing umpire CAS procedures.

RECOMMENDATION: That USAFE provide a staff officer, knowledgeable in CAS procedures, to the umpire planning staff early in the planning phase.

(G3)

16. (U) PROBLEM: Translation of documents from English to German.

DISCUSSION: Corps guidance directives are published in the English language which requires translation for proper usage by Allied player personnel. V Corps does not have assigned linguists for translating published guidance. Allied player units are required to have bilingual personnel for translating pertinent guidance directives if the information is to be disseminated and used. Translation of such documents as the umpire directive or Corps Cir 350-23 is time consuming and requires extensive allied effort which could be better used in planning for the exercise.

RECOMMENDATION: That USAREUR provide linguists or WBK IV or Reserve unit linguists (such as that in Salt Lake City, Utah) be detailed to Corps for their annual two week training for translating REFORGER documents into allied language(s).

(G3)

17. (C) PROBLEM: Weapons Free Requests.

DISCUSSION: The Air Defense Authority and COMFOURATAF require 24-48 hours advance notice for ADA Weapons Free requests which they must approve. Experience by ORANGE forces in asking for Weapons Free as a result of ORANGE intelligence indicates this time is much too long to be responsive in a fluid battlefield situation.

RECOMMENDATION: That the advance notice required for ADA Weapons Free be reduced to assist the maneuver commanders defense.

(G3)

18. (C) PROBLEM: HAWK Missile Resupply

DISCUSSION: Limited resupply of improved HAWK missiles from CONUS stockpile was simulated beginning the second day. It is doubtful if this resupply would be available as rapidly in a real situation. Without the simulated resupply, the ORANGE HAWK GS battalion would have exhausted their basic load on the second day and the BLUE HAWK GS battalion would have exhausted their basic load on the third day (First two days were spent by BLUE HAWK in retrograde movement with limited opportunity to fire)

RECOMMENDATION: That an improved HAWK missile resupply rate, sufficient to counter the expected threat, be implemented.

(G3)

19. (C) PROBLEM: Untimely response by SOC III to Movement requests by HAWK GS units.

DISCUSSION: Directives requires all HAWK units movements to be approved in advance by the Air Defense Command activity, SOC III. These approvals required a matter of hours. Additionally, SOC III would not accept the abreviated movement format previously approved for this exercise by 4ATAF. The BLUE situation during the first two days of the exercise, revealed that HAWK units operating with ground troops in a defensive role must have authority to move at a moments notice if they are to survive in the rapid pace battle.

RECOMMENDATION: That the time required for approval of HAWK GS units request for movement be reduced. Resolution be accomplished between 32d AADCOM and 4ATAF.

(G3 8ID)

20. (U) PROBLEM: Conducting operations with a split Main CP.

DISCUSSION: Reduction of the Main CP's size by splitting off the G1/G4/G5 elements decreased the efficiency of the headquarters, but increased the CP's survivability by reducing the number of heat and electronic signatures. This dispersion also reduces the possiblity of destruction of the entire CP. Locating the G1/G4/G5 complex near or with DISCOM gives the G4 greater accessibility to logistical data and the trains. Several problems occurred during the split of the CP which require additional study and refinement. Shortages of communications, equipment, and liaison personnel to the DTOC caused the most difficulty. Under the split concept the G1/G4/G5 complex must leave secure communications, dedicated telephone lines, and the personnel necessary for their operation. Additionally, courier service must be augmented to service both CP's and liaison personnel provided to pass critical information between the two locations. The G1/G4/G5 complex also requires additional security forces to insure its defense.

RECOMMENDATION: That the split Main CP concept be further refined with the view to using it as an optional alternative.

(G3 8ID)

21. (U) PROBLEM: All flying and targeting restrictions were not fully staffed prior to this exercise.

DISCUSSION: ORANGE force planners were told only nine days prior to commencement that the 5 NM FRG ADIZ targeting restriction as directed in USAREUR Reg 350-11 would apply to this exercise. If enforced, it would have restricted CAS for 50% of the ORANGE ground forces. An immediate request for waiver was submitted and subsequently approved two days into the exercise.

RECOMMENDATION: Exercise air-planners resolve problems concerning restrictions being imposed on the participating forces. If restrictions are in effect, sufficient lead time be given to player units to adjust planning for tactical air support.

(G3 8ID)

22. (U) PROBLEM: Aircraft friend or foe identification is impossible when the same type aircraft are flying for both sides.

DISCUSSION: Aircraft identification is accomplished by two means, by IFF/SIF is not available to every ADA member so visual identification becomes paramount. If aircraft of the same type i.e., FRG F-4 vs USAFE F-4, are flying for both sides it will be impossible to determine friend from foe. They cannot be identified by ground forces.

RECOMMENDATION: Aircraft be allocated to opposing forces by type and not by nation.

(G3 8ID)

23. (U) PROBLEM: Improper cover and concealment of helicopters parked at field sites.

DISCUSSION: Maneuver damage restrictions, unsuitability of ground handling equipment for aircraft in the field environment, and potential for aircraft damage frustrated attempts to move aircraft into woodlines for proper cover and concealment. Current camouflage nets do not provide good concealment and, because of loose clips, could cause foreign object damage to the aircraft.

RECOMMENDATION: Adequate ground handling and camouflage equipment for the field environment should be developed for aircraft assigned to division.

(G3 8ID)

24. (U) PROBLEM: Lack of trained liaison personnel for attached units.

DISCUSSION: Operations with non-divisional units require additionally trained personnel to insure close coordination during combat activities. This is particularly true when NATO units, such as the 2-16 Belgians, are operating with the Division. Further study and coordination on interoperability is necessary in the areas of language commonality, repair parts, and unit standing operating procedures. Detailed coordination and the exchange of liaison personnel is necessary when units such as the 1-75th Rangers are used in their primary role of deep penetration. The Rangers experienced particular difficulty when they had to operate with other NATO units, such as the French LRRP's without the exchange of liaison personnel.

RECOMMENDATION: That liaison personnel be identified and trained to worl with specific units, i.e. French, German, Dutch, British, etc. Additionally, commonality of terms and standard procedures for troops of all NATO nations must be developed and distributed to insure close interoperability between NATO forces.

(G3 42d FA Gp)

25. (C) PROBLEM: Communications Requirements

DISCUSSION: The communications requirements of the V Corps FSOP and the missions assigned the Group Headquarters require elements of the Group to enter more FM radio nets than there are currently assets to enter. The SPANNER study, of some months age, reduced FM radio assets within the Group to the minimum manning level required for normal TOE mission.

RECOMMENDATION: Additional assets are required within the Group when additional missions requiring FM communications are assigned. This issue will be addressed separately in a requested MTOE change.

(G3 11th ACR)

26. (C) PROBLEM: Establishment of a Barrier.

DISCUSSION: The new tactics employed need to review the emplacement of barrier targets both forward of the battle position and as part of the battle position. This review needs to incorporate the problems of target turnover along with insuring that every target can be covered by fire. Specific problems were:

a. The fact that Engineer units need to work under the philosophy of working DS to battle positions rather than strictly by boundary organization.

b. Engineer units with their tactical unit must develop a method of passing targets in depth both forward and within battle positions during a fast moving situation.

c. That continued combined arms training be conducted to increase the effectiveness of Engineer employment.

RECOMMENDATION: That V Corps review the engineer employment in conjunction with the new tactics for an active defense.

(PSE 8ID)

27. (U) PROBLEM: Chemical Targeting Missions.

DISCUSSION: Procedures used to request employment of chemical munitions during the REFORGER FTX 76 were disseminated by messages prior to and during the exercise. In some cases these instructions conflicted with procedures published in the Corps Field SOP and GDP. For example, the current Field SOP requires designation of a specific firing unit for the approved delivery of chemical fires. In addition the request format in the Field SOP is long and cumbersome. A simplified format was disseminated by Corps and was used during GORDIAN SHIELD.

RECOMMENDATION: That the designation of delivery unit(s) be accomplished at the time of release, at no level higher than Division Artillery, as a normal part of fire planning and control. That the release/employment procedures of the V Corps Field SOP and GDP be standardized using the GORDIAN SHIELD system.

(AD LNO)

28. (C) PROBLEM: Use of IFF/SIF codes.

DISCUSSION: ADA units reported numerous aircraft obviously on hostile missions were not squawking the designated exercise code which would have permitted engagement. Exercise orders precluded engagements of all aircraft not squawking the designated faker (simulated hostile) mode/code. Further, some aircraft apparently turned off their faker mode/code when they sensed they were being tracked.

RECOMMENDATION: That a more realistic use of IFF/SIF codes be used: engagement be permitted of all aircraft not squawking a single friendly or neutral faker code.

(ADA 8ID)

29. (U) PROBLEM: Availability of Chaparral Ammunition.

DISCUSSION: At the outset of GORDIAN SHIELD, 1-59 ADA Chaparral systems had a total of 288 missiles as their basic load. The exercise ASR was one missile per day per Chaparral. By ENDEX, the battalion had only 50 missiles on hand, or a little more than two missiles per weapon. If another large enemy airmobile operation had been launched, the division Chaparral assets would have been ineffective due to an ammunition shortage.

RECOMMENDATION: The ASR of Chaparral ammunition must be determined based on the threat.

(ADA 8ID)

30. (U) PROBLEM: Restricted Airspace.

DISCUSSION: Without an organic IFF capability on each air defense weapon system, the Division's air defense assets were held to a role of self defense during the hours of darkness. To counter the BLUE force's capability for night airmobile operations, the division requested and received restricted airspace for rotary winged aircraft up to 1000 feet. Prior guidance from the Division Commander eliminated the single helicopter from the threat. For this airmobile threat WEAPONS FREE was in effect.

RECOMMENDATIONS:

a. The division utilize restricted airspace over critical installations in the future.

b. If an airmobile threat is perceived, a larger block of restricted airspace be requested and that safe air corridors be designated.

c. When possible, WEAPONS FREE be permitted depending on threat, time of day, and friendly and enemy air situation.

(ADA 8ID)

31. (U) PROBLEM: Conduct of the Active Defense against an Airmobile Threat.

DISCUSSION:

a. The best defense against airmobile forces is an ADA version of the active defense with ADA aerial ambushes. The use of Chaparrals with some Vulcans deployed along approach routes and predominately Vulcans in the areas of the Landing Zones (LZ's) caused maximum damage to airmobile forces. A major portion of each lift was destroyed enroute to the LZ's before they could land troops or equipment.

b. FAAR radars can cover NOE flight corridors when properly sited. The complementary role of HAWK radars was to force helicopters down into areas where they could be ambushed by Chaparral/Vulcans/Redeyes. A central reporting center for the FAAR radar reports of visual and electronic sightings gave a "real-time" picture of all major aerial activities and flight patterns in the division area.

c. The Spectrum X system allowed rapid and accurate reporting of aerial and airmobile assault activities and the passing of this data to fire units, headquarters, and reaction forces. The system was used for early warning, analysis of aerial activity, reporting enemy airmobile insertions, airspace coordination, and coordination of ADA fires. The system was simple, responsive, and effective.

d. While all ADA battery's should be GS under battalion control to effectively defend the division rear area against massive airmobile assaults, even without this control, or early warning other than visual observers, their firepower would have been devastating to large groups of helicopters.

RECOMMENDATIONS:

a. Priorities of fire for AD weapons be as follows:

(1) Redeyes - engage high performance and other aircraft attacking ground units and attempt to ambush and destroy anti-armor attack helicopters whenever sighted.

(2) Vulcan/Chaparral - concentrate on helicopters, particularly multiple flights and obvious troop and weapon carriers. Engage high performance aircraft and anti-armor helicopters when they are attacking friendly ground units or when there is a high probability of a kill.

(3) HAWK - concentrate on high performance aircraft and large flights of helicopters. The C/V Battalion Liaison officer must pass multiple helicopter flight information to the HAWK Battalion Operations Center as only 2 or 3 helicopters of a multiple flight might be visible on the HAWK radar scopes.

b. Centralized control of all Chaparral/Vulcans in the Division area be handled by the Division AADCP and a centralized reporting center for FAAR radars, fire units and observers be continued at the AADCP.

(ADA 8ID)

32. (U) PROBLEM: HAWK in Support of the Division.

DISCUSSION: The ORANGE Force HAWK Battalion was placed in GS of the 8ID. Current doctrine as prescribed in FM 44-1, suggests that a DS mission is more appropriate. Additionally, the HAWK BOC was not tied into the VHF system of the division. The HAWK Battalion also had some difficulty in receiving Class I and III items from its parent unit as well as some commodities of Class IX which were available at DISCOM.

RECOMMENDATIONS:

a. A HAWK Battalion in the division zone be placed in DS of the division.

b. A HAWK Battalion DS to the division be supported by DISCOM, when tasked, for those classes of supply currently available in the division.

c. The HAWK Battalion DS to the division be integrated into the division VHF system if VHF is available.

UNCLASSIFIED

(G4)

33. (U) PROBLEM: Base Date for FTX Ammunition Play

DISCUSSION: During the exercise, it was extremely difficult to compute ammunition usage from base data, since no base data was provided.

RECOMMENDATION: Prior to future FTXs, G4 will require a list of weapons systems densities be provided by Player units prior to the first day of the exercise. This will be provided to 3d SUPCOM MMC, which can then establish stockage levels.

(G4)

34. (U) PROBLEM: Logistical Interoperability and Reimbursement Procedures

DISCUSSION: The logistical support provided by the III German Korps during the deployment and redeployment of the 101st Abn Div (AASLT) wheeled vehicle convoys and helicopters was outstanding. It was readily apparent that the Germans were taking most seriously their role as the host nation during this exercise and provided outstanding service. Service provided included rations, billets, POL, movement control, medical support, wrecker and recovery service, and feldjager support in sector. The Belgian Forces provided a variety of services to V Corps elements participating in their FTX BLAUWE DIEMEL. This support included petroleum products and rations. The reports from participating units indicated that this support was most adequate, and that both nations had benefited by the exchange. V Corps had an opportunity to reciprocate during FTX GORDIAN SHIELD. During this exercise logistical support (rations, POL, class IX, bath and laundry, etc.) was provided to a Belgian mechanized infantry battalion, French Long Range Reconnaissance Patrol base elements, German Long Range Reconnaissance Patrol base elements, and a German Panzer Grenadier Brigade. The PzGnBde provided the most interesting aspects of logistical interoperability. During the course of the exercise, mechanics and parts, (on common items of equipment), were exchanged, specifically for the M109, M577, and the M113. In addition, during the course of the tactical play, two US tank battalions were unexpectedly attached to the Panzer Grenadier Brigade, creating additional logistical support requirements for the Brigade Commander, which he resolved in an outstanding manner.

RECOMMENDATION: Future exercises on a smaller scale than the REFORGER series should be used as vehicles for international training. A caveat is required. The reimbursement procedures for allied support have to be reduced to an easily implemented system rather than the cumbersome contract negotiation system presently in effect.

(G4)

35. (U) PROBLEM: Class IX Aircraft Parts

DISCUSSION: The employment of an air assault division for extended time frames will generate a tremendous aircraft Class IX requirement for the recipient Corps. During FTX GORDIAN SHIELD the 101st Abn Div (AASLT) deployed to V Corps with a sufficient stock of aircraft repair parts for the five day exercise. An exercise of longer duration or employment in a combat mode would seriously affect the supply system of the recipient Corps. This is caused by the vast aircraft densities of airmobile units, far exceeding the normal Corps allocation of aircraft assets.

RECOMMENDATION: To meet this anticipated demand of aircraft repair parts, recommend major aircraft assemblies be stocked in containerized packages in the rear of the Corps' boundaries. These containerized packages could be moved into the Corps area with the attachment of the Air Assault Division, or assets of the air assault division could be diverted to the pickup point as required.

(G4)

36. (U) PROBLEM: Multinational Cross Attachment Support Package

DISCUSSION: During the conduct of FTX GORDIAN SHIELD, two US tank battalions were cross-attached to the 13th Panzer Grenadier Brigade, providing the necessary combat power to launch the main attack in sector. It was rediscovered that a logisitcal support package to support the US peculiar items of equipment was required.

RECOMMENDATION: Consideration for multination cross attachment of forces includes the necessary provisions of appropriate logistical support elements.

UNCLASSIFIED

(G4)

37. (U) PROBLEM: Post FTX Activities, REFORGER 76

DISCUSSION: Due to the funds constraint for the immediate redeployment of the 101st Airborne Division (AASLT), partnership type training with allied units in FRG was arranged by HQ, USAREUR. V Corps was involved in arranging the Purchase Requests and Commitment (PRC) Forms for training of three 101st elements. This required the submission of PRCs for support provided by the 1st Belgian Corps and the 1st German Korps, both NORTHAG elements; as well as the III German Korps, a CENTAG unit. In future negotiations, it would be more appropriate for the support requirements of the NORTHAG elements be identified on PRCs generated by the 21st Support Command rather than V Corps. Consideration should be given, in future endeavors along this line, to having the USAREUR headquarters generate the PRCs due to a commonality of logistical services provided in the area of rations, billets, telephone service, and equipment cleaning facilities. In addition, in those PRCs which include the requirement for host country rations, a request for printed menus should be included as part of the contract, due to command interest in rations provided the American soldier.

RECOMMENDATION: Preparation of PRCs by US personnel follow peacetime geographical boundaries, and PRCs include a requirement for host nation to provide a menu of items to be provided. Consideration should be given to the USAREUR level submission of PRCs for common articles of logistical support.

(G4)

38. (U) PROBLEM: Failure to Implement STANAG Procedures for International Logistic Support on REFORGER 76.

DISCUSSION: The existing STANAGs concerning the reimbursement of funds for services and supplies provided to US forces by allied forces were not implemented. This necessitated lengthy contract negotiations between the nations involved. This was not so much a matter of concern in the transactions between the German and the American participants, as mutual support agreements for rations and POL products are in existence. The matters of requiring negotiations were the support requested from the Germans in excess of normal requirements, and all support requested from the Belgian and English Forces in FRG.

RECOMMENDATION: In future exercises of this scope, recommend the existing support STANAGs be published and practiced.

(G4)

39. (U) PROBLEM: Host Nation REFORGER Support was provided from a peacetime base.

DISCUSSION: It must be appreciated that the host nation support of the 101st deployment and redeployment convoys was provided in a totally peacetime environment with the dedicated support of German front line tactical elements operating from their home station. These elements are organic to Corps and divisions committed to GDP. In wartime, or at a time requiring the mobilization of German Forces, logistical means to support a movement of this type would be severely curtailed. This is due to two factors. The first is the time required for the mobilization of the territorial support forces. The second factor is that the assets of the already heavily burdened territorial forces are committed to existing missions. This places a tremendous responsibility and logistical support burden on the German territorial commands, with the attendant political considerations involved.

RECOMMENDATION: German host nation and USAREUR evaluate manner of meeting logistical support requirements for deployment during a mobilization period.

(G4)

40. (U) PROBLEM: Proper Allocation for TOW systems.

DISCUSSION: The TOW missile is fired from a variety of configurations. One is the ground mount, another the mechanical mule or Armored Personnel Carrier mount, the helicopter configuartion with four combined with 2.75 rockets, and the helicopter configuration with eight TOW launchers. The ASR calls for an issue of one missile per system. With an identificaiton of a single launcher system, a four launcher system, and an eight launcher system, the existing ASR is difficult to realistically apply.

RECOMMENDATION: That CINCUSAREUR determine the proper allocation of missiles for TOW systems.

(G4)

41. (U) PROBLEM: Logistical support densities

DISCUSSION: A considerable amount of the planning done for the deployment of units into exercises was based on incomplete data. Deployment vehicle density listing for unit convoys was not received until extremely late.

RECOMMENDATION: The early establishment of a European based LNO for the deploying unit with direct telephone access to his parent unit. In addition, early liaison between the deploying unit US action officer and his allied counterpart greatly assists logistical problem resolution.

(G4)

42. (U) PROBLEM: Tanker availability for POL product support of air assault forces.

DISCUSSION: The POL product support provided by the German host nation was outstanding. During the deployment phase, the host country refueled vehicles and helicopters at Mendig; and during the redeployment phase at the Homberg RON site, and at the Fritzlar Helicopter base. From the tactical viewpoint the furnishings of large quantities of JP4 (F40) inherent in the employment of an air assault battalion task force imposes aviation refueling requirements normally exceeding the capacity of the allied host country and requires supplementation of POL tankers beyond those normally on hand in the allied formation.

RECOMMENDATION: That USAREUR conduct a study to determine the number of POL tankers available to be provided to deploying air assault elements, or to an allied formation in the event an air assault element is OPCON to an allied Corps.

(G4 8ID)

43. (U) PROBLEM: The ability of the MCC to control movements in a secure FM mode was limited.

DISCUSSION: Although the subordinate division elements had the capability to report movement by secure FM, the key elements of the MCC did not. The DTO gained a means of secure communications by co-locating with the Div TAC CP; a situation which limited his flexibility of movement. The MP's and maintenance contact teams which assisted the MCC did not have secure FM capability; therefore it was necessary that they be controlled in the unsecure mode. The inability of all MCC elements to communicate on a common secure net with units conducting movements hampered the overall operation.

RECOMMENDATION: That the MP's and maintenance contact teams in the MCC organization be augmented with a secure capability.

(3D SUPCOM)

44. (U) PROBLEM: Units inadequately reported data as required during the exercise period.

DISCUSSION: The requirement to report certain data was not accomplished by units in a timely manner. In the case of the 101st Abn Div (AASLT), many logistical reports were not provided until the very end of the exercise. Causes of the problem include: requirements not clearly defined, initial requirements were modified and all elements did not get changes (HQ V Corps published several changes to the logistical reports that compounded the confusion) and data was not reported because of communications problems.

RECOMMENDATION: Higher HQ must publish special report requirements early enough to allow subordinate units sufficient time for necessary action. Normal report requirements such as LOGSIT and Battle Loss should receive command emphasis to insure that every effort is made to provide data in accordance with instructions.

(3D SUPCOM)

45. (U) PROBLEM: Incompatibility of US and German fuel equipment.

DISCUSSION: During the exercise, POL sites operated by elements of 3D SUPCOM (CORPS) experienced difficulty refueling petroleum tankers from the 13th Panzer Grenadier Brigade because of incompatable connections on our hoses and their trucks. For this reason, fuel was required to be loaded into their trucks from the top rather than from the bottom, an unsafe procedure that increased the possibility of fuel spillage.

RECOMMENDATION: Since continued support to German forces is anticipated, recommend an adapter be purchased or fabricated which will allow the connection of US hoses to allied POL vehicles. Such a hose would still have a US connection to the railroad car, but a European connection at the other end.

(3D SUPCOM)

46. (U) PROBLEM: Security of POL, L&B, and ASP sites was inadequate.

DISCUSSION: Tactical units had reaction forces on call, however, an attacking enemy could do considerable damage prior to the forces arrival. The administrative nature of some of the points of FTX GORDIAN SHIELD, due in part to their location in towns, may have caused this lack of concern. Only the BUCHES rail site was protected with three towed vulcan systems.

RECOMMENDATION: Adequate protection for POL, L&B, and ASP must be provided by the customers, planned in advance and be on site in order to respond to enemy action.

(302d ASA)

47. (C) PROBLEM: Opposing Transmissions Not Identifiable.

DISCUSSION: With English in use by both forces, "enemy" radio transmission could not be quickly identified as such, as would be the real world case. This results in much wasted operator motion in discriminating friendly from enemy transmissions, and severely impedes development of opposing force information by ASA units.

RECOMMENDATION: In the future, a verbal discriminator should be used in each call sign in each transmission to denote the major force to which the station belongs.

(C&E)

48. (C) PROBLEM: FM Communications.

DISCUSSION: FM Communications was severely degraded during the exercise. Operator training, equipment maintenance and insufficient FM frequencies authorized for use within a small maneuver area account for the degradation of FM Communications. Operational and equipment completeness checks were not performed prior to displacement to the field. After arrival in the field several radio sets had to be replaced or repaired. The Corps staff radio operator personnel lack training in set-up and break-down procedures, changing RC-292 Antenna elements to coincide with frequency changes, and acting as a Net Control Station. Training of 32d Sig Bn (C) in establishing and operating isolated automatic retransmission stations is also required. The maneuver area was located within two large frequency restricted zones; "M" and "K". Restriction zones precluded the use of frequencies between 47.00 and 61.00 MHZ. MOD BONN later lifted 47.00 to 54.00 MHZ restriction for GORDIAN SHIELD, however, the automated CEOI had already been printed and the player units did not benefit from the increased authorization.

RECOMMENDATION:

a. FM radio instructions should be presented to the Corps Staff, action Officer, and NCO's by radio operator personnel.

b. Concern should be given to frequency restriction zones and geographical size when selecting real estate to conduct an exercise the like of GORDIAN SHIELD. A maneuver area the size of GORDIAN SHIELD with approximately two division (+) playing will cause inherent frequency interference problems.

c. Player units should reduce or combine radio nets to the minimum required allowing an overall reduction of emitters in the CP and grouping of retransmission stations on key high ground.

d. The Corps HQs Company must increase its organic DS radio maintenance capability to permit on site radio repair. Presently, one radio repairman (31E20) is authorized without, however, the necessary tools to do his job.

(C&E)

49. (C) PROBLEM: Corps Tactical Multichannel Communications.

DISCUSSION: Multichannel communications during rapid CP displacement was inadequate. Operator training, inadequate equipment and Commanders consideration for communications when jumping CPs contributed to the inadequate multichannel communications during GORDIAN SHIELD. 32d Sig Bn (C) is suffering from an acute shortage of 31M personnel; 71% of authorized (31M20) personnel are onhand. Sufficient training was not conducted to support such fast moving tactical situations encountered in the exercise. Operators attempting to install systems more rapidly than ever before made errors which resulted in subsequent degradation of communications. The type multichannel equipment prohibits the rapid installation of systems. The multichannel antenna, AB-577, was designed for a maximum height of 50 feet, was later, modified for use up to 75 feet, but must now be used at heights ranging from 85 to 110 feet to clear foliage and trees resulting in erection time of 4 to 6 hours. Erecting the AB-577 to heights of 75 feet and greater cause antenna equipment malfunctioning. Moderate winds (20-30 knots) during the exercise blew several antennas down during critical tactical situations. Extended system distances as a result of supporting CPs in depressions or lack of line-of-sight (LOS) required numerous relays and long links to be installed. The concept of tactical CP displacement was practically non-existent during GORDIAN SHIELD. Normally, all CPs do not displace at the same time; rather, a controlled displacement takes place allowing a continuity of command to be maintained.

RECOMMENDATION:

a. Training goals within the 32d Sig Bn (C) should be modified to incorporate rapid installation and de-installation of multichannel systems and to train personnel in more night jump situations.

b. Immediately modify and reorganize the MTOE of the 32d Sig Bn (C) to include AN/TRC-145 Terminals Band I and AN/TRC-113 Relay units to provide the Battalion with the capability of installing rapid communications. Band I AN/GRC-103 Radios within the AN/TRC-145 Radio Terminal will preculde antenna installation above foliage or tree lines. Band IV AN/GRC-103 Radios are slated for Corps level in the 75-80 year time frame. Band IV AN/GRC-103 Radios, although an improvement over AN/GRC-50 Radios, will still require antenna erection above the tree line thus reducing little time in antenna erection.

c. Commanders must be aware of the limitations in their communications support. When Commanders fail to properly estimate the tactical situation and displace all CPs at the same time continuity of command is lost and total multichannel communications is lost from time of march order to arrival time at new location coupled with set-up time for multichannel for an excessive period of 10 hours or more.

d. Long Range Solution: Tactical Satellite Communications (TACSATCOM) single channel non-secure was effectively utilized by the 101st Abn Div (AASLT) during GORDIAN SHIELD. It was demonstrated that TACSATCOM can be established and turned to traffic within 15 minutes of arrival at CP locations. The TACSATCOM could provide single channel voice Command and Control links until multichannel systems are installed.

(ENGR 130th)

50. (U) PROBLEM: Diversion of Transport Assets.

DISCUSSION: Normal Engineer Battalion transport assets were used to haul Class II and IV barrier materials for two days. This requirement diverted 25 percent of the battalions transport capability, reduced available engineer effort and strained maintenance support.

RECOMMENDATION: That barrier materials be throughput into Forward Stockage Points.

(ENGR 8ID)

51. (U) PROBLEM: Use of M-56 Air Delivered Mines.

DISCUSSION: The use of the M-56 Air Delivered Mines could have had a pronounced effect on the outcome of the FTX if they had been played. Effective use of these mines by either the BLUE or ORANGE forces could have severely hampered their opponent's armored mobility. However, due to the fact that the M-56 contains no anti-personnel mines, its use by the ORANGE force against the BLUE Air Mobile forces would probably have been of limited value. This is a concept that needs to be tested in a major exercise such as GORDIAN SHIELD.

RECOMMENDATION: That the M-56 Mine Dispensing System be evaluated in a field exercise as soon as possible for possible employment in the GDP.

(PAO)

52. (U) PROBLEM: Late release of public notification of exercise activities.

DISCUSSION: By either USAREUR or DA direction, the general public in the FTX GORDIAN SHIELD exercise area was not notified until 24 August 1976. Government officials were, of course, briefed some months earlier and, for the most part, respected the confidentiality of the information. This late date for public release of the exercise data placed them in an uncomfortable position with their constituents, the more so given that 1976 is an election year. There was insufficient time for them to prepare their constituent populations for the impact of the then impending-operation. Adequate psychological preparation of the civil populace would appear to in the best interest of the Corps, especially for exercises of this magnitude.

RECOMMENDATION: Earlier public notification is the obvious solution, although this must be accomplished with cooperation of USAREUR and/or DA.

(UMPIRES 8ID)

53. (U) PROBLEM: Ranger type operations do not easily fit into the Jiffy scoring system.

DISCUSSION: Ranger formations are lightly equipped with basic fighting systems therefore their ability to accomplish missions is based on surprise and close combat. Firepower scoring must be adjusted utilizing conversion factors from basic fighting systems scores to combat power incorporating professional subjective judgment of the part of resident umpires. Multiplication of the fighting system by the surprise variable should compensate for the firepower scoring of the Jiffy system.

RECOMMENDATION: Adjust Ranger fighting system scores by use of the surprise variable in transferring fire power to combat power and by use of solid professional judgment.

(UMPIRES 8ID)

54. (U) PROBLEM: Enemy artillery positions cannot be properly located through standard target acquisition methods since most active means of detection require actual weapons firing.

DISCUSSION: Since no live rounds are fired, counterbattery play becomes dependent upon ASA and other sources for targeting information. A system could be devised to play counterbattery based on the number of fire missions conducted by a battalion or battery at a location within a given time frame. If the unit fires X number of rounds over a 2-4 hour period without displacing, targeting information could be disseminated through umpire channels.

RECOMMENDATION: The means to accomplish counterbattery play be evaluated and upgraded to provide a new facet to artillery training during field exercises.

(SPECIAL INTEREST - NBC)

55. (C) PROBLEM: NBC Warning System and Security of Chemical Stockpiles require additional study and effort.

DISCUSSION: NBC Warning and Reporting System, and Protection of Stockpiles.

a. The NBC Warning System worked sporadically during REFORGER. It is dependent on two elements, one that commo is available, and two that the messages receive timely attention and are retransmitted to the next element up or down. There are no dedicated or designated commo systems to provide this information. Also there are no provisions to insure that the information reaches its destination. In the case of NBC 3 NUC or CML and Nuclear and Chemical strike warnings this could have extremely adverse effects on the units that are to be warned.

b. Protection of Stockpiles was adequate. ORANGE and BLUE Forces were allocated chemical munitions and were allowed to carry a basic load (simulated). The requirements were to segregate the chemical munitions from conventional ammunition to insure that they were not inadvertantly fired without proper authorization. ASP's were also to segregate the chemical munitions. ASP's were instructed not to issue until authorization for employment was received, and then to issue only in accordance with the prescribed ASR. Chemical munitions were provided the same safeguards as conventional ammunition, and their security posed no special problems.

c. Protective Clothing, formerly a problem, was not a problem on REFORGER. The new Chemical Protective Overgarment (10% Training Allocation) was used by V Corps Forces during REFORGER. Units operated up to 6 hrs in various stages of Mission Oriented Protective Posture (MOPP). While voice communications was more difficult, the overall effect of MOPP did not overly degrade the ability of the units to perform their mission.

RECOMMENDATION: Recommend that a study be conducted of the procedures for insuring that vital NBC information is transmitted vertically and laterally between major tactical headquarters. Recommend that procedures for movement, handlings and safeguarding of chemical munitions be developed and desiminated.

Change 4 to V Corps Cir 350-23 4 October 1976

APPENDIX 12 Continued (After Action Report) to ANNEX Y (Reports) to V Corps Cir 350-23 (U)

Inclosure 1 - Outline for Final After Action Report and Inclosures

1. Letter of transmittal

2. Title page (Optional)

3. Table of Contents

4. REFORGER 76 Final After Action Report, Basic Report (Note: Basic Report is letter format.) Paragraph titles are underlined, other text is amplifying instructions.

PARAGRAPH NUMBER	CONTENT
1 (Taskers)	References, detailed lists at Inclosure 1.
2 (Missions)	Mission(s), stated, implied, or derived.
3 (Who)	Narrative description of unit/staff participation. Use tabular data at Incl 3 where appropriate for unit/staff allocations of personnel, for planning preparation, operation or post exercise phases.
4 (How planned)	Explanation of concept. General concept of participation in the exercise and specific missions, stated, implied or derived, for the unit or staff section during the planning, preparation, operation or post exercise phases. Details, organization charts, and phasing charts are at Inclosure 4.
5 (What Happened)	Significant unit/staff activities, in narrative chronological sequences by phase (planning, preparation, operations, and post exercise phases). Detailed summary of maneuver activities and maps are presented at Inclosure 5.
6 (How Well)	Statement pertaining to the attainment of exercise objectives; and the accomplishment of missions; stated, implied, or derived.
7 (Problems)	Itemization of specific problem areas and recommended solution, to include both resolved problems and their solution; and unresolved problems, and ways to minimize them. Detailed lists at Incl 7.
8 (Lessons)	Lessons learned, and significant improvements developed.
9 (Summary, Assessment, Recommendations)	Commanders'/Chief's of General, Special, and Directorate Staff Summary, assessment, and recommendations. The summary is a consise statement on what was done. The assessment is a reflection on best future direction(s), and the recommendations are means to achieve the optimum direction (s).

UNCLASSIFIED

Change 4 to V Corps Cir 350-23 4 October 1976

APPENDIX 12 Continued (After Action Report) to ANNEX Y (Reports) to V Corps Cir 350-23 (U)

Inclosure 1 - Outline for Final After Action Report and Inclosures

NOTE: Annex designations are for Corps staff and special purpose organization basic reports, which will be annexes to Volume II, the Corps internal After Action Report. Inclosure designations are for corresponding data in the Corps report to USAREUR (Volume I), and major subordinate command reports to V Corps (Volume III). Inclosures are also to be used for detailed data inclosed with the basic report (annex) of Corps staff and special purpose unit final reports.

5.

ANNEX LETTER	INCLOSURE NO.	CONTENT
A	1	References.
B	2	Mission(s).
C	3	Unit/staff participation, tabular data on strengths.
D	4	Explanation of concept, to include organization charts.
E	5	Significant activities; Maneuver activities and maps.
F	6	Attainment of exercise objectives.
G	7	Itemization of specific problem areas and recommended solutions.
H	8	Lessons learned.
I	9	Commander's/Staff Chief's Summary, assessment, and recommendations.
J	10 (All units & staffs)	Consolidated key planning and preparation dates (milestone chart) for the unit/staff section.
K	11 (All units & staffs)	Point of Contact sheets; duties of individual contacted, incumbent, phone numbers, internal to V Corps, and external.
L	12 (All units & staffs)	Rationalization, Standardization, and Interoperability Initiatives
M		REFORGER exercise planning staff (G3 Exercise Div, plus).
N		G1 (Personnel and Administration; includes Chap, Surgeon, PMO, Safety, HQ Cmdt (Corps Control Center) & AG.
O		G2 (Intelligence, Counter Intelligence, and Electronic Warfare, ATSE, SSO).
P		G3 (Plans, Operations and Training, and including Control, BLUE & ORANGE), Aviation, NBC, Electronic Warfare, Op Sec.
Q		G4 (Logistics and Service Support).
R		G5 (Civil Military Cooperation, WBK4).
S		Communication & Electronics
T		Secretary to the General Staff

UNCLASSIFIED

Change 4 to V Corps Cir 350-23 4 October 1976

APPENDIX 12 Continued (After Action Report) to ANNEX Y (Reports) to V Corps Cir 350-23 (U)

Inclosure 1 - Outline for Final After Action Report

ANNEX LETTER	CONTENT
U	Engineer (Less Maneuver Damage Control, at ANNEX A).
V	Fire Support Element.
W	Air Defense Element.
X	Resource Management.
Y	Directorate of Engineering and Housing
Z	Directorate of Industrial Operations
AA	Inspector General
AB	Staff Judge Advocate
AC	Umpires
AD	Maneuver Damage Control
AE	Joint Visitors Bureau
AF	Press Center/Public Affairs
AG	Giessen Community CDR (HQ Site)
AH	Frankfurt Community CDR (101st Reception)
AI	ALO (601st DASC)
AJ	Distribution

(Cmd Gp)

1. (C) PROBLEM: Lack of concurrent Exercise Start Time for all Services and Headquarters participating in Corps level NATO Field Training Exercises.

DISCUSSION: When "the balloon went up" and the V Corps FTX maneuver elements began movement to contact, USAFE elements and the CENTAG full controller staff were not available to start their play concurrently. The difference in exercise activity schedules was known in advance, but concurrent start and stop times were not emphasized in early planning. The result of all this was that early air play was precluded, and decisions from the next higher headquarters were difficult to obtain when needed early in the battle.

LESSON LEARNED: Planning and coordination for Corps level FTXs should include steps to insure that all exercise participants are scheduled and available from start to finish of the exercise.

(Cmd Gp)

2. (C) PROBLEM: Troop Insertions by Parachute.

DISCUSSION: ORANGE troops were inserted by parachute during early morning hours of 6 September near an opposing Regiment CP. The flight level of the drop was well into the enemy ADA envelope. The Regiment knew they were coming, observed their Pathfinders, located their beacon, and arranged a warm reception. A subsequent insertion using helicopters was imminently successful.

LESSON LEARNED: Helicopter insertion, using nap of the earth or low level flight profiles, is preferable to a parachute insertion in this environment.

(G1 8ID)

3. (U) PROBLEM: Lack of transportation assets made it difficult for Chaplains to perform their duties.

DISCUSSION: This was an anticipated problem in that most chaplain jeeps were deleted from the MOTE under "Operation Wheels." The problem was further aggravated by the dispersion of troops over a large area. The solutions to this problem varied. In some units chaplains were dependent upon others for transportation and were often stranded for long periods. In other units they were assigned vehicles and drivers. The resultant impact was that in one of the two Brigades 50% fewer services were held and troops visited.

LESSON LEARNED: Each chaplain must have his own dedicated vehicle if he is to perform his mission.

(G3)

4. (U) PROBLEM: APOD/APOE Reception Center Support.

DISCUSSION: V Corps was tasked (USAREUR OPORD 6-76) with "being prepared to assist 4th Transportation Brigade in establishing reception facilities at APOD/APOE". Msg, 4th Trans Bde, DTG 120840Z Jul 76 requested that V Corps provide reception center services at Rhein Main Air Base for arriving CONUS REFORGER personnel. Expendable supplies which were required for this mission support were not budgeted for in the V Corps budget which had previously been submitted on 14 June 76.

LESSON LEARNED: That the extent of implied or possible tasking requirements be determined prior to budget submission in order to more accurately reflect costs estimates in the budget.

(G3)

5. (U) PROBLEM: Reserve Unit Evaluation.

DSOPS USAREUR

31 DEC 82

DISCUSSION: Reserve units must be evaluated when participating in REFORGER as a unit. Evaluation forms will be furnished by the Reserve Affairs Officer, USARJUR. Evaluation is IAW AR 330-27 which requires a subjective judgment as to the units attainment of its readiness objective. An evaluator, familiar with the type unit, is required if a realistic unit evaluation is to be made rather than just filling in the blanks.

LESSON LEARNED: Each Reserve unit participating in REFORGER should be assigned a knowledgeable evaluator, familiar with that type of Reserve unit, if a realistic unit evaluation is to be obtained.

(G3)

6. (U) PROBLEM: Developing the Optimum Format for After Action Reports

DISCUSSION: Review of old After Action Reports revealed that key tasking documents and actual missions performed were difficult to identify. Also, the format previously used did not fix the location for significant improvements or the commanders assessment, and was not conducive to a summary basic report, with inclosures.

LESSON LEARNED: See After Action Report format, pages 8-8 to 8-10, taken from V Corps REFORGER Circular, a more adequate format than previously used.

(G3)

7. (C) PROBLEM: Secure Communications Equipment.

DISCUSSION: The Corps Secure Communications assets are barely adequate for support of exercise participants and umpires. Secure equipment requirements for CONUS based exercise participants places an artificial operations requirement upon the Corps, necessitating withdrawing of critically needed equipment from Corps assets.

LESSON LEARNED: Secure communications equipment requirements for CONUS based units should be provided from other than Corps assets.

(G3)

8. (U) PROBLEM: Overwatch and Maneuver Damage.

DISCUSSION: Employment of Overwatch techniques requires that maneuvering units make maximum use of terrain features without regard to resulting maneuver damage. While unlimited maneuver damage would be unacceptable in both money and German/American relations some overwatch training is required if maneuver units are to become proficient in these techniques.

LESSON LEARNED: That future exercises include a limited amount of overwatch training for units maneuvering through preselected areas.

(G3 8ID)

9. (U) PROBLEM: Breakthrough Tactics

DISCUSSION: The conduct of the breakthrough as promulgated by Soviet doctrine is extremely difficult to achieve on terrain which does not allow for the physical massing of forces on a narrow front. Dense forests, cross-compartments and other natural obstructions are examples of those terrain features which restrict advance routes. Thus, the enemy is forced into open areas if he wishes to achieve a rapid breakthrough. This allows the defending commander to organize to meet threat tactics.

LESSON LEARNED: Terrain restrictions hamper the conduct of breakthrough tactics and enhance the potential of the Active Defense.

(G3 8ID)

10. (U) PROBLEM: Battle Positions in the Active Defense

DISCUSSION: The use of predesignated battle positions reconnoitered by commanders prior to the conduct of the active defense is a worthwhile control measure and enhanced the ability of the commander to command and control the battle. Its effectiveness was demonstrated during the defense of TREYSA, against battalion-sized multiple airmobile insertions, and BLUE ground force offensive operations throughout the Division sector, where units were directed to predesignated positions and given directions as to how to fight the battle. There is a valid requirement to analyze methods of designating battle positions to avoid possible compromise.

LESSON LEARNED: Predesignation of battle positions in the Active Defense is a sound tactical control measure.

(G3 8ID)

11. (U) PROBLEM: Rear Area Protection Operations

DISCUSSION: The airmobile threat on the modern battlefield is significant. Predesignated areas of responsibility, and employment of the engineers and other available troops under unified command and control in the Division rear area, are critical. Identification of enemy landing zones, choke points and possible battle positions are key to planning RAP operations. Despite the complexity of the task, it was demonstrated that the use of an existing organizational headquarters is normally superior to forming an ad hoc organization for the control of RAP operations. The execution of the RAP plan by the DISCOM or other major headquarters elements in the Division rear area requires immediate augmentation of that headquarters with FA, ADA, ALO, G2, DAVNO, and MP elements.

LESSON LEARNED: Rear Area Protection (RAP) operations must be pre-planned for immediate execution.

(G3 8ID)

12. (U) PROBLEM: Rear Area Protection Training

DISCUSSION: During the latter phase of GORDIAN SHIELD, engineer units were used for RAP role as Infantry. While effective in the accomplishment of their mission, a study is required to resolve problems encountered, particularly in the communications area. Augmentation with additional medics, ambulances and increased weaponry are other areas for investigation.

LESSON LEARNED: Engineer units reorganizing as infantry require external augmentation.

(G3 8ID)

13. (U) PROBLEM: CP location

DISCUSSION: DISCOM was not accurately located by the opposing force because their activity signatures were masked within a built-up (Kaserne) area. Light and shelter provided within buildings enhanced repair operations and commercial power cut fuel consumption and generator usage. The use of manmade or natural structures, such as caves for CP location, is also being studied as an alternative based on the 8th DISCOM experience during GORDIAN SHIELD.

LESSON LEARNED: Use of towns and villages for support and possible CP operations is a viable concept.

(G3 8ID)

14. (U) PROBLEM: Heat producing equipment

DISCUSSION: If Command and Control or logistic units cannot be located in caves or built-up areas, avoidance of detection by sophisticated electronic detection equipment, particularly IR imagery, must be considered in the operation of any CP complex. Concealment from detection of generators and similar items which emit heat has been and continues to be a problem. Preliminary analysis indicates that GORDIAN SHIELD results will support the necessity for dispersion and/or masking of heat producing equipment. A study is under way to recommend additional protective measures.

LESSON LEARNED: Heat producing equipment must be properly concealed and dispersed to minimize detection.

(G3 8ID)

15. (U) PROBLEM: Assembly area listening silence

DISCUSSION: VHF can and should be the primary means of command control. FM, SSB and HF radio communications, both secure and nonsecure, were not used during the assembly phase of the exercise. VHF or wire links at all echelons of the Division were the primary means used and radio transmissions were utilized in emergency situations only. This discipline carried over into the active phases of the exercise and resulted in fewer voice transmissions with associated better security.

LESSON LEARNED: During the assembly area phase of all major exercises, all radio equipment should be on "listening silence."

(G3 8ID)

16. (U) PROBLEM: Reconnaissance mobility

DISCUSSION: TF 1-13 Inf and the 8th Supply and Transport Battalion successfully utilized German motorcycles during GORDIAN SHIELD, on a test basis. Missions of light reconnaissance, messenger/courier service, convoy escort, traffic control and checking OPs were assigned to the cyclists. Though vulnerable, motorcycles are relatively inexpensive to maintain and were capable of operating over terrain not trafficable for M-151 vehicles. Continued efforts should be made to obtain authorization for the assignment of motorcycles to divisional units so that a full scale test can be conducted.

LESSON LEARNED: Motorcycles enhance movement and reconnaissance capabilities.

(G3 8ID)

17. (U) PROBLEM: The Active Defense

DISCUSSION: The Active Defense as conducted by the 8th Infantry Division stopped the BLUE forces under conditions similar to actual combat. The ability of commanders to move their units and maintain command and control capitalized on the inherent mobility and firepower to keep abreast of a fast paced, fluid situation. The active defense can deceive the enemy as to intentions, capabilities and organizational strength.

LESSON LEARNED: The Active Defense concept is sound.

(FSE)

18. (U) PROBLEM: Fire Support Planning.

DISCUSSION: Maneuver planning was often accomplished without fire support representatives present to insure that the maneuver concept was adequately supported by all available fires. Consideration of all firepower assets is necessary when evaluating maneuver alternatives.

LESSON LEARNED: Maneuver planning must be accomplished with fire support repersentatives present to insure that the maneuver concept is adequately supported by all available fires.

(AD LNO)

19. (C) PROBLEM: Intelligence Information for ADA Units.

DISCUSSION: Intelligence data provided to ADA participating units was both untimely and inadequate. The ADA unit, as part of the combined arms team, should be included in distribution of all intelligence reports.

LESSON LEARNED: Timely intelligence information, which was not provided to HAWK units by the supported divisions during this exercise, is essential for combat operations.

(AD LNO)

20. (C) PROBLEM: Secure voice between C/V and HAWK Battalions.

DISCUSSION: An integrated air defense effort is required to effectively support the maneuver elements in the rapid pace battle. Intelligence coordination between the division C/V battalion and the supporting HAWK battalion must be timely for maximum effectiveness. This coordination is now accomplished using the overloaded command/control FM net. The best solution appears to be integration of the air defense effort with secure voice.

LESSON LEARNED: The need exists for a secure voice net between the division C/V battalion and a supporting HAWK battalion.

(AD LNO)

21. (C) PROBLEM: Movement of HAWK units.

DISCUSSION: The HAWK ADA unit, when actively searching for enemy aircraft activity, produces emitters which increase its detection probability. Frequent moves of the HAWK unit results in greater survivability on the envisioned battlefield.

LESSON LEARNED: HAWK units must move often in order to survive detection and neutralization.

(ADA 8ID)

22. (U) PROBLEM: Determination of Redeye Status.

DISCUSSION: It is an inherent responsibility of the Division AD Officer and his representatives to the DAME to monitor all air defense activity in the Division. Separate engagement reports to the DAME when the same spot reports are going to the G3/G2 is redundant and a burden on the parent unit. At the same time, the G4 is monitoring the ammunition consumption on a daily basis and the G1 is monitoring the personnel status.

LESSON LEARNED: The Division Air Defense Officer could fulfill his responsibilities by receiving the G2/G3 reports on Redeye engagements and monitoring G1/G4 reports on personnel and ammunition respectively.

(G4 8ID)

23. (U) PROBLEM: Distribution of Class I supply.

DISCUSSION: The 8th ID implemented a concept of unit distribution for Class I supply items directly to the Battalion Mess sections from the Division Support Area (DSA). The system was judged to be totally successful and will continue to be practiced whenever possible.

LESSON LEARNED: The implementation of unit distribution of Class I supply items be standard operating procedure for the Division.

(G5)

24. (U) PROBLEM: Securing Cooperation of Host Nation Officials.

DISCUSSION: Thorough and timely briefing of host nation officials is an essential in securing their cooperation which contributes significantly to the success of such field exercises.

LESSON LEARNED: Earliest public notification of pending major exercises must be made to allow adequate psychological preparation of the civil populance.

(C&E)

25. (C) PROBLEM: Inadequate Multichannel Communications.

DISCUSSION: Multichannel communications during rapid CP displacement was inadequate. Sufficient operator training was not conducted to install and support the fast moving tactical situations. Extended system distances and lack of line-of-sight required numerous relays and long links to be installed.

LESSON LEARNED: Phased CP displacement is required if an acceptable standard of multichannel communications is to be maintained.

(C&E 8ID)

26. (U) PROBLEM: VHF system quality is deteriorated by high voltage power lines.

DISCUSSION: VHF systems often must originate at CPs located near high voltage power lines. Frequencies radiated through or near these lines result in interference and cause noise and distortion on circuits.

LESSON LEARNED: Choose CP locations which are not situated in the vicinity of high voltage lines.

(AG)

27. (U) PROBLEM: Courier Service.

DISCUSSION: The AG conducted one courier run per day to participating exercise units. This caused up to 24 hours delay in transmitting overlays, maps, and other material which could not be transmitted by electronic means. In effect, required essential elements of tactical significance was not available to the maneuver commander in a timely manner.

LESSON LEARNED: Courier service for transmitting overlays, maps, and other material which cannot be transmitted by electronic means, should be routinely provided a minimum of every six hours to major units.

(SURG)

28. (U) PROBLEM: Lack of single DUSTOFF FM Radio Frequency.

DISCUSSION: The published Dustoff FM radio frequency for REFORGER exercises was 30.75 as contained in USAREUR OPORD 6-76 and V Corps Cir 350-23. The 326th Med Bn, 101st Abn Div MEDEVAC used FM freq 42.05 per their division CEOI. The use of dual frequencies required additional communications equipment and required additional FM radio transmissions by medical personnel.

LESSON LEARNED: Require that all Dustoff units in an exercise use a common FM frequency for conservation of assets.

(DEH)

29. (U) PROBLEM: Contractual Latrines.

DISCUSSION: The requirement for contractual latrines was not fully developed until after budget submission. The plan placed contractual latrines in admin areas (APOD/APOE, RON, Rest halts, IUAA, ect) and tactical locations, such as DISCOMS, with large concentrations of troops. It was determined that commercial type latrines would detract from the tactical environment and were subsequently withdrawn from the plan for units tactically deployed.

LESSON LEARNED: Identify early in planning phase, contractual latrine requirements for troops in admin status.

(SPECIAL INTEREST - OPSEC)

30. (C) PROBLEM: Requirement for Increased Awareness and Emphasis on Operations Security (OPSEC).

DISCUSSION: Although all observed participants displayed an increased awareness of the need for appropriate OPSEC measures during the exercise, the implementation and techniques varied markedly among the player units. There were weaknesses, some of which were readily exploited by the opposing force with relative ease and obvious success. Principal OPSEC activities on FTX GORDIAN SHIELD were physical security of command and control facilities in rear areas from ground and air attack, communications with and without electronic signature, and undetected displacement of headquarters.

LESSON LEARNED: The most important lesson derived from the exercise pertinent to OPSEC was the vulnerability of our command posts, signal sites, and support facilities located in the rear areas. The light-weight camouflage nets are an effective means of reducing the enemy's capability to locate us and more extensive use must be made of them, particularly in the rear areas. Rear area protection must insure a well coordinated alert system among all elements located there and sufficient reaction (local security) forces equipped and trained to engage threat forces or suffer the consequences. The electronic signature can be effectively reduced by establishing systems relying totally on wire, courier and/or pyrotechnics. Additional training is also required to improve our capability to displace during periods of limited visibility by infilitration or at least by use of multiple routes.

(C) Planning Milestones for CERTAIN FORCE/REFORGER 76 were:

DATE(S)	EVENT
Jan-Mar	Participate in coordination meetings with USAREUR; DA, FORSCOM, XVIII Abn Corps and 101st Abn Div (AASLT)
29 Mar	USAREUR CERTAIN FORCE/REFORGER 76 Warning Order
Apr	Planning Conference - FTX BLAUWE DIEMEL
1 Apr	Issue Warning Order to Corps
15 Apr	Identify Key Umpire Personnel
15 Apr	Activate Umpire Planning Staff
15 Apr	Begin Training Circular (FTX GORDIAN SHIELD) Annex Preparation
28 Apr	Receive Draft USAREUR OPORD
29 Apr	Complete Scenario Development
30 Apr	FTX GROSSER BAER Umpire Conference & Demonstration
30 Apr	Brief CG on Detailed Scenario
May	Planning Conferences FTX SPEAR POINT, CPX ABLE ARCHER 76
May	Brief CINC on FTX Concept
1 May	Develop Joint Umpire Concept in Coordination with VII Corps
1 May	Initiate Budget Estimate
7 May	Submit Comments on Draft USAREUR OPORD
7 May	Complete Training Circular Annexes
7-13 May	Staff Completed Training Circular
14 May	Submit Training Circular to AG for publication
15 May	USAREUR OPORD CERTAIN FORCE/REFORGER 76 is required Note 1
27 May	Submit Environmental Impact Statement
Jun	Conduct Premaneuver Liaison with Civilian Officials in Maneuver Area
1 Jun	Receive CENTAG OPORD CPX ABLE ARCHER 76
1 Jun	Distribute Training Circular to Subordinate Commands Note 2
1 Jun	Identify Joint Umpire Packets
15 Jun	Submit Budget to USAREUR for approval
Jun-Jul	Aggressor Tactics Training
1 Jul	Develop Joint Umpire School Plan
Jul-Aug	Organize and Train Joint Visitors Bureau
Jul-Aug	Conduct Premaneuver Surveys in Maneuver Area (Maneuver Damage)
Jul-Aug	Conduct Corps CPX of FTX GORDIAN SHIELD

DATE(S)	EVENT
Late Aug	Conduct Joint Umpire School
Late Aug	Conduct Briefing for German Dignitaries at HQ V Corps
Early Sep	Conduct Umpire Communications and Coordination Exercise
Sep	Distribute Training Circular CPX ABLE ARCHER 76
1 Sep	Submit V Corps MIL CPX ABLE ARCHER 76
6-10 Sep	FTX GROSSER BAER
6-16 Sep	FTX BLAUWE DIEMEL
7-11 Sep	Conduct FTX GORDIAN SHIELD
13-17 Sep	FTX COOL GIN
18 Oct	CONUS TOC Groups Deploy for CPX ABLE ARCHER 76
25-29 Oct	CPX ABLE ARCHER 76
8-12 Nov	FTX SPEAR POINT

NOTES: 1 USAREUR OPORD 6-76 REFORGER 76 received 30 Jun (45 days later than anticipated)

2 V Corps Training Circular 350-23 published 1 Jul (see Note 1)

3 Match planning milestones against significant activities (Paragraph 5, Basic Report) for subsequent milestone planning.

Inclosure 12 (Rationalization, Standardization, and Interoperability (RSI) Initiatives) to REFORGER 76, V Corps Final After Action Report (U)

1. (U) REFERENCES:

a. USAREUR & 7th Army OPORD 6-76 CERTAIN FORCE/REFORGER 76.

b. V Corps Circular 350-23 FTX GORDIAN SHIELD, with changes 1, 2, 3, and 4.

2. (U) MISSIONS: Reference a cited, as one of the principal objectives within the NATO Alliance, the achievement, in concert with our Allies, of an effective and credible conventional defense capability, through Rationalization, Standardization, and Interoperability of NATO defense efforts. In support of this objective, CINCUSAREUR gave V Corps the mission to recognize the requirement for, and to develop more effective means of delineating RSI Initiatives during Exercises.

3. (U) GENERAL: Narrative description of Staff participation. Planning to implement this mission was the joint responsibility of Action Officers in V Corps G3 Exercise and Training Division, who conducted the preliminary coordination and follow up Actions following the concepts discussed below.

4. (U) EXPLANATION OF CONCEPTS: V Corps recognized the need to encourage Multinational Training during V Corps REFORGER period Exercises, as a vehicle for evaluating and improving RSI. Reference b, listed as one of four Exercise objectives the promotion of Multinational Training and Interoperability among Allied forces, and the identification of areas requiring further study. To accomplish these objectives, V Corps worked actively to obtain Multinational participation in V Corps Exercise GORDIAN SHIELD, and provided forces to an Allied Exercise. V Corps also required all subordinate commands to provide detailed RSI Initiatives reports, as required by Ref A. During the tactical play of Exercise GORDIAN SHIELD, V Corps attached Corps elements to an Allied unit. One goal of these actions was to provide significant opportunities for Exercise players to improve and evaluate Interoperability, and to insure such opportunities were fully documented.

5. (U) SIGNIFICANT UNIT ACTIVITIES: Significant unit activities generating Interoperability opportunities during CERTAIN FORCE/REFORGER included:

a. 13th (GE) Panzer Grenadier Brigade (PGB). Attached initially to V Corps Blue force control, and OPCON to 101st ABN DIV 6-10 Sep 76, during Exercise GORDIAN SHIELD.

b. III (GE) Korps ASOC (-). Integrated with V Corps DASC (USAF 601st TCS) to form two Multinational DASCs, to provide separate control of close air support to Orange and Blue Forces during EXERCISE GORDIAN SHIELD.

c. Allied Air Elements of 4ATAF, 2ATAF, and French Air Force. Provided close air support sorties, primarily for Blue Forces, during Exercise GORDIAN SHIELD.

d. 2-16 Cyclist Battalion, Belgian Army. OPCON to 8ID, Orange Forces, during GORDIAN SHIELD.

e. LRRP Teams, Bundeswehr and French Army. OPCON to Orange Forces during Exercise GORDIAN SHIELD.

f. Various German Liaison elements from WBK4, Feldjaegers, and STATE POLICE. Worked with all major GORDIAN SHIELD participants throughout the Exercise.

g. 58th Engineer Company, 11th ACR. OPCON to 13th PGB throughout Exercise GORDIAN SHIELD.

h. Two Armor Battalions, 3AD, and one V Corps Artillery Battalion. OPCON to 13 PGB 9-10 Sep 76, during latter portion of Exercise GORDIAN SHIELD.

i. 2-36 Infantry, 3AD. Participated in Belgian Exercise, BLAUE DIEMEL

6. (U) ATTAINMENT OF EXERCISE OBJECTIVES:

a. The principle RSI objectives for V Corps are contained in paragraph 2, Missions, above. The attainment of those objectives was as follows:

b. Recognize the requirement for more effective means of delineating RSI Initiatives during Exercises. This objective was accomplished satisfactorily, as discussed in paragraph 4, Explanation of Concept, above.

c. Develop more effective means of delineating RSI Initiatives during Exercises. This objective was accomplished through Multinational Exercise activities, as listed in paragraph 5 above, and through the reporting of significant Interoperability experiences occurring during the conduct of these activities.

7. (U) SPECIFIC PROBLEM AREAS AND RECOMMENDATIONS: **These areas are discussed in individual RSI Initiative Summaries attached to this Inclosure.**

8. (U) LESSONS LEARNED:

a. General:

(1) Command and Control. Multinational command and control, particularly between V Corps and 13th PGB, was excellent. When STANAGs and CENTAG CAGREPs were available and used, they were extremely effective. Emphasis should be placed on expanding such multilateral documents as the primary means of resolving all RSI problems encountered.

(2) LNOs. The value of LNOs between Allied Units was repeatedly stressed in subordinate unit reports to V Corps. Existing LNO requirements should be reviewed, and if necessary expanded, to insure that whenever possible LNOs are exchanged between Allied Units operating in close proximity, or attached. LNO requirements, to include communications, transportation, and language capabilities, should be studied.

(3) LANGUAGE: Sufficient Officers proficient in English and German exist to communicate effectively at the Staff level between Bundeswehr and US Commands. Lack of bilingual proficiency at NCO/RTO and individual Soldier level did impede some field operations. Continuation of present limited German Language programs will help somewhat. However, acceleration of development, and rapid dissemination, of bilingual military dictionaries is required to solve this problem. Greater Language problems existed between US and French speaking units.

b. OPERATIONS: Tactics of Bundeswehr and US units are similar, based upon comparison of US FM 100-5 and Bundeswehr HDv 100-100. However, one V Corps major subordinate command working alongside 13th PGB noticed certain variances in tactics at the BDE/BN level, notably an emphasis on linear defense by 13th PGB. STANAGs and CAGREPs concerning operations are satisfactory and well distributed. Based upon V Corps experience with 13th PGB, Bundeswehr elements (BDE/DIV) could be attached to V Corps without significant tactical procedure/concept of operations problems.

c. INTELLIGENCE: Experiences at V Corps level during GORDIAN SHIELD indicate no significant problems with intelligence operating and reporting procedures between this Headquarters and 13th PGB, and German and French LRRP Units.

d. LOGISTICS: Significant Multinational Logistics Play occurred during GORDIAN SHIELD. Most important was transportation coordination and maintenance support. Bundeswehr forces, particularly WBK4, provided significant transportation support for 101ST ABN DIV road movement prior to and after Exercise GORDIAN SHIELD. Multinational maintenance support activities were generally successful as long as either of the following prerequisites were met: (1) Similar equipment in both units; (2) Prior coordination between Allied units, followed by the fielding of maintenance support packages for units attached to Allied Commands.

e. PERSONNEL: 13th PGB furnished required daily personnel summary reports without problems. Personnel replacement coordination problems are likely to arise when battalions of one Allied Nation are attached directly to BDE/Divisions of another Allied Nation, because, while personnel replacement remains a national responsibility, personnel strength of Allied Battalions is obviously of importance to the Divisions and Brigades who have received this attachment.

f. COMMUNICATIONS: Communications were successfully established and maintained between US and Allied units through Exercise GORDIAN SHIELD with no greater problems than those encountered between US units. No problem with codes was encountered with 13th PGB, as this unit used the CENTAG CAGREP System.

g. FIRE SUPPORT: US GS Arty units provided general support to Allied units on numerous occasions during GORDIAN SHIELD without significant problems. The Multinational Dual DASC System described in paragraph 5b above was successful, due largely to knowledge and use of CENTAG/4ATAF Offensive Air Support (OAS) policies by both US DASC and Bundeswehr ASOC personnel. Problems were encountered with certain Allied Air Units not complying with CENTAG/4ATAF preplanned immediate OAS procedures. This problem is considered serious and V Corps is working with CENTAG and 4ATAF to resolve it.

9. (U) SUMMARY, ASSESSMENT, AND RECOMMENDATION:

a. Summary. Interoperability actions during the REFORGER Exercises significantly improved the capability of many V Corps staffs and units to work with Allied Commands, and, more importantly, provided broad Interoperability experiences which should serve as a starting point for new efforts to expand and perfect NATO Forces Interoperability.

b. Assessment. (1) V Corps experiences on GORDIAN SHIELD indicate that the degree of Interoperability between V Corps units and III (GE) Korps and Allied Air Units is sufficiently high to execute GDP missions. Improvements can be made in a number of areas, including secure communications, language training, and standardization of procedures. (2) Future Multinational participation in Exercises should continue to emphasize the participation of units, and the conduct of activities, relevant to the GDP. Activities such as participation of major elements of III (GE) Korps, and of Allied OAS, in future V Corps Exercises offer the greatest potential Interoperability benefits.

c. Recommendations. Actions taken to capitalize on RSI experiences of V Corps and other US/Allied units during the REFORGER Exercise period should be consolidated at the highest level possible, and closely coordinated with NATO commands. This will reduce duplication of effort and encourage maximum Standardization of results. Implementation of Actions to improve RSI should, whenever possible, be done through changes/expansion of appropriate STANAGs and NATO procedural documents to insure widest dissemination and greatest degree of Standardization.

ATTACHMENT 1 (RSI INITIATIVES) to INCLOSURE 12 to
REFORGER 76 V Corps Final After Action Report (U)

1. (C) a. ACTION AREA/ITEM: The difference in doctrinal concepts between US and FRG on employment of engineer units.

b. MILITARY CONSEQUENCES: The Bundeswehr apparently does not practice the concept of direct support as it applies to engineer support. Attachment appears to be their standard way of operating, and indeed the 58th Engineer Company (US) was attached to the 13th Panzer Brigade and worked directly through organic GE company. This relationship worked well and the 58th was productive. However, a company of the 54th Engineer Battalion placed in GS (instead of "attached") to the 13th Panzer Brigade was not fully utilized.

c. RECOMMENDED IMPROVEMENTS: The solution to this problem invloves difficulities beyond the scope of the report. However, one solution might be that the US be prepared to normally "attach", supporting US engineers to GE units when US support is required and expect the same when GE engineers are attached to US units when GE support is necessary.

d. RELATED INFORMATION: None identified:

2. (C) a. ACTION AREA/ITEM: German procedure does not allow for engineer advice in developing a barrier plan.

b. MILITARY CONSEQUENCES: Although the experience with the 13th Panzer may be unique, it appears that the German tactical commander at battalion level solely determines the location and type of target which must be emplaced to enhance his tactical plan. Although this tracks with US doctrine in that the barrier plan is the tactical commander's plan, it does not take advantage of the knowledge of the Engineer. For Gordian Shield this meant that the Task Force Engineer (the 54th Engineer Battalion Commander) was not able to assist the 13th Panzer barrier effort as much as he could have.

c. RECOMMENDED IMPROVEMENTS: Although this problem is again one in doctrine, and difficult to solve, the planning phase meetings for exercises and initial contacts under GDP to iron out understandings could be a solution. If during the meetings the Germans Commander agrees to accept the Senior US Engineer Commander as part of his special staff, many of the lost opportunities caused by the German procedures might be saved.

d. RELATED INFORMATION: None identified:

3. (C) a. ACTION AREA/ITEM: The language barrier.

b. MILITARY CONSEQUENCES: Communication still is a big problem in contact between Germans and US Engineer units. This is particularly true at squad leader and platoon leader level. As long as there was an English speaking German liaison contact with the US engineers, tasking and accomplishment of missions appeared to work successfully. However, the situation which could occur if that contact was erased may result in a significant deterioration of US engineer support.

c. RECOMMENDED IMPROVEMENTS: Continue to emphasize German language courses for Americans and perhaps establish a military terminology class, and keep a German/English speaking liaison person in the supporting headquarters. This occured in the 54th Engineer Battalion (a German NCO was liaison) and worked well until the battle caused successive moves of the 54th and the 13th Panzer, and the liaison was disestablished.

d. RELATED INFORMATION: None identified:

Classified by: DSOPS USAREUR
Subject to General Declassification Schedule
of Order 11652
Declassify on: 31 DEC 82

4. (C) a. ACTION AREA/ITEM: Logistic support.

b. MILITARY CONSEQUENCES: The 58th Engineer Company experienced considerable logistic difficulties in Class IX repair parts. The Germans did not have on hand parts for noncompatible US equipment. As a result much US effort was expended in shuttle runs to the 11th ACR to obtain repair parts.

c. RECOMMENDED IMPROVEMENTS: Continual NATO standardization will ease this problem but not quickly and probably never completly. As long as there is an available Class IX source within reasonable distance, this problem is not critical. However, since this may not always be the case a possible solution might be to authorize a substantial expansion of the attached unit's PLL prior to joining its supported organization.

d. RELATED INFORMATION: None identified:

5. (C) a. ACTION AREA/ITEM: Target transfer.

b. MILITARY CONSEQUENCES: Although Gordian Shield did not require the transfer of targets between US engineers and German tactical troops, the problems experienced in transferring targets from US engineer to US tactical/unit indicate a potential problem. The problems will be even greater because of the language difficulties and the fact that non-preplanned targets are seldom emplaced and documented with the standard trilanguage target folder.

c. RECOMMEND IMPROVEMENTS: In December 76 the 130th Engineer Brigade plans to conduct an engineer MAPEX with elements of the III Korps (GE). Transfer of targets and associated problems between US and GE forces and vice versa will be exercised. After this coming MAPEX solutions to this problem will be proposed.

d. RELATED INFORMATION: None identified:

6. (C) a. ACTION AREA/ITEM: Systems, lines of communcation, and understandings between civil agencies, local governments and the US engineers must be estabilished well prior to an exercise.

b. MILITARY CONSEQUENCES: Under GDP conditions time for such prior coordination will not be feasible. However, unless some sort of institutional memory is retained on agreements made for Gordian Shield and the procedures used in cooperation, neither the next REFORGER nor is action under GDP will proceed as successfully unless a long build up time/coordination time is available.

c. RECOMMENDED IMPROVEMENTS: The proposed SOP should solve the institutional memory problems. Also at this time a Host National Agreements should solve the problem.

d. RELATED INFORMATION: None identified:

7. (C)

a. ACTION AREA/ITEM: The local WBK provides Wallmeister teams to each engineer battalion operating in the WBK area of responsibility.

b. MILITARY CONSEQUENCES: Wallmeister teams are one of the most valuable assets the commander has in developing barrier plans and providing intelligence information on terrain and facilities. The Wallmeister teams for GORDIAN SHIELD proved their worth under a GDP situation. The WBK Wallmeister teams did not get out to the engineer battalions in a timely fashion. The teams arrived after the problem has already started and as a consequence barrier plans had already been formulated before their knowledge and advice became available.

c. RECOMMENDED IMPROVEMENTS: Ensure the Wallmeister teams join their supported battalions immediately on arrival of the units in the field. The proposed SOP should solve this problem.

8. (C)

a. ACTION AREA/ITEM: Reimbursement.

b. The appropriate STANAGs concerning multinational support were not initiated. While German and US forces have mutual support agreements for rations and POL, the large quantity of service to be provided, as well as the variety of services to be performed, required government negotiation for each item of reimbursement support. Support from Belgian forces also required negotiation for each item of reimbursement support. In this regard the Corps had several individuals committed to act as the Contracting Officer's representative, insuring contractual obligations were met. Corps funds had to be committed to this multinational support as the fund allocation from USAREUR was delayed.

c. RECOMMENDED IMPROVEMENTS: Prior to the start of another multinational exercise of this scope, the appropriate STANAGs should be implemented.

d. RELATED INFORMATION: None identified.

9. (C)

a. ACTION AREA/ITEM: Host Nation Peacetime Support.

b. MILITARY CONSEQUENCES: It must be appriciated that the host nation support of the 101st deployment and redeployment convoys was provided in a totally peacetime environment with the dedicated support of German front line tactical elements operating from their home station. These elements are organic to Corps and divisions committed to GDP. In wartime, or at a time requiring the mobilization of German forces, logistical means to support a movement of this type would be severly curtailed. This is due to two factors. First a is the time required for the mobilization of the territorial support units. The second is that the assets of the already heavily burdened territorial forces are committed to existing missions. This places a tremendous responsibility and logistical support burden on the German territorial commands, with the attendant political consideration involved.

c. RECOMMENDED IMPROVEMENTS: German Host Nation and USAREUR evaluate manner of meeting logistical support requirements for deployment during a mobilization period.

d. RELATED INFORMATION: None identified.

10. (C)

a. ACTION AREA/ITEM: Multinational Cross-Attachment Support Package.

b. MILITARY CONSEQUENCES: During the conduct of FTX GORDIAN SHIELD, two US Tank Battalions were cross-attached to the 13th Panzer Grenadier Brigade, providing the necessary combat power to launch the main attack in sector. It was rediscovered, that a logistical support package to support the US peculiar items of equipment was required.

c. RECOMMENDED IMPROVEMENTS: Considerations for multinational cross-attachment for forces include the necessary provisions of appropriate logistical support elements.

d. RELATED INFORMATION: None identified.

11. (C)

a. ACTION AREA/ITEM: Combined Police Operations.

b. MILITARY CONSEQUENCES: Police operations were combined throughout all phases of REFORGER. During the FRG deployment phase, 709th MP Bn and 470th, 740th and 720th Feldjaeger Bn personnel provided convoy escort, critical point control, traffic direction and emergency road services under the direction of the Combined Movements Control Center. 709th patrols servicing the Mending RON site were billeted and fed at the Bundeswehr installation there. A minor difficulty arose when it was learned that enlisted women could not be hosted at Mending. This required some repositioning of personnel assets and is likely to be a continuing problem with 709th EW strength now at 12 percent.

c. RECOMMENDED IMPROVEMENTS: No final solution is seen since Bundeswehr Kaserne positioning must be negotiated on a case-by-case basis, to determine whether or not EW can be accepted.

d. RELATED INFORMATION: None identified.

12. (C)

a. ACTION AREA/ITEM: Establishment of Civil/Military Operation Center.

b. MILITARY CONSEQUENCES: The Civil/Military Operations Center (C/MOC) at Giessen included HQs, 3d Co, 740th Feldjaeger Bn, a Hessian state police liaison team and a 709th MP Bn liaison team. A problem was identified early in the manning of the 709th team with only NCOs, while both German teams were headed by officers or officer equivalents.

c. RECOMMENDED IMPROVEMENTS: The 709th dispatched an officer to head their team and the desired level of interchange was reached immediately. Rank structures should be reviewed in assignment of personnel to joint ad hoc organizations.

d. RELATED INFORMATION: None identified.

13. (C)

a. ACTION AREA/ITEM: Feldjaeger Operations.

b. MILITARY CONSEQUENCES: Feldjaeger platoon leaders, in some instanees, did not aggressively pursue missions for their personnel. This fact, coupled with some lack of US knowledge of Feldjaeger platoons' very significant capabilities, resulted in some underemployment of Feldjaeger assets.

c. RECOMMENDED IMPROVEMENTS: Corps PM Officers will present this point for German consideration during a presentation at the Feldjaeger School 11-16 October. Additional Feldjaeger orientations for Corps and divisional MP officers and NCOs will be scheduled.

d. RELATED IMPROVEMENTS: None identified.

14. (C)

a. ACTION AREA/ITEM: MP Equipment Interoperability.

b. MILITARY CONSEQUENCES: Owing to lack of equipment commonality, DS maintenance of allied MP equipment remains a problem. While cross-servicing has been achieved in evacuation, some time and effort is still wasted in seeking out national DS facilities.

c. RECOMMENDED IMPROVEMENTS: A possible approach would be to examine national equipment density and consider cross-attachments of vehicular and com-el-maintenance cells in the DS area. These cells should at a minimum be equipped for trouble shooting and component DX.

d. RELATED INFORMATION: None identified.

15. (C)

a. ACTION AREA/ITEM: Tactical Standards.

b. MILITARY CONSEQUENCES: C oncepts of light and noise discipline, camouflage, vehicle dispersion and other tactical considerations receive varying levels of emphasis among MP NATO MP forces. Ill feelings did arise in one instance where US personnel did not fully "play the game" in assuming a tactical posture appropriate to one situation. While the commander on the scene was able to capitalize on the excellent performance of the Germans and use it to prod his own personnel into action, a certain amount of cohesiveness was temporarily lost.

c. RECOMMENDED IMPROVEMENTS: All commanders and personnel entering into combined operations should be enjoined to maintain the highest standards of tactical awareness throughout operations, day and night.

d. RELATED INFORMATION: None identified.

16. (C) a. ACTION AREA/ITEM: MP Language Problems

b. MILITARY CONSEQUENCES: Language remains the principle barrier to joint MP Operations. While U.S. programs are now more aggressive than ever before, no let-up can be allowed and some training in military terminology must be extended to all ranks. A reciprocal program on the German side probably will not be as successful owing to difference in educational systems and the relative educational level of the German private vis-a-vis his U.S. counterpart.

c. RECOMMENDED IMPROVEMENTS: The U.S. Army must continue its language initiatives.

d. RELATED INFORMATION: None identified:

17. (C) a. ACTION AREA/ITEM: Communications

b. MILITARY CONSEQUENCES: During REFORGER 76 CENTAG unsuccessfully attempted to interface a telephone converter CV1919, with the CENTAG Peace, Siemens switchboard. A successful interface would have allowed CENTAG direct dial access into Tactical Automatic Switching System (TASS). The same type of interface was successfully used by the 13th Panzer Brigade on a tactical switchboard. Because the interface was successful with one unit and not another, further test and operator training should be conducted with CENTAG to determine the nature of the problem.

c. RECOMMENDED IMPROVEMENTS: The ultimate solution would be for CENTAG to obtain its own 600 lines AN/TTC-38V2 Tactical Automatic Switchboard. This solution is under review by USAREUR at this time.

d. RELATED INFORMATION: None identified:

18. (C) a. ACTION AREA/ITEM: Employment of Attack Helicopter by Allied Units

b. MILITARY CONSEQUENCES: 13th Panzer was faced for the first time with mission to employ, and to defend against , attack helicopters. Certain problems in this area were uncovered in preliminary coordination between 11th ACR and 13th PGB, and appropriate demonstration and instruction was provided 13th PGB to improve their capability to accomplish these missions.

c. RECOMMENDED IMPROVEMENTS: Additional attention in Joint Exercises, demonstrations, etc, should be placed on techniques of attack helicopter unit interoperability, as these units are a primary asset for immediate reinforcement of US/Allied Units.

d. RELATED INFORMATION: None- identified:

19. (C)

a. ACTION AREA/ITEM: WBK/US Forces Joint Operation.

b. MILITARY CONSEQUENCES: Most US units in after action reports stressed vital support provided them by WBK IV Liaison Teams during FTX GORDIAN SHIELD.

c. RECOMMENDED IMPROVEMENTS: Emphasis be maintained on providing such teams to all US forces at brigade and above levels. WBK personnel capabilities to evaluate terrain, classify bridges, and provide prechamber information should continue to be maintained and improved.

d. RELATED INFORMATION: None identified.

20. (C)

a. ACTION AREA/ITEM: Logistics Support of 58th Engineer Company (EC)

b. MILITARY CONSEQUENCES: 58th EC was attached to 13th PGB for the duration of Exercise GORDIAN SHIELD, and was thus able to provide an indepth evaluation of joint maintenance support activities. 13th PGB maintenance support of 58th EC M113 vehicles was judged adequate, as these vehicles are organic to 13th PGB. Maintenance support for other 58th EC vehicles was not adequate. 13th PGB recovery capability was found to be limited in comparison to comparable US units.

2 c. RECOMMENDED IMPROVEMENTS: In the long run, standardization of combat vehicles among NATO forces. Pending this solution elements attached to allied units should include a maintenance support package with PLL/ASL and recovery capabilities.

d. RELATED INFORMATION: None identified.

21. (C)

a. ACTION AREA/ITEM: GS Logistical Support.

b. MILITARY CONSEQUENCES: 3D SUPCOM provided GS Logistics support (maintenance and movement control) to 13th PGB throughout Exercise GORDIAN SHIELD. Interoperability experiences in execution of this support mission indicate a high degree of efficiency in support is reached o only when GS logistics support agencies are joint organizations, with both US and allied elements combined.

c. RECOMMENDED IMPROVEMENTS: Continued improvements of allied GS logistical support, primarily through joint exercises.

d. RELATED INFORMATION: None identified.

22. (C)

a. ACTION AREA/ITEM: Incompatibility of US and German Fuel Equipment.

b. MILITARY CONSEQUENCES: Petroleum sites operated by 3D SUPCOM encountered difficulties refueling Bundeswehr petroleum tankers from railroad cars because our hose connectors are not compatible with their tankers.

c. RECOMMENDED IMPROVEMENTS: A short term solution was found by filling tankers from the top, not the bottom. However this practice is unsafe and wasteful, and a modification to our connectors is required.

d. RELATED INFORMATION: Non identified.

23. (C)

a. ACTION AREA/ITEM: Reporting from French/German LRRP Units.

b. MILITARY CONSEQUENCES: Time required to pass LRRP spot reports from OPs to Corps G2 appeared too long.

c. RECOMMENDED IMPROVEMENTS: V Corps is studying this problem to determine if it is basically a problem of interoperability or of US intelligence reporting procedures.

d. RELATED INFORMATION: None provided.

24. (C)

a. ACTION AREA/ITEM: Reporting Procedures.

b. MILITARY CONSEQUENCES: III (GE) Korps units adhere to CENTAG CAGREP system. Some V Corps reporting procedures were not aligned with the CAGREP system.

c. RECOMMENDED IMPROVEMENTS: Insure all unit reporting SOPs are aligned with appropriate NATO procedures.

d. RELATED INFORMATION: None provided.

ATTACHMENT 1 (RSI INITIATIVES) to Inclosure 12 to
REFORGER 76, V Corps Final After Action Report (U)

25. (C) a. ACTION AREA/ITEM: Tactical FM Secure Communications

b. MILITARY CONSEQUENCES: No present capability exists to communicate secure with Tactical FM radus between US and Allied Units. This slows down communication, places increased responsibility upon codes, and exacerbates language problems.

c. RECOMMENDED IMPROVEMENTS: Long run compatibility between NATO Forces Communicatio equipment must be achieved.

d. RELATED INFORMATION: None identified:

26. (C) a. ACTION AREA/ITEM: Allied Air Preplanned immediate air requirements

b. MILITARY CONSEQUENCES: Allied tactical air units required detailed target information hours prior to launching of OAS Missions. Present 4ATAF/CENTAG procedures do not require this. Primary consequences was that aircraft invariably entered the battle area with dated target information and had to be diverted. This resulted in unnecessary demands being placed on pilots, FACs, and the immediate request radio net, and in some cases missions lost on unsuccessful missions.

c. RECOMMENDED IMPROVEMENTS: Additional emphasis on, training with, CENTAG/4ATAF preplanned immediate OAS procedures.

d. RELATED INFORMATION: None identified:

1. (U) SUMMARY:

a. The ACofS, G1 set two major objectives for FTX GORDIAN SHIELD:

(1) The first was to test the Personnel Daily Summary reporting system under field conditions. While this system had been frequently tested on CPXs, FTX GORDIAN SHIELD was the first exercise in several years where the V Corps Headquarters deployed to the field to control the maneuver of two divisions and supporting elements. This objective was successfully completed in that a number of problems with PDS reporting surfaced during the exercise that had not been previously noted on CPXs. These problems centered around the casualty assessments made by the umpires and the number of casualties that units reported on the PDS. Casualties assessed by the umpires were regenerated every six hours whereas the PDS was based on a 24 hour period. The umpires did not provide the exercise control headquarters with a complete summary of the casualties assessed for each day so that it could not be determined if units were reporting the correct figures. Units tended to report casualty figures that were unrealistically low.

(2) The second major objective of the ACofS, G1 was to ensure that FTX GORDIAN SHIELD was a safe exercise. Although it was regrettable that one death did occur, REFORGER 76 in V Corps was the safest REFORGER yet.

2. (U) ASSESSMENT:

a. On future FTXs closer coordination must be established between the umpires and the exercise control headquarters to ensure that an accurate assessment of casualty reporting can be made.

b. The low accident rate on the exercise was the result of a concerted effort that began in the preparation phase and continued throughout the conduct of the exercise.

3. (U) RECOMMENDATIONS:

a. Units should be scored on their PDS reporting during major FTXs. To accomplish this, a system should be established whereby the umpires report casualty assessments by unit for each day to the control headquarters. These figures could then be compared with the PDS to determine its accuracy. This system would also enable an assessment to be made on the accuracy of personnel replacement requests made by units.

b. The USAREUR guidance for increased vehicle lighting for REFORGER 76 should be made a permanent part of USAREUR Reg 55-1. Implementation of this guidance was instrumental in reducing the number of convoy related accidents.

UNCLASSIFIED

1. (C) SUMMARY. The G2 section and supporting agencies provided player and controller staffs to support all intelligence and counterintelligence requirements for GORDIAN SHIELD/REFORGER 76. The intelligence cycle of planning, collecting, processing, and disseminating was conducted by this multi-faceted staff using a broad spectrum of collection assets to service tactical units conducting the exercise. Overall the exercise was successful and G2 objectives as well as V Corps objectives were met or surpassed. The number and diversity of the collection systems available during GORDIAN SHIELD provided excellent training in management, tasking, and integration of the systems. Virtually every type collection system was represented from the human being on the ground to the photographic and electronic systems overhead. The systems provided all weather day/night capability throughout the FTX. Staff interaction and asset management improved as the exercise progressed.

2. (C) ASSESSMENT. The intelligence community must present commanders the most timely and accurate battlefield information available. Towards this end, the communications systems from collection asset to using commander must be responsive if the collection asset is to be of any value. Additionally, the requestors and managers of intelligence collection assets must have current knowledge of the technical capabilities and operational limitations of each asset. Centralized management must integrate and evaluate the information from the diversified assets, many of which are complimentary, in order to obtain the best intelligence product for the commander.

3. (C) RECOMMENDATIONS:

a. A detailed, multi-level study of intelligence dissemination communications systems must be undertaken. If the Corps G2 section is visualized as the centralized management agency, the forward battalions/brigades are at one extreme as requestors and users of intelligence information; at the other extreme are the collectors, agents, LRRPs, radars, sensors, aerial platforms, and, of course, the forward battalions. Filtering or management/collection sub-stations are interspersed throughout this spectrum. The goal of this study must be to drastically reduce the physical, electrical, and human impediments to the flow of requests, taskings and results. Further details are contained in INCLOSURE 7.

b. The education of information requestors, intelligence analysts and collection asset managers must be intensified. With the diversity of collection assets available, technical knowledge is required to request/task the proper asset to collect specific or general information. At the same time, however, these diverse assets are limited in numbers and must be used economically. Duplication of collection effort should be confirmatory but not wasteful. These principles must be taught to all personnel tasked to provide commanders with timely, accurate intelligence.

UNCLASSIFIED

Classified by: DSOPS USAREUR
Subject to General Declassification Schedule
of Order 11652
Declassify on: 31 DEC 82

1. (C) SUMMARY.

a. The initial planning for REFORGER 76/FTX GORDIAN SHIELD was initiated nine months (Jan 76) prior to the exercise by a small planning cell from the G3 Exercise Division. As enumerated in USAREUR OPORD-6-76 Corps participation in CERTAIN FORCE/REFORGER 76 taskings were multifaceted. The initial planning effort focused on developing the concept for V Corps FTX GORDIAN SHIELD. This effort concentrated on developing a tactical concept, control methodology, projected requirements and assets, milestones schedule and coordination of subordinate commands availability for participation. Following approval of this concept subordinate commands were tasked by warning order.

b. As CERTAIN FORCE/REFORGER 76 tasks for activities other than FTX GORDIAN SHIELD became more complete and the interoperability opportunities of GROSSE BAER (GE), BLAUWE DIEMEL (BE), and COOL GIN (BR) were clearly defined; the G3 Exercise Division was augmented and the Corps staff became actively involved. During this final period of planning and coordination, emphasis was directed at coordination and liaison with II GE, I BE, and I BR Corps, budget development and approval, and activation of control organizations (Umpires, Joint Visitors Bureau, Maneuver Damage, Press Center). Also during this period the Corps G1 became involved in the development of the Corps headquarters facility at Giessen.

c. Prior to movement of the Corps headquarters to the field site in Giessen and deployment of the ORANGE and BLUE Forces in the maneuver area northeast of Frankfurt, the G3 staff was organized for field operations. Instead of the normal CTOC operation, the Corps headquarters was formed into a control element and separate battle staffs for BLUE and ORANGE Forces. While a distinct effort was made to keep separate the operational and intelligence elements of the opposing battle staffs, several staff elements were dual-hatted. The G3 Exercise Division became the nucleus for the ORANGE Corps battle staff, G3 Plans the nucleus for the BLUE Corps battle staff. Both battle staffs were augmented with other personnel from the Corps staff. G3 Operations formed the Corps Control element proper, G3 Air provided the link with all Air Elements and G3 Aviation provided airspace control for the entire exercise. The NBC element directed chemical operations and all were involved in the coordination of maneuver, fire, air plans and operations. The G3 staff functioned in this diverse manner throughout the exercise.

d. Following FTX GORDIAN SHIELD the G3 staff concentrated on four REFORGER related activities: Monitoring and supervision of support for remaining REFORGER related exercises; intensive study of command and control of the Corps battle; concepts for future FTX's; and the development of systematic after action report as the basis for planning future major FTX's.

2. (C) ASSESSMENT. REFORGER 76 was the first opportunity in approximately five years for V Corps to conduct a Corps level FTX in conjunction with a REFORGER exercise. With initial assistance from the VII Corps staff in the form of technical expertise on matters peculiar to REFORGER exercises, the V Corps staff accomplished the pertinent planning, coordination and supervisory requirements necessary to achieve a highly successful major REFORGER 76 FTX.

a. In general, REFORGER 76 was an extremely valuable training vehicle. Although the exercise required the application of some necessary restraining measures, overall the FTX was free play, fast moving and very realistic. Soldiers at all levels had the opportunity to put into practice the tactics, techniques and skills which they had sharpened during the weeks and months immediately prior to the large scale FTX. Of particular significance was the opportunity to conduct the exercise in-sector over realistic terrain under near-actual time and distance factors. The exercise stressed all battle elements and provided a unique opportunity for initiative at the troop leading level. The exercise identified key weaknesses in command and control and provided a rare opportunity for realistic staff interaction. The need to maintain the Corps war fighting capability by conducting similar exercises on an annual basis was self evident.

b. Control Concepts. While the development of tactical unit FTX concepts was highly successful, the control concepts of a major FTX poses a more difficult problem in that major FTX control is of less interest than tactics and less frequently practiced. In future REFORGER or Corps level FTX's development of control concepts, organizations, and facilities should be a central issue addressed early in the planning effort.

c. Umpire Organization and Techniques. In general existing umpire scoring techniques are outdated and suggested organizations not adequate to properly evaluate modern weapons systems. Tasking a subordinate unit to develop these tools unduly burdens that unit. Additionally, while every effort was made to maintain objectivity, any possibility for misunderstanding must be reduced by assuming that umpires are not permitted to umpire units from their own organization.

d. Maneuver Area and Scenario. The size, location and constraints of the maneuver area are key factors in establishing the options available to the scenario developer. Early and continuing consideration must be given to play of tactical aircraft so that the maneuver area is adequately covered. An extremely well qualified and highly versatile, preferably ORSA qualified, planner is required to fit a scenario into the maneuver space. Sound development of the overall Corps organization to accomplish the FTX mission is based on complex, tedious and exacting balancing of maneuver requirements and available assets.

e. Coordination. Close, continuing external and internal coordination of all activities related to the REFORGER exercise is considered one of the most important and time consuming tasks associated with REFORGER. Experiences during the planning for this year's exercise emphasized the need for the timely receipt of orders, plans and tasks to allow this coordination to take place. In this regard, the initial development of concepts for exchange of maneuver forces and their umpires between V Corps and other US and Allied Corps is an area for future improvement. In addition, action should be made to facilitate completed coordination by eliminating late piecemeal tasking for personnel and equipment. Further, a major exercise should be scheduled so that everyone involved can begin at the same time. The late start of NATO air play relative to the start of GORDIAN SHIELD resulted in a lack of air fire support when it was most needed early in the battle.

f. Communication Facilities. The operating limitations on the Corps multichannel system was a key factor in locating the V Corps control headquarters, visitors bureau and umpire headquarters. Continuing effort is required to enhance the capability of the Corps communications system to operate in the European environment.

g. Command and Control. The current tactical situation reporting system is not adequate for providing the essential information to the commander in order to cope with the requirements of the Corps battle. Similarly, as the Exercise Director, the commander does not have adequate information available through normal channels (even when supplemented by the special umpire reporting system) for proper control of the exercise. The paucity of essential information is due both to outmoded reporting systems and inadequate communications. Major refinement and improvement is required. Critical deficiencies exist in the following areas:

(1) Information requirements.

(2) Situation reporting.

(3) Information processing.

(4) Adequacy and tactical flexibility of multi-channel systems.

(5) FM communication.

(6) AM/RATT communication.

(7) CBOI usage.

3. (C) RECOMMENDATIONS.

a. Develop tactical and control concepts concurrently, and to the same level.

b. Emphasize projection and control of exercise assets and requirements.

c. Strengthen coordination between Corps staff and special purpose organizations.

d. Hold discussions/workshops with other US and Allied Corps planners to discuss approaches to the establishment and refinement of control concepts and procedures.

e. Evaluate the existing capability of the Corps communication system to support Corps operations and develop recommended equipment exchanges/improvements.

f. Improve the capability to command/control the Corps during battle.

1. (U) SUMMARY. a. REFORGER 76 provided three distinct opportunities for exercising logistical planners/logisticians as indicated below.

(1) Pre and Post FTX logistical support planning and operations.

(2) Logistic support for FTX GORDIAN SHIELD, and participating allied forces.

(3) Out of Sector FTX logistic support, planning, and operations.

b. The pre and post FTX requirements spanned the entire spectrum of logistic planning in order to support the deployment of a CONUS based unit to the MUAA and subsequent redeployment from the MUAA and selected training areas to designated APOD/PODs. This logistical support included RON sites with the attendent food, billets, POL, and maintenance requirements; enroute backup maintenance; troop comfort and sustinance items enroute, military police and vehicle recovery support. In addition, the POST FTX phase required logistical support to be provided by the host nation to the 101st Air Aslt Div elements during "Partnership Training" prior to return to CONUS.

c. FTX GORDIAN SHIELD logistical support included that provided to both the BLUE and ORANGE forces, both US and allied. The 3d SUPCOM formed separate task forces organized to provide non divisional support to each of the opposing forces. The additional requirements included supporting an air assault division, a ranger battalion, and allied formations.

d. Out of Sector support included providing logistical support packages to the US elements participating in the Belgian FTX BLAUWE DIEMEL and controlling and supporting the movement of the American element participating in the British FTX COOL GIN. The minimal US logistical presence in FTX BLAUWE DIEMEL was necessitated by a. US peculiar equipment or b. limited host country assets.

2. (U) ASSESSMENT. a. Pre/Post Exercise: The Germans met their host country logistical support responsibilities in an outstanding manner. This phase of the exercise reaffirmed the requirement for early identification of US requirements anticipated to be filled by allied resources. In addition, the need for a more responsive manner of arranging for the reimbursement of multinational services and support provided to American elements became apparent.

b. FTX GORDIAN SHIELD: The exercise met stated objectives. The German 13th Panzer Grenadier Brigade operations in the American logistical reporting system was especially noteworthy. Once again, the need to provide national logistical support packages during force cross attachment surfaced.

c. Out of Sector Exercises: The Belgians were quite satisfied with the US participation in their exercise. From the logistical viewpoint, they were concerned about the tremendous fuel consumption inherent in the employment of an air assault element. In this regard, planners must appreciate that employment of a US air assault element in allied formations requires the force be supplemented with additional POL transportation and handling assets.

3. (U) RECOMMENDATIONS. a. Appropriate STANAGs be implemented by the US in order to permit local commanders to arrange for receipt of allied services and support, without the necessity of lengthy negotiations conducted at the USAREUR level.

b. Notwithstanding the concept of interoperability, a logistical support team tailored to support US peculiar items of equipment, must be considered in any cross attachment of American units to allied formations.

c. The employment of US air assault elements in an allied formation must include supplemental POL assets.

d. Wherever possible future exercises should provide the opportunity to exercise the concepts of tactical and logistical interoperability. REFORGER 76/CERTAIN FORCE provided an excellent training vehicle whose lessons learned can be directly applied to GDP missions.

1. (U) SUMMARY. The G5 Section successfully accomplished assigned and derived missions for FTX GORDIAN SHIELD.

2. (U) ASSESSMENT. Briefings and conferences conducted prior to the exercise, when coupled with command interest and emphasis on the reduction of maneuver damage, contributed significantly to local German officials understanding and support for the exericse. The G5 Section was oriented on actual maneuver damage for this exericse, and an assessment of wartime Civil-Military Cooperation (CIMIC) operations cannot be made. Collocation with the MDCC/MCC provided interoperability experience and this center could be the nucleus of the type organization needed to integrate civil and military operations. The G5 staff required USAR augmentation in order to maintain continuous operations.

3. (U) RECOMMENDATIONS.

a. Earlier release of information by higher headquarters for the exercise would enable greater and more timely dissemination through host nation governmental channels.

b. Pre-exercise conferences and briefings with officials of areas affected by the exercise is worthwhile and improves understanding and support.

c. USAR augmentees be used to augment the G5 staff for future exercises. Those with area and language capability proved particularly effective.

d. The MDCC/MCC organization for control, reporting, and limited repair of maneuver damage should be included in future exercises. Collocation of G5 with this center is appropriate.

1. (C) SUMMARY. Communications support for GORDIAN SHIELD ranged from marginal to inadequate. Prior to STARTEX, a 24 hour CPX was conducted with all participating units except the 101st AAD. All communications worked well during this portion. Once the exercise started, the rapidity and suddenness of multiple headquarters relocations, often without any advance notice, caused extensive delays in re-establishment of communications. While some type of communications was operational to all units most of the time, there were few instances where all types of communications were operational with any unit at any time.

2. (C) ASSESSMENT. The original estimate of the C-E section that communications out of the Giessen area would be marginal at best, proved to be an optimistic one. As a result, an inordinate amount of radio relay equipment was required to initially install communications. Added to this was the requirement to provide internal radio relay systems to the 101st AAD, which did not have the capability to communicate with all its assigned and attached units. The exercise vividly illustrated areas in which training, equipment and procedures need to be improved.

3. (C) RECOMMENDATIONS. In order to provide more positive control over Corps elements in an exercise of this magnitude, it is recommended that:

a. CONUS based units arrive in theater with sufficient communications capability to provide their own internal communications.

b. Only point-to-point circuits for G3, G2, and FSE to subordinate units be secure. This will provide more flexibility and alternate routing capability of the automatic switchboard system.

c. Future exercises of this type combine the umpire and controller communications systems, which should provide much more flexibility with fewer resources.

d. A study be conducted to identify personnel, equipment and procedural requirements for improvement of the Corps command and control capability.

e. A vigorous training program for signal personnel and staff operators in FM secure nets using automatic retransmission stations be implemented throughout V Corps.

1. (U) SUMMARY:

a. Key members of SGS section participated in design of floor plans and arranged for accomodations, communications and transportation at the field site.

b. As a warm-up for the exercise, the REFORGER 76 Commanders/Senior German Officials Meeting was held on 26 August 1976. This was a highpoint of SGS activity during the preparation phase and was attended by all commanders participating in the exercise to battalion; and officials from the maneuver areas and interested German governmental agencies. REFORGER 76 was the theme of the V Corps Commander and Staff Conference held in conjunction with the first conference, the afternoon of 26 August.

c. While not functioning as actual players/controllers for the exercise, the Command Section; principally the SGS Admin Section, was charged with ensuring the successful integration and completion of both exercise and real world matters; and also planned, organized, and conducted a post-exercise critique at the field site attended by virtually every unit commander participating in GORDIAN SHIELD, battalion level and above, a number of over 125 senior officers. The critique was conducted immediately following ENDEX 10 September 1976.

2. (C) ASSESSMENTS:

a. The section was able to respond effectively and quickly to every requirement.

b. From the standpoints of administration, protocol, and operations, the performance and accomplishments of the section and personnel are adjudged superior. All requirements were met, each visitor accommodated, and the myriad of changes implemented.

c. The REFORGER 76 Commanders/Senior German Officials meeting was an unparalled success in terms of both good will generated and knowledge gained. While this was the first such conference ever conducted by the Corps, and certainly the largest ever assembled in such a short time (about 10 days), few important details were overlooked. The conference would have been of more value had the host-nation press been better represented. The intense campaigning for national elections curtailed all but token representation for the German press.

d. The post-exercise critique was also a success. While critiques are held after virtually every exercise, this one is noteworthy in the scope of participants, as noted in paragraph 1c, above. The organization of a social funcion afterward for conferees required coordination.

3. (U) RECOMMENDATION:

a. SGS participate in planning for the exercise at the earliest possible date. Participation is encouraged in both exercise operations and logistical planning.

b. The REFORGER 76 Commanders/Senior German Officials Meeting should be repeated for next year and considered for adoption as an annual event. Planning and preparation for the conference should commence a minimum of 60 days prior to the conference date.

c. The post-exercise critique was an impressively successful event and should be continued in the same manner.

Classified by: DSOPS USAREUR
Subject to General Declassification Schedule
31 DEC 82

1. (U) SUMMARY. Engineer activites for REFORGER/GORDIAN SHIELD were satisfactory. Maneuver Damage Control planning, coordination and execution was outstanding.

2. (U) ASSESSMENT. Although all engineer objectives as apply to engineer staff and unit were met, the FTX indicated more frequent engineer divisional and non-divisional interface and greater contact between US engineer and GE engineer troops would greatly improve operability. Difficulties encountered in target transfer and US support to Bundeswehr units might be significantly reduced with more frequent joint field exercises. Closer coordination and training practice in transferring targets from the installing engineers to US tactical units also appears necessary. Maneuver Damage Control activities proved so effective that the procedures for REFORGER 76 may be used as a pattern for future FTXs.

3. (U) RECOMMENDATIONS. In order to improve US-to-US operability and US-to-GE interoperability for engineer activities, frequent partnership training exercises should be conducted.

1. (C) SUMMARY. FTX GORDIAN SHIELD proved to be a viable training exercise for the Artillery with the Corps and the firepower community as a whole. The experience gained and lessons learned from REFORGER 76 will serve the firepower community extremely well in both the ongoing development and implementation of new doctrinal concepts.

2. (C) ASSESSMENT. The exercise, in it's entirety, served as an excellent vehicle for training staff personnel in operating techniques and procedures. Benefits included familiarization with new doctrinal concepts, the opportunity to study at length threat tactics and weapons system capabilities which were "played" by the ORANGE Forces. The FTX also provided a tool to evaluate the feasibility of the possible commitment of a division in the European Command without organic artillery which is compatible with existing theater ammunition stocks, repair parts and maintenance capabilities. The most significant problem encountered during the FTX was in the communications area as impacting upon command and control. Command and control of the opposing force artilleries during the FTX was overall marginally satisfactory primarily due to the assorted communications problems encountered.

3. (C) RECOMMENDATIONS: To minimize command and control related problems during future exercises of this type, a close look should be given to umpire/controller/administrative tasking of player units in order to maximize the assets available to player units. The degradation of a player unit's organic assets, be it communications equipment, vehicles or personnel, will significantly impact on the units ability to perform it's mission and will ultimately have an overall adverse effect on the exercise. The continuation of exercises of this nature, expanded to fully exploit the normal staff interface conducted at Corps level, could only improve the effectiveness of combined participation.

1. (C) SUMMARY, ASSESSMENT, AND RECOMMENDATIONS. The exercise provided an excellent vehicle for 10th ADA Group units to train with the divisions in a realistic field environment. This was the first time units of the Group participated in an exercise of this nature and invaluable training was gained. Recommend that in future operations complete HAWK battalions participate in the exercise. This will provide necessary flexibility in ADA operations and requisite training. This training should represent the air defense relationships as they are currently depicted in General Defense Plans. It will provide commanders with a better understanding of present ADA mission responsiveness. Request that 10th ADA Group be tasked to participate in future REFORGER operations.

1. (U) SUMMARY. In order to prepare for exercise CERTAIN FORCE/REFORGER 76, the ACofS, Resource Management provided early advice to subordinate commands that all expenditures which must necessarily be incurred prior to the receipt of CERTAIN FORCE/REFORGER 76 funds were to be funded with other P2 Mission funds available for later reimbursement. Subsequently a realistic budget, reflecting programmed incremental expenditures directly attributable to exercise CERTAIN FORCE/REFORGER 76, was developed in coordination with other staff elements. Funds made available in the amount of $572,000 were sufficient to enable the command to achieve the overall objectives of exercise CERTAIN FORCE/REFORGER 76. In addition to the above, Corps finance offices provided finance and currency conversion support to participants in an effective manner.

2. (U) ASSESSMENT. For future exercises it would be of assistance if the USAREUR Operations Order would be published in a more timely fashion than was the case this year. Earlier publication or issuance of warning orders will enable subordinate commanders to analyze the mission and concurrently identify the incremental resources required for mission execution. During the budget preparation phase there were no adequate guidelines as to which incremental costs were properly chargeable to CERTAIN FORCE/REFORGER 76 funds. It would be helpful if USAREUR would publish a listing of authorized/unauthorized REFORGER expenditures.

3. (U) RECOMMENDATIONS. It is recommended that for future exercises:

a. The Operations Order be published more timely to enable subordinate commands to analyze the mission and concurrently identify the incremental resources required for mission execution.

b. Headquarters USAREUR publish a listing of authorized/unauthorized REFORGER expenditures.

Inclosure 25 (Directorate of Engineering and Housing) to REFORGER 76, V Corps Final After Action Report (U)

20 OCT 1976

1. (U) SUMMARY. The REFORGER/CERTAIN FORCE facilities engineering support activities were adequate and timely. Municipal water, trash disposal and portable latrines were obtained and made available to participants during the deployment, the FTX and the redeployment.

2. (U) ASSESSMENT. In the future greater utilization of field processed water by tactical units should increase realism, improve combat readiness of engineer units, and reduce contractual costs.

3. (U) RECOMMENDATIONS. Management of rental latrines should be centralized at Corps staff level. Utilization of field processed water should be increased. Facility Engineer support requirements should be identified and financed early in the planning phase.

20 OCT 1976

Inclosure 26 (Directorate of Industrial Operations) to REFORGER 76, V Corps Final After Action Report (U)

1. (U) SUMMARY. DIO coordinated vehicle (AUV) and ration requisitioning for the V Corps exercise.

2. (U) ASSESSMENT. Five agencies made requests to DIO, Transportation Division, for AUV support for REFORGER. Food service estimates did not closely approximate actual requirements.

3. (U) RECOMMENDATIONS:

a. That one central point-of-contact be established to coordinate all transportation requests for AUVs.

b. That identification of participants, submission of TISA requirements by participating units, detailing of supplemental personnel must be accomplished in a timely manner to preclude over-requisitioning of supplies, and rotation of basic load MCIs is mandatory.

1. (U) SUMMARY. Inescapable, non-REFORGER-related commitments (e.g. Community inspections, NSI preparation) reduced the capability of the Corps IG to monitor fully the activities of all EUCOM IG Team members. Even without these ancillary responsibilities, the Corps IG due to its small size in comparison to the EUCOM Team's and an almost total lack of transportation (only a station wagon without driver could be made available due to the REFORGER draw-down on Corps transport assets) would be hard-pressed to cover all EUCOM evaluative activities. On the other hand, Corps IG personnel were able physically to monitor the movements of both senior members of the EUCOM Team.

2. (U) ASSESSMENT. We conclude that the level of participation and modus operandi were entirely adequate for the tasks assigned.

3. (U) RECOMMENDATIONS:

a. That the Corps IG be tasked to provide similar monitorship/support in future exercises in which higher headquarters Inspectors General constitute the evaluative focus.

b. That additional transportation assets be supplied to the Corps IG to upgrade efficiency in discharge of the mission.

1. (U) SUMMARY. Extensive coordination was made with major USAREUR and allied commands, subordinate player units and German prosecutorial and police authorities in the pre-exercise stage to facilitate the speedy resolution of jurisdictional issues arising from the commission of offenses by REFORGER personnel of interest to German authorities under the NATO Status of Forces Agreement. Supervision of subordinate units was carried out in the area of maneuver damage reporting responsibilities to ensure the timely preparation and submission of post-exercise master maneuver damage reports.

2. (U) ASSESSMENT. Cooperation between all parties concerned in the area of foreign criminal jurisdiction matters was outstanding. Planning and preparation generally were conducted in a timely manner, allowing sufficient time for deliberate action and response, yet not so far in advance of the exercises to lose forward momentum. In areas of common interest to several staff sections, as in the area of maneuver damage and claims, greater efforts at staff coordination should be made in the future.

3. (U) RECOMMENDATION. Tasking of subordinate units to perform multiple functions by several staff sections, such as the requirement that officers be appointed to investigate claims, prepare master maneuver damage reports, and act as maneuver damage control officers during the exercise, should be centralized under one staff section to facilitate the execution of the mission.

The Umpire After Action Report is summarized below. The complete Umpire After Action Report, containing detailed information, is on file in the Corps G3 Exercise office.

1. (U) SUMMARY: The nature of the umpire mission required decentralization of responsibility to the level of engaged forces, immediately available accurate information on opposing forces, and a system to assess maneuver outcomes quickly.

a. Superb mission orientation on the part of packet leaders resulted in umpiring above previous REFORGER standards even when some parts of the umpire system did not function as expected. Further, this mission orientation produced professional performance on additional operational missions to control movement of player forces, additional reporting under conditions of vastly overloaded staffs and communications, instantaneous special assessment of the 101st Airborne Division (AASLT), and staff control of the maneuver beyond that envisioned.

b. GORDIAN SHIELD was the first maneuver of this scale in recent years that V Corps had run. Further, debriefs of umpires who participated in VII Corps maneuvers indicated that substantial revision of their procedures was imperative. Additionally Command guidance required that the umpiring of GORDIAN SHIELD be a pioneering effort. Two major innovations - the Umpire Area Coordination Center (UACC) and the Jiffy Assessment System, were developed, fielded and evaluated by the GORDIAN SHIELD Umpire Staff.

(1) The UACC was designed primarily to clear information on ground maneuver forces at the speed necessary to assess engagements between air assault and armor/mechanized forces. Each UACC was designed to provide information on 3-5 battalions of forces but depended entirely on reports from resident umpires to provide this information. Significant overload occurred at UACCs in the region of the main attack where 9-12 battalions were concentrated. Augmentation personnel reinforced such UACCs from umpire trained supernumeraries, returning umpire school instructors and UTOC staff. During these peak period, 90% of all messages received by UACCs were acted on and information with a 75% reliability was immediately available to umpires who contacted the UACC.

(2) The UACC also provided a mechanism to facilitate TOW/Cobra versus armor engagements, ADA versus aircraft/helicopter engagements and mark artillery/bomb fires. However, there was a tendency once opposing umpires had made contact to cease reporting player changes in location to the UACC making fire/bomb marking difficult. The UTOC dispatched a mobile training team which visited UACCs and improved BDA to some 60% and artillery firemarking to about 70% where communications worked by the last day of the maneuver.

(3) Resident umpire support for the UACCs varied greatly. Ninety three percent (93%) of 11th ACR umpires and seventy-five percent (75%) of those from the 8th Infantry Division consider it effective. In contrast, fifty-eight percent (58%) of the 101st Air Assault Division umpires (largely but not entirely aviation and artillery) found it confusing or not helpful. Further, players complained that insufficient weight was given to supporting fires, bombs, ADA weapons effects and air delivered TOWs.

2. (U) ASSESSMENT:

a. The UACCs were effective in meeting the informational objectives for air assault and armor/mechanized forces.

(1) Functionally by standards of the branch concerned, artillery firemarking was marginal, ADA TOW Cobra versus armor, and bomb damage assessment was unsatisfactory. However, the helicopterborne umpire backup system for TOW Cobra versus armor was effective.

(2) Assessment of supporting fires was sufficient to provide their impact on the maneuver of ground forces. Professional judgment and the system assessed 133 tanks and 45 other tracked vehicles destroyed by TOW Cobra while 17 TOW Cobra were killed in these engagement. Radar capable air defense units were credited with killing 222 rotary wing and 210 high performance aircraft. Blue forces lost 140 rotary wing and 119 high performance aircraft. Orange forces lost 82 rotary wing and 91 high performance aircraft. The Blue Vulcan Battalion and the Orange Chapparal/Vulcan Battalion accounted for 182 of the rotary wing aircraft killed.

(3) Satisfactory umpiring of the ADA, BDA, and TOW/COBRA- Tank functions is unlikely until the problems are addressed by the full resources of TRADOC in conjunction with the Air Force where appropriate.

b. The placing of German speakers, both U.S. and German, in three UACC regions where German forces operated, contributed greatly to umpiring. Further, bilingual umpires must be identified to augment existing austere liaison teams when task organization is changed. The translation of reports and forms used by umpires is essential. It is also advisable to translate applicable regulations.

c. The Jiffy system simplified time required for assessment and permitted timely movement in the maneuver. It let umpires consider the effects of terrain and tactics. Some ninety percent (90%) of all resident umpires enthusiastically support the Jiffy scoring system. The remaining ten percent (10%) would change it to include a score for their system in a direct fire role e.g. ADA and Artillery.

d. All GORDIAN SHIELD umpires evaluated the V Corps umpiring system but only those for the 101st Air Assault Division used the VII Corps umpiring system and therefore could compare the two systems. In comparison, 97% found the V Corps system fastest, 68% found it best combined accuracy and completeness, and 70% preferred its casualty and damage procedures. Although 13% of respondents preferred neither system in a choice between systems, 74% chose the V Corps system.

(1) There were two (2) outstanding successes from the working umpire view:
- The laminated Jiffy Score Cards and the System's simplicity.
- The helicopter-borne umpire with TOW Cobra.

(2) The UACC was only a qualified success to those 101st umpires who umpired both maneuvers. Sixty-three percent (63%) of the ground maneuver umpires found it helpful but nearly all aviation, artillery, division staff, and other umpires did not find it helpful or use it.

e. Austerity in assignment of umpire personnel and pressures for using equipment in other training were universally considered to detract from attainable performance by packet leaders. Packets were properly designed for umpiring. Their highly successful accomplishment of the three major unanticipated additional missions with minimal augmentation indicates that the current size of packets is a starting point for future design.

3. (U) RECOMMENDATIONS.

a. That USAFE assign a full time Air Staff Officer to the umpire staff at the time the Umpire Planning Staff is activated. The air staff officer should remain with the Umpire Staff until it is dissolved.

b. With the amount of coordination and support the umpires must have from the Division Signal Battalion, recommend that the primary Communication-Electronics staff officer come from the Division Signal Battalion.

c. That TRADOC address the problem of umpiring ADA, BDA, and TOW/COBRA - tank functions in conjunction with the Air Force where appropriate.

d. That USAREUR conduct research to develop and publish a field exercise umpiring directive which would have uniform application for all major exercises conducted throughout USAREUR. Existing field exercise umpiring directives could be used as a point of departure in developing an USAREUR Umpiring Directive.

1. (U) SUMMARY. Maneuver Damage Control (MDC), in the V Corps' CERTAIN FORCE/REFORGER 76 area of responsibility, encompassed the deployment, redeployment, and movement of elements of the 101st Airborne Division (AASLT), all exercise units participating or supporting exercise GORDIAN SHIELD, and XVIII Airborne Corps Headquarters during its participation in exercise ABLE ARCHER. Through close supervision and a unit awareness, the objective of minimizing maneuver damage to the maximum extent possible was successfully accomplished.

2. (U) ASSESSMENT. Pre-maneuver surveys were conducted by MDC teams to determine existing conditions of the maneuver area, as a basis for evaluating actual maneuver damage by participating units. The MDC teams were augmented by interpreters from labor service units which facilitated accurate reporting and evaluation of maneuver damage incidents. The MDC team conducted and supervised emergency repair of exercise maneuver damage, prepared post maneuver damage reports and reported maneuver damage when discovered during patrol of their sub-area of responsibility. Maneuver units did not fully exercise their maneuver damage control responsibilities. The primary problem was timely submittal of damage reports. The close monitorship of maneuver damage, which lead to minimal damage, was made possible by the augmentation to engineer MDC teams of a number of radios. Twenty-three vehicles were provided from depot stocks. The effectiveness of radios was marginal due to nonavailability of AN/VRC 46/47s. This augmentation, which is over and above organic radio equipment, is essential to an effective maneuver damage control organization. MDC sub-centers were colocated with German agencies within their MDC sub-sector thus enabling close coordination between MDC teams, German authorities, and MDC headquarters. Maneuver damage was successfully controlled because of maneuver damage reducing techniques employed by participants, the high visibility of MDC teams which served as reminders to the participants, and a reassurance to the local population; and because of efficient communications aided in large part by the Bundespost telephone system, which linked the sub-centers and headquarters element, and finally, the full cooperation of all German agencies.

3. (U) RECOMMENDATIONS. Recommend that:

a. Pre-maneuver survey of the exercise area be conducted prior to STARTEX.

b. The interface with German agencies at sub-centers and Maneuver Damage Control headquarters be maintained

c. A communications network, which is essential, be maintained through augmentation of MDC teams with radio equipped vehicles and establishment of a sub-center Bundespost telephone system

d. Command emphasis be placed, prior to and during the conduct of the exercise, on timely submission of damage incident reports.

1. (U) SUMMARY. The JVB Mission in support of FTX GORDIAN SHIELD "76" was accomplished in an efficient and effective manner. The decentralized approach was effective, but the same level of effectiveness could have been achieved with a USAREUR centralized concept resulting in savings in manpower and funds. A total number of 178 DVs visited the V Corps exercise over a period of five days. Considering each DV each day, the total number of guest/days were 315.

2. (U) ASSESSMENT. One consolidated JVB organization with field cells located in the maneuver area and at Rhein-Main could have coordinated the operation for both Corps, eliminating the requirement for a separate JVCC and four separate sub-JVB. The tasking of a combat battalion within V Corps to accomplish the JVB mission was, without doubt, the most effective manner to accomplish the mission but it cannot be overlooked that the combat readiness of the battalion was degraded during the actual conduct of the FTX. It is impossible to quantify to what degree the battalion's combat readiness was degraded because the battalion will respond to any challenge immediately upon return of key personnel to their TO&E positions.

3. (U) RECOMMENDATION: Regardless of which approach is decided upon for future JVB operations, the inclusion of the recommendations in the full JVB report will facilitiate planning and execution.

1. (U) SUMMARY. REFORGER/GORDIAN SHIELD public affairs activities were adequate, timely and effective.

2. (U) ASSESSMENT. Correction of problem areas encountered and attention to lessons learned during FTX GORDIAN SHIELD will enhance public affairs activities for future exercises.

3. (U) RECOMMENDATIONS:

a. The policy of tasking the unit operating the Joint Visitors Bureau with mission of providing personnel, equipment and transportation support to the Exercise Press Center should continue in future exercises.

b. Every feasible action to facilitate early press information releases pertaining to scheduling of exercises, participants, locations and exercise goals and objectives should be emphasized.

c. A period of organization and training of not less than three days should be accomplished for all press center personnel prior to any exercise activity.

Inclosure 33,(Giessen Community CDR (Corps Field Headquarters Site)) to REFORGER 76, V Corps Final After Action Report (U)

20 OCT 1976

1. (U) SUMMARY: The community provided physical facilities and coordination of those aspects peculiar to establishment of the V Corps 1976 REFORGER Control Headquarters in a satisfactory manner.

2. (U) ASSESSMENT: Initial planning for locating the Corps Control at Giessen addressed identification of facilities required by the Corps, requirements concerning stationing, subsistence, billeting, communications, transportation, bath and laundry, construction and related projects. Final plans, coordination, and identification of responsibilities were virtually completed by 23 August 1976. Original estimates for billeting, mess, and vehicle requirements were excessive.

3. (U) RECOMMENDATION: That more detailed estimates be required for future exercises in order to maximize asset utilization.

1. (U) SUMMARY. The REFORGER mission of the Frankfurt Military Community was to provide support for arriving and departing CONUS units. Personnel details were for a total of 15 men, who were under the operational control of 4th Transportation Brigade during REFORGER. The men were picked up daily and worked at Rhein Main AFB. In addition Class 1 support was tasked for an estimated 6,5000 men, with the Frankfurt consolidated Dining Facility number 2 providing the support. Some minor problems arose from changes in flight schedules. Also, 18 sedans, 1 bus, 3 carry-alls, some with and some without drivers, were provided. Finally, support for CONUS unit patients being returned to the field from the 97th General Hospital.

2. (U) ASSESSMENT. The support requirements at Rhein Main AFB could have been tasked to the Community more efficiently if a warning order was provided. Additionally, while the coordination with 4th Trans Bde at the start of the exercise was good, it deteriorated on redeployment, and some men worked dangerously long shifts around aircraft. Provision of ration support was complicated by last minute changes. Vehicle support caused few problems to the community. The return of CONUS patients to their units was facilitated by techniques developed by the community.

3. (U) RECOMMENDATIONS:

a. Use warning orders for taskings.

b. Insure timely notification of flight schedule changes to messing facilities.

c. Develop economical plans for the return of patients from CONUS units to their organizations in the field, such as; return on ambulances bringing in members from their same units, and movement back in the normal replacement stream.

1. (U) SUMMARY. GORDIAN SHIELD/COLD FIRE 76, a combined air and ground exercise, successfully demonstrated NATO air and ground interoperability. The NATO ASOC composed of German and US personnel, worked well together supporting the ground forces, and no substantial doctrinal, procedural or interservice problems were encountered. A problem during the exercise was the untimely and inaccurate reporting of bomb damage assessment.

2. (U) ASSESSMENT. In order to properly assess bomb damage and influence the exercise play, it is important to have a qualified Air Force staff officer participate in initial planning of Army Umpire procedures. Air Force personnel are best qualified to assess air attack missions.

3. (U) RECOMMENDATIONS.

a. Recommend the umpiring of Air Attack missions be performed by Air Force personnel equipped with air vehicles that have the capability to cover wide areas in response to rapidly occurring air strikes and diverts. Umpire personnel and equipment must not be tasked out of TACP assets because these assets are minimally adequate for their primary mission.

b. Recommend that in future operations, the Corps ALO be located with G-2 and G-3 in the battlestaff area, commensurate with the proposed training circulars, and the DASC be colocated with the CTOC. In addition, the colocation of the 601st DASC with the III German Corps ASOC is mandatory to coordinate the interoperations between Allied and US Air Forces, during an air exercise in confined airspace.

c. Recommend that full Tactical Air Control system exercises be developed including G2/G3 or S2/S3 elements at each echelon. Such exercises could raise the capacity and capabilities of the present Offensive Air Support command and control system to the support level required on the envisioned battlefield.

Inclosure 36 (Distribution) to
REFORGER 76 V Corps Final After Action Report (U)

20 OCT 1976

DISTRIBUTION	COPIES
CDR TRADOC, Ft. Monroe, VA 23651	5
CDR FORSCOM, Ft. McPherson, GA 30330	5
CINCUSEUCOM, APO 09128	2
CINCUSAREUR, APO 09403	10
CINCUSAFE, Ramstein, APO 09012	2
CDR, VII Corps, APO 09107	2
CDR, 3d Armored Division, APO 09039	4
CDR, 8th Infantry Division, APO 09111	6
CDR, 24th Infantry Division, Ft. Stewart, GA	1
CDR, 101st Abn Div, Ft. Campbell, KY 42223	5
CDR, 32d AADCOM, APO 09227	1
CDR, 32d AADCOM, JVB, APO 09227	1
Chief Umpire, FTX GORDIAN SHIELD, APO 09039	2
CDR, MEDCOM, APO 09403	2
CDR, USACEGEUR, APO 09166	1
CDR, USAMMAE, APO 09052	1
CDR, 21st SUPCOM, APO 09086	1
CDR, 3d SUPCOM, (Corps), APO 09757	2
CDR, 11th Armored Cavalry Regiment, APO 09146	1
CDR, 4th Trans Bde, APO 09451	1
CDR, 7th ATC, APO 09114	2
CDR, 130th Engr Bde, APO 09165	1
CDR, 5th Signal Cmd, APO 09056	2
CDR, 7th Signal Bde, APO 09166	2
CDR, 11th Avn Gp, APO 09025	1
CDR, 15th MP Bde, APO 09086	1
CDR, 24th Engr Group, APO 09227	2
CDR, 30th Med Gp, APO 09154	1
CDR, 59th Ord Gp, APO 09189	1
CDR, 66th MI Gp, APO 09108	1
CDR, 142d MI Co (-), (NG), FORSCOM, Ft. McPherson, GA 30330	1
CDR, 165th MI Bn, APO 09757	1
CDR, 10th AD Group, APO 09175	1
CDR, 41st Fld Arty Gp, APO 09455	1
CDR, 42d Fld Arty Gp, APO 09169	1
CDR, 373d ADA Avn Co, Ft. Hood, TX	1
CDR, 502d ADA Gp, APO 09178	1
CDR, 1 Bn 75 Inf (Rgr), Ft. Stewart, GA 31313	1
CDR, 85th Maint Bn, APO 09165	1
CDR, 19th Maint Bn, APO 09169	1
CDR, 549th Engr Bn, APO 09081	1
CDR, 547th Engr Bn, APO 09175	1
CDR, 559th Engr Bn, APO 09165	1
CDR, 54th Engr Bn, APO 09026	1
CDR, 317th Engr Bn, APO 09757	1
Director V Corps JVB, (FSE), APO 09079	2
CDR, 709th MP Bn, APO 09757	1
CDR, 1st-1st ADA Bn (HAWK), APO 09169	1
CDR, 3d-59th ADA Bn (C-V), APO 09165	1
CDR, 3d-7th ADA Bn (HAWK), APO 09702	1
CDR, 302d ASA Bn, APO 09757	1
CDR, 601st TCW, Sembach, APO 09130	1
CDR, 36th TFW, Bitburg, APO 09132	1
CDR, 86th TFW, Ramstein, APO 09012	1
CDR, 26th TRW, Zweibruecken, APO 09052	1
CDR, 50th TFW, Hahn, APO 09109	1
CDR, 52d TFW, Spangdahlem, APO 09132	1
CDR, 7th TW Sqd, Heidelberg, APO 09403	1
CDR, 32d Sqd, Soesterberg, APO 09292	1
CDR, 81st TFW, RAF Bentwaters, UK, APO 09755	1
CDR, 10th TRW, RAF Alconbury, UK, APO 09238	1
CDR, 48th TFW, RAF Lakenheath, UK, APO 09179	1
CDR, 20th TRW, RAF Upper Heyford, UK, APO 09194	1
CDR, 401st TFW, Torrejon AB, Spain, APO 09283	1
CDR, 32d Signal Battalion, APO 09757	1
CDR, 11th Aviation Bn, APO 09165	2
CDR, 334th Avn Co (Atk Hel), APO 09165	1

Inclosure 36 (Distribution) to
REFORGER 76 V Corps Final After Action Report (U)

DISTRIBUTION (Cont'd)	COPIES
CDR, 60th Ord Gp, ATTN: AEUMMOT-O, APO 09052	1
CDR, 17th Air Force, Sembach, APO 09130	1
CDR, 664th Ord Co, APO 09322	1
CDR, 601st DASC, APO 09079	1
Chief, USA Claims Svc, APO 09166	1
Commander, AAFES, Europe, APO 09245	1
USFLNO, Baden-Wuerttemberg, APO 09154	1
USFLNO, Bayern, APO 09407	1
USFLNO, Hessen, APO 09079	1
NATO	
CINCAFCENT, APO 09011	1
COMCENTAG, APO 09099	2
COMAAFCE, Ramstein, APO 09012	1
CDR, 4ATAF, Ramstein, APO 09012	1
CDR, III (GE) Corps, APO 09109	3
CDR, 13th (GE) Pz Gr Bde, APO 09099	2
CDR, 1st (GE) Air Div, APO 09099	1
CDR, WBK IV, APO 09099	1
CDR, WBK VI, APO 09099	1
CDR, 300th (GE) LRRP Co, APO 09109	1
CDR, I (BE) Corps, APO 09055	1
CDR, 1st (BE) Division, APO 09055	1
CDR, I (BR) Corps, APO 09055	1
CDR, 4 (BR) Division, APO 09055	1
Community Commanders	
Com Cdr, Bad Kreuznach Mil Com, APO 09252	1
Com Cdr, Baumholder Mil Com, APO 09034	1
Com Cdr, Darmstadt Mil Com, APO 09175	1
Com Cdr, Frankfurt Mil Com, APO 09710	1
Com Cdr, Fulda Mil Com, APO 09146	1
Com Cdr, Giessen Mil Com, APO 09169	1
Com Cdr, Hanau Mil Com, APO 09165	1
Com Cdr, Mainz Mil Com, APO 09185	1
Com Cdr, Wiesbaden Mil Com, APO 09457	1
Corps Staff and Liaison Officers	
ACofS, G1	1
ACofS, G2	1
ACofS, G3	11
ACofS, G4	1
ACofS, G5	1
ACofS, C-E	1
SGS	1
IG	1
AG	1
PAO	1
PM	1
RM	1
DIO	1
DEH	1
FSE	1
ATSE/SSO	1
Engr	1
ALO	1
ADA LNO	1
	173

~~CONFIDENTIAL~~

UNCLASSIFIED

DEPARTMENT OF THE ARMY
HEADQUARTERS, VII CORPS
APO 09107

AETSGC-EX

15 NOV 1976

SUBJECT: REFORGER 76 Final After Action Report (U)

SEE DISTRIBUTION

1. (U) Inclosure 1, for appropriate action, is the REFORGER 76/ certain force After Action Report (U).

2. (U) This letter and its inclosure are releasable into NATO channels. The information is furnished with the understanding that it will not be disclosed to any other nation without the consent of the United States; that it will not be used for other than military purposes; and that the information will be accorded substantially the same degree of security protection as such information has in the United States.

3. (U) This information will be used only on a need-to-know basis under applicable NATO regulations as a NATO CONFIDENTIAL document and will not be further disclosed without specific approval of the United States.

FOR THE COMMANDER:

1 Incl
as

JOHN M. HARTVIGSEN
CPT, AGC
Asst Adjutant General

Telephone: KLY (2723-)387/788

DISTRIBUTION:
See Basic AAR

TAB B

UNCLASSIFIED

~~CONFIDENTIAL~~

REGRADED UNCLASSIFIED
WHEN SEPARATED FROM
CLASSIFIED INCLOSURE(S)

~~CONFIDENTIAL~~ UNCLASSIFIED

DEPARTMENT OF THE ARMY
HEADQUARTERS, VII CORPS
APO 09107

AETSCC-EX 15 NOV 1976

SUBJECT: CERTAIN FORCE/REFORGER 76 Final After Action Report (U)

SEE DISTRIBUTION

1. (U) References: a. USAREUR and Seventh Army OPORD 6-76 for Exercise CERTAIN FORCE/REFORGER 76, Confidential, dated 30 June 1976.

b. VII Corps Circular 350-4, FTX LARES TEAM Exercise Directive, Confidential, dated 2 August 1976.

2. (C) CONCEPT. VII Corps participated in CERTAIN FORCE/REFORGER 76 in accordance with reference 1a. A scenario was developed and maneuver rights were obtained to conduct a free play exercise. VII Corps, in coordination with 101st Airborne Division (Air Assault) selected, organized and operated four Major Unit Assembly Areas (MUAA) which included administrative as well as logistical support. A maneuver damage control plan was prepared and implemented. The VII Corps Joint Visitors Bureau (JVB) was established to handle FTX visitors. Assistance was provided in the movement of CONUS based units from the Initial Unit Assembly Area (IUAA) to the MUAA. VII Corps assumed control of the 101st Airborne Div (Air Assault) (-) plus 1st Battalion, 75th Infantry (Rangers) and other CONUS based forces for FTX LARES TEAM upon completion of V Corps FTX GORDIAN SHIELD. These units plus European forces which included Canadian, French, German and VII Corps units were exercised in a seven day two-sided free play exercise. Upon completion of the FTX, European based units were moved to their home stations. CONUS based units were moved back to the MUAA and USAREUR regained OPCON. VII Corps supported the CONUS forces in their preparation for redeployment to the United States.

3. (C) SIGNIFICANT ACTIVITIES. a. Preparatory Phase (October 1975-10 August 1976). Preliminary planning and FTX considerations commenced in October 1975. Representatives from VII Corps met with members of FORSCOM, USAREUR, XVIII Airborne Corps and 101st Airborne Division (Air Assault) on 8 January 1976. The VII Corps Commander was briefed on 15 January and had approved a general concept by 5 February 1976. Selected commanders and Corps staff were given an initial brief on 6 February 1976. During the first of March, all REFORGER action officers were identified and the first Airspace Management meetings were held at USAREUR and CENTAG. The

UNCLASSIFIED

SUB TO GEN DECLAS
SCD OF E. O. 11652
AUTOMATICALLY DOWNGRADED AT TWO YR
INTERVALS
DECLAS ON 31 DEC 1982
CLAS BY CDR VII CORPS

TAB B

~~CONFIDENTIAL~~

101st Airborne Division (Air Assault) was given a VII Corps concept briefing on 17 March. During April and May, Corps revamped the exercise concept based on new guidance. CINCUSAREUR approved the concept on 10 May 1976. Planning and staff officer meetings were on-going from April to September 1976. Final plans for the MUAAs were completed by late July and constuction started in early August. The Joint Umpire School administered by VII Corps was conducted over the period 26 August thru 8 September. A total of 74 instructors reported to the Umpire School on 19 August to prepare classes for both the V Corps and VII Corps Schools. During the period 28-31 August 954 V Corps umpire personnel were provided instruction for the umpire and control of the V Corps exercise GORDIAN SHIELD. This included V Corps umpire personnel for the 101st Abn Div (AASLT). 1600 VII Corps umpires were given instruction 5-7 September. This included 88 Canadian Forces and 110 German Army personnel. Federal, State and local officials were briefed on both the concept and maneuver damage control for REFORGER 76 and maneuver damage elements were organized and trained.

b. Phase I (1-31 August) preparation of the MUAA and arrival of CONUS Forces. The MUAAs (OBERDACHSTETTEN, ILLESHEIM, GIEBELSTADT and KITZINGEN (See Incl 3) were established by the 2d SUPCOM during July and August 1976. The advance party for the 101st Airborne Division (Air Assault) arrived on 14 August 1976 with the main body arriving from 21 to 30 August 1976. They remained in the MUAA preparing and training until deployment to V Corps to participate in FTX GORDIAN SHIELD. The MUAA for 1st Battalion, 75th Infantry (Rangers) was in KAISERSLAUTERN and was not a part of the VII Corps requirements.

c. Phase II (1-10 September) movement of CONUS and European based forces to FTX areas. VII Corps began committing troops to the field on 7 September when ORANGE and BLUE forces began deploying to the field and conducting reconnaissance on their respective sides. The BLUE force covering force (2 ACR (-) with 1/1 Cavalry Squadron and 2 tank heavy task forces attached) was in its initial delay positions and ORANGE forces were closed and prepared to attack on 10 September. VII Corps Control Cell, JVB and Umpire Control Headquarters became operational on 9 September at KATTERBACH Army Airfield. Umpire packets joined the player units on 9 September. The maneuver damage organization moved to the field on 1 September. The Corps CG held a combined commanders call (down to battalion level), German officials briefing and press conference on 10 September. FTX LARES TEAM geographical restriction on opposing forces was lifted at 102400Z Sep 76.

d. Phase III (6-17 September) elements of VII Corps participated in I (GE) Corps FTX GROSSER BAER (6-10 September) (See Incl 4). The remainder of VII Corps, CONUS and Allied Forces participated in FTX LARES TEAM (11-17 September). NOTE: ORANGE Forces (OF); BLUE Forces (BF).

(1) All FTX LARES TEAM forces (players, JVB, Umpires, Manuever Damage, VII Corps Control Cell, etc.) with the exception of 101st Airborne Division (Air Assault) (BF) and 1st Battalion 75th Infantry (Rangers (OF)), were in initial field locations by 091700Z Sep 76. Defensive preparation authority for the BLUE Forces was given by VII Corps 100001Z Sep and border restrictions were lifted 102400Z Sep. Faced with an increasing and ominous ORANGE Force build-up immediately across the simulated international border, BLUE Forces began obstacle emplacement and selective execution immediately after receipt of the VII Corps preparation authority was granted. Then through the remainder of 10 Sep, 82d Engineers (BF) exerted a maximum effort, drawing materials from rail mobile prestock points located well forward and installing obstacles across the covering force front with the most intense effort in the center and southern avenues of approach. By the evening of 10 Sep the 2d ACR (BF), with two cavalry squadrons (1-1 Cav, 1-2 Cav) two tank heavy task forces (TF 1-35 and TF 1-37), and 175th Attack Helicopter Company, 210th Field Artillery Group (four artillery battalions) and 82d Engineer Battalion, all in Direct Support of the Regiment, had assumed final defensive positions along the Simulated International Border (Hwy 8). Concurrently, the 1st Bde, 1st Armd Div (BF), with area positions along the FEBA from PENZENDORF (PV 5166) to OFFENBAU (PV 6644) and the 2d Bde, 1st Armd Div (BF) occupied main battle area positions from OFFENBAU TO DENKENDORF (PV 8022).

(2) 11 September - Tactical activity began at 110001 Sep when the 1st Inf Div Fwd (OF) crossed the Simulated International Border and moved to contact with all three brigades on line; 3d Bde, 1st Inf Div Fwd (OF) in the north, 29 Panzer Brigade (OF) in the center and 4th CMBG (OF) in the south. Assault elements of each brigade conducted attacks at H-Hour to achieve maximum surprise. ORANGE Forces achieved varying degrees of success, with the largest gains being in the southern sector (4th CMBG). 2d ACR (BF) received the initial attack in the 1st Armd Div (BF) sector. 1st Armd Div (BF) occupied defensive positions in sector with 1st Bde in the north and 2d Bde in the south. At 111230Z Sep ORANGE (4th CMBG) conducted a company size airmobile assault to secure crossing sites along Autobahn E6 below the ALTMUHL River. By 111500Z Sep BLUE Forces had started to consider plans to absorb the covering force into the main battle area, while adjusting task organization to allow 2d Bde

to assume control on the relatively deep penetration by the 4th CMBG (OF) in the southern sector. During the late afternoon TF 3-63 (OF) division reserve, was repositioned in the 4th CMBG rear area to capitalize on the Canadian successes in the south. During the remainder of the day heavy pressure was exerted all along the front with the attack in the south causing the most pressure against the BLUE Forces. In the center, 29th Panzer Brigade (OF) was mostly contained and in the north, 3d Bde, 1st Inf Div Fwd (OF) made normal progress. During the evening TF 3-63 (OF) was placed OPCON to 4th CMBG for employment along the division south flank below the ALTMUHL River. 101st Abn Div (AASLT)(BF) was requested from COMCENTAG to constitute a Corps reserve.

(3) 12 September - 1st Inf Div Fwd (OF), with all forces committed, continued to attack with 3 brigades abreast to secure objectives IRON (PV 4855), BOSTON (PV 6345) and PINE (PV 7124). Contact was heavy during the entire day, especially in the center and northern sectors. ORANGE Forces continued to make progress and the BLUE covering force (2d ACR) was folded back into the main battle area and was assigned a defensive sector in the center of the BLUE sector. In the morning hours 4th CMBG (OF) crossed autobahn E6 and seized the southern portion of Objective PINE (PV 7124). At 1500 hours 3d Brigade (OF) conducted a company size airmobile assault (1-16 Inf) and successfully seized a road junction near ABENBERG (PV 4459). ORANGE Forces achieved a battalion size penetration in the south (PV 7024 to PV 7416) and a company size penetration in the northern sector vic PV 4260. BLUE Forces reacted to contain the penetrations. During the evening small unit combat actions continued as BLUE resistance stiffened along the entire front. 101st Abn Div (AASLT)(BF) was placed OPCON to VII Corps effective 121500Z Sep. The 101st Abn Div (AASLT)(BF) headquarters and 2 brigades moved into assembly areas in VII Corps Rear Area. 121800Z the 101st assigned two battalion task forces to Rear Area Protection. 120130Z 1-51 Mech was released to 1st Armored Division (BF). 210th FA Group reverted to Corps control and was given a mission of reinforcing 1st Armd Div Arty. VII Corps conducted a liaison mission with 1st Battalion, 75th Infantry (Ranger) (OF) at the Ranger MUAA in KAISERSLAUTERN. BLUE and ORANGE Forces continued to integrate EW into the tactical scheme of maneuver. Successful ECM operations were conducted by both forces on battalion sized elements. Airborne assets supported forces from 1200Z to 1700Z. An excellent ORANGE Force ICD operation was conducted with considerable success. The operation led BLUE Forces to believe ORANGE was initially massing forces in the center when actually the movement was occuring in the south. Aerial delivery of supplies (Class I and III) was conducted by BLUE Forces. Delivery was by C-130 aircraft. The supplies were rigged for medium lift assets and transported to a forward Class I/III point for distribution. Movement of 101st convoys from V Corps to VII Corps was completed.

(4) 13 September - 1st Inf Div Fwd (OF) continued to attack with 3 brigades abreast against essentially a 3 brigade BLUE defensive line; 1st Bde, 1st Armd Div (BF) in the north, 2d ACR (-)(BF) in the center and 2d Bde, 1st Armd Div (BF) in the south. Again, the largest gains registered by ORANGE Forces was in the southern sector below the ALTMUHL River. The heaviest fighting occurred in 1st Bde, 1st Armd Div (BF) and 2d ACR (BF) sectors and continued throughout the day. In the center sector, 29 Panzer Brigade (OF) stopped a BLUE counterattack but sustained heavy losses. In the northern sector at 130300Z 1st Bde, 1st Armd Div (BF) counterattacked with a 3 battalion size force to reduce a salient caused by heavy ORANGE attacks. The attack was met with heavy resistance throughout the day. By mid-afternoon forward movement of ORANGE Forces in the northern and center sectors had been virtually stopped; progress was still being made by 4th CMBG (OF) in the southern sector against light oppostion. Movement of 101st Abn Div (AASLT)(BF) units to the east to prepare for relief of the 1st Armd Div began at 131730Z Sep. Elements of 1st and 3d Brigades, 101st Abn Div (AASLT) displaced to new locations prior to an administrative weather hold on 101st aircraft. 1st Inf Div Fwd (OF) identified and targeted locations in the northern BLUE sector and began planning for a nuclear strike. 1st Inf Div Fwd held in location while awaiting release of special weapons. VII Corps ordered a relief operation to be conducted by 101st Abn Div (AASLT) of 1st Armd Div. Relief operation was initiated 131800Z Sep and was to be completed NLT 141000Z Sep.

(5) 14 September - Fighting was light throughout the day. ORANGE Forces were totally committed in an attempt to defeat BLUE Forces but the overall ORANGE Force combat power had been attrited to approximately 40-50% making it difficult for ORANGE to do more than just hold current locations. 1st Armd Div (BF) and 101st Abn Div (AASLT) (BF) continued coordination and movement to effect the relief of the 1st Armd Div in the sector and subsequent assumption of the defense by 101st Abn Div (AASLT). Although the initial VII Corps order specified the relief was to be completed NLT 141000Z Sep, 101st Abn Div (AASLT) experienced some difficulty in moving its FEBA forces into position. Elements of the 1st and 3d Brigades, 101st Abn Div (AASLT) manned passage points by 140900Z. 1st Armd Div began withdrawing through the passage points 140920Z into assembly areas in the Corps Rear Area. 101st Abn Div (AASLT) assumed control of the sector 141630Z. 2d ACR (BF) with 2 cavalry squadrons, TF 1-13

Armd and TF 1-52 Inf remained in contact and were placed OPCON to the 101st Abn Div (AASLT). Both 1st Armd Div Arty and 210th FA Group remained in sector, providing reinforcing fires to 101st Div Arty. As 1st Armd Div units were relieved they moved to assigned assembly areas in the Corps rear area where the division had been ordered to assemble, assume rear area security responsibilities and prepare for future offensive operations. An airborne assault was conducted at 141900Z by the 1st Battalion, 75th Infantry (Rangers)(OF) into the VII Corps rear area. Four actual injuries occurred. The battalion assembled and moved off the DZs to accomplish its assigned mission to attack east and disrupt, disorganize or destroy enemy LOCs, command and control facilities and ADA sites enroute to linkup with the 1st Infantry Division Forward. Losses of ORANGE Forces equipment by this time was severely curtailing the ORANGE attack. 3d Bde, 1st Inf Div Fwd (OF) had lost 1/3 of its tanks; 29 Panzer Brigade had lost 80% of its tanks and 4th CMBG had lost approximately 40% of its tanks. To overcome this growing disadvantage ORANGE Forces were reconstituted at 75% combat power at nightfall 14 Sep 76. An air drop of 12,000 rations was successfully conducted at 141400Z for BLUE Forces.

(6) 15 September - Fighting was moderate throughout the day. ORANGE Forces, reconstituted to 75%, resumed the attack with 3 brigades abreast against light BLUE resistance initially. Both 3d Bde in the north and 29 Panzer Bde attacks had success in the morning but resistance stiffened later and progress was halted. 4th CMBG (OF) in the south had better success and achieved a linkup with a squad size element of the 1-75th Inf (Rgrs) on the edge of the NORDLINGEN Basin (PV 2525). Increasing resistance and friendly casualties prevented 4th CMBG from advancing beyond PV 2520. 1-75th Inf (Rgrs) continued to strike pre-planned targets and new targets based on intelligence gathered by the battalion. ORANGE Forces continued to attack until 151900Z when their mission was changed by VII Corps to defend. 1st Inf Div Fwd then assumed a defensive posture with 3 brigades on line. 1st Armd Div units were moved forward under "minimize" radio conditions on low power to forward assembly areas located to the rear of the northern 101st Abn Div elements in contact. ORANGE Forces received authority for the use of nuclear and chemical weapons. Missions were on call at the discretion of the ORANGE Force commander.

(7) 16 September - ORANGE Forces continued on the defense and BLUE Forces finalized preparations for a counterattack. ORANGE Forces were reconstituted at 100% at 160001Z Sep. All BLUE attack elements were in position by 160800Z and 1st Armd Div passed through the 101st Abn Div (AASLT) in zone at the line of contact at 161000Z Sep. Several problems were encountered in this effort; notably the loss of the 101st Abn Div (AASLT) attack order to the 1-75th Inf (Rgr), and difficulties in release and target identification which aborted a divisional nuclear preparation for the attack, although the attack was supported by VII Corps weapons. 1st Armd Div assumed OPCON of 2d ACR with TF 1-1 Armd and 1-2 Cav on the line of contact. The 2d ACR was given a limited objective attack mission, with a mission to then revert to division reserve. BLUE Forces defended in sector until 1000Z with the 3d Bde, 101st Abn Div in the north, 2d ACR in the center and 1st Bde, 101st Abn Div in the south. 1st and 2d Bde, 1st Armd Div were in reserve in assembly areas. At 1000Z VII Corps attacked with the 1st Armd Div passing through the 101st Abn Div in the northern sector with the 1st Bde, 1st Armd Div; 2d Bde, 1st Armd Div and 2d ACR (ATTACHED). 1st Bde, 101st Abn Div (AASLT) attacked at 1100Z with 1 Mech Bn and 1 Cav Sqdn to seize intermediate objectives in southern sector. At 1242Z air assault battalions from 1st Bde, 101st Abn Div (AASLT) began insertion into objectives behind 4th CMBG (OF) units. BLUE ground units then pushed 4th CMBG units toward 101st Abn Div (AASLT) positions behind the 4th CMBG, finally linking up with the air assault battalions. Additional air assault battalions then repeated the insertion and linkup process with good results. 3d Bde, 101st Abn Div (AASLT) was assigned follow and support missions in the 1st Bde, 101st Abn Div (AASLT) sector. Some airmobile assaults were delayed by weather during the evening hours. BLUE attacking forces consisted of 3 battalions in the north (1st Bde, 1st Armd Div), 5 battalions in the center (3 Bns - 2d Bde, 1st Armd Div, 2 Bn size elements of 2d ACR) and 7 battalions in the south (1st and 2d Brigades, 101st Abn Div) and elements of the 1-501 AT Battalion. 1st Bde, 1st Armd Div met heavy resistance in the north from 3d Bde, 1st Inf Div Fwd (OF). 2d Bde, 1st Armd Div and 2d ACR made progress against moderate resistance in the center sector and the southern sector operations was characterized as excellent progress against moderate resistance. At 1200Z BLUE Forces fired 3 LANCE Missiles at preselected targets with good results. The attack continued through the night with forward movement by BLUE Forces against a determined ORANGE defense.

(8) 17 September - During the morning of 17 September contact was generally light except along the center and northern brigade boundaries where TF 1-26 (OF) repulsed uncoordinated platoon and company size attacks by a battalion size force. From 0500Z to 0530Z ORANGE conducted a nuclear strike expending four weapons. The remainder of 17 September (after ENDEX at 0900Z) was spent in critiques and moving units to Terminal Assembly Areas in preparation for final movement to home stations.

4. (C) MAJOR PARTICIPATING UNITS AND EQUIPMENT (FTX LARES TEAM).

UNIT	UIC	APPROXIMATE STRENGTH	WHEELED VEHICLES	TRACKED VEHICLES	AIRCRAFT
CONTROL AND SUPPORT GROUP					
VII Corps	WAT8AA	528	113	0	0
3d Infantry Division	WAMHAA	3148	393	48	29
69th ADA Group	WAVNAA	43	9	0	1
B/11th Signal Bn	WGQMBOC	34	17	0	0
385th MP Bn (HHD)	WBW8TOA	278	95	0	0
793d MP Bn (HHD)	WBXETOA	381	120	0	0
2d SUPCOM (HHC)	WCOJAA	1401	343	2	7
7th Engineer Brigade (HHC)	WA9XAA	80	20	0	3
9th Engineer Battalion	WACXAA	560	133	0	0
237th Engineer Battalion	WADEAA	218	50	0	0
563d Engineer Battalion	WHDJAA	147	70	0	0
565th Engineer Battalion	WHDKAA	40	8	0	0
25th Aviation Co	WDUSAA	90	23	0	8
307th ASA Bn	WDL2AA	148	24	0	0
34th Signal Bn	WA4NAA	515	268	0	3
511th MI Bn	WBVKAA	56	5	0	0
73d MI CAS	WAYUAA	115	1	0	3
303d ASA Co (Avn)	WA78AA	178	4	0	0
Others		400	0	0	0
TOTAL CONTROL AND SUPPORT		8360	1696	50	54
BLUE FORCES					
1st Armored Division	WACVAA				
1st Bde (HHC)	WACWAA	2,520	341	392	4
2d Bde (HHC)	WACZAA	2,336	344	382	4
Div Arty (HHB)	WACOAA	2,067	426	187	9
DISCOM (HHC)	WACYAA	1,343	419	3	1
Div Troops					
1-1 Cav Sqdn	WACYAA	787	80	117	27
16th Engr Bn	WACBAA	652	123	41	0
141st Sig Bn	WADJAA	467	161	0	0

7th MP	WADGAA	263	27	0	11
HHC 1st Armd Div	WACUAA	244	32	2	0
501st AG Co	WADMAA	80	12	0	0
501st MP Co	WADKAA	120	12	0	0
504th MI Co	WBWAAA	35	11	0	0
Div Avn Co	WADLAA	76	20	0	8
202d ASA Co	WGOKAA	150	44	0	0
2d ACR	WAY7FF	1,337	192	158	35
210th FA Group	WA06AA	1,341	356	77	5
2-57th ADA Bn	AD27AA	456	145	0	0
82d Engineer Battalion	WAOAAA	464	133	0	0
71st Maintenance Battalion	WBORAA	519	128	0	0
SFD(A)E	WH09TO	27	1	0	0
200 (GE) LRRP Co		41	6	0	0
SOTAS		35	1	0	2
Others		300	0	0	0
TOTAL BLUE FORCES		15,660	3,014	1,359	126

ORANGE FORCES

1st Infantry Division Fwd	WAHFAA	246	57	6	3
1-16 Inf Bn	WAHRAA	640	70	99	0
1-26 Inf Bn	WAHUAA	680	78	106	0
3-63 Armd Bn	WHXGAA	520	79	89	0
4-73 Armd Bn	WAR9AA	509	85	78	0
2-33 FA Bn	HAHCDO	428	105	47	0
C/1-4 Cav Sqdn	WAHMCO	148	15	30	0
D/1 Engr Bn	WAHCDO	115	20	10	0
D/1 Med Bn	WAHKOO	43	19	0	0
E/701 Maint Bn	WAH3EO	129	47	1	0
573 S&S Co	WAALAI	69	44	0	0
3d Bn, 7th ADA	WAVXAA	578	158	0	0
78th Engineer Battalion	WAZ9AA	438	114	0	0
72d FA Gp (HHB)	WA05AA	1660	383	114	5
223d Aviation Bn (Prov)	WDLKAA	399	86	0	59
2d Bn, 67th ADA	WD2XAA	562	120	0	0

A/6th Bn, 56th ADA	WAVA10-R	[illegible]	59	1	0
B/2d Bn, 60th ADA	WGRMBOC	[illegible]	35	1	0
1st Maintenance Battalion	WC7TAA	[illegible]	81	1	0
1st Bn, 75th Infantry (Rgr)		520	0	0	0
4th CMBG		2,736	812	413	11
13th (FR) Dragoons		95	14	0	0
29th Panzer Brigade		3,570	646	312	4
Others		350	0	0	0
TOTAL ORANGE FORCES		15,032	3,117	1,308	82

5. (U) GEOGRAPHICAL AREA OF PARTICIPATION. See Inclosure 6.

6. (C) FTX LARES TEAM OBJECTIVES. a. USAREUR and Seventh Army Objectives.

(1) To exercise the operational plan for CERTAIN FORCE/REFORGER mission.

(2) To exercise strategic deployment planning and capabilities by sea and air.

(3) To support NATO solidarity through increased NATO involvement.

(4) To fully test the unique capabilities of the airmobile division in the European environment.

(5) To exercise BENELUX LOC agreements to a greater extent than in previous years.

(6) To further develop and improve host nation support initiatives in the area of combat service support for attached forces.

(7) To examine the fusion of intelligence into operations at Corps and Division level.

(8) To provide combined arms training for USAREUR and CONUS Forces with specific emphasis in areas of:

(a) Tactical Air Support (TAC AIR).

(b) Airspace Management.

(c) Tactical River Crossing Operations.

(d) NBC Procedures.

(e) Electronic Warfare (EW).

(f) Operations Security (OPSEC).

(9) To improve force interoperability through combined operations with NATO alliance partners.

(10) To fully test doctrinal procedures for divisional air defense units to include the air defense early warning system.

b. VII Corps Objectives.

(1) Tactical Assembly.

(2) Operations with Allied Forces.

(3) Offensive and defensive operations.

(4) Employment of close air support, tactical air reconnaissance and army aviation.

(5) Planning and employment of nuclear, chemical and electronic warfare.

(6) Employment of combat support and combat service support elements in their tactical and logistical roles.

(7) Employment of ASA, COMINT, EW and COMSEC procedures.

c. In order to meet the objectives of FTX LARES TEAM, combat, combat support, and combat service support elements were required to execute or support many complex and ambitious operations. The following operations were completed successfully with valuable training and experience gained.

(1) Convoy movement.

(2) Tactical Assembly.

(3) Operations with allied forces.

(4) Covering force operations.

(5) Movement to contact.

(6) Passage of lines.

(7) Defense on a broad front including counterattack operations.

(8) Offensive operations.

(9) Employment of close air support, tactical air reconnaissance and army aviation.

(10) Planning and employment of nuclear, chemical and electronic warfare.

(11) Employment of ASA COMINT, EW and COMSEC.

(12) Air Defense early warning system.

(13) Employment of an airmobile division in the European environment.

7. (U) The USAREUR specified or implied tasking to evaluate several projects during FTX LARES TEAM was accomplished. The results of these evaluations are to be found as inclosures or will be published separately:

a. Equipment Cannibalization Test: TBP Separately.

b. SOTAS: TBP Separately.

c. Rationalization/Standardization/Interoperability: See Inclosure 1.

d. Airspace Management: See Inclosure 2.

e. Major Unit Assembly Area: TBP

8. (U) FTX GROSSER BAER: See Inclosure 3. (TBP separately)

9. (U) LESSONS LEARNED: See Inclosure 4.

10. (U) UNRESOLVED PROBLEMS: See Inclosure 5.

11. (C) A summary of staff related comments and activity is contained below.

a. Public Affairs.

[illegible] Final After Action Report [illegible])

(2) [illegible] operations during the exercise were very successful. Media interest [illegible] 82nd Airborne Division (Air Assault), interoperability, [illegible] and [illegible] operations. Media response was favorable throughout the exercise [illegible] and [illegible] assisted greatly in the area of traffic safety by repeated [illegible] for careful driving [illegible] the [illegible] of our [illegible] about [illegible] damages. [illegible] VII's [illegible] for General Haig and Major Interpresident [illegible] limited.

(3) Intensive [illegible] planning and pre-exercise visits by VII Corps personnel to newspapers published in the maneuver area, with emphasis on the small local media, was a determining factor in establishing good will and creating interest in the military activities. Releases prior to and during the exercise stressing safe driving and the dangers on the road posed by oversized military vehicles, slow moving convoys and night driving substantially reduced the number of vehicle accidents. Utilization of personnel from WBK VII and II(GE) Corps in press center operations to assist visiting media representatives and answer telephonic inquiries proved to be a real asset in media relations and visibly demonstrated the interoperability concept. Although many releases were made to German media, translating capability in the press center was insufficient. Since the local media, with little English language capability, constitutes the bulk of the customers this aspect is important to service small papers in the maneuver area not able to send a reporter to the press center. The concept of employing photo/journalist teams proved sound in producing pictures and covering exercise activities and highlights.

(3) In past REFORGER exercises correspondents reported to the press center, were briefed and then escorted to a unit. Exercise LARES TEAM featured a two-part innovation called the war correspondents approach. Units were provided with registration papers and encouraged to bring along local correspondents from their garrison areas. Also during the exercise, the press center endeavored to place correspondents with units in which they were interested, for stays longer than one day. Due to the proximity of most local correspondents to the exercise area and their numerous other non-military related assignments, few local correspondents availed themselves of the opportunity to be war correspondents. In those isolated cases where local correspondents did go out, it was very successful but they remained for less than 24 hours. Placing correspondents from the press center met with considerably more success. Notable was the assignment of a German TV crew to an infantry battalion of the 1st Armored Division for three days. Though this phase of the war correspondents approach was similarly not extensively employed, enough experience was gained to encourage future use of the concept. Future REFORGER exercises should have the war correspondents approach as an alternative in their press center plans.

b. Intelligence.

(1) Intelligence play during FTX LARES TEAM met all stated objectives. Particularly good results were achieved in the areas of aerial reconnaissance and electronic surveillance. This year's exercise provided a stage for testing new systems such as SOTAS and Near Real-Time AF SLAR and for refining procedures for handling such sophisticated collection systems as TEREC, GUARDRAIL, and QUICKLOOK. Additionally, a special evaluation of interface possibilities between Army and Air Force SLAR was conducted. The evaluation yielded important test data for continued pursuit of this concept.

(2) As in past REFORGER FTXs, the ability of US and allied Long Range Reconnaissance Patrol (LRRP) teams to provide critical intelligence associated with enemy rear area activity was clearly demonstrated. LRRPs were invaluable in providing significant, accurate intelligence on both enemy movement and lucrative targets for artillery and CAS.

(3) All player divisions continued to refine intelligence fusion techniques by internally using all source intelligence center (ASIC) concepts, and externally by integration among G2, G3 and FSE elements. Intelligence staffs, organizations and procedures were exercised with a high degree of professionalism by player units. Non-use of an ASIC by the Corps control elements reinforced last year's finding that the ASIC provides a fully integrated intelligence product not otherwise available. The ongoing efforts of the Corps G2 staff to refine operational concepts and procedures would be enhanced if the G2 section could operate solely as a player element in future REFORGER FTX's.

(4) Efforts to provide COMSEC evaluations on the multinational level were attempted this year. Problems in managing this effort on the multinational level were related to German national policy for use of point of origin codes and no requirement to authenticate fire missions.

c. Operations and Training.

(1) The successful attainment of the Operational Security (OPSEC) goals of VII Corps during Exercise LARES TEAM was in large part due to the use of the following measures:

(a) Initial overt reconnaissance.

(b) Communications monitoring with penalty assessments against violating units.

(c) Increased security of Command Posts.

[illegible] of separating Command Posts and Communication Sites to reduce electronic [illegible].

[illegible] improved [illegible] of secure voice systems.

[illegible] the individual soldier in such areas as SMLM, terrorist activities, [illegible] consciousness.

[illegible] Move [illegible] Command Posts as often as necessary to insure security.

[illegible] awareness of the individual soldier was noted throughout the exercise. [illegible] noted in the areas of COMSEC violations and the security of Command [illegible].

Nuclear and chemical play [illegible] late in the FTX and was limited. Chemical play consisted of one multiple nonpersistent nerve agent strike fired by ORANGE. This strike on 16 targets (15 were marked) resulted in zero casualties, primarily due to lack of adequate target intelligence, a fast moving tactical situation, and chemical release procedures which are not responsive enough. BLUE forces were not aware of the ORANGE chemical strike, consequently BLUE chemical release procedures were never fully exercised. Similarly, unit level NBC defense organization and protective measures were not exercised due to the lack of persistent and nonpersistent agent use on positions occupied by troops. Nuclear fire planning, nuclear request/release procedures and employment were exercised during REFORGER 76. Request procedures were exercised sufficiently to provide training under realistic conditions to all appropriate headquarters.

(3) The Electronic Warfare (EW) goals and objectives for REFORGER 76 were accomplished with varying degrees of success. Thorough EW plans were developed and implemented by both forces with considerable effectiveness. Particularly noteworthy were the deception plans employed by the ORANGE Force and 1-75 Rangers. It was proven beyond a doubt that EW activity can have a dramatic adverse effect upon command and control and Fire Direction Nets. This was demonstrated on various occasions where radio nets were successfully entered and false information passed as well as jammed. The major shortfall of EW for REFORGER 76 was in procedural knowledge of newly assigned personnel at control and subordinate headquarters. Such problems should be rectified as emphasis is continued and EW is integrated into all tactical operations.

d. Logistics. The Autumn Forge series of exercises proved to be a significant challenge for the logistics support elements of VII Corps. The mission of establishing and logistically operating a Major Unit Assembly Area at four separate locations was a requirement unique to REFORGER 76. The reception, stationing, messing and day-to-day base operational support provided to the 101st required the assets of a maintenance battalion from 2d SUPCOM, community assets from virtually all communities within VII Corps, and a considerable control cell for operational interface with the Division. 2d SUPCOM provided Class I, II, IV, III, IIIA, IX, IXa and bath/laundry service at each MUAA site. Prior to, during and following the conduct of Exercise LARES TEAM, service support as well as base support was furnished in the MUAA. Logistic support provided during Exercise LARES TEAM was excellent and represented a general improvement over previous REFORGER exercises. The introduction of an Air Assault Division into the European Theater, which is oriented to provide combat service support to essentially mechanized/armored forces, created new logistical challenges in providing Class I, III, IX supplies and transportation services. Total logistical support was provided by two Division Support Commands and those Combat Service Support Task Forces from 2d SUPCOM designed to provide direct and general support maintenance supply and services. This exercise was logistically significant in that the support operations carried out closely parallel the requirements established by current contingency plans. The exercise therefore represented a unique opportunity to test and confirm the feasibility of plans and procedures for wartime operations.

e. Civil Affairs/Psychological Operations.

(1) G5 began the psychological preparation of the populace for the REFORGER 76 LARES TEAM exercise approximately four months before STARTEX with formal briefings at state, governmental district and county level. The briefings included presentations on the tactical exercise concept, the number of troops and pieces of equipment participating, safety information, and the Corps plan for maneuver damage control. Briefing teams visited virtually all small and medium-sized communities in the exercise area. These pre-exercise visits were followed up by daily contact with local officials during the LARES TEAM exercise.

(2) Violations of off-limits area continue to be a problem. Complaints were received from local officials of OETTINGEN in Bayern, PAPPENHEIM and the KATTENHOCHSTATT recreational area. Commanders must take steps to preclude needless maneuver damage to areas of historical or cultural importance.

(3) Psychological Operations Loudspeaker Platoon was provided by II German Korps and supported BLUE Forces. Good use of the platoon was made, however, as in past exercises, maximum use of their capability was not realized because US units lack trained PSYOPS personnel. Elements of CONUS PSYOP units would add immeasurably to PSYOP exercise play.

f. Signal.

(1) Overall the communications during REFORGER 76 can be classified as successful. However, many shortcomings in operational techniques, use of equipment, equipment readiness and personnel were in evidence. We must strive to get the maximum capability from on-hand equipment. Our procedures must be developed, our maintenance and the training of our communications personnel improved.

(2) Continuity of command, to include mobile operations, continues to be a problem area. There is no effective early warning system to alert friendly forces of impending friendly or hostile action below brigade levels. Too much time is consumed, command control is lost and lucrative targets disappear before combat power can be brought to bear.

(3) There are other concepts and procedures that require immediate attention. Logistic and administrative officers require a flexible secure system to communicate highly perishable and time-sensitive information, RAOC needs better support, and communications to interconnect the corps with specialized units are sorely wanting. More importantly, if we are to optimize the use of what we have, we need a method of measuring our procedures and operations.

(4) FM 100-5 envisions a highly mobile tactical command post to allow the Corps Commander being at and controlling rapid moving tactical actions. In the face of hostile EW, it is doubtful that operating on the move can be achieved. It will require travel plus set-up time to regain communications. Currently exacerbating this is the inability of the mobile tactical CP to stay abreast of tactical actions while on-the-move.

(5) Communications cannot be fragmented into battalion, brigade, division, Corps or Theater - it is a system; one that must be integrated - not solely inter-operable.

g. Air Defense.

(1) Participating air defense units provided low and medium altitude air defense for maneuver elements and priority assets within the Corps area. Units were deployed in both direct and general support of the divisions and Corps respectively while still maintaining the HAWK belt under the operational control of the Commander 4th Allied Tactical Air Force (COMFOURATAF). Integration of these assets into the overall NATO air defense system necessitated the involvement of a major NATO air defense headquarters in the exercise. COMFOURATAF provided for the first time in a REFORGER exercise, full command and control for participating air defense units. This was accomplished by establishing a command and control link from the 4th Allied Tactical Air Force (4ATAF) Air Defense Operations Center (ADOC) through Sector Operations Center III (SOC III), the Control and Reporting Center (CRC), and the Mobile Control and Reporting Post (CRP) to the Battalion Operations Center (BOC) of the firing elements. This system not only provided a means of immediate unit recall to assume a real world air defense mission should the need arise, but also closely parallel, and for the first time exercise, existing NATO plans and regulations for wartime air defense deployment. Hopefully future exercises will see even greater participation of 4ATAF to include the utilization of the CRC-MCC. This operational control by NATO does alter the normal direct support mission of ADA Bns but despite some of the possible shortcomings that can be envisioned by ground commanders, experience has shown that this air defense system is responsive to the div's need. The TRIAD configuration of the HAWK battalions was very successul and should be adopted by all units. This will enable each of the 3 platoons within the HAWK battery to acquire and engage enemy aircraft simultaneously from three separate and distinct firing positions. This not only increases the HAWK batteries' airspace coverage, but also reduces the number of moves required.

(2) Some progress has been made towards the objective of integration of all air defense assets within the division AO. In order to continue this, planning and coordination on the part of the maneuver elements and AD units will be necessary.

(3) Early warning information to divisional units still has areas that need to be addressed more fully. Our principal area of concern is the timeliness and applicability of the information that reaches the user level. A good deal of the time, reliable and timely information was received at the C/V units and in some cases down to REDEYE but a fool proof system has not been found. Liaison between units and a dedicated air defense early warning communications net is the key to the effectiveness of any final solution.

(4) REFORGER 76 proved to be a very successful exercise for AD units. HAWK proved again that it has the mobility required to keep up with the maneuver elements, providing their air defense coverage while simultaneously maintaining the HAWK belt. To work directly with the division is indeed a rare opportunity that should be repeated with greater frequency. Additional opportunities should be provided for the HAWK units to work with the divisions. The conduct of such exercises and continuous planning will help an integrated air defense become more of a reality within the Corps area.

h. Application of New Doctrine. The 1st Armored Division incorporated the new doctrine listed in FM 100-5 into FTX LARES TEAM. The active defense was included in the scheme of maneuver. The 2d Armored Cavalry Regiment (-), as the division's covering force, was reinforced with the divisional cavalry squadron, two tank heavy task forces, an assault helicopter company, a direct support field artillery group of four FA battalions, an ADA battery and one battalion of engineers. This reinforcement enabled the 2d ACR(-) to conduct operations for almost 48 hours. This allowed the BLUE Forces adequate time to determine the location and direction of the main attack of the ORANGE Force; thus enabling BLUE to deploy forces and prepare defenses within the main battle area. Once the covering force mission was complete the 2d ACR(-) was folded back into the main battle area and given a sector to defend. Lateral movement of BLUE Forces was somewhat restricted by the ORANGE scheme of maneuver of 3 brigades abreast, causing heavy pressure along the extended front. This is a similar problem to the one addressed in VII Corps Initial After Action Report that indicated attacking forces, regardless of ratio of forces, were normally able to advance towards assigned objectives. This can be due to extended defensive frontages, umpire problems, scenario, lack of realism of live fire or other reasons. The fact remains that often company size units pass through the defense without being engaged.

i. Ranger employment. The employment of 1st Battalion, 75th Infantry (Rangers) was hampered on FTX LARES TEAM by a series of administrative requirements. The aircraft for the night drop and the drop zones to be utilized had to be approved months in advance of the exercise. The aircraft were available for only one night (14 Sep 76). This precluded realistic insertion of the Rangers based on a build-up of intelligence. It actually dictated they be employed at a certain time and place. Future exercises of this nature should point toward a more reasonable approach to initial insertion of the Rangers, perhaps an infiltration of enemy lines to attack key areas based on a build-up of intelligence. This would preclude insertion of the Rangers prior to adequate intelligence being available.

12. (C) AREAS OF INTEREST TO COMMANDERS. a. Prior to the start of FTX LARES TEAM, certain primary areas of interest were identified to Commanders of player units down to the battalion level. These areas, together with pertinent post exercise comments, are listed below:

(1) Safety - The Corps Commander stated that major exercises are costly in terms of lives lost and a key objective was to conduct a safe FTX in 1976. This objective was realized as exercise LARES TEAM was one of the safest VII Corps REFORGERS to date.

(2) Maneuver Damage Control - The Corps Commander stated that excessive maneuver damage might occur. Through the efforts of all commanders and personnel involved it has become evident that the reduction in maneuver damage was quite significant in REFORGER 76. This was also borne out by the fact that there were no unfavorable German press releases concerning maneuver damage during or after FTX LARES TEAM.

(3) Combined Arms Training - Realistic allied combined arms training and an improved and coordinated defensive capability was thoroughly tested in the tri-national division of the ORANGE Force. They operated successfully with three brigades from three different nations. This is an indication of the level of dedicated effort and training of todays NATO forces.

(4) Close Air Support.

(a) Close Air Support was greatly improved over REFORGER 75. It was evident that the new procedures that have been adopted, particularly CREEK BRAILLE, are more responsive in terms of time to the ground forces than previous procedures. The concept of CREEK BRAILLE seems to be working very well and should be refined and continually utilized in major FTXs to further improve the system.

(b) There is a problem in commitment of our close air support assets to secondary targets. There is a tendancy in exercises to fly maximum sorties without regard to the tactical scenario. All of these sorties cannot be properly utilized by the ground commander at times and are diverted to "secondary" targets. The aircraft load is not normally configured to hit a secondary type target. Perhaps a solution to this problem is to identify a secondary target for the aircraft prior to take-off, one that is in accordance with the ordnance configuration of the aircraft. This would assist in alleviating the problem of aircraft being diverted to inappropriate targets just to complete a mission.

(c) Also CAS was not available 24 hours a day because of the German noise abatement program. This needs to be addressed to MOD Bonn in an attempt to receive some relief from this restriction.

(d) These problems uncovered did not prevent a highly professional, convincing demonstration of the over-all capabilities and values of close air support. REFORGER 76 proved the NATO allocation system to be a viable concept, allowing ground forces to know a day in advance how many confirmed air assets would be provided the next day. The Army/Air Force interface on FTX LARES TEAM was a reality that was reassuring to ground commanders.

(5) Army Aviation Support - Army aviation units involving over 600 aircraft safely performed their required multi-functional tactical aviation roles in a superb manner. The 101st Airborne Division (AASLT) proved that it could effectively operate in the European environment and possessed the ability to rapidly move its forces to critical areas thereby properly influencing the battle. Problems were associated with extraction of heavily engaged 101st Forces and further study is indicated to solve this problem. The ability of the TOW/Cobra to engage and defeat tanks at ranges in excess of 300 meters was amply demonstrated and this capability played a significant role in the success of the 2d ACR, 101st and 1st AD operations. Optimum use of available decentralized medium lift assets was attained; however, further combat arms integration of medium lift assets is necessary. Our aviation and ground commanders must train to overcome the logistical resupply problems that will be faced in an actual conflict. Flight operations under limiting weather conditions proved that Army aviation can operate successfully and must be totally integrated into the combined arms force in Europe.

(6) Airspace Management - Airspace management, particularly with the 101st Airborne Division (AASLT) participating, proved to be a tremendous challenge. The overall success of the program, as well as the difficulties encountered, are covered in Inclosure 2. The VII Corps Airspace Management goals established for FTX LARES TEAM were successfully achieved.

(7) Rear Area Security - Rear area security proved to be a real problem area. During both offensive and defensive operations, forces seemed to be preoccupied with concentrating combat power well forward with little consideration for rear area security. The insertion of the 1st Bn, 75th Infantry (Rangers) into the BLUE rear area was accomplished through a night airborne assault. They were extremely successful in disrupting the rear area and causing front line combat forces to focus in more than one direction. Unit commanders at all levels must be aware of the need for rear area security forces and must provide an effective coordinating headquarters to adequately counter any threat which might develop. This is particularly true in Corps and Division rear areas where critical installations and supply areas are often not afforded adequate protection, but must rely on reaction forces to counter the enemy threat. The need for expertise in coordinating all assets in the rear into a cohesive security force dictates the early assignment/arrival of a Rear Area Operations Cell (RAOC) to effectively coordinate and control rear area assets.

b. Other areas of particular interest to commanders.

(1) Nuclear and chemical play suffered this year due to the short duration of the exercise and the very ambitious scenario. The fast moving situations tended to allow for planning of nuclear and chemical missions but not for execution. Nuclear strike warning is still a continuing problem and needs further inquiry. Also, the severe restrictions placed on the release of chemical weapons and the time required for release from these restrictions need further study.

(2) Communications security continues to improve each year; however, even with fewer serious COMSEC violations it is apparent further emphasis and training are necessary.

(3) Security of LANCE units is questionable. When the unit becomes fragmented and spread out, there is little left in the way of security. This matter needs immediate attention.

[illegible] to [illegible] engagements occurred, were much improved over last year. Defensive [illegible] were observed fighting dismounted and moving on foot. The biggest problem encountered was movement to contact. This was poorly done at times as units were observed moving forward in columns without proper security. They also tended to bunch up at choke points. Although maneuver damage criteria prevents much off-road movement, this is an area in which we need improvement.

(5) Communications, although adequate, were still a considerable problem. Untrained operators, insufficient maintenance and lack of knowledge of equipment limitations were the most apparent shortcomings. Two general attitudes prevail; first, that communications are expected to function without any effort on the part of the user/operator and secondly that our radios are old and out-of-date and will not work anyhow. We must change these attitudes and perceptions and insure that our operators are well trained and completely familiar with their maintenance responsibilities.

c. No report on FTX LARES TEAM would be complete without mention of some of the many commendable areas in the exercise.

(1) First, all reports and observations had high praise for the appearance, morale and esprit of the troops on both sides. They were led by dedicated leaders and commanders at all levels.

(2) Second, we exercised our evolving doctrine and practiced the principles of an active defense. The covering force was beefed up, allowing main battle area forces adequate time to deploy. The covering force then folded back into the main battle area in an assigned defensive sector. This allowed more forces to remain in contact with the attacking forces in an effort to slow or halt the attack while inflicting maximum attrition. All of this provided valuable training and experience for commanders and troops of the units involved.

(3) The interoperability training and lessons learned from FTX LARES TEAM will prove beneficial in our future endeavors to work even more closely with our NATO allies.

(4) The intelligence efforts of all sources were commendable. It was obvious that a major effort was being expended to ensure that available intelligence reached its ultimate user, the tactical commander, in a timely fashion.

(5) Logistic efforts once again gave a clear indication of the truly professional approach being taken at all levels of the support forces to ensure that the ground commander receives what he needs, when he needs it. The mission of selecting, establishing, maintaining and logistically operating four separate Major Unit Assembly Areas, to support the 101st Airborne Division (AASLT), was a requirement unique to REFORGER 76. Prior to, during and after FTX LARES TEAM, service support and base support was furnished in the MUAAs by 2d SUPCOM. This total support package was provided in an outstanding manner.

(6) Finally, VII Corps owes much to those non-players who insured the success of FTX LARES TEAM: the umpires who accomplished their mission in a professional manner, the Joint Visitors Bureau which saw to the needs of our guests, and the ANSBACH Community which supported the VII Corps Headquarters during the exercise.

d. FTX LARES TEAM was an ambitious and complicated exercise which was conducted in an outstanding manner. The VII Corps looks forward to even greater challenges during REFORGER 77.

7 Incl
as

GEORGE L. EGGERS, JR
Brigadier General, GS
Chief of Staff

Telephone: KLY (2723-) 387/788

DISTRIBUTION:
See Incl 7

Rationalization/Standardization/Interoperability Initiatives (RSI)

[illegible] during the exercise were submitted on 21 [illegible] the VII Corps FTX LARES TEAM Interim After Action [illegible] (Commanders Critique)(U). In that document reference was made to over [illegible] RSI initiatives. Not all of these initiatives will be [illegible] in the final after action report, but many were significant and will [illegible] reviewed.

2. (U) During the Exercise LARES TEAM portion of REFORGER 76, tactical and logistics interoperability was stressed by the multinational ORANGE Force (US/[illegible]AN/FR) and the binational (US/GE) BLUE Force. Much progress was made in standardization and interoperability.

a. The ORANGE Force was a multinational division composed of the 3d Brigade 1st Infantry Division, 29th Panzer Brigade, and the 4th Canadian Mechanized Brigade Group with numerous company and battalion size unit cross attachments, all controlled by a multinational composite division staff.

b. The BLUE Force included numerous cross attachments of US and German units. Gunners, loaders, drivers, and tank commanders from the 303d Panzer Battalion integrated into US tank crews from the 1st Battalion 37th Armor, 1st Armored Division.

c. 210th (GE) ABC (DEFENSE) Abwehr Battalion (-) was placed OPCON to 1st Armored Division and 101st Airborne Division (Air Assault).

d. A platoon from the 281st (GE) Psychological Operations Company was placed OPCON to 101st Airborne Division (Air Assault) and the 1st Armored Division.

e. 1st Infantry Division (Forward) operated with a multinational Signal force composed of (US/CAN/GE) personnel.

f. The 29th Panzer Brigade and 4th Canadian Mechanized Brigade Group were provided Brigade Airspace Management Elements from the 2d Battalion 67th Air Defense Artillery (Chaparral/Vulcan) for coordination of airspace use within respective Brigade areas.

g. 29th Panzer Brigade and 41st (GE) Field Artillery Battalion under control of 1st Infantry Division (Forward) provided (in conjunction with 1st Maintenance Battalion, 2d Support Command) mutual logistic support, wherever possible, in medical support, Class I and III, POL resupply, maintenance of common items, and equipment recovery to include evacuation support of identical or comparable items.

h. 4th Canadian Mechanized Brigade Group received logistical support from 2d Support Command in the form of all Class I and Class V training items, Class IX for common user items and emergency maintenance support as required, medical support as required, postal services and movements control.

i. German medical personnel from II (GE) Corps and 3d Infantry Division Medical Battalion were utilized in the 128th Combat Support Hospital, 326th Medical Battalion and the 546th Medical Company.

j. Representative US, Canadian and German forces exchanged rations.

k. Procedures were established to permit the 41st (GE) Field Artillery Battalion to fire nuclear rounds. Although the situation never presented itself to actually conduct the firing, necessary liaison and operational procedures were accomplished.

l. [illegible] Joint Liaison Teams to brigade/division/corps headquarters to assist commanders in facilitating coordination and operation with the local [illegible] and multinational forces in support of tactical operations and administrative and logistical functions.

m. In addition, the [illegible] training activities for the 101st Airborne Division (Air Assault) include the following host units: 1st (GE) Panzer Grenadier Division, 9th (GE) Jager Division, 1st (GE) Mountain Division, 2d (GE) Jager Division, 5th (GE) Panzer Division, 4th (BR) Division, 4th Canadian Mechanized Brigade Group, 1st (BE) Corps, 1st (NL) Corps and II (FR) Corps.

4. (S) Comments concerning test initiatives and exercise analysis of LAREC TEAM /REFORGER 76 are provided as follows:

a. Liaison Personnel and Equipment:

(1) Problem: Lack of sufficient TOE/MTOE spaces for personnel and equipment to provide the necessary liaison teams to effectively support multinational operations.

(2) Military Consequences: Consequences are self-evident. Lack of personnel and equipment, particularly signal equipment, severely hinders the operation of multinational forces, the cross attachments of units, and the reinforcement of one national force by another national force. The present system of furnishing make-shift LNO parties places severe constraints on a unit's personnel and equipment assets needed to support the teams as well as normal operations. However, an exchange of LNO's is mandatory for smooth operations and must be provided at the expense of almost any other area.

(3) Recommended Improvements: That a comprehensive study be made of liaison requirements needed to support the operations of multinational Corps in the NATO environment. That TOE/MTOE changes be made, as a result of the study, to provide the personnel and equipment necessary to support liaison teams for extended periods of time. Such teams, as a minimum, should include one officer and non-commissioned officer, tactical vehicle transportation, communications equipment, tentage and a tape recorder.

(4) Related Information: The ability of supported and supporting units of different nationalities to provide a mutual exchange of liaison teams is essential for command and control, intelligence reporting and logistics and administrative functions. Of equal importance in a sophisticated electronic warfare environment is the full use of messengers. This is another function not practiced or adequately provided for in TOE/MTOE.

b. COMSEC Interoperability:

(1) Problem: A disparity exists between CEOIs and CRYPTO keying material.

(2) Military Consequences: This causes confusion and delay in orders execution between units sharing a common boundary, units OPCON or attached to one another and to units reinforcing each other or conducting tactical operations such as a relief in place, passage of lines, counterattack, etc.

(3) Recommended Improvements: Within the constraints of US and NATO policies, units should use the same CEOIs and CRYPTO keying material. If this is not possible, liaison teams should be exchanged with appropriate CEOIs and keying material.

(4) Related Information: None.

c. Differences in Doctrine and Methods of Operations Between Allied Forces:

(1) Problem: There still exists and will continue to exist, differences in doctrine and methods of operations between the allied forces that make up NATO.

(2) Military Consequences: National forces operating together or in support of one another experience difficulties in communicating desired results and information. In the area of tactics the forces are not too divergent in terminology but in the areas of administration and logistics practices are often incompatible.

(3) Recommended Improvements: Units must continue to place emphasis on interoperability at all levels from Corps staff to squads and teams. Units must continue to develop SOP's, interoperability handbooks and bilingual vocabulary lists.

(4) Related Information: NATO Tactical Doctrine Studies completed by VII Corps major subordinate commander's in 1975-76.

d. Firing of Nuclear Rounds by Artillery other than US:

(1) Problem: To properly support and coordinate the firing of nuclear rounds by non-US artillery units.

(2) Military Consequences: During the exercise, a German Artillery unit was provided a nuclear capability. A SASCOM Detachment from the supporting Artillery Group was provided to the unit. The German liaison officer from the artillery unit was the only initial communications link for the transmission of SANFAS messages and he was located at the Division Artillery Headquarters to which the German artillery unit was attached. Therefore the Division Artillery Headquarters provided a liaison officer to the German artillery unit in order to establish a dual FM radio link with the unit.

(3) Recommended Improvements: That US and German artillery units continue to refine the coordination and procedures necessary to effect the provision of a nuclear capability to German artillery units.

(4) Related Information: LNO to SASCOM Detachment.

e. Personnel and Administration:

(1) Problem: Persohnel and Administration in multinational forces (Artillery).

(2) Military Consequences: US elements in the division artillery were supported and administered in accordance with normal procedures. Non-US elements were supported and administered by the brigade or regiment of which they were a part, which was for them normal procedure. This points up the doctrinal differences among the forces. For the German and Canadian battalions, there is no artillery chain of command extending beyond the brigade or regiment. In US forces there is no command relationship between the brigade and the artillery battalion except that both the brigade and the division artillery commanders work for the division commander. Personnel matters and administration for NATO organizations attached to US forces remained with the brigade. It is not known conclusively at this level whether support systems external to the division would continue in the event of hostilities, or whether such support would become the responsibility of the organization to which attached. The provisional, multinational division might not be exceptionally rare in a nuclear environment.

(3) Recommended Improvements: That the US insure existence of adequate doctrine and support mechanisms for NATO units attached to US forces, and vice versa.

(4) Related Information: Although written from an artillery point of view, the problem applies to all multinational forces.

f. LNO to SASCOM Detachment:

(1) Problem: Liaison officer requirement to SASCOM detachment in support of artillery units other than US which have been given a nuclear capability.

(2) Military Consequences: A special liaison officer was dispatched to the [illegible] Field Artillery Battalion at the beginning of the 3d day of the exercise. The team consisted of an Artillery Lieutenant and a Driver/RTO. The team was equipped with a 1/4 ton truck, AN/VRC 46 with secure radio capability and a [illegible] antenna. The liaison mission was to maintain constant communications with division artillery in order to insure all SANRAS and 409 messages were transmitted accurately. The liaison team repositioned as necessary in order to establish communications with division artillery headquarters. Hourly radio checks were made with both the battalion and division artillery.

The division artillery liaison mission was necessary for two (2) reasons. The SASCOM Detachment deployed to the field with no communications and the REFORGER LOI did not cover STANDBY message play for the German units. The STANDBY message play was introduced at the last moment and, as a result, the normal system of communications was not available. All messages passed through the US Liaison team were received by the battalion and the SASCOM Detachment before the same message being transmitted via the German LNO and relay systems. In all cases the US liaison relayed messages were the only correct messages received at the battalion.

In addition, two high priority fire missions were passed over secure radio directly from the Division Fire Support Element to the liaison team collocated with the battalion headquarters. Without this capability, the fire missions would have had to be hand carried to the battalion since the SASCOM Detachment had no communications.

(3) Recommended Improvements:

(a) The SASCOM Detachment needs to be equipped to communicate (preferably with an AM radio) when deployed with the supported units.

(b) German Artillery Battalions should be trained in the proper transmission and receipt of high priority messages.

(4) Related Information: None.

g. Artillery Material and Supply:

(1) Problem: Artillery related logistical support for a multinational force.

(2) Military Consequences: Several aspects of logistical support for ORANGE force artillery should be analyzed.

(a) Doctrinal differences in where the support comes from initially hindered timely reporting, and raised questions pertaining to how wartime support would be accomplished. These differences affected most areas of logistical operations. Lack of a common reference system (such as RICC 1, SSSI, and SB 700-20 line numbers) made reporting and other dialog confusing and time consuming.

(b) In the German and Canadian units, the logistics chain runs to the supported maneuver element and then to support agencies, rather than following an external artillery chain of command.

(c) Ammunition resupply among US forces is governed by the ASR/RSR mechanism while the allies are authorized to replenish to a previously established level.

(d) Although many vehicles and items of equipment are non-standard among NATO forces, combat vehicles and artillery pieces generally are standard.

(3) Recommended Improvements: (a) That an "umbrella" doctrine be developed that would aggregate actions pertinent to that equipment held in common, and leave with owning nations those actions related to non-standard equipment.

(5) [illegible] NATO doctrine be developed for logistics procedures in situations [illegible] cross-attachments, especially in regard to those items not [illegible].

(6) Related Information: None.

h. Communications - Electronics:

(1) Problem: Communications difficulties in a Tri-national Force.

(2) Military Consequences: The 72d Field Artillery Group serving as 1st Infantry Division (Forward) Artillery during exercise LARES TEAM, REFORGER 76 had the added requirement to communicate with the 259th German Artillery Regiment, the 41st German Artillery Battalion and the 1st Royal Canadian Horse Artillery. Communications with the German units was accomplished through the use of reciprocal liaison teams and was highly successful. German and American FM radio equipment is compatible and direct contact is possible, however, due to the nonavailability of American radio operators with sufficient proficiency in use of the German language, direct contact was not considered practical. Direct contact with the Canadian element was accomplished with no significant technical difficulties. Canadian equipment is identical to American in most cases and contact was easily established. All of the division internal multi-channel systems were provided by German teams and the service was consistently outstanding. Systems were initially established on 8 Sep 76 and remained operational for the duration of the exercise. This was possible due to the availability of jump teams which accompanied or joined the Group/Division Artillery jump element in forward positions and provided a complete duplicate system prior to removing service in the rear location. If the German multi-channel system had a secure capability, it would serve the needs of the American Artillery admirably.

(3) Recommended Improvements: Allied communications is both practical and possible. Interoperability promotes understanding and cooperation between allied armed forces.

(4) Related Information: A joint US-German Signal School has been established by the VII Corps and II (GE) Corps. US and German NCO students are familiarized with the operation of US and German communications equipment.

i. Coordination/Liaison Among Commanders:

(1) Problem: Commanders of US units reinforcing Bundeswehr brigade artillery battalions (DS) must spend considerable time at the brigade and battalion artillery headquarters.

(2) Military Consequences: The Bundeswehr brigade artillery battalion commander (DS though he may be) works directly for and is continuously with the maneuver brigade commander. He is thus detached almost entirely from his own unit and its TOC. The deputy battalion commander, at the TOC, often moves to the firing batteries to support the known plan of maneuver without waiting for orders or consent from the battalion commander. For the US reinforcing battalion commander to get the whole picture, he must frequently visit the supported brigade headquarters, the DS artillery battalion commander and his operations cell with the brigade headquarters and the DS artillery battalion TOC which is moving with its firing batteries. On Exercise LARES TEAM, more than one move of US supporting artillery was ordered by the US battalion commander based on visits to and instructions direct from the supported brigade commander. A liaison team with the brigade headquarters could have accomplished much the same effect with greater continuity of operations.

(3) Recommended Improvements: Any US commander supporting Bundeswehr artillery must plan on routine visits to the battalion and brigade artillery headquarters to acquire necessary information to operate effectively. For units that have a known GDP mission or contingency which requires support of Bundes-

wehr artillery, MTOE changes should be submitted in an attempt to gain necessary personnel and equipment augmentations on a permanent basis. Whenever possible, temporary LNO's must be used.

(4) Related Information: Although written from an artillery point of view, the concept of commanders conducting coordination and liaison visits is vitally important within a multinational structure. Whether commanding the force or a subordinate commander, the leaders and staff officers must make routine visits an SOP matter.

j. Communications Point of Reference System:

(1) Probelm: Utilization of a Point of Reference System in lieu of coded grid coordinates.

(2) Military Consequences: German and Canadian forces attached to ORANGE utilized a simple and efficient point of reference system for location reporting. As the system is not allowed by US doctrine, confusion and delay occurred until US forces were instructed in its use.

(3) Recommended Improvements: A system or agreement must be developed that complies with security constraints but allows multinational forces to standardize location reporting.

(4) Related Information: None.

k. Barrier Plan Target Numbering:

(1) Problem: Target Numbering system for barrier plans.

(2) Military Consequences: The requirement for current target/ barrier information was again validated during REFORGER 76. On several occasions, the lack of information on barrier emplacement forced friendly elements to change withdrawal routes and to change counterattack plans. The report formats tend to be cumbersome and difficult to transmit. In addition, non-US engineers within the ORANGE forces used different target numbering systems. Codes used for planned, prepared and executed status of targets varied with the originator.

(3) Recommended Improvements: CENTAG develop a STANAG standard for target numbering and status reporting. Standard reporting on the part of all commands should provide minimum essential information to tactical commanders.

(4) Related Information: None.

l. Call Signs and Frequencies:

(1) Problem: National forces changed call signs and frequencies at unspecified and irregular intervals.

(2) Military consequences: The changing of call signs and frequencies to meet the tactical situation is a unit responsibility and standard switching times cannot and should not be established. This would defeat electronic security measures.

(3) Recommended Improvements: All parent and subordinate units in a multinational force must inform all subscribers of call sign and frequency changes.

(4) Related Information: This also applies to units sharing common boundaries and again points out the necessity of LNO teams.

m. VBK Liaison Teams:

(1) Problem: Selection and use of VBK liaison teams.

(2) Military Consequences: The use of VBK liaison teams down to brigade level proved to be a successful and viable concept. Their assistance was invaluable in providing communications and coordination with the local populace and with supporting VBK headquarters. A problem arose in some units though when it was discovered that some of the officers in the liaison teams were from areas other than the maneuver area and therefore were unable to answer some questions regarding the specifics of VBK support available in the maneuver area.

(3) Recommended Improvements: That for future exercises, VBK liaison teams be assigned from VBK's whose areas of responsibility encompass the maneuver areas.

(4) Related Information: None.

n. STANAGS:

(1) Problem: Use of STANAGS.

(2) Military Consequences: Although the STANAGS are supposedly widely circulated, in fact, the appropriate ones are not widely distributed or used. This lack of knowledge and use often causes operational difficulties when many need not exist.

(3) Recommended Improvements: That every effort should be made to integrate these NATO policies into training exercises and SOP's.

(4) Related Information: Headquarters, VII Corps has recently completed a comprehensive review and requisition of all STANAGS needed by VII Corps units and Staffs.

o. Communications Support Doctrine:

(1) Problem: Requirement to reappraise communications support doctrine.

(2) Military Consequences: A number of situations exist in which attachment of units is unsupportable under standard communications doctrine. The doctrine in question is the higher to lower and left to right responsibility. Examples of these situations include, but are not limited to attachment of an additional brigade (multinational) to a division and attachment of a multinational division to a Corps. Divisions are not equipped to accept an additional Brigade/Regiment size unit. Provision of command control essential communications results in the deletion of an already existing system. Corps is not equipped to provide division to Brigade/Regiment communications nor is the equipment conducive to rapid displacement. Multinational equipment is, in many cases, technically incompatible with US equipment and communications doctrine often differs. Strict adherence to the higher to lower and left to right communications doctrine at higher echelons is not presently provided for in existing systems.

(3) Recommended Improvements: (a) That the concept of "Brigade Slice" be adopted for cross attachment of brigades between divisions. If a brigade is attached to a division, a platoon from the Forward Support Company or similar unit from the division signal battalion should also be attached.

(b) A STANAG should be developed which delineates the procedure stated above for NATO units, and, in addition, delineates the level, type, and amount of communications to be provided, e.g., is the doctrinal communications to be provided in accordance with German, French, et.al, or US doctrine.

(4) Related Information: None.

p. Multilingual Codes:

(1) Problem: Interoperability of Codes.

[illegible] (3) FTX/CPX's involving multinational forces [illegible] problem of language barriers and lack of common codes and ciphers.

(4) The exchange of liaison packets between headquarters, while effective, is slow when coordinated actions must be consummated in real-time.

(5) NATO possesses bilingual codes in the German, Dutch, and English languages. These codes, regardless of language difficulties, would facilitate coordinated and integrated combat operations in less time than liaison teams could achieve.

(6) Multilingual codes are required during FTX/CPX's involving allied nations. This becomes increasingly important as equipment becomes more compatible.

(7) Recommended Improvements: (a) NATO develop comprehensive multilingual codes for use by allied forces.

(b) Designate VII Corps as controlling authority to release US and NATO codes to allied elements operating with or on the flanks of VII Corps.

(4) Related Information: None.

q. Long Range Reconnaissance Patrols (LRRP):

(1) Problem: Reporting procedures for German and French Long Range Reconnaissance Patrols.

(2) Military Consequences: Interoperability was enhanced by the participation of German and French Long Range Reconnaissance Patrols during LARES TEAM. Both units provided excellent intelligence information gathering services. As the exercise progressed each national unit continued to improve its representative reporting time from that of REFORGER 75.

(3) Recommended Improvements: That US national exercises other than REFORGER include German, French and US Long Range Reconnaissance Patrol units.

(4) Related Information: None.

r. Aviaiton Interoperability:

(1) Problem: Interoperability between US and German Aviation units.

(2) Military Consequences: The 223d Aviation Battalion invited two German helicopter pilots and one crew chief from the FLIEGENDE ABTEILUNG 210th, the sister unit to the 48th Aviation Company, to participate in Exercise LARES TEAM. Prior coordination made between the partnership units and USAREUR granted the 223d Aviation Battalion permission to use the German aviation personnel as crewmembers in US aircraft. The aviators performed duties as copilots in the 48th Aviation Company's UH-1H troop carrying helicopters. They provided valuable input to several aviation operations/safety briefings and provided an insight to the differing factors and operating techniques between the respective units.

(3) Recommended Improvements: That attempts be made in future exercises to exchange personnel, both officer and enlisted, on a regular basis and that serious consideration be given to requesting German Army Aviation unit participation as an interoperability measure in REFORGER 77.

(4) Related Information: None.

3 TABS:

A - Rationalization/Standardization/Interoperability Initiatives - 1st Infantry Division (Forward)
B - Joint US - German Police Operations
C - Engineer Interoperability Within ORANGE Forces

(5) The formation of a multinational division as the Orange force for Exercise REBEL TEAM provided a unique opportunity to focus on various aspects of interoperability. The comments on Interoperability Initiatives in this appendix are taken directly from the 1st Infantry Division (Forward) REFORGER 76 After Action Report and focuses on problems at division level, many of which are applicable at any level of the force structure.

a. Personnel Reporting.

(1) Problem: Use of the CENTAG personnel reporting procedures for a multinational division.

(2) Military Consequences: While the CENTAG personnel reporting format may be feasible for use in some instances, it was not suitable for use by a multinational division (Orange Force) because it failed to provide the personnel data necessary for the division commander's tactical decisions. The strength figures, reporting format and reporting times served to create a false portrayal of the actual "state of the command" when taken into account by other staff sections (i.e., G4). The format employed by the 29th Panzer Brigade during the exercise worked well and applies to multi-national brigade and division levels.

(3) Recommended Improvements: All status reports, regardless of staff proponency, should be due at the same time and with the same "as of" time. The essential problem with the current CENTAG personnel reporting format is the detail of information needed. A standard NATO personnel reporting format based on the Bundeswehr PERSTAG should be adopted and employed for multi-national exercises.

(4) Related Information: None.

b. Multi-National Intelligence Support.

(1) Problem: Intelligence support to the "Tri-National" Division.

(2) Military Consequences: (a) A total intelligence interchange was programmed. Pre-exercise intelligence was easily disseminated to all participants. Requisitioning required maps was kept in national unit channels because of funding considerations. Cross-attachments of intelligence collection assets was undertaken by placing a ground surveillance radar section from a U.S. battalion under the operational control of the 29th Panzer Brigade. Actual exercise intelligence was disseminated to appropriate brigade S2s as the situation warranted. Requests for aerial reconnaissance support were not received from either the 29th Panzer Brigade or the 4th Canadian Mechanized Brigade Group, however, missions were requested by the G2 Air in their areas of operations and results reported to the interested unit.

(b) The 29th Panzer Brigade was unable to enter the division FM Intel net (secure) because radio transmitters are not compatible. The U.S. liaision provided the 29th Panzer Brigade was also unable to maintain a station in the division intelligence net because an insufficient number of radios were available. Effective use of liaison officers offset this difficulty to a large extent, but without continuous voice communications perishable intelligence could not be efficiently exchanged. Communications procedures vary greatly between U.S. and German units and there is little common basis for communications security programs.

(3) Recommended Improvements: (a) Special attention should be given to ensuring that all U.S. doctrinal communications links are duplicated within the liaison teams exchanged with allied forces to include secure FM voice and RATT.

(3) Communications security personnel should be made fully aware of doctrinal differences between U.S. and allied forces. COMSEC penalties should only be adjudged where there has been a discernable disclosure not just a procedural difference.

(4) Related Information: None.

c. German ALO Communications.

(1) Problem: Incompatibility of German ALO communications with US exercise procedures.

(2) Military Consequences: USAF exercise procedures required monitoring of the UHF tactical air direction net by battalion FAC's for longer periods of time than normal German TAC's requirements. Also, due to equipment limitations, the German ALO radio equipment must be turned off frequently. To remedy the near breakdown that was occurring in the German sector for controlling CAS, a division ALO/ROMAD was dispatched to the German brigade to bolster their communications, and; German UHF radio procedures were modified to accomodate the airspace management constraints of the exercise (temporary increase of UHF monitoring time). The result was a much better coordination after being relieved of a tremendous burden of performing almost all English radio communications.

(3) Recommended Improvements: Until more compatible radios and English-speaking operators become available to German ALO's/FAC's, USAF communication equipment and operators should be made available at the outset to participating German units for the conduct of air operations.

(4) Related Information: None.

d. Doctrinal Differences.

(1) Problem: Operations personnel within the 1st Infantry Division (Forward) DTOC did not have a thorough understanding of German and Canadian Procedures and unit capabilities.

(2) Military Consequences: Despite numerous coordination meetings, the availability of large amounts of written material and cross-attachment of liaison officers, several misunderstandings occurred within the DTOC concerning German and Canadian operations. These misunderstandings occurred because duty personnel were not as familiar with the German and Canadian procedures as they were with their own. The exchange of bilingual TOC personnel between national forces would resolve confusion and permit more effective command and control of a nulti-national formation.

(3) Recommended Improvements: In future requirements to form a multi-national organization, a mixed nationalities staff should be formed through exchange of TOC personnel.

(4) Related Information: None.

e. Language Barrier.

(1) Problem: A language barrier will always exist between forces speaking different languages, particularly with a shortage of language qualified personnel with a background in military terminology.

(2) Military Consequences: The initiation of the Gateway Program for NCO and officer personnel should help to minimize this problem. However, many Headquarters which routinely operate with the Germans do not have certain basic publications (unit SOP's) available in German. Likewise, the German units which routinely operate with US units do not have these basic publications in English.

(3) Recommended Improvements: Whenever German and US units know in advance they will be operating together (REFORGER), every effort should be made to exchange translated copies of SOP's. Distribution must be made of NATO documents (i.e., G/GE Military Terms and Abbreviations Dictionary) down to battalion staff working levels in order to effectively coordinate exercises through written documents.

(4) Related Information: None.

f. Task Organization.

(1) Problem: Considerable numbers of cross attachments between multi-national units, along with different national units supporting other national units, occurred during REFORGER 76.

(2) Military Consequences: During REFORGER, cross attachment of different size national units took place on the platoon through brigade level. Several partnership units of company and platoon size accompanied the US 3d Brigade on the exercise. Companies were cross attached across all three brigades for the deception operation. Task Force 3-63 Armor was attached to the 4 Canadian Mechanized Brigade Group during most of the exercise. Additionally, engineer, air defense, and aviation combat support units provided direct support to all brigades during the conduct of the exercise. Throughout the changes to the task organization that occurred, there appeared to be no problems that were not overcome during the exercise -- operationally. Almost without reservation, the problems that occurred were logistical. The operational success achieved during the task organization changes were primarily attributable to the liaison conducted by the mutually exchanged liaison elements.

(3) Recommended Improvements: Emphasis should be placed on allocating the additional resources necessary for units operating in a multi-national environment, which should include as a minimum, independently mobile liaison teams with radio communication capabilities.

(4) Related Information: None.

g. Rations.

(1) Problem: Acceptability of rations between nationalities.

(2) Military Consequences: (a) Translated menus for German rations were available, but translated preparation instructions were inadequate. Additionally, German field kitchens possess limited equipment which must be augmented when serving US rations. The lack of a detailed translation of ration preparation instructions was overcome by exchanging cooks between German and American Forces. However, German field kitchens are not sufficiently equipped, i.e., lack an oven, to prepare bread when serving American "B" rations.

(b) 4 Canadian Mechanized Brigade Group drew the breakfast ration ("B" rations) from the Class I Supply Point throughout the exercise. This ration is unsuitable to 4 Canadian Mechanized Brigade Group because it cannot be readily broken down into small quantities for cooking by squad and crew-sized groups.

(3) Recommended Improvements: (a) German and American units must be provided sufficient copies of detailed translations of preparation instructions when rations are exchanged. Additionally, German field kitchens should be augmented with an oven when serving US "B" rations.

(b) The packaging of the "B" rations should be changed so that it would be suitable for distribution in smaller lots.

h. Mechanic Exchange.

(1) Problem: An exchange was made of US and German mechanics.

(2) Military Consequences: 1st Maintenance Battalion and the Panzer Brigade 29 exchanged five mechanics, and 1st Maintenance Battalion was augmented by two German Heavy Equipment Transporters (HETS) with crews.

(3) Recommended Improvements: That this type of support be continued. Information should be distributed to other US logistical elements that German HETS cannot recover an M-88.

(4) Related Information: None.

i. Ammo Supply.

(1) Problem: Ammo resupply was played during REFORGER 76.

(2) Military Consequences: Orange ASP's 1 and 2 supported all three National Forces with the issue of simulated ammunition. ASR was played only for common ammunition. Some confusion and delay initially ensued due to different ammo reporting procedures. US and Canadian forces requisitioned Class V with DA Form 581. The German Forces used the NATO form described in STANAG 2034.

(3) Recommended Improvements: All forces in a multi-national division should use the NATO form, which may be used to requisition Classes I, III, and V, thereby simplifying procedures, creating less confusion, and improving the interoperability results.

(4) Related Information: None.

j. Services.

(1) Problem: Bath and water support was provided to all Orange Forces.

(2) Military Consequences: 1st Maintenance Battalion provided shower points and laundry facilities in support of all Orange forces. The 78th Engineer Battalion provided water points for all Orange forces.

(3) Recommended Improvements: That the type of support be continued on future exercises.

(4) Related Information: None.

k. Transportation.

(1) Problem: Additional transportation for a provisional multi-national division.

(2) Military Consequences: Since the 1st Infantry Division (Forward) did not have sufficient organic transportation assets available to transport ammunition for a divisional size artillery unit, CIMIC transportation augmentation was procured through the G5 and the WBK. The response was appropriate and timely in every case.

(3) Recommended Improvements: A preplanned transportation requirement survey should be prepared in advance of the exercise.

(4) Related Information: None.

l. Use of WBK.

(1) Problem: Considerable assistance was derived from WBK support.

(2) Military Consequences: In past exercises, only minimal assistance was derived from WBK teams. This was primarily due to the lack of interest and proper coordination on the part of their American counterparts. This year proper coordination was made. Since the WBK were kept abreast of the tactical situation, they were able to suggest ways in which they could help our maneuver units generate additional combat power. Examples are as follows:

(a) WBK companies were used in rear area security.

(b) WBK bridge guards were used as air guards.

(c) The Wallmeister assigned to the WBK team provided barrier information and information on routes of advance not available on our most current maps.

(d) Civilian equipment acquired for both the engineers and for the Brigade S4 enabled them to perform in a manner well above their normal capabilities.

(e) The G1/S1 was assisted in the preparation for mass casualties through the procurement of civilian medical personnel and hospital facilities.

(3) Recommended Improvements: A short class should be provided for all commanders and staff officers outlining possible assistance the WBK could furnish them. Special emphasis should be given to those areas which assist them in generating combat power. It was found that many officers have no idea how CIMIC could assist them. As a result, it was necessary for the LNO to aggressively seek missions for the WBK until late in the exercise when the results of their early successes became apparent.

(4) Related Information: None.

m. FM Commo.

(1) Problem: FM communications were generally effective in the multinational division.

(2) Military Consequences: (a) FM communications were partially degraded due to 1st Infantry Division (Forward) using new squelch on, while 4 Canadian Mechanized Brigade Group used old squelch on.

(b) Because German and US commo equipment is not compatible, Panzer Brigade 29 established and operated FM (through a German LNO Team), RATT, and multichannel between the 1st Infantry Division (Forward) CP and the Panzer Brigade CP. Most Panzer Brigade 29 communicators spoke sufficient English to translate and/or explain any procedural or technical terms to US communicators. Company 4, 230th Signal Battalion (GE) provided reliable multi-channel support from 1st Infantry Division (Forward) CP to 1st Infantry Division (Forward) Jump and to Division Artillery CP; and, between forward and rear 1st Infantry Division (Forward) CP's during displacement. Also, a Division Command Liaison Team with two secure VRC-47's provided an essential command FM capability to the Panzer Brigade 29. Due to radio equipment failure, the secure intelligence net was not operable with the Command LNO Team. Overall, however, FM communications reliability did not differ greatly from that of a normal US divisional unit.

(3) Recommended Improvements: That exchange programs be conducted to enable communicators to be familiarized with the operation, capabilities, limitations and basic maintenance of other allied communications equipment. Also, augmentation for the use of the Command LNO Team is an essential part of the functioning of a US divisional headquarters with German brigade level formations and should receive a high priority in the allocation of exercise resources.

(4) Related Information: Need for Command Liaison Team is detailed in a NATO directed study conducted by Panzer Brigade 30 and 1st Infantry Division (Forward), undated, Subj: NATO Tactical Doctrine Comparison Study.

n. LNO's.

(1) Problem: Extensive use of liaison officers was employed during REFORGER 76.

(2) Military Consequences: (a) Liaison parties included RATT communications and/or several officers who shuttled information and documents around the clock. Normal commo system outages and the need for face-to-face contact, clearly demonstrated the value of liaison officers, particularly those exhibiting language fluency. Their contribution to the successes of the Orange Forces was truly significant.

(b) Provision for liaision personnel, vehicles, equipment, and communications must be included in TOE's, at least for USAREUR based units; provisions should be included in all US unit TOE's, but the need is much more obvious for USAREUR units when considering relationships with non-US units and the General Defense Plan.

(3) Recommended Improvements: (a) A typical Brigade section should be composed of an OIC (0-3), two liaison officers (0-2), and three EM (E-3 or E-2) to serve as drivers.

(b) All officers should be combat arms and possess language capabilities (German, Italian, etc.,) based upon unit GDP/nationality of partnership type Command Liaison section.

(c) Three ¼ ton vehicles with VRC-47 secure radio sets should be assigned to the Command Liaison section.

(d) The section should be directly subordinate to the Brigade/Division commander.

(e) All the liaison officers should spend as much time as possible with the allied units which are normally involved with their parent unit during exercises. Officers are not to be assigned to a specific allied unit, but rather become familiar with all units to allow more flexibliity to the Brigade commander.

(4) Related Information: None.

o. Medical Comparison.

(1) Problem: Exchange visits between US and German surgeons were conducted to discuss equipment and doctrinal differences.

(2) Military Consequences: (a) German medical units utilized existing structures, i.e., school houses, sports arenas, and large warehouse structures, to establish medical treatment facilities. This technique provides comouflage for the unit, a better atmosphere for patient care, and a greater capability for providing a sterile field.

(b) German medical supplies are composed of many civilian packaged types. Without the USAREUR published list of medical equivalants, identification, dosage and use of these drugs in an out-of-sector support role would be extremely difficult. NATO federal stock numbered drugs that could be utilized by cross-referencing Class 8 Identification Listings (IL) against a Physicians' Desk Reference (PDR) appeared to be in the minority.

(c) Although German medical equipment, for the most part, appeared to be somewhat more sophisticated and current in design, it was noted that US dental equipment far outclassed the German foot operated dental drill.

(3) Recommended Improvements: (a) It is highly recommended that in future exercises of this type, more initial thought be given to interchange of medical equipment and personnel for the exercise period.

(b) Future US deployments of this type should attempt to plan for and execute utilization of local civilian structures in establishing a medical treatment facility.

(c) All NATO Forces surgeons should be provided copies of the German Rotes Book to provide necessary interface with the German military drug system.

(4) Related Information: None.

Joint US - German Police Operations

(U) Joint US - German Police Operations. Joint Police Operations were established with German Feldjaegers and Land Police, thus enhancing the degree and efficiency of patrol coverage and police information available. The success of the joint operations was due to several factors: The professionalism and training of both US and German police personnel; the rapport and association developed as a result of numerous German - American police Partnership Activities and exchange programs; and the enhanced communications at the "Patrolman's level" afforded by language training classes such as the 385th Military Police Battalion's special six (6) week course in German conversation and police terminology. The following data provides information on the composition of the Joint Police Operations conducted by the 385th Military Police Battalion during REFORGER 76:

UNIT PARTICIPATION

1. (U) PARTICIPANTS: The following information includes data related to personnel provided by the 385th Military Police Battalion, 750th and 760th Feldjaeger Battalions, Bayern and Baden-Wuerttemberg State Police Liaison Teams and CID Liaison personnel.

a. 385th Military Police Battalion:

REFORGER PARTICIPATION

UNIT	OFFICERS	EM	TOTAL
HHC	6	20	26
A Co.	3	77	80
B Co.	4	83	85
C Co.	4	81	85
TOTAL	17	261	276

b. German Feldjaeger Battalions:

UNIT	OFFICERS	EM	TOTAL
750th	1	4	5
760th	6	62	68
TOTAL	7	66	73

c. Land Police Liaison Personnel:

Bayern State Police	11
Baden-Wuerttemberg State Police	1
TOTAL	12

d. CID:

TOTAL	1

2. (U) The Military Police stations were positioned at four locations throughout the FTX areas as follows:

a.	Company A (-)	-	Heidenheim
b.	Company A (One Plt, (-)	-	Ellenberg
c.	Company B (-)	-	Reinwarzhoffen
d.	Company C (-)	-	Hemau
e.	Battalion Headquarters	-	Reinwarzhoffen

JOINT POLICE OPERATIONS

1. (U) Composition: The Joint Police Operations Centers/Military Police Stations were composed of liaison personnel of the Bayern Land Police, Baden-Wuerttemberg Land Police, 750th Feldjaeger Battalion (WBK V), 760th Feldjaeger Battalion (WBK IV) and 2d Region USACID.

2. (U) Police Operations:

a. Land Police-Bayern/Baden-Wuerttemberg:

(1) Provided sufficient liaison personnel to the Battalion Joint Police Operations Center (JPOC) to permit continuous 24 hour coordination with respective civilian police organizations.

(2) Provided liaison personnel to the company level Military Police stations located at Reinwarzhoffen, Ellenberg, and Hemau to permit continuous 24 hour coordination with respective local police organizations.

(3) Provided extensive and detailed information on traffic accidents/ incidents involving military personnel within the exercise area.

(4) Provided an extension to battalion communication system by use of civil police communication network for obtaining rapid and reliable information pertaining to aircraft and vehicular accidents, property and maneuver damage throughout the FTX area.

(5) Coordinated civilian ambulance support during night airborne operations with local hospitals.

b. 750th Feldjaeger Battalion:

(1) Attached one officer and four EM in support of Company A Police Operations.

(2) Operated joint patrols with Company A.

(3) Provided vehicular escort for convoys to and from FTX area.

c. 760th Feldjaeger Battalion:

(1) Attached two officers, one CSM and one EM as Liaison personnel to the Battalion Joint Police Operations Center for coordinating joint police operations throughout the FTX area.

(2) Attached four officers and sixty enlisted personnel in support of Companies A, B, and C at Reinwarzhoffen, Heidenheim, Ellenberg, and Hemau.

(3) Provided vehicular escort for convoys to and from the FTX area.

d. 2d Region USACID:

(1) Provided one officer to the Battalion Joint Police Operations Center to coordinate CID operations.

(2) Provided required investigative services.

3. (U) The following tasks were accomplished by the Joint Police Operations Center and/or units of the Battalion:

a. Provided military police support within LARES TEAM exercise area that included: convoy traffic control and escort; discipline; law and order operations; traffic accident investigation; straggler control; support of night airborne operations; VIP security; Soviet Military Liaison Mission vehicle surveillance.

b. Administration of Military Police reports generated in the exercise area utilizing field Military Police Stations and garrison police support integral within the battalion.

c. Maintained Soviet Military Liaison Mission siting situation map, incidents/accidents, unit locations for ready reference by the commander.

d. Maintained a daily unit journal.

e. Provided daily information reports to VII Corps PM.

f. Moving 1377 vehicles to and from the FTX area.

g. Effected viable and successful "interoperability" between partnership military units and German civilian police agencies.

h. Enhanced the combat readiness posture of the battalion by realistic field employment.

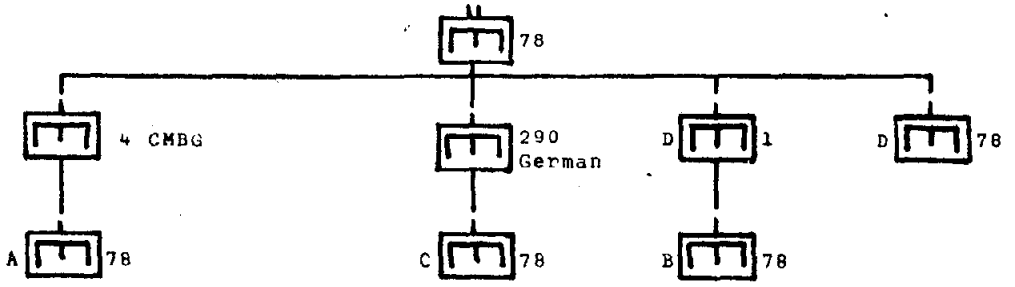
i. Achieved enviable safety record:

(1) Moved 1377 vehicles without accident/incident.

(2) Drove 153,903 accident free miles during exercise.

Engineer Interoperability Within ORANGE Forces

1. (U) DISCUSSION: a. The ORANGE Forces were supported by US, Canadian, and German engineer units organized as follows:



b. The organization placed each Corps Engineer Company in DS of one of the brigades and reporting through the Brigade Engineer (Separate Company Commander) to the Division Engineer, the 78th Engineer Battalion Commander. Each separate company was to report through a liaison officer at battalion headquarters.

c. The organization was designed to provide maximum engineer support as far forward as possible. The track engineer companies were the lead elements followed by wheeled engineers, breaching by-passed obstacles and accomplishing more permanent repairs. The fourth Corps engineer company was employed in general support of ORANGE Forces.

d. The lack of a full time German liaison officer hampered engineer operations. The German liaison officer with the 78th Engineer Battalion was diverted to another unit. The replacement liaison officer did not appear until the last day and a messenger run was only made once. Generally, the 78th Engineer Battalion did not know the location of the 290th Panzer Company and their status was never known.

e. The separate Brigade Commanders did not view their respective organic engineer companies as being part of a large Divisional Engineer Battalion.

2. (U) LESSON LEARNED: a. The Ad hoc Assistant Division Engineer organizational structure developed in a situation such as this presents a difficult problem. The Division Engineer must be staffed with an Assistant Division Engineer section similar to that found in US divisions.

b. Liaison officers and messengers must be provided to and from non-US units.

c. Umpires should be exchanged with non-US units, i.e., a German, English speaking umpire with the US unit, and a US, German speaking umpire with the German unit.

d. The role of the non-divisional engineer battalion participant as Divisional Engineer must be clearly established.

AIRSPACE MANAGEMENT

1. (U) PURPOSE. To present the background, results, lessons learned, and recommendations derived from the evaluation of the airspace management system designed and implemented for REFORGER FTX, LARES TEAM.

2. (U) GENERAL. a. The primary objective of airspace management is to maximize the effectiveness of combat operations by efficiently integrating the airspace operations of the combined forces. To insure a coordinated and integrated effort, a single airspace management authority is essential. The Commander, Fourth Allied Tactical Air Force (COMFOURATAF) was the Sector airspace management authority responsible for the management of the exercise restricted airspace for LARES TEAM. COMFOURATAF was responsible for air traffic management of all aircraft in the exercise area. He discharged his responsibilities and control through the facilities of the airspace management system.

b. Focal point for overall airspace direction and coordination was the Airspace Coordination Center (ACC) located at Headquarters, FOURATAF at Kindsbach. It was through the ACC that the Sector airspace management authority, COMFOURATAF, coordinated and integrated the use of airspace in the LARES TEAM area. The Airspace Management Liaison Section (AMLS) in the ACC included representatives from CENTAG G-3 Air. Specific functions of the ACC were published in Annex O, Appendix 1 to FOURATAF OPORD, FTX LARES TEAM, File No. 1730.9/OAE/C-346/76, dated 1 Aug 76.

c. The combined facilities of the Air Force tactical air control system, the Army air traffic control units, and the Corps, Division, and Brigade airspace management elements constituted the airspace management system for LARES TEAM.

3. (U) AIR FORCE TACTICAL AIR CONTROL SYSTEM. a. Direct Air Support Center (DASC) was located at Katterbach Army Airfield. The DASC accepted and deconflicted tactical air requests for ORANGE and BLUE forces.

b. Control and Reporting Post (CRP) was located at Reisenbach, vicinity NV 084829. The Air Traffic Regulation Center (ATRC), a section within the CRP, provided Instrumented Meterological Conditions (IMC) service for all aircraft entering the exercise airspace. The Airspace Management Center (AMC), within the CRP, was responsible for the continuous coordination, regulation, and integration of air operations in accordance with the policies and procedures established by COMFOURATAF and the ACC. The AMLS within the CRP included representatives from the Army Flight Operations Center (FOC) and an Air Defense Liaison Officer (ADALO) provided by 69th ADA Group. The CRP was neutral and provided real time separation of ORANGE and BLUE as required. Specific duties and procedures were as published in Annex O, Appendix 1 to FOURATAF OPORD, FTX LARES TEAM dated 1 Aug 76 and Headquarters FOURATAF, REFORGER Airspace Management, 1705/OAE/U-407/76, dated 15 Aug 76.

c. The CRP and its subordinate units, Forward Air Control Posts (FACP), were employed to provide tactical control of exercise aircraft requiring radar positive control in either Visual Meterological Condition (VMC) or Instrument Meterological Condition (IMC).

d. Two FACP's were deployed to provide area coverage and airspace management for an opposing force concept, with one FACP supporting each side. The AMLS within each FACP included representatives from the corresponding Forward Control Center (FCC). An ADALO was included in the ORANGE AMLS.

(1) BLUE FACP was located at FV 305262, vicinity Auernheim.

(2) ORANGE FACP was located at QV 063037, vicinity Siegenburg.

4. (U) ARMY AIR TRAFFIC CONTROL UNITS. a. The Flight Operations Center (FOC) was collocated with the BLUE FACP and was electronically connected to the CRP. In addition, a FOC liaison section was established within the CRP.

b. The FOC and its subordinate units, FCC's, were employed to provide procedural control and/or radio monitoring for exercise helicopters in VMC.

c. Two FCC's were deployed in an opposing force concept with one FCC supporting each side. Each FCC was collocated with its respective FACP.

5. (U) AIRSPACE MANAGEMENT ELEMENTS. a. Airspace Management Elements (AME) were integrated into the Tactical Operations Centers at Corps, Division, and Brigade level. The CAME, DAME, and BAME are manual planning and management elements designed to coordinate airspace management functions among Army airspace users and with other agencies. In addition to providing information on the status of ADA and Army aviation, the AME's also:

(1) Coordinate the use of airspace.

(2) Coordinate Army ADA operations.

(3) Coordinate Army air traffic.

(4) Provide intelligence obtained through ADA sources.

b. The exact organization of each AME varied between units and differs at each level. At Corps and Division it is a structured organization; at Brigade it is an informal organization drawn from the existing staff and augmented by an ADA representative. An ADA element was provided to the 29th GE Panzer Brigade and the 4th CMBG to provide an ADA representative and assist in the performance of the above enumerated functions.

6. (U) FTX LARES TEAM AIRSPACE. a. The LARES TEAM airspace, negotiated by COMFOURATAF with the Bundersanstalt Fur Flugsicherung, generally followed the exercise maneuver rights area. It was bounded by the following trace: NV 6953 to PV 0964 to PV 1158 to PV 5664 to PV 8163 to PV 8369 to QV 0970 to QU 0531 to PV 9809 to PV 4706 to PU 1096 to NV 8594 to NV 7896 to NV 6023 to NV 7535 to NV 6953. Air operations between 0 and 8000 feet MSL from 110001Z Sep - 242400Z Sep 76, were approved.

b. The following low level flight restrictions were applicable:

(1) All Aircraft. From 110600Z Sep - 132400Z Sep 76, overflight of the Hohenfels training area (EDR-35), at altitudes above 1000 feet AGL, was allowed. Overflight after 132400Z Sep 76, was not allowed.

(2) Fixed Wing Aircraft. Low level flight (below 5000 feet MSL) was restricted 110001Z - 110700Z Sep 76, 111200Z - 121200Z Sep 76, 121700Z - 122400Z Sep 76, and for the period 13-17 Sep 0001Z - 0530Z, 1730Z - 1815Z, and 2300Z - 2400Z each day.

(3) Helicopters. Low level flight was restricted 112300Z - 121200Z Sep 76 and 121800Z - 130415Z Sep 76. No restrictions were imposed during the period 130415Z Sep - ENDEX.

c. High speed IMC and VMC entry and exit points, with procedures were designated and are contained in CINCUSAFE OPORD 4856-76, DOX, dated 23 Aug 76.

d. To facilitate the air movement of the 101st Abn Div from V Corps to VII Corps control, a low speed air corridor from Kitzingen to Ansbach, 5NM wide, was designated from 0 to 5000 feet MSL. The air corridor was activated throughout LARES TEAM to facilitate movement between the MUAA's and the exercise area.

e. The coordination altitude within the LARES TEAM airspace was 2300 feet MSL. Due to the large number of helicopters and other relatively slow moving aircraft operating in the FTX area, a safety buffer between 2300 and 2800 feet MSL was developed. Most high performance aircraft operated above 2800 feet MSL under the minute to minute positive control of the CRP/FACP. Three exceptions to this rule were allowed:

(1) Close air support mission aircraft could descend to 500 feet AGL when under positive control of a Forward Air Controller (FAC).

(2) RF-4's and F-111's using the Terrain Following Radar (TFR) technique maintained a constant altitude of 1000 feet AGL.

(3) Airdrop missions were conducted in a temporary restricted area at the altitude necessary to support the mission.

f. All Army helicopters under VMC operated between 0 and 300 feet AGL within the exercise area. Continuous radio monitoring of the appropriate FOC/FCC was mandatory for all helicopters in this zone, for safety purposes. This area of operations (0-300 AGL) was the procedural zone and no formal flight following was required. Flights above 300 feet AGL or the coordinating altitude (2300 feet MSL) did not occur except as required for safety of flight. Flight required above the coordinating altitude was authorized when cleared by the FACP/CRP. Army aircraft operating between 300 feet AGL and 2300 feet MSL, for safety of flight, were required to establish two-way communications with the FCC/FOC. This area of operations (300 feet AGL to 2300 feet MSL) was the radio control zone. Any flights above 2300 feet MSL was under the positive radar control of the Air Force facilities.

g. The 14th Aviation Unit (ATC) provided air traffic service to all Army aircraft operating in the maneuver area outside of the Division AO. Divisions provided air traffic service to all Army aircraft operating within the Division AO. Each Division was assigned, for use by supporting and organic Army aviation, that airspace over the Division up to 300 feet AGL. Each provided a procedural system of flight following for Army aircraft operating in the Division AO, normally through flight mission plans with the parent/supported unit. Terrain flight (NOE) in the Div/Bde/Bn airspace was the normal order of the day with many units using radio silence during multiple flights and heliborne operations. The FOC/FCC provided flight following only on request for Army aircraft operating below 300 feet AGL. Appendix 1 to Annex F to VII Corps Cir 350-4 contains detailed procedures on Army air traffic control for exercise LARES TEAM.

7. (U) AIRSPACE MANAGEMENT GOALS. a. The VII Corps airspace management goals for LARES TEAM were:

(1) Implementation of the airspace management doctrine and procedures, as contained in FM 100-28, FM 1-60, and FM 100-44(Test), modified to meet the requirements of an FTX in a NATO environment.

(2) Implementation of the VII Corps airspace management system for Division and Brigade sized forces.

(3) Integration of the VII Corps airspace management procedures with FOURATAF and USAFE procedures to produce a single coordinated airspace management system for LARES TEAM.

(4) Provision for sufficient air activity to provide realistic training and evaluation of airspace management procedures.

(5) Integration of airspace management procedures into tactical operations and considerations.

b. The VII Corps airspace management goals established for LARES TEAM were successfully achieved as indicated in the MSC AAR's, EUCOM IG Report, Umpire Reports, and by VII Corps evaluation. Problem areas, refinements, and other actions that are necessary are as indicated in this report.

8. (U) AIRSPACE MANAGEMENT OBJECTIVES. The VII Corps airspace management objectives established for LARES TEAM are as indicated below. Each objective is a problem statement followed by a discussion and lesson learned or recommendation, as appropriate.

a. Objective 1. (1) Problem: To provide a realistic NATO FTX environment of Air Force and Army aircraft, Air Defense, and Artillery support for the ground commander so that all involved elements gain an appreciation of airspace management doctrine, procedures, and techniques.

(2) Discussion: The objective of creating a realistic, FTX, airspace environment was achieved. The real world constraints such as restricted areas, altitudes, and times for operations coupled with the deconfliction requirement necessary when controlling both player sides impinges on the total realism of any exercise involving airspace utilization. However, sufficient air activity was structured into the exercise problem to provide realistic training in the integration of airspace management into tactical operations. CAS missions, personnel and equipment air drops, interdiction missions, air assaults, and special mission aircraft, integrated with the operations of an Air Assault Division, provided a firm foundation for all involved to gain an appreciation of the airspace management doctrine, procedures, and techniques. In addition, the structuring and sectioning of the airspace among the users represented an accurate portrayal of combat airspace utilization.

(3) Lesson Learned: The level of activity and volume of airspace users designed into the LARES TEAM exercise produced the realistic NATO FTX environment needed to exercise the doctrine, procedures, and techniques of airspace management.

b. Objective 2. (1) Problem: To provide a functioning airspace management element for each Division and Brigade sized unit.

(2) Discussion: (a) An airspace management element was integrated into the tactical operations center at Corps, Division, and Brigade level. The CAME and DAME, as formal organizations, were established and functioned in accordance with current Army doctrine. The BAME, as an informal non-structured organization, varied in function at each Brigade. Each Brigade, including the German and Canadian Brigades, were furnished a composite C/V Battery in direct support. The C/V Battery CP was either collocated or established ADA liaison with the BTOC's. The ADA representative working in conjunction with his parent unit, the DAME, and the other member of the normal Brigade staff constituted the BAME concept for LARES TEAM. The primary functions of the ADA LNO as employed during LARES TEAM were:

1. Provide staff assistance, advice, and information regarding airspace management and air defense to the Brigade staff.

2. Through correlation of data available in the BTOC, resolve, with the Brigade staff, potential airspace conflicts in the Brigade AO.

3. Serve as an interface for information flow between the DAME and the Brigade staff.

4. Relay, through normal Brigade-Battalion communications, airspace management and air defense information needed at the Battalion Redeye section.

(b) Early in the planning it was recognized that the 1st Inf Div (Fwd) could not fully plan airspace management, with a devoted airspace manager, unless provided additional assets. The DAME that would normally be associated with the 1st Inf Div (Fwd) is permanently with 2d Bn, 67th ADA (C/V). A DAME was provided, for the duration of LARES TEAM, by 2d Bn, 67th ADA.

(3) Lesson Learned: A functioning airspace management element can and should be provided to each Division and Brigade size element participating in a REFORGER exercise. The 1st Inf Div (Fwd) capability to plan and organize airspace management is limited by the lack of an attached airspace management element on a full time basis. Such an element should be provided.

c. Objective 3. (1) Problem: To provide a functioning, collocated CRP/FOC at Corps level.

(2) Discussion: (a) The concept of CRP/FOC collocation was doctrinally established to provide a real time information exchange for aircraft under either procedural or radar control. This information exchange is critical and the collocation of these two facilities provides the marriage point of Army and Air Force airspace management activities. The doctrinal alternative is for the FOC to be electronically connected to the CRP. The FOC, as the primary ATC facility for the Corps rear area, must have a communications capability with its subordinate units, the FCC's.

(b) The site selected for the LARES TEAM CRP was approximately 80 kilometers outside the AO. It was determined that collocation of the FOC would degrade communications coverage to aircraft in the Corps area and would exceed its communications capability with the FCC's. The FOC was therefore displaced from but electronically linked to the CRP. A liaison team from the FOC was also deployed to enhance the coordination effort.

(3) Lesson Learned: A collocated CRP/FOC is the optimum solution for the proper interface of Army and Air Force facilities that have simular interests and functions. When selecting a CRP site, the operational and communication requirements of the FOC must be fully considered.

d. Objective 4. (1) Problem: To provide a functioning, collocated FACP/FCC at Division level.

(2) Discussion: (a) The FCC, as employed in LARES TEAM, was an air traffic control facility in the Division area. The FCC provided a communications link between the terminal facilities of the Division airfields, other airfields located nearby, the DTOC, and the FOC. As an extension of the FOC, the FCC receives flight information and coordinates Army air traffic within the Division area. The FCC, as the primary ATC facility in the Division AO, must be positioned to provide maximum communications coverage to aircraft in that area. The FCC receives all required information to properly perform its mission from the FOC and DAME.

(b) The BLUE and ORANGE were collocated with their respective FACP's in an effort to enhance communication and coordination between Army and Air Force airspace management elements. This concept, though not doctrine, was introduced in REFORGER 75 and again implemented for LARES TEAM. The collocation of the FACP/FCC proved mutually beneficial for the BLUE forces but was not effective for the ORANGE forces. The distance from the FCC to the DAME exceeded the communications capability of the ORANGE FCC resulting in a delay of timely coordination with the DAME.

(3) Lesson Learned: The collocation of the FACP/FCC, although desirable, is not required for the proper functioning of the airspace management system. Although collocation can enhance the Army/Air Force coordination effort, it can not be undertaken at the expense of the Division.

e. Objective 5. (1) Problem: To provide a workable communications system for airspace management.

(2) Discussion: The increased use of procedural control for Army aviators resulted in a corresponding decrease in the dependency on communications. As such, communication outages were disruptive in nature but not disastrous to the overall system. The airspace management communications, integrated with the ADA early warning communications net and the normal command and control communication channels, is a workable solution making maximum use of existing nets and hardware. Communications problems were experienced between the FOC and the CRP and between the FCC's and the supported DTOC's.

(3) Lesson Learned: Increased use of procedural controls for Army aviation does reduce the dependency on communications. As such, two airspace management goals of FM 100-5 appear achievable and should be objectives for REFORGER 77:

(a) The necessity for coordination being met by SOP wherever possible to reduce the need for detailed, time-consuming coordination and use of communications.

(b) That controls of Army aircraft will also be governed by SOP and other procedures to reduce reliance on communications and reduce interference with combat operations.

f. Objective 6. (1) Problem: To provide a workable grid overlay system for airspace management.

(2) Discussion: During REFORGER 74 and 75 exercises, the need for secure voice communications for air traffic control facilities was identified. This requirement has again been confirmed during LARES TEAM. Since a totally secure voice system for all ground and airborne radio stations is still in the future, it has been proposed that NSA develop an approved grid system for air traffic control as an interim measure. In December 1975, the 14th ATC outlined the requirements of this grid system in a letter to NSA. Locally produced grid code systems are not acceptable and constitute a COMSEC violation. NSA has developed a proposed grid system for airspace management, however did not concur with the proposal to field test this draft system during REFORGER 76. As a result, no grid system was available for LARES TEAM and ATC procedures were conducted in the clear, not subject to COMSEC penalty point assessment.

(3) Recommendation: That efforts be pursued to obtain secure radio equipment for both aircraft and ground air traffic control stations. In the interim, the development of an authorized and NSA approved code is necessary.

g. Objective 7. (1) Problem: To provide for the integration of FOURATF as the airspace management authority and to provide for a functioning ACC at ATAF level.

(2) Discussion: (a) The integration of a major NATO headquarters (FOURATAF) into LARES TEAM permitted the first attempt to practice this concept during a REFORGER exercise. This integration has proven feasible and desirable. It has highlighted the need for integrated NATO standardized procedures for airspace management. The Airspace Coordination Center (ACC) located at Kindsbach provided a means through which COMFOURATAF could coordinate and integrate the use of airspace in the LARES TEAM area. From the negotiations for the LARES TEAM airspace with BFS through the negotiations of the airspace management procedures and the publication of these procedures, FOURATAF was fully integrated and functional as the Sector airspace management authority.

(b) The Air Force provided non-secure point to point communications between the CAME and 4ATAF ACC. This line proved to be invaluable in the coordination of airspace management matters during the conduct of LARES TEAM.

(3) Lesson Learned: (a) COMFOURATAF provided an integrated airspace management system effectively directed and coordinated through the ACC.

(b) The point to point communications line established between the CAME and the ACC is necessary for rapid coordination during the exercise. The greater flexiblity and ease of coordination provided by a secure means of communication would be of significant value.

h. Objective 8. (1) Problem: To provide for early training of augmentee/liaison personnel and for DAME's and BAME's prior to the conduct of LARES TEAM.

(2) Discussion: All DAME/BAME's participated in FTX/CPX's with their supported units prior to the start of LARES TEAM. Detailed airspace management procedures were published by COMFOURATAF and provided augmentee/liaison personnel. In addition, augmentee/liaison personnel reported to their duty positions for OJT prior to STARTEX.

(3) Lesson Learned: Early training of augmentee/liaison personnel is necessary to insure safe and satisfactory performance of all elements involved in airspace management.

i. Objective 9. (1) Problem: To provide a basis for further refinements to the airspace management system with the goal towards simplification.

(2) Discussion: The airspace management concepts and procedures employed in LARES TEAM represented a further refinement of the system employed during REFORGER 75. The sectioning of the airspace into a procedural zone, a radio zone, and a radar positive zone represents a significant step towards a finalized solution to the REFORGER airspace management problem. While the execution did uncover some difficulties, it was evident that the experimental system was workable, adequate, and necessary. The LARES TEAM airspace management system directly enhanced the effectiveness of combat operations. The procedural controls established for Army helicopters permitted maximum freedom of movement without interference to Air Force operations

and continuous support throughout the operation. Problem areas indicated in this report requiring action or improvement, in addition to the areas discussed in the MSC AAR's, Umpire Reports, and EUCOM IG Report, will serve as the basis for further actions in the airspace management area.

(3) Lesson Learned: Although significant progress has been made, the airspace management problem has not been solved. Progress toward a simplified integrated system has been made, and must continue. Recognizing the current NATO effort in airspace control, REFORGER experience and information is available to make a positive contribution to this effort.

9. (U) USAREUR EVALUATION TOPICS. Paragraph 3a (4), USAREUR letter, AEAGC-O, dated 2 Jul 76, subject: Divisional Airspace Management and Air Defense Analysis, requested VII Corps evaluate the validity of four topics during LARES TEAM. Each topic is listed below as a problem statement followed by a discussion and conclusion.

a. Topic 1. (1) Problem: To determine the requirement for BAME.

(2) Discussion: (a) Army air defense (Hawk, Chaparral, Vulcan, and Redeye), Army field artillery, and Army aviation share the airspace above the Brigade sector with Air Force high performance aircraft. The high speed and low altitude at which these aircraft operate places them in conflict with Army units. To envision these assets of any quantity operating in any area at the same time rapidly points out the need for coordination at the level that possesses current/accurate data. Experience has revealed Brigade as the highest level that potential real time information is available on positions of maneuver units, artillery batteries, air defense sites, close air support missions, Army air missions, and significant fires. The size of the normal area of operations for a Corps in Europe, with the inherent communications difficulties, has necessitated the extension of airspace management to this lower level.

(b) The BAME, as employed for LARES TEAM, had the same basic functions of any Army airspace management element: coordinate the use of airspace; coordinate ADA operations; coordinate Army air traffic; provide information on aviation status; and provide intelligence obtained through ADA and aviation sources. The BAME, like the CAME and DAME, is a manual planning and management facility with limited information handling capabilities, therefore, the principle of resolving potential user conflicts by plans and SOP were stressed.

(c) There is a related discussion in paragraph 8, Objective 2.

(3) Conclusion: The Brigade Airspace Management Element, informally organized from the existing Brigade staff supported by liaison/fire support representatives, is an important airspace management facility required for proper planning and coordination by the maneuver unit commander.

b. Topic 2. (1) Problem: To determine the feasibility of Hawk BOC collocation with the DAME.

(2) Discussion: (a) The Hawk Battalion Operations Center (BOC) is the command and control facility for the organic Hawk Batteries. Its site selection is based upon several factors, the most critical being a suitable site for the employment of its AN/GSS-1 acquisition radar. Adequate radar coverage can only be obtained if the site is in an open area. The AN/GSS-1 also produces continuous electromagnetic emissions that can easily be detected by the enemy.

(b) The DAME is a formal airspace management element integral to the DTOC and its operations. All DAME members have additional staff responsibilities and require the capability for interaction with other staff agencies of the Division. DTOC site selection is based on several factors, some of which conflict with the Hawk BOC site criteria. The DTOC area requires maximum cover and concealment with a minimum of electromagnetic emissions.

(c) The Hawk BOC may or may not be in support of a specific Division and could very likely find itself in GS of two Divisions. It would then have to locate where it could provide proper centralized command and control of its subordinate units.

(3) Conclusion: Collocation of the Hawk BOC with the DAME is not a feasible concept and would not enhance the airspace management system.

c. Topic 3. (1) Problem: To determine equipment and personnel required to support the airspace management system.

(2) Discussion: Additional personnel are not envisioned as being needed to support the current airspace management system. Additional equipment required consists of an AN/GRC-106 AM radio at the C/V Battery and Antenna RC-292 for use by the ADA LNO at Brigade level. Recommended MTOE changes have been submitted by MSC's and are awaiting final action.

(3) Conclusion: Adequate equipment and personnel will be available to support the airspace management system when the requested communications equipment is authorized.

d. Topic 4. (1) Problem: To determine the minimum airspace management procedures required for mission accomplishment.

(2) Discussion: (a) The Army airspace management system, as designed for LARES TEAM, incorporated three basic principles:

1. Procedures should be as simple as possible and based on the principle of management by exception.

2. Army aviation operations must have freedom of movement in the forward area.

3. Army aviation operations will normally be conducted in a procedural environment.

(b) The system developed for LARES TEAM gave maximum flexibility to Army rotary wing operations. As long as helicopters remained below 300 feet AGL there was no requirement for flight following. Continuous radio monitoring of the appropriate FOC/FCC was mandatory for all helicopters in this "procedural zone", for safety purposes. Low level flight in the Division AO, 50 to 75 feet AGL and terrain flight (NOE) in the Brigade and Battalion airspace, was the normal order of the day for exercise helicopters. Many units employed radio silence during operations.

(c) High speed aircraft were kept above the helicopter procedural zone by use of a coordinating altitude and defined procedures. This artificiality, incorporated into the system to guarantee safety, is a valid requirement of exercise safety and is mandatory for any exercise. There is no doctrinal concensus as to the best or minimum airspace procedures for employment in a high threat combat situation.

(d) The procedural system and principles described, when implemented in an integrated airspace management system, have resultant effect of reducing required communications within that system. This is a desirable and absolutely necessary goal. The tempo and complexity of modern combat rules out a management system that requires complicated or time-consuming coordination. The likelihood of enemy jammed communications dictates maximum reliance on a procedural arrangement. To meet this requirement of simplicity and flexibility the Army airspace management system operates under a concept of management by exception. Conflicts are generally avoided by passing information about major movements, high concentration of fire, and unit locations.

(e) There is a related discussion in paragraph 8, Objective 9.

(3) Conclusion: The LARES TEAM procedures for airspace management have provided the foundation for continued development of a simplified, integrated system. Simple procedural control, management by exception, freedom of movement by Army helicopters, and reduced communications are Army principles that must be further exploited.

10. (U) ADDITIONAL FACTORS AFFECTING OPERATIONS.

a. Factor 1. (1) Problem: To provide a separate transponder code for BLUE and ORANGE forces.

(2) Discussion: (a) During REFORGER 75, transponder codes were issued for various flight activities and provided to the CRP/FOC for flight following. Considerable confusion was created when only one code was issued for player aircraft. Identification procedures created additional difficulties for ADA units.

(b) REFORGER 76 used 3 Mode III transponder codes. Code 3300 was used for BLUE forces, Code 4100 for ORANGE forces, and Code 2600 for neutral aircraft. This solution satisfied the ADA requirement to have positive transponder codes for identification. To assist in the airspace management problem of distinguishing aircraft by altitude, the last two digits of the Mode III Code setting was varied between 00 and 77. While the ADA units only use the first two digits, the Air Force system was capable of reading all four and could determine type and altitude of aircraft.

(3) Lesson Learned: A separate transponder code, structured to satisfy both ADA and airspace management requirements, is necessary for each participating force.

b. Factor 2. (1) Problem: To provide the proper request procedures for a temporary restricted airspace.

(2) Discussion: Airspace management procedures for LARES TEAM established the requirement for all airdrop missions to be conducted in a temporary restricted airspace. Requests for temporary restricted airspace had to be submitted to the ACC NLT 1000Z the day prior to the effective date/time of the restriction. Although several airdrops were conducted in temporary restricted airspace, no requests were received at the CAME from the MSC's (DAME) to support the airdrop missions.

(3) Lesson Learned: The procedures established for LARES TEAM requests for temporary restricted airspace remain valid and must be properly exercised. Requests for temporary restricted airspace should be submitted via the DAME, CAME, 4ATAF/ACC channel and the C/V LNO (Hawk BOC), CRC, 4ATAF/ADOC channel.

c. Factor 3. (1) Problem: To provide a Forward Airspace Management Element (FAME) at the FACP.

(2) Discussion: (a) The concept of the FAME, consisting of an ADA LNO and a FA LNO, located at the FACP was first devised and tested during REFORGER 74. The proposed concept called for the establishment of a new airspace management/ADA early warning communication net with stations at the FACP, DAME, C/V AADCP, Hawk BOC, and each Division DAME. By introducing additional communications into a system and environment that must have its dependency on communications reduced to the absolute minimum, the proposal was in conflict with the airspace management principles contained in FM 100-5. The concept was further defined and retested during REFORGER 75. In both tests the EUCOM IG evaluation showed that coordination and communications with the new element were sporadic and ineffective.

(b) The proposed concept was again redefined and tested at the ORANGE FACP during LARES TEAM. In this test ADA early warning was eliminated as a function since Sector Operations Center III and the Lauda CRC, the normal command and control/early warning facilities, had been committed to the exercise. Again coordination and communications were sporadic and ineffective. The fact that the airspace management system successfully operated and accomplished its goals during REFORGER 74, 75, and 76, without the active participation of the FAME attests to the fact that the overall function of the system is not dependent on the establishment of the FAME.

(3) Lesson Learned: Exercise evaluation of the FAME concept has found it unreliable and ineffective. The addition of the FAME into the airspace management system is not required.

d. Factor 4. (1) Problem: To provide responsive communications between the CAME and the DAME.

(2) Discussion: During previous exercises the method of communications between the CAME and DAME was via the TASS system. This limited communications caused delays in the timely coordination of airspace and air defense information. Effective and responsive communications

are essential between the CAME and DAME's. Point to point secure circuits were established for LARES TEAM. This solution proved to be effective and responsive and timely information was exchanged throughout the exercise.

(3) Lesson Learned: Secure point to point circuits between the CAME and each DAME must be established for all exercises.

11. (U) UNRESOLVED PROBLEMS. a. Problem 1. (1) Problem: To provide a direct communication line between the CAME and FOC.

(2) Discussion: The FOC is the air traffic control station for the Corps and must be integrated into the CTOC via the CAME with point to point secure, reliable communications. The only communications line between the FOC and CAME was the TASS telephone system. During LARES TEAM this connection proved unreliable, experiencing frequent outages.

(3) Recommendation: That a point to point secure communications line be established between the FOC and the CAME.

b. Problem 2. (1) Problem: To reduce low level restrictions for Army aircraft.

(2) Discussion: Because of the noise abatement consideration, Army aircraft were restricted from flying below 5000 feet MSL during the periods 112300Z Sep 76 to 121200Z sep 76 and 121800 Sep 76 to 130415Z Sep 76. This restriction could not be lifted and activities had to be adjusted to accomodate this restriction.

(3) Recommendation: That the BFS be advised at the initial airspace meeting that this type restriction is an unrealistic limitation on exercise participants.

c. Problem 3. (1) Problem: To provide for the early integration of the ADOC at ATAF level.

(2) Discussion: (a) During a conference held at Sembach, AFB, 19-22 Jul 76, the airspace management procedures to be used during LARES TEAM were finalized and subsequently published by COMFOURATAF. Participation fby FOURATAF, ADOC/ODO-3, was uncertain at that date. COMFOURATAF, via message 301240Z Jul 76, announced full ADOC/ODO-3 participation in REFORGER 76 and indicated the intention of retaining operational control of SAM units participating in REFORGER 76. Subsequent implementation of this decision was by a series of messages establishing the exercise procedures to be followed by ADA forces.

(b) A coordinated and integrated air defense and airspace management system under a single authority is essential to the success of an airspace control system. This integration was successful during LARES TEAM, however, coordination of the procedures would have been enhanced if accomplished earlier in the planning cycle.

(3) Recommendation: That all airspace control facilities/agencies participating in the REFORGER exercise be identified and integrated into the planning cycle early enough to insure publication of a fully coordinated plan.

d. Problem 4. (1) Problem: To provide for the integration and operations of local civilian airstrips within the exercise area.

(2) Discussion: The USAFE OPORD published for LARES TEAM indicated that all local civilian airstrips in the REFORGER AO would be suppressed during the exercise period. Attempts to suppress operations of local airstrips were not completely successful. Prior to STARTEX requests were processed by local airstrips requesting procedures that would allow for their continued operation during the LARES TEAM exercise. Interim procedures were hastily established and distributed.

(3) Recommendation: That the BFS be requested to identify local airstrips that require continued operation and that procedures be established for the integration and operations of these local civilian airstrips within the exercise area.

e. Problem 5. (1) Problem: To provide the daily 4ATAF frag message to the CTOC.

(2) Discussion: The FOURATAF daily frag message contains an airspace management section which is used to announce restricted aireas and other perinent airspace management information. Although the message is received at the DASC/ASOC, a separate copy is required at the CTOC/CAME.

(3) Recommendation: That the 4ATAF daily frag message include the CAME as an addressee.

LESSONS LEARNED

(U)

1ST INFANTRY DIVISION FORWARD

SAFETY

1. (U) PROBLEM: Conducting a large scale exercise presents innumerable opportunities for unsafe conditions to result in serious accidents.

2. (U) DISCUSSION: The command emphasis upon safety and the use of safety devices was validated during the exercise. REFORGER 76 was the safest ever for 1st IDF and produced comparatively fewer accidents than did REFORGER 75. This year the number of wheel and track accidents decreased, though vehicle exposure increased; and, there were no fatalities, fire accidents, or military injuries resulting in lost time. Use of lead vehicles, luminous tape, lights, effective umpire control, and command awareness of safety hazards all contributed to this result.

3. (U) LESSON LEARNED: With strong command emphasis and detailed briefings for all personnel, large exercises such as REFORGER 76 can be conducted with a minimum of personnel and equipment accidents.

ASA DIRECT SUPPORT

1. (U) PROBLEM: When operating as a division headquarters, the 1st Infantry Division Forward has no organic ASA direct support unit.

2. (U) DISCUSSION: For REFORGER 76, the 851st ASA Co (-) supported this headquarters. Pre-exercise coordination between the ACofS, G2 of the 3d Infantry Division, the unit supported by the 851st ASA Co, and the 1st Inf Div Fwd permitted smooth and complete integration of 851st elements as well as management and analytical sections. A total of 135 soldiers were involved in providing support. As a result, a limited electronic warfare capability was availalbe to the division throughout the exercise. All source intelligence analysis was also a continuing process. Integration of 1st IDF G2 operations and the all source intelligence effort was complete with the exception of the integration of order of battle technicians from the 1st MI detachment. The limiting factor is insufficient special security clearances required for complete integration.

3. (U) LESSON LEARNED: Even without organic ASA support, the 1st Infantry Division Forward was able to effectively integrate and manage ASA assets when they were allocated. Utilization was in direct support of the commander's scheme of maneuver. Limited electronic warfare assets can be effectively employed in support of allied operations without significant difficulty

CLOSE AIR SUPPORT

1. (U) PROBLEM: Close air support daily sortie allocations were four times greater than the highest average daily allocations during any previous REFORGER Exercise.

2. (U) DISCUSSION: During the FTX LARES TEAM, CAS for the division averaged 234 sorties daily. In spite of the tremendous volume of air activity, the majority of missions were successful. The primary factor which detracted from accomplishment of missions was late receipt of air allocations at division level. Whether due to communication outages with Corps or late arrival of the 4th ATAF allocations, when allocations were not received at least four hours prior to the due time for the first allocation time block, sufficient time was not available for sub-allocation by division and data compilation/submission by the FAC's on the frequently overcrowded immediate request net.

3. (U) LESSON LEARNED: Timely submission of air request data requires that a division should receive sortie allocations NLT four hours prior to the due time for the first allocation time block. Also, large numbers of aircraft sorties can be managed effectively by a division even under the administrative constraints of a peacetime exercise.

CLOSE AIR SUPPORT

1. (U) PROBLEM: Large numbers of close air support (CAS) sortie allocations are difficult to utilize at brigade and lower levels.

2. (U) DISCUSSION: Brigade and battalion level intelligence permits only very limited interdiction-type requirements. CAS requirements are, for the most part, generated through enemy contact at unpredictable times. Therefore, the majority of brigade and battalion air support needs are in the nature of immediate air requests. The method which most readily supports these requirements is planning and execution of air allocations at division level on interdiction targets and the usage as immediate needs.

3. (U) LESSON LEARNED: The majority of CAS daily allocations to division should be targeted toward interdiction missions by division.

ANACTDUTRA OFFICERS

1. (U) PROBLEM: Reserve officers, called up for ANACTDUTRA with G5 were identified too late.

2. (U) DISCUSSION: These officers were only identified the week prior to deployment of the 1st Armored Division. This required an undue amount of last minute coordination and support. Assignments, transportation, issue of TA-50 field equipment, etc. was more difficult than it need have been.

3. (U) LESSON LEARNED: All reserve personnel must be identified to the active force unit at least 60 days prior to reporting for duty.

PHYSICAL SECURITY OF INSTALLATIONS

1. (U) PROBLEM: Key installations and divisional garrison kasernes require continued physical security while the division is absent for participation in FTXs.

2. (U) DISCUSSION: Cdr, 3d Bde, 1st Armored Division was tasked to provide guard and security forces at eight 1st Armored Division locations during the period the Division was deployed for LARES TEAM; and at Miesau ASP. These locations included both logistical storage sites and garrison areas.

3. (U) LESSON LEARNED: Planning for caretaker activities must be addressed early in the pre-maneuver phase. It required approximately eight officers, 300 enlisted men, and five company headquarters (command/control) to guard the installations throughout the Division area.

AIRMOBILE OPERATIONS/AIR SPACE MANAGEMENT

1. (U) PROBLEM: Massive employment of helicopters resulted in numerous incursions into division airspace without adequate coordination.

2. (C) DISCUSSION: Throughout the day of 13 Sep 76, aviation assets of 101st AASLT operated in the 1AD rear area and portions of MBA. Coordination was inadequate. As a result, numerous unidentifed aircraft were reported thru 1AD G2 and G3 channels. ADA assets engaged several aircraft from 101st that were emitting ORANGE IFF settings. Planned multiple aircraft missions, flight paths and destinations must be coordinated with ADA and maneuver units to properly identify friendly from enemy air activity.

3. (U) LESSONS LEARNED: That 1AD/101st AASLT aviation officers should have exchanged LNO's to maintain coordination between divisions and the FOC's/FCC's.

USE OF NESTOR KEY LISTS

1. (U) PROBLEM: 101st Abn Div did not use Blue Force Secure FM Voice (NESTOR) Key Lists.

2. (U) DISCUSSION: VII Corps established a common Secure FM Voice (NESTOR) Key List for all BLUE Force Units. 101st Abn Div was issued 350 copies of BLUE Force NESTOR Key List. 101st Abn Div used its real world NESTOR Key Lists. This resulted in considerable confusion during relief operations since 1st Armd Div units could not communicate in the secure mode with 101st Abn Div. 101st Abn Div eventually used BLUE Force NESTOR Key Lists to communicate with 1st Armd Div units. 101st Abn Div continued to use its own key list to communicate with organic units.

3. (U) LESSON LEARNED: All participants must use the same NESTOR Key list.

PCM FREQUENCIES

1. (U) PROBLEM: PCM frequencies were mutually interfering and inadequate.

2. (U) DISCUSSION: 17 of the 63 pairs of frequencies assigned were unusable, for any purpose as determined by consulting GRC-106 radio mutual interference chart. Only 46 usable sets were therefore available to satisfy 26 1st Armored Division requirements, and 37 non-divisional (1 ID, 3 ID, 101st Abn) requirements. Div Sig office reallocated all 63 pairs after considerable engineering effort in order to establish 63 adjusted usable pairs which were then redistributed to all users. In the exercise, 101st Abn Division used all 63 frequencies.

3. (U) LESSON LEARNED: a. Early and more detailed planning must be accomplished at USAREUR/5th Sig Cmd level to assure optimum frequency assigment and utilization.

b. PCM frequency conference must be conducted to allocate frequencies prior to exercise.

FM FREQUENCIES

1. (U) PROBLEM: Some FM frequency assignments provided by NSA were mutually interfering.

2. (U) DISCUSSION: NSA prepared BLUE Force CEOI and assigned FM frequencies. FM frequencies assigned to Div Cmd, Div Opns and Div Intel FM nets, both primary and retrans were found to be mutually interfering. Mutually interfering frequencies cancel the ability to use automatic retransmission stations to support these FM nets. Frequency reallocation was required.

3. (U) LESSON LEARNED: NSA must review accuracy of FM frequency allocations to eliminate possibility of mutually interfering frequencies.

ENGINEER RESOURCES

1. (C) PROBLEM: Engineer resources available to the Division are insufficient to support combat operations.

2. (C) DISCUSSION: Engineer support of defensive operations focuses on (a) obstacle operations, and (b) MSR/LOC maintenance. Engineer personnel shortages and necessary commitment of some direct support engineer units to Division rear area support detract from implementation of the Division's obstacle plan. 16th Engr Bn is organized at ALO-3 and is REDCON C3 in personnel. 82d Engr Bn is organized ALO-2 and is REDCON C4 in personnel. This results in the employment of only two effective combat engineer platoons per engineer company. Lack of availability of other Corps engineer resources requires diversion of direct support combat engineer units from obstacle emplacement to MSR/LOC maintenance and related Division

rear area support. Consequently, obstacle plans cannot be fully implemented and the defensive capability/posture of the Division is reduced.

3. (C) LESSON LEARNED: a. Increase replacement requisition priority for the 12B (Combat Engineer) MOS to provide necessary personnel within the engineer battalions.

b. Address ALO increases for divisional combat engineer battalions and those in direct support of the Division.

INSUFFICIENT AIR DROP EQUIPMENT & DROP ZONES

1. (U) PROBLEM: Air drop zones and equipment are extremely limited in USAREUR.

2. (U) DISCUSSION: The 1st AD Division Transportation Officer spent approximately ten days, accompanied by Air Force personnel, locating acceptable drop zones for three air drops. Severe restrictions are imposed by the host nation which precluded realistic training missions. Equipment, for other than normal parachute drops, does not exist in USAREUR and plans for other than normal drops require 6-8 months lead time.

3. (U) LESSONS LEARNED: a. Administrative air drop restrictions should be minimized to increase tactical realism in exercises.

b. Theater requires additional equipment to permit subordinate commands to train in all modes of aerial resupply during major exercises and at LTA's /MTA's.

MOBILE CLASS V OBSTACLE MATERIAL ASPS

1. (U) PROBLEM: Use of a mobile ASP to support Engineer Class V obstacle requirements.

2. (C) DISCUSSION: During REFORGER 76, the concept of using mobile ASPs to provide Engineer Class V barrier materials was exercised. Two forward mobile ASPs were prepositioned in the covering force area 48 hours prior to the beginning of the exercise. The trains contained the essential Class V necessary to construct the initial obstacle plan. The locating of the ASP in the forward area greatly reduced the turn-around time for engineer vehicles and provided an efficient and effective method of moving Class V stocks forward in a covert manner, prior to the initiation of hostilities.

3. (C) LESSON LEARNED: That the concept of a forward mobile ASP to provide Class V is sound and should be incorporated into future exercises and the GDP.

2D ARMORED CAVALRY REGIMENT

RESERVE OFFICER UTILIZATION

1. (U) PROBLEM: Attached Reserve Officers (Active Duty for Training) assisted the Regiment during Exercise LARES TEAM.

2. (U) DISCUSSION: 2d ACR was provided with two reserve Captains attached for REFORGER 76. These officers assisted the Regiment in accomplishment of its mission and released assigned officers from additional duties which were REFORGER peculiar, assisting primary staff officers. Both officers were professionally competent, if not fully versed in cavalry operations.

3. (U) LESSON LEARNED. a. That these Reserve Officers continue to be provided to 2d ACR for use during REFORGER Exerices.

b. That, commensurate with their training program, reserve officers be provided to VII Corps MSC's for integration in field training exercises throughout the year.

MISSION-ORIENTED PROTECTIVE POSTURE (MOPP)

1. (U) PROBLEM: The fact that the Regiment was placed into a medium mission-oriented protective posture (MOPP) and remained in that posture for extended periods caused heat casualties.

2. (U) DISCUSSION. The Regiment was ordered into MOPP on three (3) occasions. This posture entails the wearing of the rubberized rainsuit, as well as the rubber overshoes. Heat casualties occurred during these periods because the posture was continued over a prolonged period. Indeed, the most casualties occurred on 15 September during a time when the weather was cool and damp. On this occasion the actual wearing of the clothing required for MOPP was suspended and subsequently simulated- a decision which would be impossible in time of war.

3. (U) LESSON LEARNED. The ordering into MOPP must be selectively imposed, in order to avoid the prolonged wearing of the protective clothing. Since heat casualties may occur almost without regard to temperature, once MOPP is imposed, the condition must be closely monitored by commanders and staff chemical personnel. Additional NBC training in this area is clearly needed, especially regarding the preventive measures of taking salt tablets and drinking additional water before and during imposition of medium MOPP.

BLENDING COVERING FORCE INTO THE FEBA

1. (U) PROBLEM: The thrust of FM 100-5 is to suggest that Covering Forces be blended into Main Battle Area Forces at the FEBA.

2. (C) DISCUSSION: During Exercise LARES TEAM, covering force elements of the 2d Armored Cavalry Regiment were blended into main battle area forces. Although blend-in had not been previously practiced, it went smoothly except for the difficulties of obstacles being executed on the FEBA that the covering force knew nothing of.

3. (U) LESSON LEARNED. Blending of the Covering Force into FEBA forces is viable; however, it does require very close coordination and somewhat different procedures than are acceptable in a rearward passage of lines.

OBSTACLES

1. (U) PROBLEM. Current engineer doctrine calls for placement of obstacles only where they can be covered by fire in order to utilize scarce engineer resources more efficiently.

2. (U) DISCUSSION. Given the doctrine of emplacing obstacles only where covered by fire, in planning for the covering force phase of Exercise LARES TEAM a number of potentially good targets were not selected. Typically these target locations were in ravines or in other approaches to ravines where direct fire from battle positions could not cover. The result was that in one sector of the covering force area there were relatively few obstacles. More obstacles should have been planned and installed, including ones that could not have been covered by fire. In covering force operations obstacles are emplaced to stop/slow the attacker not only in order to permit fires to destroy him while stopped but also in order to both deceive the attacker and to permit friendly forces time to move to new locations. In REFORGER 76 the full importance of these additional uses of obstacles for the covering force was overlooked in some instances in preparing the obstacle plan.

3. (U) LESSON LEARNED. Doctrine regarding placement of obstacles only when they can be covered by fire must be adjusted for covering force operations since forward of the FEBA obstacles are required both to deceive the attacker and to permit time for movement by friendly forces.

CREEK BRAILLE

1. (U) PROBLEM: To validate the applicability of CREEK BRAILLE to covering force operations.

2. (C) DISCUSSION: a. The CREEK BRAILLE concept involves the prior designation of selected strike zones by ground commanders for possible TAC air insertion. These are designed to support the ground tactical plan. Once designated, supporting air units prepare target folders which are carried by air crews in their cockpit. Air crews are briefed in detail and have to be knowledgeable of all possible areas. For ground units to then obtain a CAS mission, they need only designate a strike zone.

b. 2d ACR was tasked to participate in a test of CREEK BRAILLE's applicability to covering force operations during Exercise LARES TEAM. For this test, 2d ACR selected 19 strike zones which analysis indicated were where major engagements would occur. On the test, 15 missions were flown (16 requested) against targets in 11 different strike zones. By FAC assessment, these missions yielded 51 tanks and 3 APC's destroyed; 12 tanks damaged; and a variety of other items of enemy equipment destroyed. This BDA was only marginally higher, on a per mission average, than other TAC air missions flown for the Regiment during Exercise LARES TEAM. However, the real advantages of CREEK BRAILLE missions are its increased responsiveness and the reduced susceptibility to EW in the conduct of the mission. The concept was preferred by both FAC's and ground commanders.

3. (C) LESSON LEARNED. CREEK BRAILLE is extremely well suited to covering force operations and should be integrated into the GDP.

CLOSE AIR SUPPORT

1. (U) PROBLEM: The standard means of requesting preplanned close air strikes many hours before strike time is impossible to employ in extremely fluid operations, especially in the conduct of the covering force.

2. (C) DISCUSSION: This issue was addressed in the Regiment's REFORGER 75 After Action Report. For REFORGER 76 a system of preplanned immediate was devised which allocated sorties the night before a day's operations. Once allocated by time block, this fire support could be integrated into the battle plans. Particularly useful was the fact that precise target locations did not have to be identified until one hour before TOT. This system was excellent and resulted in much more efficient use of TAC Air. Throughout Exercise LARES TEAM 2d ACR employed 52 missions (not including CREEK BRAILLE missions) with a FAC assessed BDA of 129 tanks and 26 APC's destroyed, 35 tanks and 15 APC's damaged.

3. (U) LESSON LEARNED: While CREEK BRALILLE missions are preferred by 2d ACR, the system of preplanned immediates used during Exercise LARES TEAM was a quantum improvement on the standard preplanned air request system.

FORWARD AIR CONTROLLERS

1. (U) PROBLEM: Assignment of a single Forward Air Controller to a Cavalry Squadron is inadequate during covering force operations.

2. (U) DISCUSSION. A single FAC is unable to cover the wide frontages habitually assigned to cavalry squadrons during the covering force. This was forcefully demonstrated during REFORGER 74 when many lurative targets could not be engaged because the FAC was unable to move from strike location to strike location with sufficient rapidity. In REFORGER 75, 2d ACR was augmented to have a FAC per troop and the arrangement worked well. During Exercise LARES TEAM the one FAC per cavalry troop was again used, with another FAC being retained at Squadron headquarters as a Squadron ALO and for use as an emergency FAC. This configuration was extremely sucessful. The additional FAC's were obtained from the unit being covered (1st Armored Division) and were returned at the termination of the covering force phase.

3. (U) LESSON LEARNED. One FAC per troop is a viable concept in covering force operations, adding greatly to the combat power of the covering force and should be codified into the GDP.

UMPIRE COVERAGE OF AIR STRIKES

1. (U) PROBLEM: Umpire coverage of air strikes is needed to provide an accurate bomb damage assessment (BDA).

2. (U) DISCUSSION: Throughout Exercise LARES TEAM most air strikes and associated BDA were left to the discretion of the forward air controllers and frequently could not be introduced into controller channels. On some occasions Air Force umpires were available and BDA was incorporated into the exercise; however, normally, BDA assessed by FACs was merely collected and consolidated for submission into the overall collection of statistics but did not lend itself to stopping an advancing enemy column of tanks during the course of battle.

3. (U) LESSONS LEARNED. In order for BDA to be useful on a timely basis to Army ground commanders:

a. FACs must be allowed to assess BDA and submit it into controller channels at the time of the strike; or

b. An umpire must accompany each FAC to monitor each air strike as it takes place (real time) to assess and submit BDA.

PARKHILL SYSTEM FAILURE

1. (C) PROBLEM: After arriving in the field, 2d ACR was provided with a PARKHILL narrow band secure voice device to be used in the Corps AM command net (voice). The system was never made operational despite considerable efforts by 2d ACR personnel and the NSA engineer who attempted to install the system.

2. (C) DISCUSSION: The system was delivered to 2d ACR in the field accompanied by an engineer from NSA. Attempts to install the system using three 2d ACR AN/GRC-106 radios that were otherwise operational failed despite the best efforts of all concerned. Subsequently, an RATT rig from 34th Sig Bn was provided in which the PARKHILL had supposedly been successfully tested. Unfortunately the radio in this shelter was inoperative and all 2d ACR HF assets were committed to Regimental and Divisional nets.

3. (U) LESSON LEARNED: New systems for field test on exercises must be delivered to the units well in advance of movement to the field. They should be thoroughly tested in a garrison environment and the operators should receive appropriate training in advance. Testing as we did it on Exercise LARES TEAM was not fair to the equipment or the people involved.

72 D FIELD ARTILLERY GROUP

EXTENDING DEFLECTION AREA COVERAGE OF A 175

1. (U) PROBLEM: Finding a feasible method of extending the deflection area coverage of a 175 battery and battalion without the unit relaying.

2. (U) DISCUSSION: Normally 175mm gun firing batteries are dispersed to such an extent that massing fires under normal operations is impossible without relaying the batteries. As an experiment, the firing batteries were divided into two platoons, i.e., the right and left platoons. The battery oriented the gun carriages of the right and left platoons 260 mils right and left respectively before laying the tubes parallel. This increased the battery deflection coverage by 520 mils. Adequate battalion control provided overlapping platoon coverage of areas between batteries. Targets falling between batteries were hit with one platoon of two different batteries rather than moving one battery out of traverse. The battalion flank coverage was increased 260 mils on each side. Targets which appeared in this area were fired on by one platoon using two volleys.

3. (U) LESSONS LEARNED: The increased deflection coverage of 175mm gun batteries by orienting platoons 260 mils right and left of the battery azimuth of fire should be used as a viable method of expediting fires over a greater area by the 175mm gun battalion.

STANDARD TREELINE POSITION

1. (U) PROBLEM: The standard treeline position does not provide the advantages found in the occupation of small towns.

2. (U) DISCUSSION: The occupation of small towns has many advantages to offer field artillery units. The numerous and different shapes of various buildings, sheds and fences provide irregular shapes in which the howitzers can blend without easy visual detection by ground or aerial observers. The many dirt and paved roads surrounding and through the towns limit the problem of track signature. Towns provided better dispersion and fields of observation especially to the flanks and rear because towns are usually located in open elevated terrain. In each division area there are hundreds of small towns that can be utilized as position areas.

3. (U) LESSONS LEARNED: The occupation of small towns has numerous desirable advantages for artillery units survivability. Training in small town occupation needs to be provided in all artillery units. The presence of thousands of small towns provides a feasible addition or alternative to treeline occupations.

210TH FIELD ARTILLERY GROUP

COMMAND AND CONTROL - FA UNITS

1. (U) PROBLEM: The 1st Battalion, 36th FA, tested a concept to determine how to organize and position the battalion headquarters and service battery to provide effective command and control and responsive support to widely spread firing batteries in a fast moving situation.

2. (U) DISCUSSION: Since the batteries were widely spread, the essential command and control elements had to be positioned well forward to insure adequate communications. Having the command and control well forward in a fast moving situation required a high degree of displacement responsiveness. To meet both these requirements, it was decided to operate with a light CP forward and the remaining support positioned well to the rear. The forward CP consisted of the following personnel and equipment;

PERSONNEL	EQUIPMENT
Bn Cdr, CSM, Dvr	1/4 T
Bn S3, Dvr	1/4 T
Opns, Intel, Bn FDC	2-M577
2 Radio Teams (1-GP,1-BN)	2-RTT Rigs
3-Man Mess Crew	2 1/2 T
4-Man Fwd Log Opns Ctr (FLOC)	5/4 T/VRC 41. (Admin/logs)
5 Guards & 1 Radio Repairman	5/4 T
4-Man Recovery/Maint Crew	1-M577, 1 5T wrecker
Bn Survey Section (Satellited Off the fwd CP)	1-1/4 T 3-5/4 T

The remainder of HHB and SVC Btry were colocated well to the rear (20-30 Km) under the control of the battalion XO. Operational matters flowed between the Firing Batteries, FWD CP, LNO's and higher HQ's with info to the FLOC and between the FLOC and the rear CP with info to the TOC at the FWD CP. Operating under such a concept had two principal advantages.

a. The command and control element was light and fast moving and could afford to position itself well forward.

b. Having a small command and control element increased the number of possible areas for occupation, which facilitated the optimum positioning of the command and control element.

When it became necessary to move the FWD CP, The on-duty TOC crews would breakdown 1 M577 and within 15 minutes would have briefed the off-duty crew and be ready to jump with the S3 and 1/4 Ton. Once the Jump CP had occupied position and was ready to assume control, the remainder of the FWD CP had march ordered to the extent that they could move on 10 minutes notice of relief of control.

3. (U) LESSON LEARNED: The above concept worked extremenly well during both the offense and the defense. During the offensive phase when immediate recovery of heavy equipment was not required to preclude capture, the 4-man recovery/maintenance team with the M578 and 5T wrecker were left with the rear CP.

ARTILLERY GROUP/DIVISION ARTILLERY

1. (U) PROBLEM. Field artillery groups can serve as division artilleries for limited periods of time.

2. (U) DISCUSSION. The 210th Field Artillery Group and the 1st Armored Division Artillery have a close and professional relationship. All field artillery battalions of the Division Artillery and of the 210th Field Artillery Group monitored the 1st Armd Div Arty command/fire nets AM and FM. Although the nets were at times crowded, it materially assisted all units in obtaining up-to-date intelligence information and artillery data. It also served as an ad hoc quick fire channel between units during emergency situations. When one control headquarters displaced or lost communications, the other headquarters (by prior arrangement) assumed control. The arrangement also reduced signal signature of units, especially when control was passed. By monitoring a single AM net, only one MET message was broadcast. With augmentation of personnel, a field artillery group can serve as a division artillery with little if any loss of effectiveness. An understanding and mutual trust between commander and staff officers is required. Administrative reports (personnel and logistics) continue to be sent through normal command channels.

3. (U) LESSON LEARNED. Division artillery and field artillery groups can effectively pass control between headquarters when required.

7TH ENGINEER BRIGADE

DBP COMMERCIAL TELEPHONE

1. (U) PROBLEM: Use of DBP Commercial Telephone.

2. (U) DISCUSSION: The use of a DBP commercial telephone proved to be a valuable asset to this Brigade CP during REFORGER 76. Although the tactical system worked well for exercise traffic to higher headquarters, that system for several reasons did not fill the need for administrative, and command and control traffic to subordinate battalions. In many instances radio contact to engineer battalions of both BLUE and ORANGE Forces was not possible due to periods of radio silence, movement and land mass. During these periods when radio or TASS contact was lost, subordinate units called the Brigade CP through DBP telephones and passed essential information.

3. (U) LESSON LEARNED: Control of distant subordinate units and required non-exercise message traffic to Brigade base was accomplished most efficiently through the DBP telephone. Brigade HQ should be provided a DBP commercial telephone as an alternate means for administrative traffic and control of subordinate units during future exercises.

223RD AVIATION BATTALION

AIRMOBILE OPERATIONS

1. (U) PROBLEM: Airmobile operations conducted at low level/contour altitudes in a wire conjested area.

2. (U) DISCUSSION: After inserting troops from 1 Royal 22e Regiment on the airmobile operation chalk three of a flight of ten UH-1H helicopters made contact with a set of unmarked high tension lines which extended from one ridgeline to another across a narrow valley approximately 300 meters wide. There were no poles across the valley floor and the aircraft made contact with the wires at approximately 100 ft above the valley floor. A scout helicopter had reconned the route into the objective but the lift helicopters utilized a route selected by map reconaissance for the flight back across the FEBA.

3. (U) LESSON LEARNED: a. For contour flying in an area with a high density of unmarked power lines helicopters should fly along the sides of valleys just below the ridgeline in order to avoid the problem of unmarked wires running from one side of a valley to the other.

b. A scout helicopter (OH58) should recon all routes to be flown at contour altitudes and then lead troop carrying helicopters along the route whenever possible.

c. Slower airspeeds should be used when contour flying in an unknown area to provide more reaction time to unforeseen hazards.

G-1

GERMAN MEDICAL PERSONNEL

1. (U) PROBLEM: To infuse German medical personnel in the 546th Medical Company (Clr) and the 128th Combat Support Hospital.

2. (U) DISCUSSION: Two German medical NCO's from II (GE) Corps were placed on duty with the 128th Combat Hospital: Enlisted medics from the German Air Force dispensary at Feuchtwangen were utilized in the Clearing Platoon of the 546th Med Co (Clr) located at Kaltenbrunn. The language problem was minimal as the German personnel had a working knowledge of English.

3. (U) LESSON LEARNED: German medical personnel can be utilized in US treatment facilities providing they have a working knowledge of English. Exchange of personnel should be continued as it enhances German-American relations and increases the participants' knowledge of allied medical policies.

HOSPITALIZATION

1. (U) PROBLEM: To provide hospitalization for personnel in the MUAA and exercise areas.

2. (U) DISCUSSION: The 128th Combat Support Hospital, dedicated to medical support for VII Corps, became operational at Oberdachstetten on 24 August and remained operational until 3 October, The early placement of the hospital in the MUAA provided a central location for hospitalization of personnel in the MUAA participating in the exercise. The hospital was accessible to all MUAAs and the exercise area. This reduced the number of admissions to the Nuernberg and Wuerzburg MEDDAC.

3. (U) LESSON LEARNED: In future exercises when the MUAAs will be occupied for extended periods of time, the same procedure should be followed.

DISCHARGED HOSPITAL PATIENTS

1. (U) PROBLEM: To return discharged hospital patients rapidly to duty.

2. (U) DISCUSSION: The activation of a control cell for the return to duty of hospital patients in the CTOC, establishment of a holding facility at Katterbach and the placement of liaison personnel with vehicles and drivers at the hospitals eliminated the problem of return to duty of hospitalized patients. The system was operated by the 9th Repl Det, 38th P & A Bn and fully coordinated by the Corps AG. The operation quickly and efficiently moved personnel discharged from the hospital to their units.

3. (U) LESSON LEARNED. This system should be utilized on all future exercises.

2D ACR EW SUPPORT

1. (U) PROBLEM: The lack of organic EW support for the 2d ACR severely hampered the full integration of Electronic Warfare (EW) into the unit's scheme of maneuver.

2. (C) DISCUSSION: The 2d ACR did not have an assigned ASA Tactical Support Element (ATSE) or EW Capability. During REFORGER 76, an EW team consisting of two personnel was provided from the Direct Support ASA Company of the 1st AD. The EW support requests were routed through this team, to G2, 1st AD for approval, and finally to the DSU for implementation of the requested operation. Results of EW operations conducted were forwarded to the 2d ACR in the reverse manner. Such systems were untimely and unrealistic. In a combat situation, all commanders must have immediate access to all available SIGINT and EW assets to insure the best possible support. EW (ECM) assets should be well forward focusing efforts against the command and control nets and the fire control means.

3. (C) LESSON LEARNED: The 2d ACR must have an ATSE capability to maximize the integration of EW into operations.

RADIO LISTENING SILENCE

1. (U) PROBLEM: Imposition of radio listening silence impaired the execution of critical tactical orders.

2. (U) DISCUSSION: Both BLUE and ORANGE Forces used Radio Listening Silence as an effective Electronic Counter Counter Measure (ECCM) operation. Implementation of Radio Listening Silence significantly reduces the vulnerability to Electronic Counter Measures (ECM) operations; however, listening silence does degrade operational flexibility. Plans were made to repeat previously successful EW tactics; however, the number of changes required by the rapid moving situation was not envisioned. The result was that passage of critical tactical orders was impaired.

3. (U) LESSON LEARNED: Listening silence is a positive tactical EW operation and requires detailed planning before execution. Frequent operational changes are to be expected and provisions made for then.

EW TARGET INFORMATION

1. (U) PROBLEM: Untimely transmission of EW target information to higher and subordinate elements.

2. (C) DISCUSSION: Target information received by both ground and airborne assets was not relayed to operational elements in sufficient time to permit consistent engagement with combat power. In many cases, information obtained by targeting element was in excess of 12 hours old. The problem is a complex one involving both interservice communication links and the educational process of EW personnel. From a communications viewpoint the problem was two-fold; inadequate communications between ground sites and the non-existence of lateral secure communications between Air Force and Army assets. From an educational viewpoint, the EW personnel involved were new and not thoroughly familiar with the mechanics of the EW process. The latter problem will be resolved through continued emphasis and participation in field exercises. The communication problem with the Airborne EW assets can be minimized using the GLO net at Corps.

3. (U) LESSON LEARNED: Target information must be passed to targeting units as rapidly as possible. EW personnel must be totally knowledgeable and use the most expeditious means available to permit timely targeting.

COMPROMISE OF UNIT ACTIVITIES

1. (U) PROBLEM: Compromise of Unit Activities due to enemy action.

2. (U) DISCUSSION: During the exercise, Ranger activity behind friendly (BLUE) lines resulted in several units (to include a Division Command Post) being overrun and captured. No attempt was made to "emergency destruct" codes, plans or SOIs.

3. (U) LESSON LEARNED: Units at all levels must be trained in emergency destruct/safeguarding/securing of classified items during tactical operations.

CLASS V SUPPORT

1. (U) PROBLEM. To provide responsive Class V support to the forward combat elements without exposing a large percentage of ammunition stocks or lift capabilities to enemy artillery fire or ground attack.

2. (C) DISCUSSION. During Exercise LARES TEAM the 1st Armored Division requested and was provided with two forward mobile ASPs. These ASPs consisted of rail shipments of no more than one day of supply of selected ammunition items positioned foward of or near brigade rear boundary. These items remained on rail cars to be loaded directly onto unit cargo vehicles by unit personnel at time of issue. Ordnance support personnel required for this operation consisted of a clerical team to issue stocks and to provide reports of issue through the fixed ASP to the Corps MMC. Division ammunition personnel were available at each site to authenticate unit 581s, assist in the ammo issue and to provide the division staff with necessary status information. The selected rail locations could accept shipments on successive days or subsequent forward shipments and ASP issue personnel could be diverted to an alternate location depending on the tactical situation.

3. (C) LESSON LEARNED. That USAREUR adopt a Class V support plan which provides for forward mobile ASPs and that this concept continue to be exercised in future FTX , CPX and REFORGERs. The forward mobile ASP concept appears to be the answer to providing ammunition to forward combat elements at a location which does not require an excessive unit turnaround time and which does not expose an excessive amount of ammunition to destruction by the enemy. In addition, this method of Class V resupply offers a solution to critical theater shortage of ammunition lift capability allowing greater tonnages to be shipped forward into a combination of mobile and fixed ASPs.

AERIAL RESUPPLY

1. (U) PROBLEM: Aerial Resupply with USAF Air Assets.

2. (U) DISCUSSION: During the conduct of the FTX, both BLUE/ORANGE Forces received 4 of the 5 planned aerial deliveries by USAF C-130 AAWADS equipped aircraft. One of the preplanned drops was cancelled due to the tactical situation. Planning for aerial resupply, conduct of DZ surveys, and staff coordination between Corps and USAREUR proceeded extremely well with no major problems encountered. During future exercises, actual aerial resupply (tactical emergency etc.), down to battalion level, should be attempted without prior DZ clearances.

3. (U) LESSON LEARNED: The use of USAF aircraft for resupply should be continued in future exercises to include increased use of on-call missions.

SIMULATED RESUPPLY OF AMMUNITION

1. (U) PROBLEM: Simulated Resupply of Ammunition.

2. (U) DISCUSSION: Unit participation in the simulation of ammunition resupply during Exercise LARES TEAM showed improvement over past REFORGER Exercises. This improvement is in keeping with a trend of improvement in unit ammo play and realism over the last three years. Unit commanders are gaining a greater appreciation of the importance of ammunition resupply and associated logistical problems such as vehicle support, manpower requirements and resupply turn around times. Nearly all units made sufficient ammo resupply runs to the ASP with German units simulating resupply from US ASP for the first time during a REFORGER.

3. (U) LESSON LEARNED: Units gained valuable Class V resupply experience during REFORGER. The key to unit Class V simulation was command emphasis and the monitorship of this area by unit logistical umpires.

MOBILE CLOTHING SALES

1. (U) PROBLEM: Provision of Mobile Clothing Sales Support.

2. (U) DISCUSSION: a. Clothing sales van support was provided by the Ritzingen CSS on an on-call basis to the MUAA's located at Giebelstadt, Illesheim and Oberdachstetten during the period 31 Aug - 25 Sep 76. Total van cash sales were $9,233, $1,106 and $1,795 respectively for a total of $12,134. The high volume of cash sales resulted from the fact that most CONUS-based exercise personnel indicated that many of the clothing and CTA 50-900 items were not as readily available at home station. The items most in demand were poncho liners, OD T-shirts and sleeping shirts which accounted for almost two thirds of total van sales.

b. The clothing sales stores at Ansbach and Illesheim also supported REFORGER personnel for Cash Sales of $13,000 and $7,000 respectively totalling $20,000.

3. (U) LESSONS LEARNED: a. The requisitioning of additional personal clothing and CTA 50-900 items approximately sixty days prior to REFORGER 76 start date resulted in adequate stockage to support exercise personnel.

b. The prior planning and close coordination between the MUAA Control Center and the Clothing Sales Store tasked with providing mobile van service insured 24 hours service to exercise personnel.

TAB B

FIRE SUPPORT ELEMENT

FRONT LINE TRACE

1. (U) PROBLEM: Front Line Trace.

2. (U) DISCUSSION: Forward maneuver unit commanders often do not have the opportunity to provide accurate locations to the headquarters for a front line trace. Field artillery FO's with maneuver units must continually plot their location on a map, and they have a direct FM link to the FA battalion. FA FO's habitually move with the company command groups and a periodical location report from them would provide division and higher commanders with another source for a front line trace.

3. (U) LESSON LEARNED: That FA FO's can provide data for front line trace and should be used as a major source for this type of information.

LANCE AIRMOBILE EXERCISE

1. (U) PROBLEM: LANCE Airmobile Exercise.

2. (U) DISCUSSION: a. During a period of time while two LANCE Launchers were out of action because of an exercise damage assessment, an airmobile training mission was executed using these two launchers.

b. The training mission required that a survey party, a fire direction center, security forces, a communications element, and launchers with missiles be picked up and flown to an adjacent corps in CH47 helicopters.

c. Communications from the VII Corps FSE was established with the battery through a combination of means: RTT, FM secure, and German commercial telephone. An airborne relay was used to provide FM secure communications. The VII Corps Signal Officer had a German commercial telephone installed in the FSE. A soldier at the other end of the line had communications with firing point via FM relay to a unit-installed wire line.

d. The battery (-) carried VII Corps NRAS material making it responsive to Cdr, VII Corps in regard to receiving emergency action messages.

3. (U) LESSONS LEARNED: a. Air movement of LANCE missile launchers to an adjacent corps can be executed in a timely manner.

b. Detailed prior coordination is required.

c. Adequate communications is a must for this type of operation.

d. Availability of adjacent Corps' trig lists is a top priority coordination requirement.

UNCLASSIFIED

SIGNAL OFFICER

PARKHILL

1. (U) PROBLEM: PARKHILL Secured CG SSB Voice Command net.

2. (C) DISCUSSION: During REFORGER Exercise LARES TEAM, PARKHILL was, for the first time, used on the CG SSB Voice Command Net. It was determined that the PARKHILL equipment could be used effectively for secure voice operations. Both Standard A and B radios were used. Ranges varied from 5 to 30 miles. Remoting operations were impeded by lack of engineer cables and remoting devices especially designed for the PARKHILL. In addition initial difficulty was experienced because of inadequate maintenance of equipment, operator inexperience, difference in radio models, and a background bubbling noise interference. All these problems were overcome and PARKHILL did provide quality secure voice communications. A separate report has been submitted to USAREUR on test results and recommended corrective actions.

3. (C) LESSON LEARNED: a. Equipment in CG Voice Command Net should all be Standard A.

b. A high level of maintenance and training is required for successful operations.

c. A special (discrete) remoting device with volume-controlled loudspeaker and associated cables must be designed for the PARKHILL.

d. A 2KHz band-pass filter be used to reduce bubbling noise interference.

MMCT

1. (U) PROBLEM: Mobile Maintenance Contact Teams (MMCT)

2. (C) DISCUSSION: a. In 1973 Headquarters, US Army Communication Command developed the MMCT concept. However, due to lack of material and personnel resources, was never able to fully test the concept. During REFORGER 1976 Exercise LARES TEAM,VII Corps fielded three MMCT's in support of the player divisions and the 2d ACR. In addition one MMCT was retained on call at Control HQ to respond to emergency requirements.

b. 5th Signal Command provided an MMCT in support of the 101st Airborne Division (AAST) and a COMSEC Logistic Support Element (CLSU). The VII Corps MMCT's were a composite of all nondivisional COMSEC maintenance personnel and equipment.

c. Of the total items of COMSEC equipment received for repair, only 6.5% had to be evacuated to the CLSU. Of these (50%), or 3.25% of the total were of the division that was used as a "test Bed".

d. As a result of the test, the following was determined:

(1) That the MMCT concept is sound.

(2) A basic load for piece parts, modules, test equipment, and operational ready float (ORF).

(3) MMCT's team structure for units by type.

e. A separate report is being submitted to Headquarters, USAREUR/7A on this project.

3. (C) LESSON LEARNED: a. The MMCT concept, as developed, is a sound basis for a responsive COMSEC maintenance capability.

b. USAREUR/7A should implement the CLSU/MMCT in both Corps.

ENGINEER

REORGANIZATION AS INFANTRY

1. (U) PROBLEM: Engineers were reorganized as Infantry.

2. (U) DISCUSSION: During the initial attack by ORANGE Forces, word was received that one company of the 78th Engineer Battalion with the 29th PZ Bde had been committed as Infantry. Investigation revealed that only one platoon of the company had been committed in a mission to attack and secure a bridge. This is not considered a misutilization of engineer forces but a valid mission which could utilize those technical skills found only within the combat engineers. When ORANGE forces went on the defense, a rear area security problem arose and Commander ORANGE elected to reposition three companies of the 78th Engineer Battalion in the rear area near an autobahn. The battalion had a "be prepared" mission to reorganize as infantry for committment against a rear area threat. The battalion was never committed in this role, however, they performed no engineer type work for 24 hours. Upon withdrawl of this "be prepared" mission, the battalion was committed along the autobahn, where they had been positioned preparing it as an obstacle. The unit was never committed as infantry mainly because of their low combat score when reorganized as infantry. There are no indications that BLUE Forces ever contemplated utilizing engineers in a infantry role.

3. (U) LESSON LEARNED: a. We have again learned that engineers are not a viable combat force unless we boost their fire power capability. If we are to continue to have a secondary mission to reorganize and fight as infantry, then we must take immediate steps to give the engineers the tools to fight in this mode.

b. When commanders do make the choice to employ engineers as infantry, there must be a realization that engineer missions will suffer.

ADM

1. (C) PROBLEM: To plan and exercise an ADM on Exercise LARES TEAM.

2. (C) DISCUSSION: a. ORANGE and BLUE Forces received ADM allocations, planned ADM targets, and submitted an ADML.

b. An ORANGE Airborne ADM insertion was planned behind the BLUE lines. A special team of qualified volunteers (from the 275 Engr. Co. ADM) was placed on temporary jump status and received ground refresher training by the 10th Special Forces Group before the exercise started. USAREUR approved the ground refresher training; MILPERCEN, Alexandria, VA. granted authority to place personnel on temporary parachute duty.

c. Approval was received on request to use training SAS and PAL materials which only require one-man control. SADM trainer, classified confidential, was to be used.

d. The ADM firing team was four minutes from the drop zone when an equipment malfunction was discovered and the mission was aborted for safety reasons.

e. Even though the mission was cancelled prior to excution, many new precedents were set. Problems concerning two man control of nuclear weapon and authenticator have received attention all the way up to JCS levels. This is the first exercise where an ADM has been used as an offensive weapon.

3. (C) LESSON LEARNED: That an airborne insertion of ADM is a practical offensive use of ADM. Although the SADM is designed to be jumped by one man; problems with two man control of nuclear weapons must be resolved.

2D SUPPORT COMMAND (CORPS)

BULK POL

1. (U) PROBLEM: Providing Total Bulk POL to a Joint American/Canadian/German Division from Existing US Army Class V Facilities.

2. (U) DISCUSSION: During REFORGER 76, the US Class III points, utilizing only existing US Class III capability, dispensed a total of 265,290 gallons of fuel to allied units. 69,717 gallons of fuel were dispensed to German units while 195,573 gallons were dispensed to Canadian units. No problems were experienced during the entire exercise.

3. (U) LESSON LEARNED. Existing US Class III capability is capable of providing sole bulk POL support to a join American/Canadian/German Division.

CLASS I POINTS

1. (U) PROBLEM: Emergency Issue of Rations from Allied Forces Class I Points.

2. (U) DISCUSSION: During REFORGER, logistics links between Class I points were tested with daily ration runs between German and US Class I points. Approximately 600 rations were drawn daily. Paperwork was prepared in accordance with the regulations of the issuing nation. A total of 3,100 rations were drawn over a seven-day period. Although prior coordination was made on paperwork, it is felt that these issues can be made with minimal prior coordination.

3. (U) LESSON LEARNED. Allied Class I points can receive rations from other than their national supply line, and can issue these supplies to supported units on an as needed basis.

UNRESOLVED PROBLEMS

REGRADED UNCLASSIFIED
WHEN SEPARATED FROM
CLASSIFIED INCLOSURE (S)

1ST INFANTRY DIVISION FORWARD

WARSAW PACT TACTICS

1. (U) PROBLEM: To accurately portray Warsaw Pact tactics.

2. (U) DISCUSSION: While the scenario and control of FTX LARES TEAM was generally good, the portrayal of Warsaw Pact tactics was poor. Specifically the scenario did not allow for the rapid --4 to 8 hours --introduction of the second echelon after the first echelon was stalled. This delay creates what might in fact be a false impression since it is generally felt that the Warsaw Pact will follow the first echelon forces with another echelon of fresh troops.

3. (U) RECOMMENDATION: That future exercise play specifically accommodate the introduction of the second echelon forces immediately after the first echelon is stalled.

MESSENGERS

1. (U) PROBLEM: Present MTOE's do not support tactical liaison and messenger requirements.

2. (U) DISCUSSION: FM 100-5, Operations, underscores the Soviet electronic warfare capability and emphasizes the importance of messengers and frequent liaison to effective tactical operations. However, within USAREUR there are relatively few MTOE spaces for messengers and most liaison officer slots have been downgraded to NCO positions or eliminated. Few MTOE's authorize liaison vehicles or radios and thus, most units divert LNO equipment from staff sections to provide this capability.

3. (U) RECOMMENDATION: That the impact of the WHEELS study and other recent MTOE reduction programs be revaluated on a priority basis.

NUCLEAR OPERATIONS

1. (C) PROBLEM: ORANGE Force nuclear operations were conducted with great difficulty and subsequent results were unsatisfactory.

2. (C) DISCUSSION: The problem was caused by:

a. The lack of guidance on the conduct of offensive nuclear operations. (addressed separately)

b. Changing the decision to employ German nuclear delivery means after deployment of the ORANGE Forces.

c. Division and Bde FSE/operations personnel were unfamiliar with nuclear planning procedures and requirements. This can be attributed to three factors:

(1) The 1st Inf Div Fwd REFORGER DTOC, as an ad hoc organization, did not possess an internal nuclear operations SOP. Personnel had never practiced nuclear operations as a single entity prior to REFORGER.

(2) Specific written directives for division nuclear fire planning do not exist. They are available to Corps HQ and higher in such publications as Draft CENTAG Nuclear Operations, 6 Sep 76. A large body of publications on target analysis (FM 101-31-1) and the delivery/security of individual nuclear weapons also exists, however, the only publications available to this HQ which provide fire planning guidance to the brigade and division are FM 100-5, FM 6-20, FM 100-30 and VII Corps Nuclear Fire Support Plans LOI, dated 23 Aug 76. FM 100-5 and FM 100-30 contain generalized information and do not specifically address how-to-do-it procedures for nuclear fire planners. FM 6-20 is general in nature, provides no specific examples and has not been updated with the recent lessons learned and does not reflect current thinking on selective release. The VII Corps LOI provides the Corps Commander's instructions on the preparation of nuclear fire plans for VII Corps; however, it still does not provide internal how-to-do-it instructions for the division.

A written directive governing the conduct of division nuclear operations in USAREUR would provide the following advantages:

(a) Document could be made available to Allies, thus reducing interoperability problems during the conduct of joint operations.

(b) The document would compile the experience of several headquarters and make valuable operational lessons available to all.

(c) The standardization and simplification of division nuclear operations would provide increased flexibility and response to today's complex and mobile battlefield.

(3) Nuclear operations at Corps and higher headquarters are exercised regularly. Nuclear operations at battalion and battery level are evaluated from brigade/artillery battalion level.

3. (C) RECOMMENDATION: USAREUR should publish a standardized methodology on nuclear fire planning at division level which includes lessons learned (classified or otherwise) and the new thinking on selective nuclear release as contained in Annex F to Draft CENTAG Nuclear Ops, 6 Sep 76. Hopefully this publication would simplify the conduct of nuclear operations within the division. VII Corps should conduct two-sided CPX's specifically designed to exercise nuclear operation from brigade thru corps. This additional practice would make all brigade/division/corps personnel concerned with nuclear operations more familiar with the current procedures.

NBC WARNING AND REPORTING

1. (U) PROBLEM. The present Nuclear Biological and Chemical Warning and Reporting System (NBCWRS) is unresponsive to tactical demands.

2. (U) DISCUSSION. Theoretically, NBC 1-5 messages, Strikewarn effective downwind messages, and Chemical downwind hazard messages will be transmitted at the appropriate precedence through G2 and G3 FM and AM channels.

However, such transmission is tactically infeasible. The exercise demonstrated that RATT transmission is slow and unreliable (some effective wind messages reached subordinate units 10 hours late) and that the command traffic load often supercedes NBC messages on the FM nets.

3. (U) RECOMMENDATION. The present system can be improved if a separate Corps and Division NBC warning radio net is established. The Germans already possess such a system at Bde level. Ideally, a high freq single side band be distributed to Div, Bde and Bn CBRE's for monitoring the net. All NBC messages would be passed on the net and the 30-40 Km HFSSB range should sufficiently cover the division zone.

REPORTING REQUIREMENTS/COMMUNICATIONS

1. (U) PROBLEM. Present reporting requirements exceed the capability of communications systems.

2. (U) DISCUSSION. During Exercise LARES TEAM teletype copies of reports with an immediate precedence were often received four to six hours after the date time group of the message. The input at each level is delayed on TTY which results in voice net being completely committed to transmitting the same information. As long as the number of reports, the precedence of each report and the method of transmission remain constant, reports will be late. The communications nets are further tied up requesting "special" reports for commanders who are too impatient to wait for the normal scheduled report. Often, a report which has consumed preparation and transmission time is unneeded by the time of its receipt since all information has already been passed by other means.

3. (U) RECOMMENDATION. A critical review of all reports at all echelons is required to reduce the repetitive and unused material that constantly clogs communication nets.

DELAY IN CHEMICAL EMPLOYMENT

1. (U) PROBLEM. Delay in use of chemical weapons systems.

2. (U) DISCUSSION. The present system of gaining chemical weapons release is slow, inefficient, and unresponsive to the rapidly changing tactical situation which characterizes mechanized warfare. This observation was continually re-encountered throughout Execise LARES TEAM. Specific problems included:

a. Delays in transmission of the Omega series messages to Corps. This Flash traffic experienced delays of up to 10 hours between leaving the 1st IDF FSE and reaching VII Corps Special Weapons.

b. General misunderstanding of the Omega series release system after approval to release chemical weapon had been gained, trucks sent to the SASP to draw munitions were turned back twice without drawing the designated number of rounds.

c. Lag time between target planning and target approval - this is perhaps the most critical problem of all. Target approval often took 12 hours to achieve and in the intervening time period often witnessed major tactical changes. The enemy moved, friendly artillery units displaced out of range, and frequently our own units overran targeted areas. Fire planning 24 to 36 hours in advance is of necessity pure speculation. Delay in approval results in missed opportunities. The situation proved to exist for both chemical and nuclear weapons. The only GB chemical strike hit nothing. When targeted, 3 tank companies occupied the designated ground zeros.

d. Training opportunities were lost: The WARSAW PACT NBC Threat is very real and REFORGER is a rare opportunity to effect constructive tactical training. Lack of NBC training on REFORGER hurts our overall preparedness.

3. (U) RECOMMENDATIONS. a. The chemical release system be reviewed and changed with emphasis on rapid release.

b. The ORANGE Force from the outset be allowed to initiate WARSAW PACT type chemical play. This will improve the training available from REFORGER.

AIR FIRE SUPPORT

1. (U) PROBLEM. Massive amounts of air fire support did not influence the tactical play of the exercise.

2. (U) DISCUSSION. The most discouraging aspect of the ORANGE Force air effort was the lack of tactical air credit for air strikes. The problem stemmed from the fact that there were no air umpires in the field with maneuver elements to assess bomb damage until the final days of the exercise. It is understood that Air Force personnel were requested, but an inadequate number were available for umpire functions.

3. (U) RECOMMENDATIONS. The following air fire umpires are needed for an exercise of this nature: (1) each maneuver battalion (CAS missions), (1) each brigade headquarters (bde interdiction missions), and (1) each division headquarters (div interdiction missions). Air umpires at maneuver level would be within FM range of attacked unit umpire for assessment. Brigade and division umpires could coordinate through umpire headquarters to notify attacked unit umpire of need for interdiction BDA assessment. In this manner air fire umpires would primarily be a coordinating and collating element. Air fire umpire functions could be performed by Army personnel in lieu of Air Force personnel if necessary.

AIR DROPS/DROP ZONES

1. (U) PROBLEM. The necessity for very early coordination of logistical air drops and the location of the drop zone, removes any semblance of reality from this particular exercise.

2. (U) DISCUSSION. Coordination for the FTX LARES TEAM, ORANGE Forces air drops commenced in June 1976 and the drops were confined to the MITTERSTHAL DZ, which was located at the Division rear at the time the drops occurred. After the drops, rations were removed to the 3d Brigade, 1st Inf Div Fwd, Class I point. In reality, air drops must be coordinated in a much shorter period and they are usually required to support forward forces for which no other suitable delivery means exist.

3. (U) RECOMMENDATION. Future air drops should be scheduled to support forward combat forces in a more realistic context, or be eliminated completely.

1ST ARMORED DIVISION

VEHICLE SAFETY LIGHTS

1. (U) PROBLEM. Issued track vehicle safety lights lack durability.

2. (U) DISCUSSION. The use of battery operated flashing lights and reflectorized tape to increase highway safety was thoroughly validated during Exercise LARES TEAM. No highway accident occurred during any controlled movement of the 1st Armored Division during the exercise.

3. (U) RECOMMENDATION. VII Corps should obtain a militarized version of the flashing light provided for use on all subsequent exercises. The new version should be sufficiently sturdy to survive the vibration of a moving tack vehicle. VII Corps should consider using "outrigger lights" on the largest of our over-sized vehicles (ACLB, Goer, HETS). Div G1/G4 will initiate command correspondence to establish the requirement for and funding of militarized lighting equipment.

AIR RECONNAISSANCE REPORTING

1. (U) PROBLEM. Reporting of AF air reconnaissance results was generally unsatisfactory.

2. (U) DISCUSSION. The average time elapsed between TOT and receipt of HOT PHOTO REPS at 1st AD was 4 hours. HOT PHOTO REPS for some missions flown were not received at all. The fluid battlefield situation experienced on this FTX is not unlike that expected under GDP. Information 4 hours old is of little use to the division and lower units. The concept for reporting air recce results over PCM telephone from Corps G2 as used on this FTX is unsatisfactory due to the frequent lack of PCM circuits. The absence of the MI Company TOE RATT capability for air recce reporting contributes to the lack of timely eir recce results.

3. (U) RECOMMENDATION. That USAREUR review the ALO of the divisional military intelligence companies to permit the addition of the RATT.

CEOI'S

1. (U) PROBLEM. NSA produced CEOIs are not sufficiently flexible to adapt to fast moving tactical situations.

2. (U) DISCUSSION. a. The BLUE CEOI was produced by NSA based on information submitted in May 1976. After submission, a decision was made to delete 3d Bde, 1st Armd Div and 2d and 3d Sqdn, 2d ACR from the player list. However, NSA could not change the BLUE Force CEOI to delete these units

b. Additionally, current formatting of NSA produced CEOIs necessitates the supersession of the entire CEOI, when one section is compromised. CEOI should be formatted to allow rapid supersession of individual sections.

3. (U) RECOMMENDATION. a. NSA develop a production method more suited to a fast moving tactical situation.

b. Formatting of NSA CEOI be changed to enable supersession of individual sections in case of compromise.

SMOKE GENERATOR EMPLOYMENT

1. (U) PROBLEM. Smoke generator employment.

2. (U) DISCUSSION. a. Peacetime ecological and safety restrictions limited employment of smoke during REFORGER 76. Nonetheless, planning for and execution of smoke missions provided invaluable command and staff training as well as adding realism to the exercise.

b. Limited use of smoke during REFORGER 76 should not be interpreted as lessening need for use of this important asset during future exercises. Rather, it reflects need for continued intensive command and staff training in the employment of smoke.

3. (U) RECOMMENDATION. a. Relief be sought from ecological constraints to permit greater use of smoke during future exercises.

b. Employment of smoke generator units be continued and emphasized during future field exercises and MTA periods.

RAILHEAD AVAILABILITY

1. (U) PROBLEM. This headquarters is not informed which railheads/spurs are being phased out by the BUNDESBAHN nor is it advised when these eliminations will occur, making planning difficult.

2. (U) DISCUSSION. The DEUTCHES BUNDESBAHN, in conjunction with local authorities and governmental agencies, is conducting a phase out of available railheads/spurs throughout Germany. This makes it extremely difficult to develop movement plans and programs. Many of the railheads selected for POL on LARES TEAM were out of sector and could not have provided realistic response to needs.

3. (U) RECOMMENDATIONS. a. Coordination should be made with BUNDESBAHN agencies to determine what actions might be taken to relieve the existing situation, which affects both real-world and maneuver plans.

b. HQ, USAREUR publicize quarterly the location and timing of railhead/spur eliminations.

COMBAT SERVICE SUPPORT REPORTING

1. (U) PROBLEM. The Combat Service Support (CSS) reporting system does not meet the needs of the command.

2. (U) DISCUSSION. The amount of information required by the CSS reporting system is so great that it overtaxes the communications systems available to transmit it while not highlighting the basic information needed by commanders to make the necessary tactical and logistics decisions required. The mass of data required coupled with the time frame in which the reports are to be compiled virtually insures inaccurate, estimated data.

3. (U) RECOMMENDATION. That the entire field reporting system for US Army Europe be reviewed and all unessential information be eliminated. That joint conferences to accomplish this review, with USAREUR, Corps, and Division representation, be held prior to the end of this calendar year.

2D ARMORED CAVALRY REGIMENT

INTELLIGENCE PROCESSING CAPABILITY

1. (U) PROBLEM. As presently organized, 2d ACR does not have an enemy intelligence analysis capability.

2. (C) DISCUSSION. a. During REFORGER 75 when 2d ACR conducted the traditional covering force mission, the Regimental S2 section was augmented by an eight man intelligence processing detachment. This organization proved to be highly successful and greatly enhanced the intelligence analyzing capability of the Regiment. However, during REFORGER 76, this augmentation was not available.

b. The Armored Cavalry Regiment has a great capability to collect enemy combat information through the use of ground and air scouts, patrols, GSR, etc., but does not inherently have the capability, through the use of trained specialists, to analyze this collected data. Expertise is needed in the areas of Order of Battle, Air Reconnaissance, Counterintelligence and Prisoner of War interrogation. These additional personnel will give the covering force (Regimental) commander the capability to analyze and understand the enemy situation and therefore, better advise the covered force commander of enemy intentions. It will also enhance the concept of fighting well forward by allowing the correct positioning and subsequent movement of task forces provided for thickening the defense.

3. (C) RECOMMENDATION. That a permanent military intelligence detachment (MID) be attached to the Regiment. Peacetime assignment is required for border operations and to ensure readiness for the difficult transition from peace to war.

NEED FOR INCREASED SCOUTING CAPABILITY

1. (U) PROBLEM. Current Armored Cavalry TO&E does not provide adequate reconnaissance assets.

2. (U) DISCUSSION. a. Each realistic field exercise in which the Regiment participates underscores a substantial weakness with current equipment and personnel structuring in the Armored Cavalry platoon. Exercise LARES TEAM again demonstrated that cavalry needs a functional scouting capability in order to perform its primary mission - reconnaissance.

b. The present platoon organization of 6 M551A1s and 2 M113A1s, while providing substantial direct fire capability detracts from the reconnaissance role. Each mission assigned to the Regiment would have been significantly enhanced by an increased reconnaissance capability.

c. The need for this increased scout capability, preferably a blend of 2 M113A1s and 2 M151A2s in each platoon was discussed in the 2d ACR REFORGER 75 After Action Report. No resolution to the problem has been made; the problem still exists and the validity of the JEEP -APC mission of scouts was validated again this year on Exercise LARES TEAM. A limited number of JEEP mounted scouts accompanied the 1st Squadron to the field - fewer than one per platoon as compared to two per platoon in REFORGER 75. The reduction was sorely felt in reconnaissance capability.

3. (U) RECOMMENDATIONS. a. That the Armored Cavalry platoon TO&E be studied with intention to upgrade the reconnaissance capability.

b. That, as an interim solution, the Armored Cavalry platoon be equipped with either two additional M113A1s or that the existing two M113A1 be replaced by four M151A2s.

ATTACK HELICOPTER NIGHT-FIGHTING CAPABILITY

1. (U) PROBLEM. Very little use was made of the potential night-fighting capability of the attack helicopter.

2. (C) DISCUSSION. The attack helicopter (AH-1Q) is a highly flexible weapons system and has the capability of destroying enemy forces during darkness, as well as daylight.

a. AHT/2d ACR has for several months been conducting training with a limited issue of CAV-NAV night flying goggles. These allow aircraft to be flown at night and acquire targets. Pilots, selectively chosen, are well trained in night flying and navigation. Very little actual use was made of this capability after the initiation of hostilities.

b. The Stand-Off Target Acquisition System (SOTAS) was used during the nights prior to hostilities. This system, a SLAR adaption, mounted on a UH-1H helicopter is capable of identifying moving vehicles from a distance of 35KM. Attempts were made by 2d ACR to integrate SOTAS and CAV-NAV in tactical missions during the exercise but the missions could not be flown due to administrative training restrictions. (SOTAS directed reconnaissance flights were flown prior to hostilities). The concept was for SOTAS to identify a target and then vector a CAV-NAV equipped AH-1Q and OH-58 scout to the enemy. This system promises a high percentage of night kills and needs to be tested further.

3. (C) RECOMMENDATIONS. a. That training restrictions relating to Nap-of-the-Earth night flying be reviewed and be updated to encompass new developments in night-flying aids and techniques. It is absolutely imperative that true night-fighting capability be provided attack helicopters.

b. That further testing be accomplished in the area of SOTAS-CAV-NAV integration to expand employment techniques for attack helicopters during darkness.

COURIER REQUIREMENTS

1. (U) PROBLEM. The 2d ACR is not currently authorized a courier service.

2. (U) DISCUSSION. a. As a result of the WHEELS study of 1974 the Armored Cavalry Regiment lost its authorization for a ground courier service. This loss, while important at that time, has now become critical to mission accomplishment. The increased EW capability of WARSAW PACT Forces has made the necessity for ground couriers a matter of primary concern. Although the 2d ACR did not experience a significant EW problem during Exercise LARES TEAM, the frequent inability, due to communications outages, to communicate with higher and adjacent headquarters amplified the extent to which the Regiment depends on and needs a constant and timely communications system. The communication problems, combined with extended periods of Radio Listening Silence, increased 2d ACR's concern that it always have a responsive means of communication. The ability to pass hard-copy messages is also a capability needed.

b. During both REFORGER 75 and REFORGER 76, 2d ACR was augmented with a detachment of BUNDESWEHR motorcycle couriers. These couriers gave the Regiment the capability not only to carry hard-copy messages and orders, but to continue operations during communications outages and periods of radio listening silence. This significantly extended the commander's span of control at critical times.

c. Use of helicopter couriers, which was also utilized, is insufficient due to weather considerations. On three separate occasions, couriers or liaison agents were stranded at critical times in the operation due to reliance upon helicopters.

3. (U) RECOMMENDATION. The the MTO&E for the Armored Cavalry Regiment be changed to authorize a courier detachment, of six individuals mounted on an equal number of motorcycles (road and trail suitable). Squadrons MTO&E should have three.

TACTICAL FACSIMILE

1. (U) PROBLEM. To provide a secure means for rapid exchange of hard-copy including graphical and overlay data.

2. (U) DISCUSSION. During Exercise LARES TEAM, 2d ACR was provided a TACFAX (Tactical Facsimile) terminal from assets on loan to the 1st Armored Division. The equipment was employed over a link encrypted channel of the 2d ACR to 1st AD multi-channel system. The system proved easy to operate, reliable, and effective. It seems to suggest even wider application such as use on tactical secure FM links and perhaps PARKHILL secured links.

3. (U) RECOMMENDATIONS. a. The TACFAX capability via multi-channel systems be acquired for use in comm centers at Regimental level.

b. That further testing be conducted to determine the feasibility of using TACFAX over FM links and providing the capability down to squadron/battalion level.

c. That the TACFAX be tested in conjunction with the PARKHILL Crypto system for potential use over HF radio paths and non-secure wire lines such as commercial dial systems.

SATCOM TERMINALS

1. (U) PROBLEM. During Exercise LARES TEAM, 2d ACR was provided a SATCOM terminal for commo with 101st AAslt Division. Unfortunately, the terminal provided was operational only on an intermittent basis.

2. (C) DISCUSSION. The TACSATCOM terminal has the potential to be one of the most reliable communications facilities available to the command. Equipment that is new like this should be deployed to the field with adequate maintenance support to insure its effective utilization.

3. (C) RECOMMENDATION. That new communications systems deployed for test during exercises be backed up by adequate maintenance support.

RATION REQUESTS

1. (U) PROBLEM. Ration requests must be turned in too far in advance of the REFORGER exercise to accommodate task organization.

2. (U) DISCUSSION. Requests for rations were required to be submitted in late June. At that time the troop list had not even been finalized. As a result of the early submission, only one ration request for all participating Regimental units was submitted. Major changes to task organization were made as late as two days prior to the exercise, with resultant confusion in the break and distribution of rations.

3. (U) RECOMMENDATIONS. a. That submission of ration requests be delayed until the troop list is finalized and that that be accomplished at least two months prior to the exercise start date.

b. That ration requests be submitted for troop/company/battery sized units to better accommodate break and distribution of rations according to task organization.

210TH FIELD ARTILLERY GROUP

CEOIS

1. (U) PROBLEM. Notification of supersession of CEOIs, passwords, and COMSEC materials was not performed in a timely manner.

2. (U) DISCUSSION. During this REFORGER, compromises occurred in BLUE units CEOI's, countersigns, OPLAN's and encryption/authentication codes. Frequently, units were unable to communicate, liaison personnel were denied access to other unit areas, and encrypted messages could not be decoded because units were continuing to operate on superseded materials. Result was a breakdown in communication and an increase in COMSEC violations.

3. (U) RECOMMENDATION. Units should be advised of supersessions in a matter of highest priority and should require acknowledgement of receipt of the supersession message. Instructions to this effect should be included in the CEOI and on countersign list.

175MM GUN TUBE LIFE

1. (U) PROBLEM. The 175mm gun's short tube life would have caused the battalion to replace seven tubes during the exericse.

2. (U) DISCUSSION. The 2d Battalion, 28th Field Artillery, started the exercise with the following gun tube status:

EFC ROUNDS REMAINING

15
54
73
100
104
214
244

The seven 175mm guns with the remaining tube life listed to the left would have exceeded their tube life during the REFORGER exercise. The remaining five guns had sufficient EFC rounds remaining.

3. (U) RECOMMENDATION. That 175mm gun tubes be prepositioned in USAREUR to provide for a Direct Exchange of gun tubes as they exceed their tube life.

FIELD ARTILLERY GROUP

1. (U) PROBLEM. Field artillery groups are not structured to operate for extended periods of time in a European environment.

2. (U) DISCUSSION. Field artillery groups in USAREUR are not structured to operate for extended periods of time with currently authorized personnel and equipment. TOE authorization is a ALO 3 (TOE 06-401GE101). The current authorization is for 108 personnel. The operations and intelligence section is authorized a total of 13 personnel for 24-hour operation. This places both the S2 and S3 staff officers as shift officers rather than staff officers. The Operations and Intelligence Section is authorized a total of one AN/VRC 46. Assets authorized other sections are used to augment this section. Current GDP requirements for FM radios are as follows:

Corps Cmd Net 3 (FSE)
Group Cmd Fire Net
Div Arty Cmd Fire Net
Corps Intell Net
Division Intell Net
Division CG Cmd Net

Attempts to restructure the TOE have not been successful due to personnel constraints, Project Wheels, and Project Scanner.

3. (U) RECOMMENDATION. That TOE increase for both personnel and equipment of field artillery groups be authorized.

TIMELINESS OF SOTAS INFORMATION

1. (U) PROBLEM. 210th Field Artillery Group was unable to receive SOTAS target information in a timely enough manner to use for artillery targeting purposes.

2. (U) DISCUSSION. The sole input of SOTAS information into the intelligence system was at the Division G2 level. It took in excess of two hours for this information to filter down to the artillery S2's. Although this information was still valuable for general intelligence purposes, it had lost most of its targeting value by the time it reached those who could use it for targeting purposes. Because of the time sensitive nature of information purposes, a direct communication channel between SOTAS and the artillery S2's should be provided. Information in excess of 5 minutes old on a moving convoy is normally too late. For a less mobile target picked up by SOTAS (i.e. radar, vehicles moving in an assembly area), the time sensitivity is not so critical.

3. (U) RECOMMENDATION. That a direct commo link be established between the field artillery S2 and SOTAS and SOTAS operators be provided with the criteria necessary to successfully attack a target.

SECURITY OF LANCE AND FA GP HEADQUARTERS

1. (U) PROBLEM. LANCE units and field artillery group headquarters are unable to secure position areas and simultaneously accomplish primary mission.

2. (U) DISCUSSION. Both the LANCE battalion (2/377th FA) and the 210th Field Artillery Group lack personnel to defend the position area during combat and simultaneously perform the mission(s) assigned. Neither unit is authorized REDEYE's or other air defense weapons. Exercise LARES TEAM vividly demonstrated that additional personnel are required for the security role.

3. (U) RECOMMENDATION. That assets be allocated to defend both LANCE units and field artillery group headquarters during combat.

7TH ENGINEER BRIGADE

SECURE COMMUNICATION FOR ENGINEERS

1. (U) PROBLEM. Engineer Companies in direct support of respective ORANGE and BLUE Combat Brigades were unable to enter and pass secure traffic.

2. (U) DISCUSSION. REFORGER 76 displayed the recurring problem of this Brigade's elements to talk secure to various supported units. Engineer Companies assigned to support Combat Brigade sectors with enineer support could not talk secure because of the absence of KY-38 secure devices. This caused time consuming encoding and an increased use of limited air time. At times this resulted in no communications with maneuver elements because the latter had to depart from routine procedures to communicate to supporting engineer elements.

a. In at least one instance coordination on a priority barrier target was not executed; as a result the target was taken intact.

b. The importance of engineer emplaced obstacles to Corps defensive plans dictates that a secure communications capability be provided to combat engineer elements so that timely support can be provided. There must be a capability to adjust operations to changing priorities that develop in the course of battle. This shortage of secure devices is a serious decrement to the Corps' capability to fight at the company/battalion level.

c. The impact of KY-38s was dramatic with the 82d Engineer Battalion in support of BLUE Forces. The 82d Engineer Battalion is authorized 86 KY-38s with two on hand. Most of the nets within the 2d ACR were operated in a secure mode and as a result of lack of secure devices, the 82d Engineer Battalion was eliminated from these operational discussions.

3. (U) RECOMMENDATION. That speech secure devices (KY-38) be issued to 7th Engineer Brigade units immediately.

BARRIER PLANS

1. (U) PROBLEM. Target numbering system for barrier plans.

2. (U) DISCUSSION. The requirement for current target/barrier information was again validated during REFORGER 76. On several occasions, the lack of information on barrier emplacement forced friendly elements to change withdrawal routes and to change counterattack plans. The report formats tend to be cumbersome and difficult to transmit. In addition, non-US engineers within the ORANGE Forces used different target numbering systems. Codes used for planned, prepared and executed status of targets varied with the originator.

3. (U) RECOMMENDATION. CENTAG develop a STANAG standard for target numbering and status reporting. Standard reporting on the part of all commands should provide minimum essential information to tactical commanders.

STARS AND STRIPES NEWSPAPER

1. (U) PROBLEM. Lack of Stars and Stripes Newpapers.

2. (U) DISCUSSION. According to exercise directive "LARES TEAM", Stars and Stripes Newspapers were to be issued at Class I breakdown points. All engineer units reported the lack of newspapers at these points.

3. (U) RECOMMENDATION. Issue Stars and Stripes Newspapers at Class I breakdown points during future exercises.

G1

MEDICAL SUPPORT FOR DROP-ZONE

1. (U) PROBLEM. To provide quick-response and effective medical evacuation from the drop zone.

2. (U) DISCUSSION. The 30th Med Gp was tasked with medical evacuation responsibility from the drop zone. This was supported by providing six (6) ground ambulances equipped with PRC-77 radios, and one (1) UH-IH air ambulance, also radio equipped. The air ambulance and crew was located adjacent to the drop zone, on the ground with the aircraft engine shut down, while the crew monitored a vehicle-mounted radio. This requirement precluded the air ambulance from being effective, because for obvious safety reasons, it had to remain "grounded" until the last drop personnel were on the ground. An airborne air ambulance is much more responsive than one on the ground. Even though it would still require waiting until the drop was completed before entering the drop zone, valuable time could be saved in getting information to the crew such as locations of serious injuries and types of injuries. The crew would then only have to insure that the DZ was clear and then proceed to necessary locations to evacuate those most seriously injured and requiring air-evacuation. In future exercises involving "high risk" operations, certain terrain features will disrupt the line-of-sight capability of the ground ambulance radios, therefore making the airborne air ambulance also valuable as radio relay platform for coordinated ground evacuation. These same terrain features will also, often hamper or impede ground ambulance operations, again it being necessary to rely on the air ambulance. The operation, as discussed, combined with the periods of darkness, further made the air ambulance more valuable by having the capability to navigate in straight lines, using prominent terrain features in locating given coordinates, and not having to navigate by sometimes small, secondary roads and over rough terrain.

3. (U) RECOMMENDATION. That the air ambulance be airborne outside the restricted airspace to facilitate communications and reduce response time; that the aircraft be at or above the drop altitude, monitor the Air Force frequency of the drop and maintain air-to-ground communications with the drop zone safety officer. This procedure could also be used in other " high risk" operations, as determined on a case by case basis.

USAREUR MEDEVAC FREQUENCY

1. (U) PROBLEM. To insure proper utilization of the prearranged USAREUR MEDEVAC frequency.

2. (U) DISCUSSION. A dedicated MEDEVAC frequency was established prior to the exercise. 101st Abn Div (ASSLT) utilized their own divisional MEDEVAC frequency. Notification of this decision was received by the VII Corps Surgeon on the third day of the exercise. This resulted in a coordination meeting between personnel of the 326th Med Bn and 30th Med Gp to insure proper utilization of the air ambulances and notification of the hospitals that aircraft would be arriving with patients.

3. (U) RECOMMENDATION. That units desiring to utilize their own MEDEVAC frequency notify VII Corps prior to the exercise, in order that early coordination can be made with 30th Med Gp.

EXCHANGE SERVICES

1. (U) PROBLEM. To provide adequate Exchange services for REFORGER units during all phases of the exercise.

2. (U) DISCUSSION. a. AAFES-EUR, provided exchange services from fixed and mobile facilities in the MUAA. Services were excellent and met troop needs. Early planning and coordination was accomplished with a representative from HQ, AAFES-EUR, who was readily available to assist in resolving problems at the local level.

b. Notwithstanding the early planning and coordination, several problems developed concerning extended hours of operation and failure of troops to use facilities during extended periods. When facilities were opened for extended periods, patronage by 101st personnel was not at the level expected. This non-use of facilities placed unnecessary hardships on employees and was not cost effective in terms of salaries paid versus sales receipts. Those employees whose wages are determined by the volume of business such as barbers suffered the most.

3. (U) RECOMMENDATIONS. a. That troops be informed well in advance of extended hours of operation and that this information receive widest dissemination.

b. That units submit request for extended hours only after it has been determined that normal operating hours are inadequate to meet troop needs and that the troops will in fact use the facilities.

c. That local manager of AAFES-EUR facilities coordinate closely with MUAA Coordinating Center (and they with MUAA Troop Commanders) to close facilities when patronage no longer justifies continued operation.

RECREATION SERVICES OFFICERS

1. (U) PROBLEM. To keep community Recreation Services Officers abreast of REFORGER requirements.

2. (U) DISCUSSION. a. RSO in ANSBACH and WUERZBURG communities were tasked to provide overall Recreation Services support in the MUAA's located in their communities.

b. The CONUS major unit RSO coordinated the revised requirements directly with some support elements without going through, or informing the community RSO.

3. (U) RECOMMENDATION. That USAREUR/VII Corps stress during pre- REFORGER meetings the importance of coordinating all initial and revised requirements for CONUS unit RSO with the community RSO tasked to provide support.

LIGHTING OF OVERSIZED/OVERWEIGHT VEHICLES

1. (U) PROBLEM. To provide improved lighting for oversized/overweight vehicles.

2. (U) DISCUSSION. a. During REFORGER 75, VII Corps received adverse publicity as a result of tracked vehicle accidents because of inadequate lighting.

b. Improved lighting of oversized/overweight vehicles was emphasized for REFORGER 76. This headquarters purchased and distributed reflective tape, portable flashing lights and warning triangles as an interim solution to the lighting problem.

c. There was a marked reduction in tracked vehicle accidents during LARES TEAM as compared to past REFORGER exercises. Part of this may be attributable to improved lighting.

d. There were some problems associated with the improved visibility measures taken.

(1) The portable lights were directional and had to be hand held.

(2) The reflection tape became covered with mud or was torn in the brush.

e. The warning triangles were effective for their intended purpose.

3. (U) RECOMMENDATION. That USAREUR take action to have permanent lighting, similar to that of the German Panzer vehicles, installed on all tracked vehicles.

GERMAN AMBULANCE SUPPORT

1. (U) PROBLEM. To eliminate German civilian ambulance support adjacent to drop zone.

2. (U) DISCUSSION. 30th Medical Group was tasked to provide patient evacuation and hospitalization for the 1-75 Ranger Battalion. 30th Med Gp provided six ground ambulances and one air ambulance in support of the drop. Civilian German ground ambulances were also in the area and evacuated six personnel to civilian hospitals. This resulted in those personnel being lost to US control for over six hours. The patients were hospitalized for minor bruises and contusions. US facilities could have provided adequate medical support without undue confusion or cost.

3. (U) RECOMMENDATION. That German civilian ambulance support not be utilized unless US assets are not available and unless they are specifically requested.

RECONNAISSANCE TASKING PROCEDURES

1. (U) PROBLEM. Reconnaissance tasking procedures.

2. (U) DISCUSSION. a. For the first time in a major FTX, VII Corps utilized the Immediate Air Request Net (IARN) for the requesting of reconnaissance missions. Previous REFORGER exercises employed Army communications for transmission of reconnaissance requests from division to corps. This use of Army communications usually resulted in numerous requests being generated to Corps G2 personnel when Army communications failed (primary point to point secure and FM radio). The use of the IARN proved to be a timely and effective means of requesting aerial reconnaissance. Using the IARN created no problem with the request cycle when the ABCCC took control for the DASC.

b. Communications over the IARN were passed in accordance with 4ATAF instructions. Passing target data and other related mission information would not be ideal in actual combat, however, because there are not uniform tactical codes among NATO member nations, encryption of communications passed on a joint exercise net is not feasible. This problem exists with US Forces where USAF uses a different encryption code than does the Army. If reconnaissance requests from divisions are to be managed and checked by Corps, it requires that transmissions over the IARN not be decrypted at the DASC and then re-encrypted in an Army code to pass the information from the DASC to the CTOC. Using VII Corps present tactical situation, the DASC could be 3 to 5 miles from the CTOC.

3. (U) RECOMMENDATIONS. a. The use of the IARN be continued within VII Corps for transmissions of Air Recce Requests.

b. That a single crypto system be used by NATO Forces. If this does not transpire, recommend that all Army personnel having contact and use of the IARN be provided Air Force encryption materials. This would enable mission requests to be relayed from DASC to CTOC with a minimum amount of encryption/decryption.

RECONNAISSANCE SORTIE ALLOCATION

1. (U) PROBLEM. Reconnaissance sortie allocation.

2. (U) DISCUSSION. a. VII Corps attempted to equalize intelligence collection assets between ORANGE and BLUE Forces. VII Corps formally requested an air recce package on 1 April, positive information did not return until 2 Sep - 9 days prior to STARTEX. This created some confusion in the "last minute" shuffling of intelligence objectives.

b. Suballocating of reconnaissance assets. BLUE and ORANGE allocations were already divided when coming from 4ATAF and the ATOC. Due to the small number of sorties involved (compared to Close Air Support) the suballocation of sorties by 4 ATAF and ATOC restricted the ability of VII Corps to make adjustments as the tactical situation deemed necessary.

3. (U) RECOMMENDATIONS. a. That earlier and more planning meetings take place between Corps, CENTAG, USAFE and 4ATAF. All headquarters should be represented in each of these meetings. Also, if CENTAG is not to play in the FTX, then direct coordination be authorized for Corps with 17AF, USAFE and 4ATAF.

b. That 4 ATAF and the ATOC refrain from suballocating recce assets between ORANGE and BLUE Forces during major live fly exercises. VII Corps would continue to identify the requestor (ORANGE or BLUE) on 4 4ATAF Form 22.

IN-FLIGHT REPORTING

1. (U) PROBLEM. In-flight reporting.

2. (U) DISCUSSION. a. Only one HF in-flight frequency was utilized in LARES TEAM. Four frequencies would have been ideal: two frequencies for each side, i.e., primary and backup.

b. The only dedicated monitoring equipment for in-flights in VII Corps was the G2 R&S RATT. Only four out of about 75 successful daylight photo/IR missions were received by the VII Corps RATT. Other in-flights were received by ORANGE and BLUE players but by nondedicated means such as ALO MK 107s.

3. (U) RECOMMENDATIONS. a. That ATOC SEMBACH provide in-flight reporting frequencies in future large FTXs.

b. That the Army provide an HF radio with a receive and transmit capability for each division and Corps G2.

SLAR INTERFACE

1. (U) PROBLEM. SLAR interface.

2. (U) DISCUSSION. a. Army Mohawk real-time SLAR MTI was used to cue Air Force Near Real Time SLAR during FTX LARES TEAM. Receipt of the Army SLAR was real-time down-linked to R&S targeting personnel located near the CTOC. MTI data was screened for possible targets and areas for Air Force SLAR interpretation. This data was passed from VII Corps to HQ MIBARS via HF point to point RATT (teletype). There were two main objectives.

(1) To provide rapid readout of down-linked Army SLAR and transmit the cues to the 26 TRW.

(2) To act on the results of Air Force SLAR.

b. In general, the FTX testing of this concept proved to be mechanically successful. Mohawk SLAR missions were coordinated with Air Force SLAR missions in area coverage and time overlap. The one mission that was flown by Army Mohawk at the beginning of the time frame of the Near Real-Time Air Force UPD-4 proved to be most successful. Several viable targets were obtained from the cueing and interpretation.

3. (U) RECOMMENDATION. That active interface of reconnaissance systems continue in future FTXs. The more the new system is exercised, the more accurate and precise intelligence product will be produced.

AIR RECONNAISSANCE PLANNING

1. (U) PROBLEM. Air reconnaissance planning.

2. (U) DISCUSSION. In general, divisions did a superior job of planning air recce missions. This was evident in the very high success rate of air recce flown during FTX LARES TEAM in which recce sorties detected military activity at multiple target areas specified by division level air recce planners. The 1st Infantry Division was especially successful in this regard. Air recce support to the 101st AASLT Div was enhanced by attachment to Corps of an air recce liaison element. This element, aware of the unique intelligence requirements of their division, was instrumental in planning 101st AASLT Div recce missions during periods when communications with that division were disrupted. Integrating the results of air recce into an overall intelligence picture persists as a problem area because of the time lapse between mission request (part of a collection plan) and receipt of information. The best that can be hoped for with the present systems and doctrine is seven to eight hours from request to receipt during which time the collection requirements may have been satisfied by another collector or simply overtaken by events.

3. (U) RECOMMENDATION. That the Army expedite development of division controlled Army air reconnaissance, surveillance and target acquisition systems that are simple enough to be responsive to the division commander, SOTAS and RPVs.

SPECIAL FORCES/LRRP

1. (U) PROBLEM. Utilization of US Special Forces in a LRRP role during REFORGER 76.

2. (U) DISCUSSION. SFD(A)E was requested by VII Corps and later tasked to support Ex LARES TEAM with a LRRP capability. Due to local committment of SFD(A)E to exercise FLINTLOCK, personnel from the Leadership School at BAD TOELZ were tasked to perform the LRRP mission. Transportation and equipment for the base camp had to be provided by VII Corps HQ. Signal equipment and operators were requested from USAREUR for the radio base station at BAD TOELZ, and the commo site located at the VII Corps control site. Only the very minimum acceptable amount of equipment was made available and an insufficient number of 05C personnel were provided. Intensive integrated training of communications and operational personnel was required to effect timely and coordinated reporting.

3. (U) RECOMMENDATION. SFD(A)E be requested to support REFORGER only if there is no scheduled conflict with Exercise FLINTLOCK and a full complement of personnel and equipment can be provided.

TARRRS NET

1. (U) PROBLEM. TARRRS net.

2. (U) DISCUSSION. a. The Tactical Air Reconnaissance Results Reporting System (TARRRS) operated by 2d MI Bn (ARS) from MI detachments at the 17th and 38th TRS, 26th TRW, through HQ, 2d MI Bn (ARS) to the VII Corps CTOC provided the best reporting of any REFORGER to date. From time over target to receipt at Corps, photo-confirmed information was arriving in an average of two hours and 11 minutes for photo and IR, and three hours and 20 minutes for regular SLAR. Transmission from Corps to Division consumers depended on point-to-point secure telephone and FM secure radio. Divisons that moved frequently experienced considerable delays in receiving information derived from air recce.

b. During FTX LARES TEAM, VII Corps was allocated 28 photo, IR and SLAR missions, for each 24 hour period. This is probably three or more times what could realistically be expected during war. As such, G2 communications assets, material and human, were occassionally back-logged during periods of peak activity or during communication outages.

c. The problem might be alleviated by allowing the divisions to enter the TARRRS net. However, this approach would increase the size of the CENTAG TARRRS net by approximately 8 to 12 stations and may make the net unwieldy. Air recce might operate on a time sharing basis with ASA RATT resources or a G2 RATT net could be established within Corps.

3. (U) RECOMMENDATION. Concepts mentioned in 2c above should be tested during Corps CPXs to develop the best solution.

G3

NUCLEAR OPERATIONS DIRECTIVES

1. (U) PROBLEM. A lack of a readily available nuclear operations directive at Division, Group, Brigade and Battalion level.

2. (U) DISCUSSION. Currently, precise directives on Nuclear Operations/ Procedures are disseminated only to Corps level. The publications are TOP SECRET and as such can not be stored or fully utilized at lower levels.

3. (U) RECOMMENDATION. USAREUR/CENTAG should publish a standardized methodology on nuclear operations, procedures, and fire planning at a classification which can be utilized at Division and lower levels.

ADM AIRBORNE EMPLOYMENT

1. (U) PROBLEM. Two man control during employment of ADM in a tactical airborne operation.

2. (U) DISCUSSION. During Exercise LARES TEAM, an airborne drop which included the employment of an ADM was planned. The planning phase indicated there currently are no provisions allowing two-man control of an ADM and authenticators during an airborne operation.

3. (U) RECOMMENDATION. Procedure should be developed, published, and practiced concerning ADM airborne employment.

NUCLEAR RELEASE PROCEDURES

1. (U) PROBLEM. Nuclear release procedures are too complicated and lengthy for timely dissemination.

2. (U) DISCUSSION. Nuclear release procedures are too cumbersome and detailed to provide for timely release and change of nuclear control orders. During peacetime, nuclear control orders are passed over dependable communication and require absolute attention to detail. Time is available to question procedures and individual characters in the message. During tactical situations (exercises) the procedures become over-complicated and too cumbersome. Due to communications difficulties, a FA Group was required to pass messages from Corps to both participating divisions. Both the Div Arty command/fire net and the Arty Group command/fire net were ineffective for control of the tactical battle for a two-hour period.

3. (U) RECOMMENDATION. That a complete revision of current procedures be initiated to simplify procedures and reduce transmission time.

USAF ECM

1. (U) PROBLEM. Lack of means for timely tasking of USAF ECM assets.

2. (U) DISCUSSION. Doctrinally, there is no rapid, secure way to task USAF ECM systems to support ongoing land operations. Various fixes have been applied in the REFORGER context, to include secure FM to the EC121. The problem is further compounded by the lack of EW qualified personnel in the DASC. The result is that it is virtually impossible with current equipment and personnel to get immediate (15-30 minutes) USAF EW support to the ground commander.

3. (U) RECOMMENDATION. That efforts be continued both at the USAREUR/USAFE level to implement and refine doctrine for EW interoperability.

RESTRICTION ON LOW LEVEL FLYING

1. (U) PROBLEM. Exercise aircraft were restricted from low level flying on two and a half days of the exercise.

2. (U) DISCUSSION. A decision by the Ministry of Defense, BONN restricted helicopter low level flight from 2300 to 2400 on 11 September and from 0001 to 1200 on 12 September 1976. Jet traffic was also denied low level flight from 1800 to 2400 12 September. This restriction hindered the force build up and execution of the initial attack.

3. (U) RECOMMENDATION. That a concerted effort be made to convince MOD BONN to preclude low level flying restrictions during future REFORGER exercises.

EXERCISE AIRSPACE REQUIREMENTS

1. (U) PROBLEM. Acquisition of maneuver airspace was not initially included with the request for the FRG land maneuver rights.

2. (U) DISCUSSION. The REFORGER planning process did not provide for an initial consolidated land and airspace package. Intensive negotiations were required between USAFE, AAFCE, CENTAG, USAREUR and the BUNDESANSTALDT FUR FLUG SICHERUNG (BSF) thirty days prior to the exercise to resolve major airspace allocation issues and air traffic control procedures which were to be followed by participants.

3. (U) RECOMMENDATIONS. That the initial request for future exercise areas include the required supporting airspace above the maneuver area. Secondly, that the exercise airspace manager, USAFE or COMAAFCE, begin appropriate airspace negotiations with the BSF as soon as the final selection is made of the maneuver areas required to support the REFORGER exercise.

NBC MESSAGES

1. (U) PROBLEM. The nuclear STRIKEWARN and CHEMICAL DOWNWIND HAZARD PREDICTION message formats do not provide for rapid dissemination of warnings for multiple simultaneous strikes.

2. (U) DISCUSSION. The present format for these messages requires the ground zero or target center and troop safety information for each separate target. When several targets in the same area are fired simultaneously, or near simultaneously, too much time is required to process the warnings. A modification of the formats should be incorporated to allow a single warning in this situation. Since the USAREUR (War) SOP prescribes the format of the warnings, USAREUR should take action to insure the modification is incorporated.

3. (U) RECOMMENDATION. That USAREUR modify the formats of the STRIKEWARN and CHEMICAL DOWNWIND HAZARD PREDICTION messages to allow dissemination of warnings of multiple simultaneous strikes with one message.

AVIATION UMPIRES

1. (U) PROBLEM. To provide a safe method of employment of Aviation umpires with the scout section supporting the employment of TOW-COBRA.

2. (U) DISCUSSION. Aviation unit umpires in OH-58 Scout Aircraft supporting TOW-COBRA Teams performed the functions of team umpire and scout observer. This situation, during target acquisition and attack phases of the teams operations created several unsafe situations in the cockpit, which required several pilots to land their aircraft while the umpire completed his required umpire duties. Repositioning of the umpire to the rear seat and allowing him the use of the passenger radio distribution panel with an additional ARC 114 FM radio installed, will eliminate the unsafe situation which currently exists. Additional ARC 114 radios will have to be provided for thoses A/C carrying umpires and must either come from float stock or from other unit OH-58s which are in a non-flyable status.

3. (U) RECOMMENDATIONS. a. That in future exercises the TOW-COBRA team aviation umpires perform their required functions by riding in the rear of the OH-58 or by using the passenger radio distribution panel.

b. That umpire aircraft be provided dual FM and the addition ARC 114 FM radios as required.

FLIGHT COMMUNICATIONS

1. (U) PROBLEM. The communications between the Army Flight Operations Detachment, HEIDELBERG (AFOD) and the Flight Operations Center (FOC) were not dependable.

2. (U) DISCUSSION. A leased line was established between the FOC and AFOD to effect dependable rapid coordination of flight information. The line was operational approximately 50% of the time. As a result, required information and coordination were significantly reduced.

3. (U) RECOMMENDATION. That a dependable point to point communication link be provided between the FOC and AFOD.

SHORTAGE OF TRANSPORTATION

1. (U) PROBLEM. Shortage of transportation assets in the Corps.

2. (U) DISCUSSION. The transportation assets organic to Corps were committed to the deployment and redeployment of European-based units with some 2 1/2 ton truck support being provided for MUAA operations. Even during deployment and redeployment some European-based units had to shuttle to the exercise area. This demonstrated the shortage of Corps transportation assets, especially in view of the fact that not all VII Corps units participated in REFORGER. The OPCON of the 101st Airborne Division (AASLT), prior to FTX LARES TEAM, added to the transportation shortfall. In addition to the Lt/Medium truck company organic to the 101st, the division required additional support of approximately one hundred 12 ton S&Ps, 11 Lowboys, and 90 commercial buses.

3. (U) RECOMMENDATION. That VII Corps receive an additional medium truck company during REFORGER exercise.

SHORTAGES OF HEAVY EQUIPMENT TRANSPORTERS

1. (U) PROBLEM. Shortages of Heavy Equipment Transporters (HET) and Lowboy assets in the Corps.

2. (U) DISCUSSION. During this REFORGER, as in past exercises, requests were received for the use of HETs and Lowboy assets over and above the Corps' organic capability. Lowboy assets were obtained from the 7th Engineer Brigade, but not in the quantity required. Utilizing these assets is not a desired course of action because they are assigned for a TOE mission. Additional Lowboys and all HET augmentation had to come from the 4th Transportation Brigade. There was a significatn shortfall in HET assets throughout the exercise.

3. (U) RECOMMENDATION. That USAREUR attach or make OPCON to VII Corps heavy equipment transporter assets for future REFORGER type exercise.

CLASS I/BULK

1. (U) PROBLEM. Class I items issued in bulk quantity.

2. (U) DISCUSSION. Some condiments such as coffee and flour were received in bulk quantity (e.g., 20 lb can of coffee, 32 lb cans of shortening and 50 lb sacks of flour). The Class I points are not equipped to break the items down for further issue.

3. (U) RECOMMENDATION. That all items received by Class I points should be in easy-to-issue quantities (e.g., 2 or 3 lb cans of coffee, 2 or 5 lb sacks of flour and 10 lb cans of shortening).

CLASS I SHIPMENTS

1. (U) PROBLEM. The task forces received Class I shipments from the depot, after the required delivery date (RDD).

2. (U) DISCUSSION. The RDD for Class I was programmed to arrive one day prior to the issue date (two days prior to the consumption date). In one instance shipments to TF ORANGE did not arrive until 2400 hours on the consumption date. Back-up support had to be provided by the TISA. There were three causes for late shipments: Class I items were not pulled by depot within the allotted time, truck breakdowns, and drivers getting lost.

3. (U) RECOMMENDATION. That RDD be programmed two days prior to issue date to provide more flexibility.

MANAGEMENT FOR CLASS V

1. (U) PROBLEM. To plan for and provide management of Class V stocks within Corps.

2. (C) DISCUSSION. For the first time during a REFORGER exercise 2d SUPCOM was tasked with the responsibility of planning for and providing complete Class V support to exercise participants. In order to assist SUPCOM, elements of the 0[illegible]st Ord Bn were placed under the operational control of the SUPCOM during the exercise, as would be the case during the initial stages of an actual conflict. These elements included an MMC augmentation and a representative from the battalion command element. Due to the lack of qualified ammunition staff personnel at SUPCOM prior to the exercise, very little pre-exercise planning in the area of ammunition play procedures actually took place. During the exercise the ammo cell, which was provided to SUPCOM, was not effectively integrated into the SUPCOM MMC and the operating units at the ASPs were not successfully integrated into the task force structure as planned.

3. (C) RECOMMENDATIONS. That DS ammo support capability be returned to the Corps during peacetime along with necessary Corps and 2d SUPCOM staff augmentation. The Class V problems experienced by SUPCOM during REFORGER serve to highlight the real world problems which will be encountered if the SUPCOM, which is without a peacetime ammunition capability, is required to assume a Class V responsibility at the outbreak of hostilities. Class V management capability must exist in the Corps SUPCOM during war in order that the Corps G4 and the Corps Commander can be kept up to date on ammunition status and so that ammunition support is responsive to the tactical situation. The SUPCOM must be assigned sufficient full time ammunition staff personnel and an ammunition mission during peacetime to facilitate a smooth transition to a wartime posture.

PSYCHOLOGICAL OPERATIONS

1. (U) PROBLEM. Psychological operations play during exercises.

2. (U) DISCUSSION. a. Psychological operations problem play is limited during exercises because of a lack of in country US assets and manpower constraints which limit authorized PSYOP staff officers.

b. HQ CENTAC is putting more emphasis on PSYOP as evidenced by recent discussions at the staff level.

3. (U) RECOMMENDATION. That HQ USAREUR include a tactical PSYOP Company as part of the REFORGER force package for deployment in future REFORGER exercises.

OFF-LIMITS AREAS

1. (U) PROBLEM. Violation of off-limits areas.

2. (U) DISCUSSION. During the exercise there were violations of off-limits areas. Complaints were received from officials of OETTINGEN in BAYERN, PAPPENHEIM, and the KATTENHOCHSTATT recreation area. Commanders must take steps to preclude needless maneuver damage to areas of historical or cultural importance.

3. (U) RECOMMEDNATION. That subordinate unit commanders insure that information on off-limits areas receives widest dissemination and is emphasized during premaneuver orientation programs.

FIRE SUPPORT ELEMENT

FA SUPPORT FOR RAS

1. (U) PROBLEM. FA Support for rear area security forces.

2. (C) DISCUSSION. FA support for rear area security forces is highly desirable, however, its accomplishment has serious implication for accomplishment of Corps mission. If a FA battery is placed "in reserve" to support rear area security forces, then it means the Commander has further reduced his already limited number of howitzers on the front lines. On the other hand, if a forward FA battery is given an on order mission to support rear area security forces, it is doubtful that it would be able to reach the rear battle area in time to influence the action.

3. (C) RECOMMENDATION. That a FA unit be given an on order mission for rear area security only as an alternative fire support means. First choice should be to use attack helicopters.

ENGINEER

OBSTACLE PLAY

1. (U) PROBLEM. To improve obstacle play and umpiring during the exercise.

2. (U) DISCUSSION. a. The effectiveness of obstalces emplaced by both ORANGE and BLUE Forces during the exercise was greatly affected by the availability of obstacle umpire teams. Approximately 150 two man teams were used during the exercise, but this number proved inadequate to cover all executed targets. This is because many teams were placed on relatively unimportant targets, as no priority system was used in dispatching umpire teams. Since it is virtually impossible to have sufficient obstacle umpire teams to cover all executed obstacles, the player units should establish a priority system to insure that umpire teams are dispatched to critical targets. This can be done by player units identifying which obstacles are most critical to their defensive plans. Less critical obstacles would be marked and recorded, but would not be guarded by teams. Maneuver unit umpires would be told to treat unguarded obstacles just like guarded ones provided the Obstacle Target Certificate was proper and present at the site. Another part of the problem stemmed from the lack of any restrictions on availability of Class V materials, which is unrealistic. As a consequence, the only restrictions on obstacle emplacement were haul capability, and the time and resources available for obstacle preparation.

b. While the engineer units emplacing obstacles had technically qualified umpires, the units encountering them had no similarly qualified umpires. The umpires with the maneuver units had no training in obstacle breaching or by-pass. This problem could be eased by requiring the engineer unit umpire to enter by-pass conditions and times on the Obstacle Target Certificate. This information would then be available for use by the maneuver unit umpires. This should improve realism in obstacle umpiring.

c. Obstacle breach times were unrealistically reduced during this exercise so that play was not totally stopped by the obstacles. While this is better than simulated breaching, more realistic time should be used so that maneuver unit commanders gain a better appreciation of obstacle effectiveness and the necessity for covering obstacles with fire.

d. Obstacle guards were not fully briefed on neutral vehicle marking; control personnel and vehicles were not adequately marked during the early days of the exercise. The exercise directive specified that control vehicles and personnel be marked with green. Numerous control vehicles were observed throughout the exercise area without the specified green flags. Obstacle guards were not briefed on the significance of the green markings.

3. (U) RECOMMENDATIONS. a. That player units be required to identify critical obstacles and establish priorities for employment of obstacle umpire teams.

b. That a realistic restriction be placed on the availability of Class V obstacle materials.

c. That the Obstacle Target Certificate Form be modified to include information on by-pass conditions and times.

d. That the engineer unit umpires be tasked with entering the by-pass information on the Obstacle Target Certificates.

e. That more realistic breach times be used in future exercises.

f. That all control personnel and vehicles be clearly identified, and that obstacle guards be thoroughly briefed on such identification.

ENGINEER SUPPORT

1. (C) PROBLEM. To provide realistic engineer support for committed divisions by providing a general support engineer capability to perform tasks in the division rear area.

2. (C) DISCUSSION. In order to focus the divisional engineer support well forward as required by the "Active Defense" concept, the Corps Engineer work line could be placed near

the brigade rear boundary. This leaves engineer tasks in the division rear the responsibility of the Corps general support engineer battalion. The ability to exercise this concept during REFORGER, however, is dependent upon the availability of general support combat engineer resources. This was a problem during REFORGER 76 because two of the Corps combat engineer battalions were committed to non-player tasks (one was performing the maneuver damage control mission and the other was committed to MUAA and CTOC/JVB contruction). The remaining two combat engineer battalions were committed to ORANGE and BLUE Forces. The result of this lack of general support capability was unrealistic engineer play, in that the divisional engineer battalion and/or the direct support Corps engineer battalion had to perform these rear area tasks or else they were neglected. Simulation of general support engineer assets was found to be not practical during REFORGER 75, because it was virtually impossible to control or umpire.

3. (C) RECOMMENDATION. That for future REFORGER exercises, at least one engineer battalion be made available for general support missions to provide realistic engineer support. This requires that additional engineer assets be made available to VII Corps either in the form of REFORGER units from CONUS or from V Corps or USAREUR.

SPECIAL MAPS

1. (U) PROBLEM. The Special REFORGER Map Sets were incomplete, the quality of the products were poor, also the Special Route Planning Guide were issued too late.

2. (U) DISCUSSION. The quality of the Special Topographic Products received by the Staff Engineer Section, VII Corps was very poor in that the contours, small towns and villages were not legible . The full color Special Composite Map was very commendable, as the indexing of this one sheet helped maneuver unit personnel rapidly locate a single M745 sheet in the booklet. The Special Route Planning Guide was issued at such a late date that it was not made a part of the Special Maneuver Booklet; this caused a problem in issuing the product. In general, this year, as opposed to the previous years, the majority of the information used in topographical products produced for VII Corps was furnished by FRG Governmental Agencies. In the past, US Forces reconnaissance personnel field checked all movement obstructions and constictions. A brief field check of items such as town gates, road classification, etc., immediately brought to light that the map products did not contain all of the information that is available on the ground. The lack of this information led to unnecessary damage to bridges, town gates and some historical monuments.

3. (U) RECOMMENDATIONS. a. The REFORGER 77 map products should be field checked prior to printing and distribution.

b. The REFORGER 77 area should be determined and declassified at an early date so that off-limits requests can be acted on early enough to be included on the overprinted map.

c. All towns and villages should be highlighted be the use of disinct colors.

SELECTION OF OBSTACLES

1. (U) PROBLEM. Barrier obstacles and targets did not appear to support the tactical plans.

2. (U) DISCUSSION. a. A large number of the barrier targets did not appear to be integrated with tactical plans. This was evident because numerous targets were not covered by friendly fires or observation. Doctrinally, the barrier plan must be integrated into the tactical plans to include the fire support plan. All too often, the barrier plan is developed without consideration or integration into the other plans. Barriers are effective only if they are covered by fire and if they support the maneuver plan. To expect a crater to stop a tank column by itself is illusionary. We therefore must change the present thinking of a barrier as a solid wall which will stop massive tank attacks. We must insure that commanders at all levels understand that "obstacle" plans have to be an integral part of the total tactical plan package.

b. Many of the targets were poorly selected, as they were easily by-passed. Discussions with emplacing units indicated that part of the problem is due to low level supervisors not being able to recognize good target sites. In addition, many of the targets were selected by map reconnaissance and were not checked on the ground.

3. (U) RECOMMENDATION. a. That the name of the obstacle list be changed from "Barrier Plan" to "Obstacle Plan"

b. That obstacle plans be required and approved as integral parts of fire-support plans and ground tactical plans.

c. That unit training for both engineer and maneuver units emphasize the purpose and criteria for a good obstacle with special emphasis on terrain analysis.

SIGNAL OFFICER

MUAA COMMUNICATIONS

1. (U) PROBLEM. Provision of MUAA Communications.

2. (U) DISCUSSION. Since the inception of the REFORGER exercises, considerable communications have been established in preparation for receipt of REFORGER units in the Major Unit Assembly Area (MUAA). In the past one battalion of the 7th Signal Brigade established what would normally be provided by the tactical signal assets of the Signal Battalion organic to the REFORGER Division. Once the REFORGER Signal Battalion was in and operating, the battalion from the 7th Signal Brigade would be withdrawn and employed in its normal GDP role. However in REFORGER 1976, the 7th Signal Brigade was required to commit their entire 1st Battalion from the inception of the exercise until the last member of the REFORGER Division departed for CONUS. This period was over two months in duration. Further, critically short cable and switchboard teams from the 34th and 123d Signal Battalions and the 72d Field Artillery Group had to be employed to support the MUAA for the same period of time. Lastly, the preponderance of the 472d Signal Company was used to provide MUAA interconnects to player units, thus removing it in large measure from its normal role of supporting Headquarters, 2d SUPCOM. In total, approximately two battalions were committed to MUAA support. This could not be provided during an actual emergency.

a. MUAA communications support is excessive, unrealistic, and could not be provided during an actual emergency.

b. Critical communications units and assets were diverted from their normal mission to support a unit that possesses an organic capability.

3. (U) RECOMMENDATION. a. Theater (7th Signal Brigade) units be used only to provide interconnects between the headquarters of the REFORGER Division and the Theater Area Communications System.

b. The REFORGER Division Signal Battalion be one of the initial units to arrive in the MUAA. This unit would use organic assets to establish communications with its major subordinate units as they arrive.

c. Maximum use be made of the Defense Communications System-Europe and host nation communications facilities until the REFORGER Division tactical communications systems become operative.

COMMAND AND COMBAT AREA COMMUNICATIONS

1. (U) PROBLEM. Integration of command and combat area-communications systems.

2. (U) DISCUSSION. a. There exists an urgent need for immediate, responsive and integrated communication throughout the Corps, encompassing all communication systems.

b. At the present time communications from the divisions to the Corps are the responsibility of both the Corps Signal Officer and the 7th Signal Brigade; the Corps for tactical command-control communications; 7th Signal Brigade for admin/log and support communications. Further, AADCOM units possess their own independent communications systems.

c. The philosophy of operating a tactical system and support systems independently or on a mutually supporting basis is no longer valid.

d. During REFORGER/LARES TEAM 1976, portions of the tactical command-control and the combat area system were integrated to support the Exercise Division. This configuration, though not doctrinal, was the keystone for responsive and continuous communications. Automatic switchboards were programmed to alt-route over the integrated system, thus insuring call completion when required regardless of the ownership of the equipment or whether it was command or combat area in orientation.

e. Echelons Above Division (EAD) concept has been approved and TOEs drafted. The concept is valid, places all area and command-control assets under one command, and insures total system integration.

3. (U) RECOMMENDATION. The EAD Signal Brigade concept be implemented in Europe at the earliest practical date.

RADIO SILENCE

1. (U) PROBLEM. Planning for or coordination of, radio silence.

2. (U) DISCUSSION. During the past two REFORGERS as well as several VII Corps CPX's, several major subordinate commands directed complete radio silence as a method to deceive the enemy as to ensuing operations. This action was nearly castastrophic in some cases. Although it may temporarily deceive the enemy on planned operations, but worse, it clues the enemy that something is going to happen (SEE TC 30-20,Page 2). This causes the enemy to redouble his efforts to determine what is planned. In other words, complete radio silence focuses the enemy intelligence effort on the unit that is attempting to conceal its operations. This is self-defeating. Secondly, "no notice" radio silence results in a lack of communications with higher, adjacent, and lower units.As a result no one knows what is occurring friendly or enemy. Lastly, it isolates the unit on silence from quickly responding to directives regarding changes in the tactical situation. Many hours are spent attempting to reestablish communications due to insufficient planning and under-estimation of hostile intelligence capabilities.

3. (U) RECOMMENDATIONS. a. Radio silence be thoroughly planned and implemented only with the concurrence of higher headquarters.

b. Commanders coordinate with organic ASA units to insure proper integration and coordination of all deceptive plans to include traffic,radio,radio silence and imitative deception.

c. Signal officers at affected echelons be involved early in the planning to facilitate alternative methods of communications.

MOBILE TACTICAL CP

1. (U) PROBLEM. Mobile Tactical CP Configuration and Communications.

2. (U) DISCUSSION. The mobile tactical CP deployed during REFORGER proved to be a viable organization capable of providing positive command control information and communications for the Corps command group. Communications problems were encountered. However, the majority of these problems were due to the fielding of a new concept and can be resolved with practice. The size of the communications package was ideal to support the concept as it was fielded. Caution must be exercised that personnel density of the mobile tactical CP not be increased, since any increase in operations personnel will result in an equal if not greater increase in communications equipment and associated personnel. Of note is the fact that the RF signature of the mobile tactical CP was similar to that of a maneuver battalion TOC; thereby increasing the survivability of the mobile tactical CP.

3. (U) RECOMMENDATIONS. a. That the exact composition and communications requirements be determined and published as an SOP item.

b. That the Corps Signal Battalion establish a mobile tactical communications team consisting of the following:

(1) An OIC (LT)

(2) Two AN/TRC-117 terminals

(3) One AN/TRC-110 radio relay.

(4) Three AN/GRC-142 or 122

(5) One AM van with four AN/VRC-46's and four AN/GRA-39 remotes with operating team. Radio sets to be secured with NESTOR equipment.

COMMUNICATIONS SUPPORT

1. (U) PROBLEM. Requirement to reappraise communications support doctrine.

2. (U) DISCUSSION. a. A number of situations exist in which attachment of units is unsupportable under standard communications doctrine. The doctrine in question is the higher to lower and left to right responsibilty. Examples of these situations are:

(1) Attachment of an armored cavalry regiment to a division.

(2) Attachment of an additional brigade (same nation) to a division.

(3) Attachment of an additional brigade (multi-national) to a division.

(4) Attachment of a multi-national division to a corps.

b. Divisions are not equipped to accept an additional brigade/regiment size unit. Provision of command control essential communications results in the deletion of an already existing system.

c. Corps is not equipped to provide division to brigade/regiment communications nor is the equipment conducive to rapid displacement.

d. Multi-national equipment is, for the most part, technically incompatible with US equipment and communications doctrine differs.

3. (U) RECOMMENDATIONS. a. That the concept of "Brigade Slice" be adopted for cross attachments of brigades between divisions. For example, if 1st Brigade, 3d Infantry Division is attached to the 1st Armored Division, the 1st platoon of the Forward Support Company of the Division Signal Battalion should also be attached. This is in concert with the Independent Brigade Concept.

b. A STANAG should be promulgated which delineates the procedure stated above for NATO units, and, in addition, delineates the level, type, and amount of communication to be provided, e.g., is the doctrinal communications to be provided in accordance with German, French, et al, or US doctrine?

RANGER COMMUNICATIONS

1. (U) PROBLEM. Shortfalls in Ranger communications capabilty.

2. (U) DISCUSSION. The 1-75th Ranger Battalion was attached to VII Corps for operations during Exercise LARES TEAM. This battalion arrived with only an internal communications capability. As a result a number of means were diverted with varying degrees of success to support inter-headquarters communications. The concepts under which the ranger battalions' may be deployed call for them to be OPCON to many varying formations, i.e. brigade, division, corps, cavalry, regiment, etc. In each case the availability of equipment at each formation to dedicate to ranger communications is extremely limited. In order for these units to be effective, they must communicate to a controlling headquarters, but no means for this have been identified. The long range reconnaisance patrol companies, which were deployed in the European Theater in the late 50's and early 60's, and special forces elements with similar missions have been traditionally self-contained with both forward and base station communications equipment. An example which closely parallels the LARES TEAM experience was the concept of LRRP communications. The LRRP companies, an organic unit to the Corps, provided HF/CW base stations at varying locations, but with one collocated with Corps Headquarters. The personnel and equipment were part of the company, and the result was trained personnel operating at each end. Outfitting and deployment of the ranger battalions under this concept would have greatly facilitated communications during REFORGER.

3. (U) RECOMMENDATION. Determine the appropriate mix of communications equipment and composition for liaison teams to facilitate communications to the battalions controlling headquarters, and add these to the battalion's MTOE with appropriate doctrine changes.

TAB B

EARLY WARNING COMMUNICATION SYSTEM

1. (U) PROBLEM. Lack of an adequate early warning communications system.

2. (U) DISCUSSION. a. In the event of large land mass warfare, a probability exists that tactical nuclear weapons will be employed. Unquestionably, high performance aircraft and artillery will be used to the maximum.

b. Former early warning communication systems consisted of AM radio receivers and command communications alerting doctrine. These media proved unsatisfactory due to:

(1) AM receivers being turned off or tuned to commercial stations.

(2) Insufficient command and control communication to provide a dedicated early warning capability.

(3) Inability to obtain positive acknowledgement of warnings at the lowest level.

(4) The requirement to off-line encrypt warning messages of friendly strikes.

c. Warning messages are of two types: Warning of friendly strikes and of impending hostile employment. The former requires a minimum of 2 hours before delivery and then with little certainty that complete notification has taken place. The latter is highly improbable due to transmission delays and imminence of employment of detected weapons.

d. An urgent need exists for a communication system to alert friendly free world forces of impending high performance air, artillery, and tactical nuclear strikes within the safety limits prescribed by appropriate weapons doctrine.

3. (U) RECOMMENDATION. That a concerted effort on the part of DARCOM and US Army Electronics Command be initiated to develop an early warning communications system with a required operational capability of:

a. Secure automatic communication devices with built-in acknowledgement capability. A TACSATCOM broadcast system may be useful.

b. Not susceptible to super-ionization of the atmosphere as a result of tactical nuclear detonations.

LOGISTIC AND ADMINISTRATIVE COMMUNICATIONS

1. (U) PROBLEM. Communications in Support of Logistic and Administrative operations.

2. (U) DISCUSSION. a. Logistic and administrative officers of brigade through corps have suffered for years for lack of sufficient secure communications. They have only a radio teletype facility which they must share. This is hindering logistical and administrative support of the Corps.

b. Movement of special weapons, petrol, munitions, rations, and barrier items when subject to professional analysis discloses in large measure the capabilities, if not the intent, of the Corps.

c. Indicators such as relative personnel strengths and tonnages of petrol and ammunition is invaluable to an enemy.

d. Real time highly perishable requirements to air deliver vital supplies to isolated or forward units, if communicated in the clear, would provide an opposing force targeting information that could well result in the destruction of the force.

e. Battle losses of equipment and personnel and the capability to replace losses are invaluable information to an enemy.

f. Current methods of manually coding/decoding voluminous logistic/administrative information are too complex, subject to error, and is not responsive to operations.

g. Current communications means do not meet the needs of logistic and administrative officers.

h. Logistic and personnel operations require a secure voice means to rapidly communicate highly perishable information in support of tactical operations.

3. (U) RECOMMENDATIONS. a. Tactical logistic and administrative officers from brigade through corps be provided with sole-user secure telephone facilities.

b. The common-user telephone system interconnecting echelons of tactical units to include FASC/DISCOMS/SUPCOMS be secured at the earliest practicable date.

c. An FM secure voice radio system be established consisting of:

(1) Division FM administrative/log net.

(2) Corps FM administrative/log net.

4. (U) ACTION TAKEN TO DATE. VII Corps has provided:

a. Secure point to point telephone service to admin/log staff sections.

b. HF R T station remoted to admin/log staff sections.

GROUND RODS

1. (U) PROBLEM . Requirement for new ground rods.

2. (U) DISCUSSION. a. The criticality of good grounds to mobile communications equipment has long been known and continuously included in field training. Poor grounds or the improper construction of grounds is a recurring shortfall in communications that degrades quality and at times, precludes reliable communications.

b. In the last three major exercises, VII Corps used the Star Ground with great success. The disadvantage to this method is that it takes an inordinate amount of time and materials and cannot be quickly removed for installation at another location. The Star Ground, by itself, is not responsive to highly mobile operations.

c. Standard ground rods issued with Army Tactical Communications System (ATACS) equipment are six to eight feet in length. They are difficult to drive in the ground and equally hard to remove. In addition, vibrations set up as a result of their being driven thus reducing their effectiveness as a ground. Further, the length of the ground rod coupled with the heaviness of the sledge hammer makes it extremely difficult and slow for EW and some EM to drive the rods into the ground.

3. (U) RECOMMENDATIONS. a. Ground rods patterned on the cork screw design, similar to those used in the German Army, be evaluated with a view for adoption as standard ATACS equipment. This would permit two persons to apply their collective power into augering them into the ground.

b. Increased emphasis be placed on grounding of equipment in Signal and Communications Schools within the Army.

NEW SHELTER FOR 1 1/4 TON TRUCK

1. (U) PROBLEM. Need for new shelter to replace current 3/4 ton shelters

2. (U) DISCUSSION. a. The 3/4 ton shelter currently in use was designed for operation with the, since superseded, 3/4 ton truck.

b. Units are now equipped with the M715, M564, or M880 series trucks. each of these are 1-1/4 ton trucks with larger load-carrying beds than the 3/4 ton truck.

c. Mounting of the 3/4 ton shelter on a 1-1/4 ton truck requires additional bracing.

d. Provision of a 1-1/4 ton shelter will increase operating area.

3. (U) RECOMMENDATION. a. Institute action for procuring replacement for the 3/4 ton shelter.

b. If the above has been accomplished, begin issuing immediately to the European Theater.

FREQUENCY MANAGEMENT

1. (U) PROBLEM. Frequency management inadequacies.

2. (U) DISCUSSION. a. USAREUR frequency management is performed by Frequency Branch, 5th Signal Command, to include high frequency (HF), very high frequency (VHF), and ultra high frequency (UHF)

b. Corps and its divisions receive HF frequencies through the AFCENT allocation plan and manage internal assignments locally.

c. Multi-channel VHF/UHF frequencies were assigned by 5th Signal Command by blocks for corps and divisions to manage internal assignments. Some of the VHF multi-channel frequencies were ill assigned because pairs were in the receiver overload zones. The number of pairs provided to Corps and divisions were not of sufficient quality to satisfy the requirements that have to be met.

d. VHF-FM frequencies were controlled by 5th Signal Command and assigned to corps and divisions by blocks for ground-to-ground use.

e. UHF,VHF-FM, and nondirectional beacon (NDB) were assigned by 5th Signal Command on a case by case basis for air-to-ground and air-to-air use.

f. Current USAREUR regulations require 90 days lead time on air-to-ground and air-to-air frequency requests in particular. This is not responsive to the needs of tactical units.

g. Two frequency managers were attached from 5th Signal Command to assist the VII Corps Signal Office in this area. These personnel arrived on 13 September 1976. The arrival date of these individuals was not timely to satisfy the frequency management needs of the Corps. Although the actual exercise play began on 11 September 1976 and divisions were deployed and required communications on 8 September 1976, most frequency problems were identified and resolved within the first two days after units deployed to the field.

h. Frequency managers from 5th Signal Command were not attached to VII Corps at the time when their utilization was most critical and during which they could have made their most significant contributions.

i. Corps and divisions need frequency management positions and personnel.

3. (U) RECOMMENDATIONS. a. That corps and divisions be provided all frequency assets and authority for local management for all units operating in or passing through corps areas of responsibility.

b. That MTOE positions be added for frequency management personnel at corps and division levels and personnel be made available to fill these positions.

c. That 5th Signal Command provide corps and divisions all possible UHF/VHF multi-channel frequency pairs and combinations.

TACSATCOM

1. (U) PROBLEM. Requirement for tactical satellite communications.

2. (U) DISCUSSION. a. Mobile tactical forces in a potential nuclear environment require rapid, reliable multi-channel telephone communications. Discounting travel time, current equipment takes from 1 hour at division to 4 hours at corps and higher to install and turn to traffic.

b. Cavalry regiments, mechanized and armored brigades, and nuclear capable artillery units relocate as much as four times daily. Displacements are usually made under conditions of radio silence.

c. The average displacement from time of march order to arrival time at new location ranges from 3 to 5 hours. This coupled with set-up time for multi-channel causes mobile forces to be out of communications for excessive periods.

d. Often units, especially cavalry, displace without precise knowledge of their new CP location. This precludes jumping of equipments to provide continuity of command. New divisional displacement procedures of "cut" and move on a "no notice" basis further exacerbate this problem.

e. Major relocation of forces also requires repositioning of ground automactic retransmission units to accommodate extended distances. These relocations cause delays, and, at times, the distances or terrain masks exceed the capability of signal units to support.

f. TACSATCOM is in the state of the art and has been used successfully by the 1st Infantry Division, 2d Armored Cavalry Regiment and 101st Air Assault Division during REFORGER exercises. TACSATCOM terminals can be established and turned to traffic in 15 minutes of arrival at CP location. They are airlift capable where larger multi-channel equipment is not.

g. TACSATCOM terminals are difficult to DF and thus can be operative while other radios are on silence.

3. (U) RECOMMENDATION. a. TACSATCOM equipment should be included as a minimum in TOE units of brigade and comparable size units, to nuclear capable artillery battalions, and division through corps level.

b. Secure equipment be made inherent part of TACSATCOM terminal configuration.

FM RADIO DIRECTIONAL ANTENNAS

1. (U) PROBLEM. Requirement for FM radio directional antennas.

2. (U) DISCUSSION. a. Extended radio ranges and the requirement to minimze hostile interception, jamming and location capabilities of FM radio stations is receiving considerable attention. Units are using low power, where possible; masking their antennas from the enemy and stressing minimum transmissions. These techniques also operate to reduce the effective range of friendly FM radio communications.

b. Directional antennas would be invaluable to cavalry units and to highly mobile tactical command posts during critical operations.

c. Directional antennas of the log-periodic type have been tried and appear to have a great potential to resolve this problem. The directional attributes reduce the possibility of interception and jamming, diminish the capability of hostile direction finding and effectively increase power out, thus range, in the direction of desired transmission. Log periodic antennas used by the 101st Airborne Division (Air Assault) during REFORGER 76 (LARES TEAM) were:

(1) AS-2169

(2) AS-2851km old model used by the US Marine Corps.

(3) AS-2236, new model used by the US Marine Corps.

(4) OE-254/GRC, an Electronics Command (ECOM) experimental model. The four mentioned antennas were developed for use with the current family of FM radios. The AS-2169 and AS-2851 have an effective range of 50-60 kilometers. The AS-2236 and OE-254/GRC have a range of 80-87 kilometers. These configurations are all complex and relatively bulky systems which would meet the needs of an all-band FM directional antenna. Erection is more difficult and requires more time than for an RC-292 antenna.

d. Log-periodic directional antennas increase the effective range of tactical FM radios. They assist in reducing signal signature, hostile interception of transmissions, jamming and direction finding activities. They provide a technique for FM stations to operate on low or high power. They would be invaluable to cavalry units and highly mobile tactical command posts.

3. (U) RECOMMENDATIONS. a. That US Army Electronic Command develop a simple to operate, easy to erect, all-band directional antenna system for use with tactical FM radios.

b. That the European theater receive the prototypes of new antennas as they leave research and development. Such arrangements would permit a timely tactical evaluation of their efficiency.

RAPID-ERECT ANTENNA

1. (U) PROBLEM. Responsiveness of FM Radio rapid-erect all-band antenna system is inadequate.

2. (U) DISCUSSION. a. The current RC-292 antenna used to extend the range of currently used vehicular and manpack radio sets does not meet the degree of responsiveness to frequency change and ease of handling desired. The need to frequently change frequencies requires lowering the RC-292 antenna for reconfiguration of radiating and ground plane elements and its subsequent erection. The rapid relocation of a radio set is hindered by time consuming RC-292 lowering and packing for movement and erection.

b. The AB-903/G (SINCGARS) rapid-erect antenna base and associated all-band antenna were used during REFORGER 76 (LARES TEAM) by the 101st Airborne Division (Air Assault) and proved to have great potential in resolving antenna erection and reconfiguration problems. It has the capability of erection in 5 minutes and all-band FM operation. Erection time is the significant factor of the AB-903/G. In comparison, the RC-292 requires 15-30 minutes for erection depending on the skill level of personnel performing antenna element configuration and antenna erection. Further, once erected, the all-band antenna need not be lowered as frequencies change.

c. Procurement of the AB-903/G and all-band antenna has been a continuing problem which was initially addressed in the after-action report for REFORGER 75 (CERTAIN TREK).

d. AB-903/G rapid-erect antenna base and an all-band antenna will provide an increased FM capability and significantly decrease antenna erection time.

3. (U) RECOMMENDATION. That the European theater receive AB-903/G antenna bases and the associated all-band antenna for use with tactical FM radios.

AIRBORNE RADIO (FM) RETRANSMISSION FREQUENCIES

1. (U) PROBLEM. Inadequate assets and frequencies for airborne radio (FM) retransmission frequencies.

2. (U) DISCUSSION. a. The VII Corps frontage is almost twice that specified by doctrine. FM radios are used at and beyond their maximum ranges, even when assisted by ground automatic retransmission facilities, due to masks and limited retrans equipment.

b. Airborne retransmission equipment has the capability to automatically relay three nets simultaneously, is less affected by range and masks, and can move with the flow of mobile forces. This capability could be invaluable to large formations in the field, but is currently constrained because of nonavailability of sufficient air-to-ground frequencies.

c. During REFORGER 76 (LARES TEAM), only two sets of frenquencies were available. This reduced by one-third the design capability. Further frequencies authorized were fixed, and required all stations in the net to shift to the airborne frequencies. This is difficult to achieve if the retrans should enter the primary frequency of the supported net.

d. The airborne automatic retransmission capability would be invaluable in highly mobile operations and to units beyond FM range or obsured by masks.

e. The usefulness of the airborne automatic retransmission capability is negated by lack of air-to-ground frequencies.

3. (U) RECOMMENDATIONS. a. That USAREUR approach MOD BONN to obtain additional air-to-ground frequencies.

b. That USAREUR approach MOD BONN to obtain authority to use all CEOI frequencies for airborne retransmissions.

ALL NEW SQUELCH ON/OFF

1. (U) PROBLEM. Incompatibility of old and new squelch.

2. (U) DISCUSSION. a. The operating position for the squelch button on the AN/VRC-12 series radios varies from unit to unit.

b. Cross attachments, use of airborne or ground retrans stations, netting with AN/PRC-77 radios, and multi-national operations all pose differing squelch requirements.

c. The new squelch mode is the most efficient of the two modes.

d. A squelch locking slide is available to insure proper mode of operation.

e. The use of the old squelch position within USAREUR is a holdover from the days of the original introduction of the VRC-12 series radios. Since the AN/GRC-3 through 8 series radios would not net with a radio in the new squelch position, the use of old squelch position was to be SOP until final phase-out of the old series radios. This practice remains today; approximately 10 - 12 years after phase-out.

3. (U) RECOMMENDATION. That the policy and practice be that the proper mode of operation is new squelch on/off.

RADIO TELETYPE (RTT) MOBILE OPERATION

1. (U) PROBLEM. Inability to use Radio Teletype (RTT) while mobile.

2. (U) DISCUSSION. a. REFORGER Exercise LARES TEAM disclosed a need to operate RTT equipment during mobile operations. This would permit constant communications during withdrawals, passage of lines, displacement, offensive operations, etc. This capability can accommodate listening silence when used in a receive-only mode. RTT equipment can operate at extended distances while mobile.

b. Some units could and did operate RTT while on the move, however, the total capability was not available due to lack of 100 amp kits that permit RTT equipment to operate while mobile .

c. Continuity of command was at times lost due to range and listening silence imposed on FM radios, displacement of multi-channel equipment and the lack of 100 amp kits for RTT equipment.

d. RTT can operate successfully at extended distances in mobile operations if equipped with 100 amp kits.

3. (U) RECOMMENDATIONS. a. All Signal units obtain 100 amp kits for use with RTT equipment during mobile operations.

b. Signal units conduct training oninstallation and use of 100 amp kits.

c. Signal units conduct training on mobile operations.

d. That USAREUR DCSLOG investigate the 100 amp kit problem for the M561 and M880 and provide early relief.

HIGH FREQUENCY RADIO ANTENNAS

1. (U) PROBLEM. Usage of improper antennas with radio teletype (RTT).

2. (U) DISCUSSION. a. Usage of improper antennas was the biggest problem experienced with Radio Teletype (RATT) and HF Voice operations during REFORER 76 (LARES TEAM). Units were directed to use doublet, long wire on half rhombic (inverted VEE) antennas due to extended distances, land masks and hostile radio direction finding activities. Too often, units displace to new field locations and set up for operation of RATT and HF voice nets using a whip antenna. While initially acceptable, they should be replaced with a higher gain configuration.

b. Operators failed to properly orient their antennas in accordance with the radiation pattern for the antenna in use.

3. (U) RECOMMENDATIONS. a. That commanders of signal units establish comprehensive training programs in the use of antenna systems, map reading and orientation procedures.

b. That the US Army Signal School place emphasis on antenna training for students in MOS courses 05 (C).

TASCO

1. (U) PROBLEM. To determine at what level a tactical automatic switch coordination office (TASCO) is required.

2. (U) DISCUSSION. a. Since the inception of automatic switching within the theater, the TASCO functions have been performed by the 7th Signal Brigade. Although adequate results have been achieved, a number of problems do exist:

(1) The lead time required for completion of TASCO functions i.e. PRSL assignments, telephone directory publication, etc..

(2) The nonproduction of TASS program sheets, trunk assignments sheets, and telephone installation orders, etc, requires a TASCO at Corps.

(3) The lack of sufficient knowledge at the theater Signal Brigade level concerning Corps and Division operations.

(4) The inability to meet the constant change requirement inherent in tactical operations.

b. The fielding of the SB-3614 switchboards within USAREUR will result in an unmanageable network at the theater level.

c. The inception of the Corps Signal Brigade, which may operate separately with limited Theater Brigade support, will require a TASCO at Corps level.

3. (U) RECOMMENDATIONS. a. The Theater TASCO be retained with two functions first, TASCO for theater (COMZ) requirements and second, for coordination of activities when more than one Corps is fielded.

b. That a TASCO be established in the Corps Signal Brigade to control the Corps automatic switching systems.

c. That a TA[illegible]-trained individual be provided to the Division Signal Office MTOE. This individual would act as a mini-TASCO and coordination point for division activities.

SYSTEM AND CIRCUIT IDENTIFICATION

1. (U) PROBLEM. Lack of a standard procedure for circuit identification.

2. (U) DISCUSSION. A standard NATO procedure for system and circuit identification is required. Current systems are generally inadequate and vary from unit to unit. Theater Army and the V and VII Corps have similar systems. Signal Command, CENTAG, and the USAF have systems which are completely unrelated. All of the aforementioned headquarters interconnect during tactical operations and a significant time loss is experienced due to confusion of circuit identification.

3. (U) RECOMMENDATION. That Theater Army, in concert with Headquarters, USEUCOM and other component commands, develop a standard procedure for system and circuit identification.

TACTICAL TECHNICAL CONTROL FACILITY

1. (U) PROBLEM. Unavailability of a Tactical Technical Control Facility.

2. (U) DISCUSSION. a. The increasing complexity and sophistication of tactical communications systems demand a higher degree of technical control. The currently authorized patching facilities, SC-611/675, cannot be efficiently employed as technical control centers based on capacity, limited testing equipment, lack of red/black facility, and time required to establish circuits.

b. The Tactical Technical Control, AN/TSQ-84 was used by VII Corps during REFORGER 1976 Exercise LARES TEAM. This equipment more than proved its worth. Three operators could perform their duties of quickly testing, patching, and conditioning circuits. Test, Measurement, and Diagnostic Equipment (TMDE) was easily accessible. Circuit installation time was drastically reduced, and circuit quality significantly improved.

c. In current technical control equipment, initial installation of multi-channel communications is often slowed by the fact that the patch panel operator can only work one circuit at a time. This problem is caused primarily by space restrictions and availability of test equipment. It takes an average of 15 minutes to establish each circuit.

d. TMDE equipment provided in the SB-611/675 is not adequate to properly test the circuitry required by automated systems such as the TASS and DSTE. The USM-181 (TRIPAC) is required to properly test circuitry.

e. The capacity of the SB-611/675 is insufficient to support the number of circuits normally installed.

f. A red technical control/patching facility is required to facilitate installation of secure circuitry. This facility must meet the interconnection requirements of red/black criteria.

3. (U) RECOMMENDATIONS. a. That AN/TSQ-84, Technical Control Equipment, be fielded as soon as possible.

b. Technical Control, AN/TSC-76, needs fielding immediately, this too requires a line conditioning equipment.

c. That interim technical control facilites contain "state of the art" (USM-181) test equipment to provide the capability of adequately controlling modern systems and circuits.

d. As an interim measure, divisions should be authorized and issued SB-679's. This needs to be accomplished immediately. TRIPAC equipment (USM-181) should be issued concomitantly with each major assemblage.

TACTICAL AUTOMATIC SWITCHBOARD

1. (U) PROBLEM. Faulty tactical automatic switchboard AN/TC 38 DTML cards.

2. (U) DISCUSSION. Two-wire DTMF phones (TA-938) were used extensively during REFORGER 1976 Exercise LARES TEAM. Approximately 80 phones were installed that served Headquarters, VII Corps, Joint Visitors Bureau, and the Press Center. The phones operated with little problem. However, there is a problem with the two-wire cards associated with these telephones. The cards will not operate in all card positions in which they are installed (cards were not installed in Terminals 1 through 3). To illustrate: a card would function properly in position A but would not function in position B. yet a different card would operate correctly in position B. The problem occurred in two automatic switches during the exercise. All parameters for each position were examined and were within tolerance.

3. (U) RECOMMENDATION. Headquarters, US Army Electronics Command perform a detailed parametric and sensitivity analysis on the two-wire DTMF used in conjunction with the automatic switchboard.

SENDER-RECEIVER CARDS FOR THE AUTOMATIC SWITCHBOARD

1. (U) PROBLEM. Sender-receiver cards for the automatic switchboard, AN/TTC-38 are insufficient.

2. (U) DISCUSSION. a. REFORGER 1975 Exercise. Exercise CERTAIN TREK disclosed that there were insufficient sender-receiver cards in the automatic switch. Each off-hook condition during a call attempt requires one of these cards to establish dial tone so a call may be placed. During REFORGER 1975, 187,000 calls were made in one day - over two calls per second. The symptoms were "overload" - no dial tone. Nine more sender-receiver cards (for a total of 20) were added to the switch. This alleviated the situation considerably, but overload still occurred during high traffic periods. During REFORGER 76, a software change was made to the switchboard to permit it to operate on 11 sender-receivers. The board was again overloaded and additional sender-receiver cards had to be added. There were three and one-third divisions involved in this exercise.

b. The 300-line AN/TTC-38 is not of sufficient capacity to handle a three and one-third division Corps and certainly will be unable to cope with a five and two-thirds division Corps.

c. Eleven sender-receiver cards are inadequate for a 300-line switchboard.

3. (U) RECOMMENDATIONS. a. A 600-line automatic switchboard be authorized Corps Main and Rear CP's.

b. A 300-line automatic switchboard be authorized Corps Alternate and Tactical CP's.

c. That 20 sender-receiver cards be standard issue with the 300-line switchboard.

TELEPHONE SETS

1. (U) PROBLEM. Telephone set TA-341/PT, TA-938/TT, and TA-838/TT security.

2. (U) DISCUSSION. a. The DTMF telephone set contains a transmitter amplifier that will pick up conversations from surrounding work areas. This characteristic is undesirable when the telephone set is employed in areas where classified information is routinely discussed or where other voice secure equipment is in operation.

3. (U) RECOMMENDATIONS. a. That an urgent MWO be applied to the TA-341, TA-938, and TA-838 to provide push-to-talk capability.

b. A noise-cancelling transmitter be added to each configuration in order to reduce the amplification of the outgoing conversation.

c. A volume control be added to each telephone to decrease the gain of incoming conversations.

TELEPHONE SECURITY EQUIPMENT

1. PROBLEM. Unavailability of telephone security equipment.

2. DISCUSSION. a. An urgent requirement exists for a telephone security device to provide selected subscriber secure telephone capability.

b. During medium and high intensity operations FM radios will be unreliable and voice communications will be dependent on wire and multichannel circuits. Great dependence will be placed on host nation commercial communications. If a speech security device is available, the absence of FM secure radio will have little effect on command and control communications. Additionally, the availability of a security device would allow the installation of direct access circuits (TASS) thus removing the requirement for dedicated (point-to-point) circuitry. It would also reduce the signal signature of a headquarters.

c. To fulfill the requirements, a secure device must be compact, simple to install/operate, capable of switching from secure to plain text, and keyable by the subscriber. The ability to transmit over a standard VF circuit is mandatory.

d. The equipment must be self-contained at the subscriber location with no additional equipment or special preparation required in the circuit path.

3. (U) RECOMMENDATIONS. a. That a standard subscriber telephone security device be fielded in sufficient quantity to provide one per principle staff section down to brigade level and to staffs of selected logistic units.

b. The US PARKHILL (KY-65's) secure voice equipment has been developed and can fulfill this requirement. A BOI should be developed and the equipment fielded at the earliest practicable date.

c. As an interim measure, the German Elcrovox secure equipment be investigated to satisfy this requirement. The Elcrovox is standard in the German Army and has been adopted by NATO, and is in use from VII Corps to CENTAG.

MESSAGE HANDLING/COMMCEN OPERATIONS

1. (U) PROBLEM. Equipment for commcen operations is outdated.

2. (U) DISCUSSION. a. Existing teletype equipment (TT4, TT76, TT98) is outdated, relatively slow, and susceptible to recurring maintenance problems both in mechanical failures and continuous adjustment requirements.

b. The greatest time consuming requirement in existing tactical Commcenters is that of manually processing and preparing (poking) messages. Outgoing traffic backlogs generally develop due to the manual preparation of each message but are also increased by the slow transmission speed of the equipment. High speed equipment would significantly reduce if not eliminate message backlogs.

c. Courier operations are hampered by the lack of reproduction equipment in the Commcen. Low priority multi-addressed messages could be delivered by courier if sufficient copies were available however, no reproduction capability exists unless a tape is manually prepared and then run through page printers to produce copies.

d. Delays in the message handling occasionally develop at points between the message releaser and the Commcen, i.e. AG Message Center due to high volume of traffic and the duplication of processing performed by both the AG and Commcenter.

e. Message handling times can be reduced and the efficiency of overall Commcen operations greatly improved by the utilization of automatic high speed equipment.

f. Consolidation of message handling functions will result in improved message flow by providing improved control over the entire process from receipt in Commcen to delivery to addressee. This is the DA directed telecommunications concept.

g. Tactical reproduction equipment within the Commcen would significantly improve courier and distribution operations by providing timely availability of copies for delivery as well as for adequate copies for internal distribution to staff elements.

3. (U) RECOMMENDATIONS. a. That existing tactical teletype equipment be replaced with solid state high speed automatic or semi-automatic equipment utilizing optical character readers and the capability to interface with world-wide automated system. This automated system should extend to division level and major non-divisonal logistic units.

b. Tactical reproduction equipment should be introduced as standard Commcen equipment to facilitate message handling operations.

c. Tactical message handling operations to include reproduction, distribution, and courier operation should be consolidated within the Commcen and VII Corps form a telecommunications center.

d. Immediate equipping of units in USAREUR with the TACFAX equipment for use as additional means by Commcenter and operations personnel.

COORDINATION OF FREQUENCIES

1. (U) PROBLEM. Coordination of frequencies assigned to stateside and European CEOI's by NSA was insufficient.

2. (U) DISCUSSION. Numerous instances occurred which indicated that there had been little to no correlation between the stateside REFORGER CEOI frequency assignments and those assigned to European units. Examples are as follows:

a. 101st Airborne Divison (AAST) was operating on a different MEDEVAC frequency than the European standard.

b. The [illegible] initially received with HF frequencies were not [illegible] not to be coordinated with the CENT/G Scant list of airborne [illegible] frequencies.

c. All 101st frequencies, due to their method of operation, became air to ground frequencies, and again these were not coordinated in the overall CEOI frequency spectrum.

d. 101st interfered with frequencies provided to USAREUR as being unassigned. The result was interference upon some critical command and control nets.

3. (U) RECOMMENDATIONS. a. That a complete troop list be provided to NSA in sufficient time to allow the following:

(1) Early issuance of CEOI's.

(2) Early cross check of CEOI frequency assignments.

(3) Early coordination with MOD BONN of air to ground frequencies.

(4) Provision of a table (by day) of unassigned frequencies for use in establishing unanticipated CEOI requirements.

b. A decrease in turn-around time in the provision of CEOI's by NSA.

c. The total REFORGER CEOI (to include umpire nets) produced by NSA.

INTEROPERABILITY OF CODES

1. (U) PROBLEM. Lack of common codes and ciphers.

2. (U) DISCUSSION. a. FTX/CPXs involving multi-national forces have disclosed serious problems because of language barriers and lack of common codes and ciphers.

b. The exchange of liaison packets between headquarters, while effective, is slow when coordinated actions must be consummated in real-time.

c. NATO possesses bilingual codes in the German, Dutch, and English languages. These codes, regardless of language difficulties, would facilitate coordinated and integrated combat operations in less time than liaison teams could achieve.

d. Multi-lingual codes are required during FTX/CPXs involving allied nations. This becomes increasingly important as equipment becomes more compatible.

e. NATO should develop codes that include other allied languages, e.g. French and Italian.

3. (U) RECOMMENDATIONS. a. NATO develop comprehensive multi-lingual codes for use by allied forces.

b. Designate VII Corps as controlling authority to release US and NATO codes to allied elements.

PRE-EXERCISE PLANNING

1. (U) PROBLEM. Insufficient pre-exercise Army-Air Force planning.

2. (U) DISCUSSION. REFORGER 76 (LARES TEAM) pre-exercise joint planning was not sufficient for a smoothly run operation.

a. Airspace-Maneuver Area - The ground force maneuver area was defined and approved by German authorities prior to identification of the airspace requirements above the maneuver area. Consequently, the Airspace restricted area finally approved did not coincide with the maneuver area boundaries and during the initial stages of the exercise, one brigade could neither be provided Tac Air Support nor be targetted by the opposing force.

b. New Concepts - Innovative utilization of existing equipment was planned for execution within LARES TEAM. With the exception of the Army SLAR/AF SLAR interface project which was fully coordinated; utilization of the AC-130, massive air strikes, pre-planned offensive operations with TAC Air "packages" to support the Ranger Airdrop actions never were firmly ironed out prior to Startex. Additionally, there were Air Force plans to utilize non-NATO committed or critical resources tasked by ATOC GEMBACH in support of the exercise which were not briefed or discussed with Corps personnel prior to the exercise so as to mesh them into the scenario and be understood by all concerned. As a result, AF assets flew many sorties that did not impact on scenario play.

3. (U) RECOMMENDATIONS. a. That Army/AF planners present a total maneuver and restricted airspace area package to German authorities at the same time and attempt to coincide the two.

b. That Army/AF planners be designated to develop and brief the exercise scenario from a joint aspect that effectively utilizes all assets dedicated to the exercise (at considerable cost). For those systems which have no concepts established for utilization in the European Theatre, AF and Army planners concerned must meet at least two months prior to the exercise to develop test procedures and identify the personnel who will be involved with the new system and concept to assure effective utilization.

DIFFERENCES IN CONCEPTS AND EQUIPMENT

1. (U) PROBLEM. There were differences in concepts and equipment within LARES TEAM ORANGE Forces (1 US Bde, 1 German Panzer Bde, 1 Canadian Mechanized Brigade Group) which impacted on the utilization of ORANGE Tactical Air Support.

2. (U) DISCUSSION. A comparison of available statistical data concerning the utilization of TAC Air Support by ORANGE and BLUE Forces indicates BLUE (all USAF and US ground forces) had significantly more successful Close Air Support missions than ORANGE.

a. Unofficial comments from Canadian representatives indicates the Canadian ground forces judged that sufficient artillery and Helicopter firepower was available to handle the tactical scenario facing the Canadian Brigade Group. Consequently, the Canadians did not fully utilize available air sorties for close air support and the aircraft were utilized on secondary missions. These secondary missions were not effective training missions and targets "struck" had no impact on the exercise scenario. (See also next problem)

b. In the German Panzer Brigade, the FAC single channel ground-air UHF radio equipment (only 1 per FAC) is time limited in operation due to the age/construction of the radios and the power supply of the FAC vehicle. The German FACs would come up on the air about 3 minutes prior to the requested TOE and wait until about 3 minutes after TOE and then shut down to keep from hurting their radio equipment. If the aircraft was early or late, or on a different UHF channel than what the FAC expected, then there was no radio contact between the aircraft and the FAC and a sortie was lost. It is noted that the German FAC cannot monitor a backup frequency, therefore, the "system" must assure that the DASC, the radars, the aircraft and the German FAC all have the same frequency in mind at the time the aircraft arrives. This equipment limitation also impacts on diverting aircraft to the German FAC and logically leads to the conclusion that, in the German system, the FAC frequency is known prior to takeoff and rarely changed enroute.

c. Within the German Brigade, the Brigade ALO (1 only, no augmentees) was the only English speaking AF representative and was quite busy in passing required traffic to DASC. In the German system, HF is available only at the Brigade level, therefore the Bn FACs do not have the capability to transmit to an American DASC and during LARES TEAM, there was a slow down in the German Brigade's passing of mission data to the DASC and receiving information from the DASC.

d. Prior to the start of LARES TEAM, the 1st Inf Div Fwd ALO (ORANGE ALO) was performing as a Bde ALO in conducting daily CAS training for Bde elements deployed for normal training and, at the same time, functioning as a Division ALO in planning the LARES TEAM ORANGE air effort. Similarly, the Bde staff was also functioning as a Bde and Division planning staff. Notwithstanding, the ORANGE ALO had issued a message denoting the assigned ORANGE Brigade FAC UHF frequencies, preplanned contact points (with alpha numeric coding) and ORANGE Chattermark procedures. The message was addressed to all ORANGE AF units including Air Bases, ATOC MESSTETTEN, GAF/Canadian AF Headquarters and ORANGE radar sites. During the course of the exercise, it was discovered that not all elements of the system had received the message, consequently the ALO/FACs were expecting events to happen in a certain manner, but the system was not functioning according to the prebriefed plan. There was insufficient planning time available to the ORANGE ALO to assure all elements of the system were in "G" with his plans.

e. In July 76, a request for ORANGE and BLUE Air representatives to participate in exercise planning at both the ORANGE and BLUE Division Headquarters was not favorably responded to by 4ATAF/TACC/USAFE or National AF units. Particularly for ORANGE, a minimum number of AF/Army meetings at the Tactical Scenario developing level would have identified the problem areas noted above and could have provided some solutions to make more effective utilization of air support.

3. (U) RECOMMENDATIONS. a. That Army/AF Headquarters orchestrate major exercises to a greater detail by directing integrated joint planning at the level where the ground tactical scenarios are developed. This interface at the working level will surface many problems and generate the solutions that are normally surfaced/fixed after the fact.

b. That a NATO group be tasked to recommend the combination of radio equipment for air request nets that should be procured by nations so that Allied Brigades/Bns may be cross attached at will and enter the parent Divison/Corps Air Request Net with no adjustment to existing procedures.

c. The manevuer area and restricted airspace for major exercises be identified and approved in sufficient time for the planning and checking of predetermined Contact Points and minimum risk routing throughout the exercise area and subsequent distribution to all elements needing the information.

CAS SORTIES FOR LARES TEAM

1. (U) PROBLEM. The large committment of ORANGE/BLUE sorties to LARES TEAM could not all be used for CAS and many missions were committed to secondary targets. The practice of assigning secondary missions or targets to aircraft in major exercises has led to erroneous thinking in Army units and is negative training.

2. (U) DISCUSSION. As major exercises provide the only opportunity for Army and Air Force units to participate in live large scale joint exercises, the tendancy is to maximize sortie rates for the exercise period without considering the tactical scenario and the capability of that scenario to generate the effective use of all sorties.

a. Prior to the exercise, both BLUE and ORANGE ALOs identified coded armed reconnaissance routes to be utilized as secondary missions. During the course of the exercise, as the flow of battle progressed, these routes had to be changed via message traffic. These messages did not always get to all units, consequently, it was impossible to divert a single seat fighter to an armed recce mission when the route had to be passed by grid coordinates to the airborne fighter.

b. Secondary targets were provided by the ATOC SEMBACH Intelligence Cell which were used to "save" a mission that could not be used on a CAS strike. However, the execution of a mission configured with anti-armor munitions on a road/bridge interdiction target would not be done in reality and gives a false impression of successful/unsuccessful missions. It is the opinion of many Army officers, that all aircraft ought to take off with a secondary mission, and if not used for CAS according to the tactical situation, execute the secondary mission. This is a valid procedure - providing the ordnance configuration of

the flight matches both the CAS requirment and the secondary target. The ease with which aircraft are committed to secondary missions in exercises without regard for ordnance configurations leads to false impressions on the effective utilization of tactical airpower.

c. In LARES TEAM, there were no COLD FIRE areas to absorb excess sorties not able to be targetted by the tactical scenario in progress at their TOE. More importantly, CENTAG/4ATAF were not playing to target and execute the daily interdiction plan which would be done in wartime.

d. As a result, many missions were unsuccessful as they could not be absorbed by CAS requirements which were dependent on the level of activity generated by the tactical scenario and many other missions were sent to interdiction type targets of little importance to the scenario or valid aircrew training requirements.

3. (U) RECOMMENDATIONS. a. That CENTAG/4ATAF play in future major exercises and plan and execute interdiction plans according to the exercise scenario. The CENTAG/4ATAF aircraft assets could be diverted to CAS missions according to the tactical scenario via Corps requests for increased allocations, when required.

b. That detailed joint planning take place prior to major exercises (as recommended in previous problem) that would establish the sorties allocations to CAS or interdiction and total sorties that could be utilized by the tactical scenario.

AKAC 1543 SYSTEM

1. (U) PROBLEM. There is a need to secure NATO approval of a single, simple field operational authenticate/encode/decode publication such as the AKAC 1543 system.

2. (U) DISCUSSION. Failure to secure NATO approval of the utilization of the USFAC 1543 in LARES TEAM led to the decision to declassify all CAS/Recce request data for the LARES TEAM exercise.

a. All COMSEC unit reports will comment on this procedure.

b. Currently, USAF TACPs are required to deploy to the field with an authenticate system for authenticating with aircraft and an encode/decode system for use in transmitting CAS/Recce requests.

c. The USKAC 1543 can be used to both authenticate and encode/decode.

3. (U) RECOMMENDATION. That priority efforts be made to secure NATO approval of the USKAC 1543 as the standard NATO air-ground-air authentication system and IARN encode/decode system.

RECONNAISSANCE SORTIES ALLOCATION

1. (U) PROBLEM. Reconnaissance sorties allocation.

2. (U) DISCUSSION. a. VII Corps attempted to equalize intelligence collection assets between ORANGE and BLUE Forces. VII Corps formally requested an air recce package on 1 April. positive information did not return until 2 Sep - 9 days prior to Startex. This created some confusion in the "last minute" shuffling of intelligence objectives.

b. Suballocating of reconnaissance assets. BLUE and ORANGE allocations were already divided when coming from 4 ATAF and the ATOC. Due to the small number of sorties involved (compared to Close Air Support) the suballocation of sorties by 4ATAF and ATOC restricted the ability of VII Corps to make adjustments as the tactical situation deemed necessary.

3. (U) RECOMMENDATIONS. a. That earlier and more planning meetings take place between Corps, CENTAG, USAFE and 4 ATAF. All parties should be represented at each meeting. Also, if CENTAG is not to play in the FTX, then direct coordination be authorized for Corps with 17AF, USAFE and 4ATAF.

b. That 4ATAF and the ATOC refrain from suballocating recce assets between ORANGE and BLUE Forces during major live fly exercises. VII Corps would continue to identify the requestor (ORANGE and BLUE) on 4ATAF Form 22.

TEREC

1. (U) PROBLEM. TEREC.

2. (U) DISCUSSION. a. TEREC missions flown in LARES TEAM provided accurate and timely identification of ORANGE ADA sites. In several instances the raw TEREC data was within 100 meters. As a rule, SLAR confirmed TEREC data provided the most reliable targets. The data came to Corps via Air Force teletype named "Blue Line" for the exercise. This method was fast and reliable. A major problem that must be resolved is how TEREC data will get to Corps. The "Blue Line" was set up as a one time situation to enhance reception of near real time SLAR data.

b. Another problem concerning TEREC targets was the targetting chain of events. The target data, once received by Corps, was passed to Corps FSE who, in turn passed the data via FM point to point secure to the BLUE FSE. If artillery could not be put on the target, the G3 Air would make the decision to put air on it. The problem in the FTX was the lack of decision making between the G3 Air and FSE of BLUE. This was due to the amount of TEREC data that had never been experienced by BLUE (Division) level personnel.

c. Airborne aircraft were provided for use to hit targets that were found by TEREC. These aircraft were not in any Ops Orders and no prior coordination for their employment had been arranged between the Army and Air Force. This led to some confusion as to how they would be requested. The time element was a problem due to the decision process involved. First, TEREC had to find targets and these targets had to be SLAR confirmed to make them realistic and reliable. Secondly, the data had to be passed to Corps. Corps then had to plot them to make sure they were within the Corps area of responsibility, i.e., within the FSCL. Thirdly, the data had to be passed to the FSE at Corps and BLUE (Division) with the bilateral decisions between G3 Air and FSE. Fourthly, if the target was desired to have an air strike the method of requesting the airborne aircraft was not defined.

3. (U) RECOMMENDATIONS. a. That MIBARS be responsible for passing TEREC data to Corps. Also, that this data be simultaneously passed to Division TOCs.

b. That TEREC data be utilized by Corps and Divisions in all CPXs and FTXs. This would exercise the chain of events of decision making at Division and between Division and Corps.

c. That TEREC data outside of the FSCL not be considered urgent to Corps needs. That these targets would be under the Air Force interdiction program. Also, that in future exercises the method of requesting airborne assets for striking TEREC targets be defined.

COLDFIRE

1. (U) PROBLEM. COLDFIRE objectives as stated in CENTAG/AAFCE OPORDERs are not supported by the level of participation of player units and, when scheduled concurrently with the assembling of units for a follow on major FTX, cannot be adequately supported with current TACP manning and equippage.

2. (U) DISCUSSION. For basis of reference, the AAFCE Exercise COLDFIRE 1976 OPORDER is used, refer to Para 2, page 2.

a. Player units were 4 Det 3, 601TCW Tactical Air Control Parties, 8 Army Target Teams (Area 6), 602d DASC, ATOCs SEMBACH and MESSTETTEN and skeletonized CENTAG/FOURATAF Headquarters.

b. Tactical Air Control Party participation was reduced by 50% from original plans (TACP per target team) in order to provide a minimum of 1 TACP per Battalion plus minimum Brigade/Division TACP manning and equippage for 24 hour duty with the LARES TEAM ORANGE Forces. At the same time, the 3d ID TACP organizations were preparing for umpire duties.

c. The lack of deployed Brigade, Division and Corps Staffs reduced the actual value of the VII Corps COLDFIRE 76 participation to Redeye Team and TACP/DASC training. AAFCE OPORD objectives (1), (2) and (4) as shown in para 2, page 2 could not be realized with those player units missing.

d. The reduced TACP committment to COLDFIRE 76 still did not leave sufficient assets to man the ORANGE Forces with a full TACP complement prior to deployment to the field. Two TACPs were pulled out of COLDIRE 76 two days prior to ENDEX to proceed to GOEPPINGEN for briefings and then to deploy with their Army unit to the field. The 3d ID ALO then dismantled his division ALO radio net and provided a third TACP for the completion of COLDIRE 76. This resulted in a work schedule of approximately 18 hours per day for the 3 TACPs.

3. (U) RECOMMENDATIONS. a. That major exercises planned at higher headquarters be fully discussed with player units to identify realistic objectives for planned participation levels.

b. That manning and equippage be the determining factors in STARTEX-ENDEX times for major exercises scheduled for the same time period.

EVALUATION OF RAILHEAD SITES

1. (U) PROBLEM. Evaluation of railhead sites.

2. (U) DISCUSSION. 2d SUPCOM (Corps) was provided a list of 4th Transportation Brigade approved railhead sites from which sites would be selected to support the FTX. Upon closer examination many of these "approved" sites could not be utilized due to space constraints or existing safety hazards.

3. (U) RECOMMENDATION. That the 4th Transportation Brigade conduct a detailed investigation of proposed POL rail sites before approving them for use.

VISIBILITY OF REQUISITIONS

1. (U) PROBLEM. Lack of visibility of requisitions filled by USAREUR MMC.

2. (U) DISCUSSION. During the play of the exercise, neither the 800th MMC nor the Class IX branch of the Supply Division had complete visibility of requisitions filled or killed by USAREUR MMC. The only visibility provided was through follow-up on a case-by-case basis, and this was fairly difficult due to the lack of good telephonic communications. Although receiving units could provide some information, it was limited to those items actually received. In addition, the 101st Air Assault Division had no way of knowing which requisitions were killed due to zero balance or non-stockage and which ones were still in process. Efforts to obtain this information from USAREUR MMC by phone on a case-by-case basis is very time consuming and ineffective. Also the lack of this visibility conceals other potential problems such as warehouse denials, delays in transportation, deliveries to wrong locations, etc. Due to the short length of REFORGER, follow-up action by units does not appear to be the solution.

3. (U) RECOMMENDATION. That the 800th MMC contact USAREUR MMC and attempt to establish some type of parameters for providing a periodic (i.e., every 48 hrs) printout during the REFORGER exercise showing MROs, kills, rejections, cancellations, etc.

AVAILABILITY OF PARSBURG BAHNHOF

1. (U) PROBLEM. Inaccurate information concerning the availability of the PARSBURG Bahnhof for use as a POL rail site.

2. (U) DISCUSSION. Four days prior to fuel being shipped into the 4th Transportation Brigade approved PARSBURG rail site, 2d SUPCOM (Corps) was informed by the PARSBURG station master that the schedule of trains into the bahnhof would restrict POL operations. A considerable amount of coordination had to be accomplished in a hurry to locate an alternate rail site for POL operations.

3. (U) RECOMMENDATION. That 4th Transportation Brigade thoroughly investigate train schedules prior to approving a rail site for POL operations.

POL RAILHEADS

1. (U) PROBLEM. Request for additional POL railheads.

2. (U) DISCUSSION. The 101st Air Assault Division requested three extra POL railheads in addition to those already allocated for JP4 during the FTX. None of this fuel (90,000 gallons) was used. These railcars were moved twice during the conduct of the FTX resulting in considerable extra expense. As this fuel was dedicated to the 101st Air Assault Division, other units were unable to use the fuel.

3. (U) RECOMMENDATION. That units participating in the FTX be directed to accept POL rail sites selected by 2d SUPCOM (Corps).

INADEQUATE FM SECURE VOICE

1. (U) PROBLEM. Inadequate FM Secure Voice capability.

2. (U) DISCUSSION. a. During FTX LARES TEAM, 2d SUPCOM established or entered three FM nets; the VII Corps BLUE Command net, the VII Corps ORANGE Command net and the 2d SUPCOM

Command net. Both the VII Corps nets were secure voice nets.

b. Very little traffic was passed or received over the BLUE and ORANGE nets by this headquarters. The 2d SUPCOM Command net was extensively used to pass unsecure and encrypted traffic to the 1st and 71st Maintenance Bns. The 2d SUPCOM Command net, if secure would have provided an excellent means of passing classified tactical and intelligence data.

c. 2d SUPCOM presently has only three FM secure voices on hand out of more than 70 authorized.

3. (U) RECOMMENDATION. That additional FM secure devices now authorized be issued to 2d SUPCOM so that the 2d SUPCOM Command net can be operated as a secure net.

TRANSPORTATION ASSETS

1. (U) PROBLEM. Transportation assets to support FTX.

2. (U) DISCUSSION. Sufficient transportation assets in the form of heavy equipment transports and 5000 gal POL tankers were not available within 2d SUPCOM to support the two division sized forces during the FTX. A shortage of 2 1/2 ton trucks occurred during MUAA support after completion of the FTX.

3. (U) RECOMMENDATION. That a POL company with tanker assets and a heavy truck company with heavy lift capability be attached to VII Corps during future REFORGER exercises. A light truck company should be made available for one week after completion of the FTX.

SUPPLY SUPPORT

1. (U) PROBLEM. Early identification of supply support required by REFORGER units.

2. (U) DISCUSSION. The 101st Airborne Division (AASLT), G4, provided informal and unauthenticated lists showing Class II and IV requirements such as expendable, dry cell batteries, chemical items and CTA 50-900 items. These lists formed the basis for planning for Class II and IV support. Later coordination with the DMMC revealed that they had no knowledge of these lists and questioned the validity of the lists.

3. (U) RECOMMENDATION. That the major CONUS based units participating in REFORGER be tasked to provide estimated supply support requirements at least five months prior to the exercise.

ORGANIC TRANSPORTATION

1. (U) PROBLEM. Lack of organic transportation assets.

2. (U) DISCUSSION. The 1st Maintenance Battalion was required to task practically all battalion transportation assets so that the battalion headquarters and one direct support company were capable of operating in a tactical environment. The three companies not participating in the exercise would not have been able to conduct tactical operations in an emergency because of the total lack of transportation capability. Project Wheels removed many of the tactical vehicles that were unncecessary for operation in a peacetime environment with the promise of returning these vehicles prior to the start of any real world emergency. This reduction in the number of vehicles on hand seriously degrades the capability of units to perform wartime missions.

3. (U) RECOMMENDATION. That prepositioned vehicles should be issued to those units participating in the exercise, thus testing the Project Wheels concept.

SHIPPING AND CRATING MATERIAL

1. (U) PROBLEM. Timely identification and submission of requirements for shipping and crating material.

2. (U) DISCUSSION. Shipping and crating requirements were identified by the 101st Airborne Division in early June. As of 21 September, when the initial element began redeploying, only 20 of 71 lines of material had been provided.

3. (U) RECOMMENDATION. That early and accurate identification of requirements for shipping and crating material be accomplished (120 days lead time) to insure proper supply support.

CHOCKING AND BLOCKING MATERIAL

1. (U) PROBLEM. Chocking and blocking material requirements.

2. (U) DISCUSSION. Requirements for chocking and blocking material for both rail redeployment and highway movement were not forecast in a timely manner. The 101st Airborne Division did not forecast any rail requirements for bracing materials and did not submit their chocking and blocking requirements for highway movements until 17 August 1976.

3. (U) RECOMMENDATION. That requirements for tie down and bracing material be provided by the using unit in a timely manner.

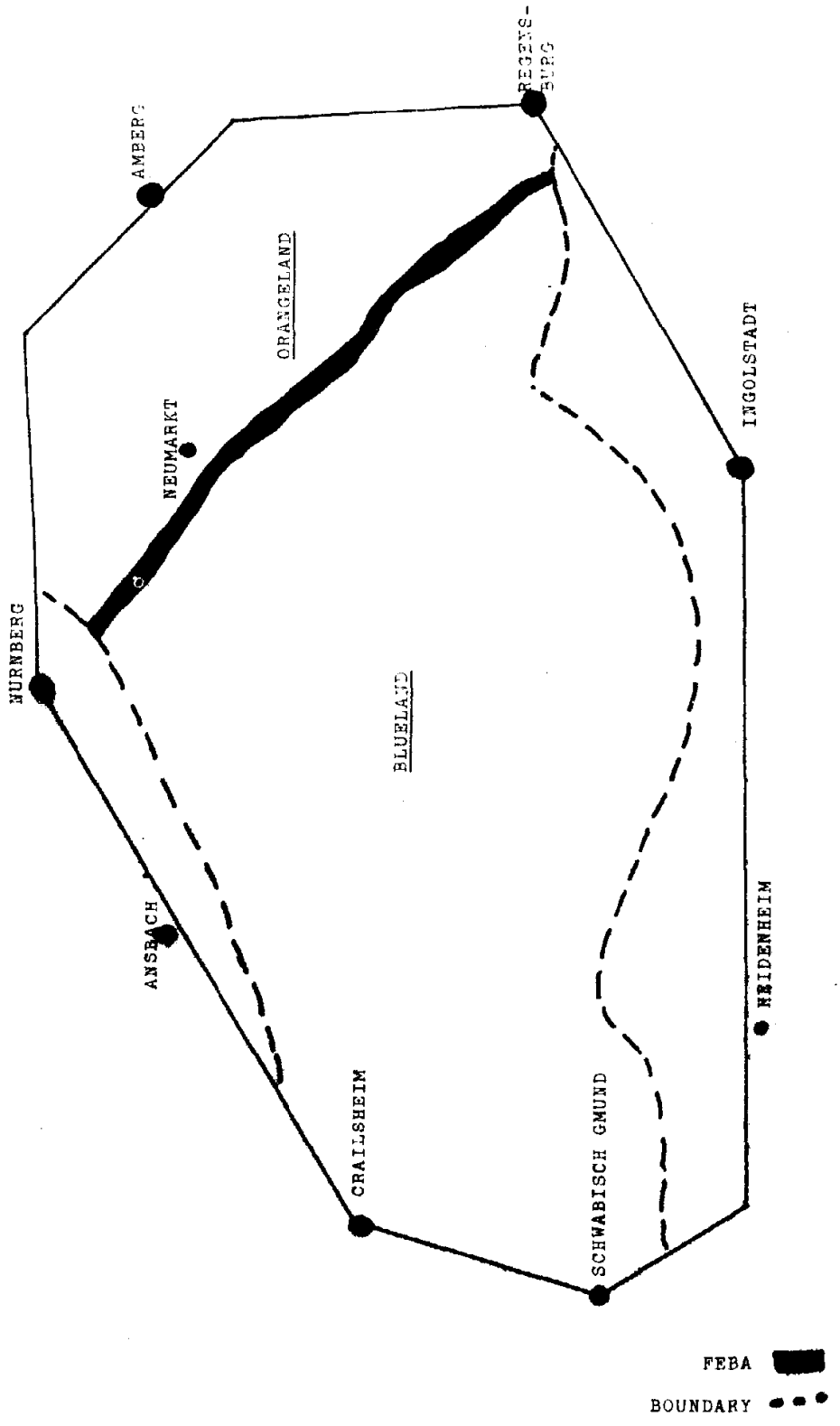
REDBALL

1. (U) PROBLEM. "Redball" delivery of items.

2. (U) DISCUSSION. Requisitions passed through the 800th MMC were filled within 48 hours and were to be shipped under the "Redball" mode of delivery. The only problem was that the items were delivered to the rear locations of the 182d Maintenance Company at MERRELL BARRACKS instead of the field location as requested prior to the start of the exercise. This caused the use of valuable transportation assets when items could have been delivered to the field. In addition, a delay was encountered in getting the items to the customers.

3. (U) RECOMMENDATION. That items delivered during REFORGER under the "Redball" mode of delivery be delivered to the field location.

GEOGRAPHICAL AREA OF EXERCISE **UNCLASSIFIED**



Inclosure 6

UNCLASSIFIED

DISTRIBUTION

RECIPIENT

2 -CINCUSEUCOM, APO 09128
10-CINCUSAREUR, APO 09403
2 -CINCUSAFE, RAMSTEIN, APO 09012
2 -CDR, TRADOC, Ft Monroe VA, 23351
4 -CDR, FORSCOM, Ft. McPherson, GA 30330
2 -CDR, V Corps, APO 09079
2 -CDR, XVIII Abn Corps, Ft. Bragg, N.C. 28307
2 -CDR, 17th Air Force Sembach, APO 09130
5 -CDR, 1st Armored Divison, APO 09326
2 -CDR, 3d Infantry Division, APO 09036
2 -CDR, 101st Abn Div, Ft. Cambpell, KY 42223
2 -CDR, 1st Inf Div Fwd, APO 09137
2 -CDR, 32d AADCOM, APO 09227
2 -Chief Umpire, FTX LARES TEAM, APO 09701
2 -CDR, USAMEDCOMEUR, APO 09403
2 -CDR, 1st Spt Bde, APO 09086
2 -CDR, 2d SUPCOM (Corps), APO 09160
2 -CDR, 2d Armored Cavalry Regiment, APO 09093
2 -CDR, 3d Bde, 2d AD, APO 09114
2 -CDR, 4th Trans Bde, APO 09451
2 -CDR, 7th ATC, APO 09114
2 -CDR, 7th Engr Bde, APO 09154
2 -CDR, 7th Signal Bde, APO 09166
1 -CDR, 11th Avn Cp, APO 09025
1 -CDR, 15th MP Bde, APO 09086
1 -CDR, 24th Engr Group, APO 09227
1 -CDR, 30th Med Gp, APO 09154
1 -CDR, 59th Ord Gp, APO 09189
1 -CDR, 66th MI GP, APO 09108
2 -CDR, 69th AD Group, APO 09801
2 -CDR 72d Fld Arty Gp, APO 09047
2 -CDR, 210th Fld Arty Gp, APO 09177
1 -CDR, 502d ASA Gp, APO 09178
1 -CDR, 303d Maint Bn, APO 09093
1 -CDR, 385th MP Bn, APO 09154
1 -CDR, 793d MP Bn, APO 09696
1 -CDR, 2-57th ADA Bn (Hawk), APO 09177
1 -CDR, 2-67th ADA Bn (C-V), APO 09227
1 -CDR, 3-7th ADA Bn (Hawk), APO 09702
1 -CDR, 307th ASA Bn, APO 09154
2 -CDR, 601st TCW, Wiesbaden, APO 09332
2 -CDR, 34th Signal Battalion, APO 09154
1 -CDR, 223d Aviation Bn, APO 09061
1 -CDR, VII Corps Special Troops Bn (Prov), APO 09107
1 -CDR, 334th Avn Co (Atk Hel), APO 09165
1 -CDR, 664th Ord Co, APO 09322
1 -CDR, 602d DASC, APO 09107
1 -Chief, USA Claims Svc, APO 09166
1 -Chief, EES Munich, APO 09245
1 -USFLNO, Baden-Wuerttemberg
1 -UCFLNO, Bayern, APO 09407

NATO
2 -CINCAFCENT, APO 09011
3 -COMCENTAG, APO 09099
2 -CDR, 4 ATAF, Ramstein, APO 09012
1 -CDR, II (GE) Corps, 79 ULM/DONAU Kieulesberg Kaserne
1 -CDR, 12th (GE) Pz Div, 8702 Veitschonheim, Balthuasar-Neumain Kaserne
3 -CDR, 29th (GE) Pz Bde, 748 Sigmaringen, Graf von Stauffenberg Kaserne
1 -CDR, CFE, CFPO 5000, 763 LAHR/SCHWARZWALD, FRG
1 -LNO, II (GE) Corps LNO to VII (US) Corps
1 -CDR, WBK V, 7 Stuttgart, Bad-Cannstatt
1 -CDR, WBK VI, 8 Munich 19, Dachauer Strasse
1 -LNO, VII (US) Corps LNO to II (GE) Corps APO 09035
1 -Chief Liaison Gp to CCFFA, APO 09164
1 -CDR, German Territorial Southern Command, APO 09043

COMMUNITY AND SUBCOMMUNITY COMMANDERS

1 -Stuttgart Deputy Community Commander, APO 09154
1 -Vaihingen Subcommunity Commander, APO 09131
1 -Boeblingen Subcommunity Commander, APO 09046
1 -Ludwigsburg Subcommunity Commander, APO 09154
1 -Zuffenhausen Subcommunity Commander, APO 09154
1 -Nellingen Subcommunity Commander, APO 09160
1 -Goeppingen Community Commander, APO 09137
1 -Schwaebisch Gmuend Subcommunity Commander, APO 09281
1 -Schwaebisch Hall Community Commander, APO 09025
1 -Heilbronn Community Commander, APO 09176
1 -Nuernberg Community Commander, APO 09096
1 -Zirndorf Subcommunity Commander, APO 09070
1 -Schwabach Subcommunity Commander, APO 09142
1 -Erlangen Subcommunity, Commander, APO 09066
1 -Herzogenaurach Subcommunity Commander, APO 09352
1 -Bamberg Community Commander, APO 09139
1 -Ansbach Coummunity Commander, APO 09326
1 -Illesheim Subcommunity Commander, APO 09140
1 -Crailsheim Subcommunity Commander, APO 09751
1 -Aschaffenburg Community Commander, APO 09162
1 -Wuerzburg Community Commander, APO 09036
1 -Kitzingen Subcommunity Commander, APO 09031
1 -Schweinfurt Community Commander, APO 09033
1 -Bad Kissingen Subcommunity Commander, APO 09330
1 -Wertheim Subcommunity Commander, APO 09047
1 -Augsburg Community Commander, APO 09178
1 -Munich Community Commander, APO 09245
1 -Neu Ulm Community Commander, APO 09035
1 -Garmisch Community Commander, APO 09053
1 -Berchtegaden Subcommunity Commander, APO 09029
1 -7th ATC Community Commander, APO 09114
1 -Wildflecken Subcommunity Commander, APO 09026
1 -Amberg Subcommunity Commander, APO 09452
1 -Hohenfels Subcommunity Commander, APO 09173
1 -Bayreuth/Bindlach Subcommunity Commander, APO 09411
1 -Bad Toelz Community Commander, APO 09050

CORPS STAFF

1 -ACofS, G1
1 -ACofS, G2
30-ACofS, G3
1 -ACofS, G4
1 -ACofS, G5
1 -SGS
1 -Engr
1 -Sig O
1 -SJA
1 -IG
1 -Chap
1 -Surg
1 -ALO
1 -AG
1 -IO
1 -PM
1 -Compt
1 -DIO
1 -DFE
1 -SSO
1 -FSE
1 -ATSE
2 -AG Files

ARMY SCHOOLS

1 -US Army War College, Carlisle Bks, PA 17013
1 -US Army Command & General Staff College Ft Leavenworth, KS 66027
1 -US Army Infantry School, Ft Benning, GA 31905
1 -US Army Armored School Ft Knox, KY 40121
1 -US Army Field Artillery School, Ft Sill, OK 73503
1 -US Army Engineer School, Ft Belvoir VA 22060

REFORGER 76 After Action Report (U)

1. (U) References:

a. USAREUR OPORD 6-76 (U) (CLAS)

b. 1st Spt Bde OPORD 2-76 (U) (CLAS)

c. CINCUSAREUR MSG, AEAGC-REF76, 280822Z July 76, Subject: Support of 1st Bn 75th Inf (RANGERS) During CERTAIN FORCE/REFORGER 76. (U) (CLAS)

2. (C) General:

a. On 19 August 1976, 1st Spt Bde was redesignated as 21st SUPCOM. All references to 21st SUPCOM are therefore applicable to 1st Support Brigade. Missions assigned to 21st SUPCOM as outlined in reference a and c were to:

(1) Establish and operate the USAREUR BENELUX Coordination Center for USAREUR units operating in the BENELUX LOC.

(2) Coordinate logistical communication and administrative support for CONUS based forces deploying through the LOC and USAREUR forces.

(3) Receive exercise forces at prepositioned storage sites (PREPO) upon their arrival from CONUS.

(4) Assemble and support the force in Initial Unit Assembly Areas (IUAA).

(5) Support movement of the force to the Major Unit Assembly Areas (MUAA's).

(6) Provide selected support in the MUAA's.

(7) Support FTX's GROSSER BAER and COOL GIN.

(8) Reposition REFORGER equipment which included selected items of equipment issued to the 101st Airborne Division (AASLT) (-).

(9) Establish a MUAA for the 1st Battalion, 75th Infantry (RANGERS) and provide support as required.

(10) Arrange for Host Nation support for post exercise activities of the 101st Airborne Division (AASLT) (-) with the Netherlands 1st Corps and with the British Army of the Rhine.

(11) Provide support to CONUS-based units during redeployment from the Port of Bremerhaven, commercial airport of Bremen, Ramstein Air Base, and Rhein Main Air Base to CONUS.

b. Concept of Operations:

(1) Upon receipt of the USAREUR OPORD, the 21st SUPCOM insured that POMCUS sets of equipment and selected items would be issued in accordance with the timetable which would have to be met under an actual reinforcement situation without jeopardizing safety standards. Provisional command and control organizations were formed to supervise the execution of this 21st SUPCOM mission.

(2) In Gent, Belgium the 21st SUPCOM established the USAREUR BENELUX Coordination Center. Colonel Oscar G. Price, Jr., ACSSPO, was the director. The mission of the 21st SUPCOM was to arrange for and monitor contractual agreements for Host Nation support for Class I, III, and services to include laundry, bath, billeting, local transportation, and security. Additional support provided to CONUS forces by 21st SUPCOM included Class IX and IX A repair parts and maintenance support for wheeled vehicles and helicopters. A Belgium Operations Center and a Netherlands Operations Center were formed. The Belgium OPS Center was collocated with the USAREUR BENELUX Coordination Center.

(3) During redeployment, the command and control organizations cited in para 2b(1) above supported the redeployment of all units which drew POMCUS equipment, the 1st Bn, 75th Inf (RANGERS), and selected 101st Airborne Division (AASLT) (-) units. A command and control organization was formed by USA Spt Gp Norddeutschland to provide support for redeployment through the Port of Bremerhaven and the Bremen Commercial Airport.

(4) The 101st Airborne Division (AASLT) (-), ten non-divisional units, and three United States Army Reserve/National Guard units were received at

five airheads by the 4th Transportation Brigade: Oostendee and Koksijde, Belgium; Schipol, Holland; and Ramstein and Rhein Main, FRG. Equipment which was brought into two ports:, Gent, Belgium and Vlissingen, Holland was off-loaded under MTMC's Transportation Terminal Group, Europe supervision. Equipment was staged at the port except for helicopters which were moved from the port as soon as they were assembled into a staging area. Personnel were staged at pre-selected sites provided by Host Nation. As soon as equipment was operationally ready, convoys were moved from Belgium and Holland along pre-established routes to the base camps near Kitzingen, FRG. Helicopters were flown in small groups from the helicopter staging area to the base camps. Support along the established routes was provided by Host Nations and USAREUR units. OPCON of the 101st was passed by USAREUR through CENTAG to CDR, VII Corps. Non-divisional units were equipped from five preposition storage sites and staged in five IUAA's by elements of the 21st SUPCOM and assembled operationally ready in four MUAA's. Upon closure into their MUAA's, OPCON was passed to USAREUR commands as indicated in Annex A to Ref a.

c. Task Execution:

(1) BENELUX LOC. Ref a tasked the 21st SUPCOM to operate a USAREUR BENELUX Coordination Center in the BENELUX. The Coordination Center was operational in Gent, Belgium, from 16 August to 28 August 1976. It was staffed by representatives of 21st SUPCOM, 4th Transportation Brigade, 5th Signal Command, and USAMEDCOMEUR. The Assistant Chief of Staff for Security, Plans, and Operations of the 21st SUPCOM was appointed director for the Control Center. Additional Coordination Centers were established at Gent, Belgium and Vlissingen, Holland. The director of the Belgium Coordination Center was provided by the Assistant Chief of Staff, Logistics and collocated with the BENELUX Coordination Center. The director of the Holland Coordination Center was the Commander, 66th Maintenance Battalion. The control centers were fully operational and began 24 hour operations on 16 August 1976. During the operations of the BENELUX LOC, the coordination centers' staff served as the REFORGER control element for USAREUR. They maintained current status on the off-loading of ships, operational status of equipment, monitored convoy movements, and monitored arrival of aircraft and movement of personnel from airfields to billeting areas. Host Nation support was used extensively in the areas of Class I, Class III, and services to include laundry, bath, billets, and local transportation. Support requirements were presented to Host Nations by contractual agreements generated by the United States Army Procurement Agency, Europe. These contracts were based on purchase requests and Commitment forms developed by 21st SUPCOM, who as the Contracting Officers' Representatives also monitored Host Nation compliance with the contractual agreements. (See TAB A).

(2) FRG: A provisional command and control organization, REFORGER 76 Control Group, was established on 7 August 1976. The control group was

augmented with representatives from all pertinent staff sections. Twenty-four hour a day operations began on 16 August 1976. In addition to serving as the 21st SUPCOM's control element for the operations in the FRG, assistance was provided to the BENELUX Coordination Centers. During the exercise, the operations center staff maintained current issue and operational status of equipment and monitored convoy movements, logistical support, arrival of aircraft, and movement of units from airfields to prepositioned storage sites/IUAA's. Daily briefings were conducted for the Commanding General, his deputy, and selected staff on POMCUS issues and activities in the BENELUX. Required reports were rendered to Headquarters, United States Army, Europe and Seventh Army. The 51st Maintenance Battalion provided laundry and bath support to the MUAA's from 23 August through 20 October 1976. US Army Combat Equipment Group, Europe activated and issued a total of 629 vehicles. The 51st and 66th Maintenance Battalions of the 21st SUPCOM provided maintenance, supply, and field service support to REFORGER and participating USAREUR units in the IUAA's. The 95th Military Police Battalion provided discipline, law and order, and convoy movement support for all REFORGER units. In addition to the REFORGER 76 Control Group, Assembly Area Control Groups (AACG's) were organized by five 21st SUPCOM communities, one sub-community, and the V Corps community of Baumholder. They operated six IUAA's and coordinated turn-in and redeployment operations at the storage sites during Phase IV. AACG's were responsible for providing administrative support and serving as points of contact for all non-organic logistic support. 21st SUPCOM units and community resources were responsible for this operation. One Convoy Support Center (CSC) and one Remain Over night (RON) site were established at Coleman Barracks, Mannheim to provide support to all convoys. Support was provided by the 51st Maintenance Battalion, 95th Military Police Battalion, and Mannheim Community during Phase I and Phase IV.

3. (C) Significant Events:

a. The most significant event during REFORGER 76 was the discovery that no implementing instructions for the STANAG agreements for reimbursement for Host Nation support had been developed. The testing of the degree of interoperability of participating NATO forces was a success. The bulk of supplies, services, and facilities were provided by Host Nation during deployment, convoy movements, and for FTX's GROSSER BAER and COOL GIN.

b. USAREUR BENELUX LOC Operations (TAB A).

c. FTX Support (TAB B).

d. US Redeployment of Forces through the Port of Bremerhaven (TAB C).

e. 1st Battalion, 75th Infantry (RANGERS) (TAB D).

4. (C) Attainment of Objectives:

a. 21st SUPCOM execution of Exercise REFORGER 76 commenced with the emplacement of the USAREUR personnel in the BENELUX LOC on 15 August 1976. The 42 day exercise terminated on 8 October 1976 with complete attainment of all 21st SUPCOM objectives.

b. The testing of Host Nation's ability to provide common support was accomplished. Host Nations were able to adapt to changes in requirements on short notice. The degree of professionalism displayed by all Host Nation support agencies was truly commendable. Cooperation by local officials in Belgium and Holland was outstanding.

c. Those units which drew POMCUS equipment both non-divisional and divisional accomplished their missions in a truly commendable manner. Return of equipment to the prepositioned storage was accomplished quickly and professionally. The turn-in of equipment at the prepositioned storage sites was from 17 September 1976 to 30 September 1976. The last element departed from Rhein Main on 4 October 1976. The working relationship between 21st SUPCOM and both divisional and non-divisional REFORGER units was outstanding and contributed greatly to the smooth, efficient issue and turn-in of POMCUS stocks.

5. (U) PROBLEMS: TAB's E through P identify specific problems. They are broken into five sections as follows:

a. BENELUX LOC:

(1) Finalization of STANG agreements (TAB E).

(2) Difficulty in identifying Host Nation support requirements. (TAB F).

(3) Inadequate or lack of briefings of all personnel concerned with Host Nation support and exercise objectives. (TAB J).

(4) Lack of adequate communications from the Netherlands LOC Headquarters to higher headquarters and the Kaiserslautern area. (TAB K).

b. REFORGER 76 Control Group - Kaiserslautern: Inadequate brevity codes. (TAB M).

c. FTX GROSSER BAER and COOL GIN: Submissions of operational readness reports. (TAB N).

d. Redeployment: Lack of MAC representatives in the Redeployment Coordination Center. (TAB O).

e. Lack of Billet Space: Within the Kaiserslautern area there was inadequate Army controlled billet space to house the Ranger Battalion and other REFORGER troops during deployment and redeployment, USAF facilities were utilized. (TAB P).

6. (U) Lessons Learned:

a. Requirements for Host Nation support must be identified clearly and early. In the BENELUX LOC, both the Belgians and Dutch were responsive; however, we imposed excessive last minute changes. Our traditional flexibility must give way to a disciplined determination to adhere to the plan, once laid down and coordinated. This is not an easy task. It involves planning the loading of every vehicle and helicopter to mesh with personnel arrival to insure the people and equipment for convoys are available concurrently. This in turn drives the requirements for meals, beds, and bus transportation. A subsequent decision to add personnel to a particular flight or change material in the stow plan impacts on requirements across the board. The USAREUR procedures review, 19-23 July, enhanced this coordination, but both USAREUR and CONUS - based elements made commitments in good conscience without coordinating with all concerned.

b. We must brief our soldiers better on what to expect. The adverse impact of eating Host Nation rations and utilizing Host Nation physicians could have been minimized through counselling both USAREUR and CONUS-based personnel in advance. On 20 July 1976, Colonel A.F.J. Summers, MD, 21st SUPCOM Surgeon, advised the Commander of possible shortcomings in memorandum which discussed the kitchen facilities, quality control, and menu adequacy. On 24 August 1976, Colonel John C. Fichtner, MD, CDR SHAPE Medical Activity, personally inspected local Belgium Dining Facilities and Medical Support Activities. He verified that both food service and medical care were adequate. Had this been done prior to troop arrival, and troops briefed accordingly; troop dissatisfaction would have been minimized. Once acclimated to the difference in US rations and Host Nation rations, similiar adverse impacts were evidenced neither during the exercises conducted by the British and Germans nor during redeployment.

c. USAREUR and CONUS-based units must be more adequately briefed on the exercise objectives, missions, and areas of operation. This should include orientation on Host Nation countries that would enable individual soldiers to function more effectively both on and off duty. Individuals, especially mid-echelon leaders, need a better appreciation of European geography.

d. MAC Flow Plans and convoy schedules for the BENELUX allowed drivers less than 12 hours between arrival and road march in many cases. In a peacetime exercise, this should be increased by at least 24 hours. Additionally, the MAC Flow Plan for those units arriving at FRG APOD's must be provided at the earliest possible date. Late publication of this flow plan can cause undue hardships on communities tasked to support these units. This is especially true in the submission of ration requests. Early publication of the flow plan can alleviate these problems.

e. Currency conversion was not adequately provided by Host Nations in all cases. In the future, US Army Finance Offices should be tasked to provide this support, as a last resort.

7. (C) Commanding General's Recommendation and Summary.

a. To overcome the problems cited in TAB's E through P recommend:

(1) Host Nation support once identified and planned for cannot be drastically changed. Total requirements must be identified NLT A-30. Once agreements have been reached on specific support and the agency to provide the support, tasking must be followed. Any changes after A-30 must be presented to Host Nations to determine their ability to support such changes. If they cannot support these changes, USAREUR units must be tasked.

(2) In preliminary planning for REFORGER 76, USEUCOM intended to secure Host Nation logistical support through the conditions of the relevant STANAG agreements. As planning progressed, it was determined that implementing instructions for reimbursement had not been developed. The finalization of the STANAG agreements must be actively pursued.

(3) All personnel involved in exercises where Host Nation support is used must be thoroughly briefed on rations, medical support, the area of operations, and exercise objectives and missions.

(4) Timely receipt of arrival and departure flow plans, notification of aircraft arrivals, reports that personnel have departed the airfield and convoy march tables are essential. In previous REFORGER exercises, the major unit has been responsible for the coordination of the flow plans for all units on the troop list. This year the major unit was responsible only for its own units and units stationed at its CONUS base. This resulted in a piecemeal flow plan. The major unit should provide the data to MAC to be included in one consolidated flow plan. Once a flow plan is finalized and units begin to arrive at APOD's, the 21st SUPCOM must be notified of arrivals and departures from the airfield without delay. Issuing combat equipment companies and communities must have this data to meet the units and prepare for issue of equipment. March tables must be published and adhered to facilitate support.

(5) Supported units, not the supporting unit, must be responsible for submission of their Operational Readiness Status Report.

(6) Subordinate commands must be involved in developing any type of brevity code. A code developed without subordinate units input can only be marginally satisfactory.

b. The testing of Host Nation port operations and facilities in REFORGER 76 was accomplished in an exceptional manner. In future REFORGER's when units bring their own equipment, "over the beach" operations should be considered.

c. In summary, the overall conduct of the exercise was considered excellent and constituted a valid test of 21st SUPCOM's mission capability.

REFORGER 76 exercise objectives were achieved. The quality of equipment on hand was excellent. The necessary coordination incident to the conduct of the exercise was accomplished. Additionally, staff members and all subordinate elements of the 21st SUPCOM were involved in working with NATO members. REFORGER 76 was extremely valuable for USA Spt Gp Norddeutschland; they were totally involved in the exercise. Coordination and cooperation with the 101st Airborne Division (AASLT) (-) and non-divisional units was excellent. All participating exercise units had a positive attitude. The overall success of the operation can be attributed to the positive response by our NATO allies.

USAREUR BENELUX LOC

1. (C) The operation conducted within the BENELUX LOC can be sumed up in three words, "The Concept Works". The following REFORGER 76 Exercise Objectives were tested and results were:

a. To exercise strategic deployment planning and capabilities by sea and air - Strategic deployment planning and capabilities fully realized.

b. To support NATO solidarity through increased NATO involvement - Belgium and the Netherlands have been fully involved.

c. To exercise BENELUX LOC agreements to a greater extent than in previous years - Exercise of BENELUX LOC agreements fully realized.

d. To further develop and improve Host Nation's support initiatives in the area of CSS for attached forces - Although US units were not cross-attached to allied forces, lessons learned in CSS will enhance effectiveness of such attachments.

e. To improve forces interoperability through combined operations with NATO Alliance Partners - Force interoperability between US, Belgium, and the Netherlands has been tested and proven effective in:

(1) Messing.

(2) Class III Supply.

(3) Port Operations.

This information is furnished with the understanding that it will not be disclosed to any non-NATO nation without the consent of the United States; that it will not be used for other than military purposes; and that the information will be accorded substantially the same degree of security protection as such information has in the United States. This information will be disclosed only on a need-to-know basis under applicable NATO Regulations as a CONFIDENTIAL paper and will not be further disclosed without specific approval of the United States

CLASSIFIED BY DCSOPS HQ USAREUR & 7A SUBJECT TO GENERAL DECLASSIFICATION SCHEDULE OF EXECUTIVE ORDER 11652 AUTOMATICALLY DOWNGRADED AT TWO YEAR INTERVALS DECLASSIFIED ON DECEMBER 31, 1982

(4) Movements control.

(5) Airfield operations.

(6) Billeting, laundry, and bath.

(7) Medical (to include hospitalization and evacuation).

(8) Rail, highway, and air transportation (military and commercial except commercial air).

(9) Recovery of disabled equipment.

2. (U) The following European based organizations contributed personnel to the USAREUR BENELUX LOC:

a. HQ, USAREUR.

b. 21st SUPCOM (HQ and units).

c. US Army Medical Command, Europe.

d. 5th Signal Command.

e. 4th Transportation Brigade.

f. MTMC's Army Transportation Terminal Group, Europe.

g. NATO/SHAPE Support Group (JVB under 32d AADCOM cognizance).

h. 42d MP Group (Customs).

i. US Army Procurement Agency, Europe.

j. US Army Postal Group, Europe.

k. 527th MI Battalion.

l. AAFES.

m. American Red Cross.

3. (U) As directed by Ref a of basic, 21st SUPCOM established the USAREUR BENELUX Coordination Center on 17 August 1976. The USAREUR support package reached a peak strength of 365 on 20 August 1976 (276 in Belgium and 89 in the Netherlands). The coordination center concept worked due to exceptional cooperation by all USAREUR based elements, especially in the selection of high quality personnel for the task. On a peak day, 1293 CONUS-based personnel, mostly 101st Abn Div (AASLT) (-), were supported (1123 in Belgium and 170 in the Netherlands). A total of 3555 101st personnel moved through the BENELUX (2710 in Belgium and 845 in the Netherlands).

4. (C) Cargo discharged and moved:

	Callaghan	Meteor	Comet	Ranger	Total
Helicopters	246	102	-	-	348
Trucks	581	627	746	292	2246
Milvans & Boxes	92	103	-	235	430
Other Cargo	yes	yes	yes	yes	

5. (U) Logistics:

	BELGIUM	HOLLAND
(a) Class I		
Breakfast	3,950	1,984
Dinner	4,727	1,379
Supper	5,472	1,601
Late Meal	1,368	145
(b) Class III		
MOGAS (Liters)	18,192	13,584
JP 4	161,780	
Diesel	7,880	11,463
Engine Oil	27	7

6. (U) Problem areas: See TAB's E through L.

7. (C) Summary:

a. The overall success of the operation can be attributed to the positive response by our allies, the more than adequate capabilities of the two ports selected, and the determination of the 101st to accomplish the mission. The state of discipline of the 101st and USAREUR troops was outstanding. For this reason, there was only one SIR. It involved lost US Government property. There were no incidents or crisis of violence or even confrontation. An unexpected ally, the weather, contributed significantly.

b. Cooperation on the individual level on a one-to-one basis was outstanding. NATO soldiers and their American counterparts worked well together.

c. Multinational NATO cooperation was successful. The transportation of the 101st between the port of entry and German destinations, which required four country coordination, went very smoothly.

Support of FTX's GROSSER BAER and COOL GIN

1. (U) Reference a tasked 21st SUPCOM to provide administrative and back-up logistical support to 3d Bde, 2d Armd Div during FTX GROSSER BAER and to an airmobile infantry battalion task force during FTX COOL GIN.

2. (U) FTX GROSSER BAER:

a. A COMMEL maintenance contact team was provided to the Supply and Transportation Battalion.

b. Class IX repair parts and PEMA secondary were provided to the Supply and Transportation Battalion.

c. Support of this exercise required transportation of these items from Mannheim, a distance of 200 miles one way, to a unit which changed its location by as much as 40 kilometers daily.

d. A Contracting Officers' Representative was provided to monitor Host Nation support. No problems were noted in this support. FRG military personnel and units were responsive to any changes required in the contracts.

e. One problem area is discussed at TAB N.

3. (U) FTX COOL GIN:

a. Administrative and back-up logistical support to 3/187th Infantry Battalion TF was not required. This support was provided to the TF by its parent unit.

b. 21st SUPCOM's 51st Maintenance Battalion provided the Contracting Officers' Representative to monitor Host Nation support. BAOR personnel and units were responsive to any changes required in the contracts.

c. One problem area is discussed at TAB N.

TAB B

TAB C

US Redeployment of Forces through the Port of Bremerhaven

1. (U) US Army Support Group, Norddeutschland was tasked to provide all logistical and administrative support for redeployment of CONUS forces through the Port of Bremerhaven and APOE of Bremen. Norddeutschland had neither the personnel, equipment, or facilities to accomplish this task. It was necessary to solicit Host Nation Commanders' assistance throughout the Norddeutschland area. The singularly outstanding support by the German Army, Air Force, Navy, and commercial enterprises was instrumental to the success enjoyed during redeployment operations. Host Nation support included:

a. Messing and billeting.

b. Vehicle and aircraft staging facilities and cleaning equipment.

c. Equipment with operators to assist in preparation of vehicles and aircraft for shipment.

d. Class III support.

e. Convoy escort, medical, and wrecker service.

f. Aircraft maintenance and staging area in the Bremerhaven port.

g. An APOE for personnel airlift to CONUS.

2. (U) Twelve German installations/locations contributed to accomplishment of redeployment. These facilities were used as billet areas, aircraft staging areas, maintenance and clean-up areas, and a Convoy Support Center.

3. (U) Execution of redeployment can best be described in four parts: Flow and preparation of aircraft; flow and preparation of wheeled vehicles; management and support of personnel; and airlift of personnel from Bremen airport.

a. The flow and preparation of aircraft: The two principle German Air Force Bases used to clean and stage aircraft were Ahlhorn and Wunstorf. During visits in August, the commanders concerned consented to use of their installations and facilities to land aircraft and the equipment necessary to clean the aircraft to meet US Department of Agriculture standards. Wunstorf Air Base had the capability to accommodate approximately 70% of the 332 helicopters including all of the CH 47's. Ahlhorn Air Force Base, with a more limited capacity, accommodated the remaining helicopters. In addition to receiving, cleaning, and staging aircraft, both air bases provided rations and billets for aircraft crews and permanent party personnel. Further, they provided the necessary JP-4 to fuel all aircraft. Only

rations and JP-4 were reimbursed. Bus transportation, recreation, all utilities consumed, and supplies/equipment used were provided without charge. Once the aircraft were prepared, they were called forward directly into the Bremerhaven port area where they were dismantled, outfitted with protective bags, and loaded aboard ships for return to CONUS.

b. The flow and preparation of wheeled vehicles: From Southern Germany REFORGER personnel convoyed 942 prime movers into Norddeutschland. All equipment was cleaned to meet US Department of Agriculture standards in V Corps area. Convoys of between 60 and 150 vehicles departed V Corps and entered Norddeutschland via the autobahn just north of Hannover. They traveled North to Bergen-Hohne where they stopped for lunch and fuel, both provided by the Bundeswehr. Convoys then stopped at a Convoy Support Center on the autobahn in the vicinity of Bremen in the late afternoon. Here they were broken down into 25 vehicle serials and departed the autobahn enroute to either Schwanewede or Altenwalde, usually closing in the early evening. At these German Kasernes, again using German facilities and equipment, drivers cleaned their trucks and trailers and were fed German rations and billeted overnight. At both Kasernes it was necessary that cleaning of vehicles continued throughout the night. Utility consumption was significant. When each serial had passed USDA inspection satisfactorily, it was called forward by 1st Movements Region to Carl Schurz Kaserne (CSK). Usually this occurred on the day following their arrival at either Schwanewede or Altenwalde. Upon arrival at CSK, the equipment was again inspected to ensure USDA standards were still met. If not, drivers were required to take their vehicle to "back-up" wash points on CSK for rewashing.

c. Management and Flow of Personnel: Approximately 4450 REFORGER personnel were supported in Norddeutschland during the period 12 September-8 October. Peak day strength was 1729, of which 585 were "base support" personnel. Beginning on 17 September to 6 October, eleven convoys arrived, one per day, with a total of 2594 drivers and assistant drivers. Usually REFORGER personnel were billeted on their first night in Norddeutschland at the German Kaserne where their vehicle or aircraft was cleaned. Upon arrival at Carl Schurz Kaserne, and after equipment was accepted by USDA, and a thorough customs inspection, drivers and crew were transported via commercial bus to either Grimmhorn Kaserne, Cuxhaven, the Marineschule in Bremerhaven or Roland Kaserne in Bremen. There they awaited airlift by MAC from Bremen Airport. At each of these locations REFORGER personnel were invited to enjoy all Host Nation recreation facilities, athletic facilities, clubs, and messes. Depending on manifest scheduling by the 101st Abn Div, personnel remained for 1-4 days. On Carl Schurz Kaserne, eleven rail cars (TCL's) were positioned for use as billets and increased the capacity to house personnel here from 450 to 975. Two local dining facilities were used, one for the exclusive use by REFORGER personnel and one for use by the Kaserne's normal population and the Bundeswehr equipment operators (70) billeted on the Kaserne. Because of the crowded conditions in the TCL's, they were used only to house short term transit REFORGER personnel. Other facilities were used to accommodate a total

of 415 personnel. Four milvans were positioned near the TCL's as storage containers for personal equipment. TCL's were outfitted by the FE with heat, electricity, and sewage connections. Religious and recreation services were provided throughout Norddeutschland. AAFES support to REFORGER personnel was provided throughout Norddeutschland.

d. Airlift of Personnel from Bremen Airport: MAC airlift from Bremen Airport included 41 C-141 flights of 94 PAX. Airlift began on 23 September 1976 and concluded on 8 October 1976 with three flights per day; except on 25 and 26 September 1976 when four flights departed, 1 and 7 October 1976 when there were no flights, and 8 October 1976 when a single and final flight departed. All planned flights departed early except four which were delayed by weather. Prior to boarding aircraft, all personnel underwent a thorough customs and USDA inspection. Arriving from their final RON site, usually in groups of 94 and via commercial bus, all personnel were briefed and their equipment was inspected. Coffee, soup, cold drinks, and donuts were provided.

4. (U) One problem area is discussed at TAB O.

5. (U) With the CDR, USA Spt Gp Norddeutschland assets, augmentation by other 21st SUPCOM units and the excellent cooperation by all elements of German Forces and commercial enterprises, the mission of redeployment of CONUS forces was carried out in a timely efficient manner. It should be emphasized that without Host Nation support the mission could not have been accomplished in this timely and efficient manner.

1st Bn, 75th Infantry (RANGERS)

1. (U) Ref c of basic tasked 21st SUPCOM to establish and operate a MUAA for the 1st Bn, 75th Infantry (RANGERS) in the vicinity of Kaiserslautern.

2. (U) Coordination was effected between the US Military Activity-Kaiserslautern and the 86TH Tactical Fighter Wing, Ramstein Air Base, to obtain the use of the former USAMEDCOMEUR Medical Depot at Einsiedlerhof for a MUAA. The area was obtained and readied for occupancy prior to arrival of the unit. Mess support was provided by the Rhein Ordnance Barracks Consolidated Dining Facility with augmentation by 1st Bn, 75th Inf. Services and support provided while in the MUAA consisted of billets, an NCO Club Annex, QM Clothing Sales Van, PX support (barber service, retail sales van, coke and candy machine in troop billets, mobile catalog sales van), waapon CONEX's, expendable supplies, Class A and C telephones, issue of basic load of MCI's, and administrative use vehicles. All other required support was provided through established facilities, i.e., RPC, dispensaries, and 45th Finance Section.

1. (U) PROBLEM: Finalization of STANAG Agreements.

2. (U) DISCUSSION: a. USEUCOM, in preliminary planning for REFORGER 76, had intended to secure Host Nation logistical support through the conditions of the relevant STANAG agreements. As planning progressed, it was discovered that implementing instructions for reimbursement had not been developed; therefore, the reimbursement to the host country could not be accomplished under the agreement.

b. HQ, USEUCOM proposed alternatively to provide reimbursement through off-shore procurement authorities provided for in ASPR and the USEUCOM Supplement 1 to the ASPR. These authorities coupled with country-to-country agreements dating back to 1954 provided the method of obtaining the Host Nation support. A government-to-government indirect requirements type contract was used for all support except for medical services and communications.

3. (U) RECOMMENDATION: That HQ, USAREUR actively pursue the finalization of the STANAG agreements.

1. (U) PROBLEM: Identification of Host Nation support requirements.

2. (U) DISCUSSION: Both the Belgians and the Dutch were responsive, but we imposed excessive last minute changes. Our traditional flexibility must give way to a disciplined determination to adhere to the plan, once laid down and coordinated. This is not an easy task. It involves planning the loading of every vehicle and helicopter to meet with personnel arrival to insure the people and equipment for convoys are available concurrently. This in turn drives the requirements for meals, beds, and bus transportation. A subsequent decision to add personnel to a particular flight or change material in the stow plan impacts on requirements across the board. The USAREUR procedures review on 19-23 July enhanced this coordination, but both USAREUR and CONUS-based elements made commitments in good conscience without coordinating with all concerned.

3. (U) RECOMMENDATION: Once Host Nation support has been identified and planned for, minimum changes must be made in the plan. A date must be established beyond which no change can be made to the plan. Any changes must be brought to the attention of the Host Nation providing the support.

TAB F

TAB C

1. (U) PROBLEM: Inadequate rest for drivers prior to convoy movements.

2. (U) DISCUSSION: The MAC Flow Plan and convoy schedules allowed drivers less than 12 hours rest between arrival and road march in many cases.

3. (U) RECOMMENDATION: To enhance training and safety in a peacetime exercise, drivers should have a minimum of 24 hours between arrival and driving in convoy.

1. (U) PROBLEM: Inadequate provisions of currency conversion and check cashing.

2. (U) DISCUSSION: We did not provide our troops adequate currency conversion and check cashing support in the BENELUX LOC. Better advanced coordination is required to insure adequate currency conversion and check cashing support. This could be done by contract with local Host Nation banks or regional finance office. Check cashing can be limited to small denomination traveler's checks, if required. We relied on Host Nation currency conversion support for our troops in the BENELUX LOC, but the Host Nation's financial institutions were not sensitive to our requirements.

3. (U) RECOMMENDATION: If adequate Host Nation support can not be arranged, US Army Finance Offices, as a last resort, should be tasked to provide this support.

1. (U) PROBLEM: AAFES Support for BENELUX LOC

2. (U) DISCUSSION: The vans supplied at Gent by AAFES were old and could not make the required trips to other locations such as Koksijde, Neuport, and Ursel airfields. Contact was made through USAREUR, DCSPER, and AAFES to obtain permission to use the resupply van which was making daily trips from Brussels as a mobile van to service those outlying areas. This was approved; however, the number of items this van could carry, and the timeliness of this support was unsatisfactory.

3. (U) RECOMMENDATION: For future exercises of this nature, AAFES should provide one large retail and food van and a number of smaller vans, in good condition, so that a routine schedule of service can be established.

1. (U) PROBLEM: Lack of adequate communications from the Netherlands LOC Headquarters to higher headquarters and the Kaiserslautern area.

2. (U) DISCUSSION: a. Telephone communications planned for the Netherlands LOC consisted of 10 sole user circuits patched directly to the Gent switchboard and five commercial direct dial circuits. Of the 10 sole user circuits, two of the circuits were via direct lines leased from the Host Nation and the remaining were via VHF radio. Throughout the exercise, communications over the VHF system were never established. The two commercial circuits intended for the LOC Commander and the 101st Abn Div (AASLT) TF Commander were terminated four yards from the LOC Headquarters; and, due to the inflexibility of the commercial telephone company, the circuits were never extended. The results were that only two telephone circuits were available for use at the LOC Headquarters throughout the exercise. This problem was partially remedied by using a SB-22PT field switchboard to terminate the two useable lines, then installing local lines throughout the port area and LOC Headquarters. This allowed maximum use of the two useable lines and provided a switching capability. Communications with the Kaiserslautern area was often non-existent or of very poor quality. Only one circuit between the Gent switchboard and the Kaiserslautern switchboard was installed which was totally inadequate considering the volume of traffic being passed.

b. The Radio-Wire Integration Station planned for use during the exercise also was never established. Had this station been established, it could have provided a good alternate means of communications This means of communications would have been particularily useful to personnel on the road.

3. (U) RECOMMENDATION: That future planning of communications be more closely coordinated with the headquarters or element for whom the communications is being planned to insure adequacy and correct location of the communications.

1. (U) PROBLEM: Lack of timely receipt of arrival flow plan for deployment, departure flow plan, convoy march tables, and notification of aircraft arrivals and departure from the airfield.

2. (U) DISCUSSION: a. The approved flow plan was received at 21st SUPCOM less than two weeks before the first aircraft landed in Belgium. There were significant changes in the flow plan that required immediate coordination with US Army Procurement Agency, Europe, in order to adjust the contracts with the Belgium Ministry of Defense.

b. The lack of a timely flow plan for non-divisional units which drew POMCUS created problems (mess and billeting) for those communities supporting IUAA's. Ration requests had to be submitted prior to receipt of firm dates units would be in the IUAA.

c. Untimely receipt from the 4th Transportation Brigade of unit arrivals and departures from aerial ports of debarkation within the FRG resulted in little or no notification being provided to CEGE issue facilities.

d. Late receipt of, as well as frequent changes to, the march tables for Phase IV hampered the maintenance battalion's ability to provide convoy support in the USA Spt Gp Norddeutschland's area of responsibility and the remainder of the 21st SUPCOM' area of responsibility.

3. (U) RECOMMENDATION: a. That HQ, USAREUR coordinate with USAFE/MAC to insure timely publication of the flow plans. In future exercises where Host Nation support is required, the arrival flow plan should be published by A-90.

b. A direct communications line be established between 4th Transportation Brigade elements at the aerial port of debarkation and 21st SUPCOM Control Center to relay information on aircraft arrivals and departure of personnel for CEGE issue sites.

c. Early identification of movements by the moving activity, especially in an administrative environment, should be made and the movement tables thereon interface to permit the maximum possible support to be provided.

UNCLASSIFIED

1. (U) PROBLEM: Inadequate brevity code.

2. (C) DISCUSSION: Approximately 4 days before the USAREUR OPS Center began operations, a requirement was placed on all USAREUR units to submit required telephonic reports using a brevity code developed by USAREUR. Instructions received by 21st SUPCOM indicated all reports had to be submitted using this code. The brevity code proved to be ineffective. The code did not contain sufficient transonic values for the words required to submit required reports. As a result of this shortcoming, reports rendered to the 21st SUPCOM were quite lengthy. This defeated the purpose of the brevity code. An example of other problems associated with the use of the brevity code is as follows: Combat Equipment Group, Europe has approximatley 75% of their personnel force as local nationals. Status reports of the number of vehicles issued to what unit and the operational status of each unit are compiled by this work force; however, they are not authorized to have access to the brevity code nor the classified document required to encrypt the brevity codes.

3. (C) RECOMMENDATION: Each major command of USAREUR should be allowed to provide input for the brevity code. As a second choice, each subordinate command should develop its own brevity code and provide copies to approppriate commands.

UNCLASSIFIED

TAB A

1. (U) PROBLEM: Submission of operational readiness reports.

2. (U) DISCUSSION: Ref a of basic required the 21st SUPCOM to give daily operational readiness reports for units participating in FTX's GROSSER BAER and COOL GIN. During GROSSER BAER, the 21st SUPCOM only had a COMMEL maintenance team attached to the 498th S&T Battalion providing back-up maintenance and Class IX support. The 21st SUPCOM was not providing primary maintenance support; therefore, the information was not readily available to fulfill the report requirement. During COOL GIN, the 21st SUPCOM provided the Contracting Officers' Representative with no other requirements. 3d Bde, 2d AD and TF 3/187th Inf were very reluctant to provide this information to an "outsider". Additionally, the operational readiness report was classified and getting the information into our chain of command created problems. For COOL GIN, our aviation support unit had to make a special flight on a daily basis into the FTX area to pick-up the required report.

2. (U) RECOMMENDATION: Since the supported unit is required to submet the operational readiness report and not the supporting unit, in future exercises of this nature the requirement to submit this report should be placed on the supported unit through their chain of command.

1. (U) PROBLEM: Lack of MAC LNO in Redeployment Coordination Center.

2. (U) DISCUSSION: a. On several occasions there were uncertainties relating to flight arrivals, departures, and inflight meals (were they to be provided by MAC).

b. Air sack lunches were requested for the redeploying personnel. Some of the aircraft had prepared meals on board and did not require the sack lunches. It could not be forecast which aircraft had meals on board ahead of time. MCI's were issued to those personnel on flights without meals due to lack of preparation time.

c. Since there was no MAC representative in the Redeployment Coordination Center, these uncertainties remained without resolution until the last minute.

3. (U) RECOMMENDATION: A MAC representative should be present in the Coordination Center during redeployment especially in those instances where the APOE is at a civilian airport in order to preclude problems discussed above.

1. (U) PROBLEM: Providing billets in the Kaiserslautern area for the Ranger Battalion and other REFORGER troops.

2. (U) DISCUSSION: During REFORGER 76, Kaiserslautern Community had problems obtaining billet space for the Ranger Battalion, and other deploying and redeploying troops. The facilities used were obtained from the Air Force. (The Ranger Battalion was housed at the old Einsiedlerhof Medical Depot). Next year these facilities will probably not be available.

3. (U) RECOMMENDATION: That in the Kaiserslautern area the Air Force provide billet space for the Ranger Battalion, if required, and other deploying and redeploying REFORGER troops as Army facilities are not available.

DEPARTMENT OF THE ARMY
HEADQUARTERS, 4TH TRANSPORTATION BRIGADE
APO NEW YORK 09451

AEUTR-SPO-R 23 November 1976

SUBJECT: 4th Transportation Brigade After Action Report, Exercise CERTAIN FORCE/REFORGER 76 (U)

Commander in Chief
United States Army, Europe and Seventh Army
ATTN: AEAGC-REF 76
APO 09403

1. References:

a. USAREUR & 7th Army OPORD 6-76 for Exercise CERTAIN FORCE/REFORGER 76, dated 30 June 1976 (C).

b. 4th Trans Bde OPORD for CERTAIN FORCE/REFORGER 76, dated 29 June 1976 (C).

c. Standing Operating Procedures on Military Movement Control for US/GE Support of REFORGER Exercises, undated (U).

d. USAREUR & 7th Army LOI Number 201 Peacetime: REFORGER 76 Post FTX Activities, dated 31 August 1976 (U).

e. CINCUSAREUR message (AEAEN-MO-MG), 240715Z Aug 76, Evalaution of Topographic Support to REFORGER 76 (U).

2. General:

a. Mission

(1) Coordinate, receive and process all REFORGER 76 units arriving or departing Rhein Main and Ramstein Air Bases and Bremen Airport in the FRG; Schiphol Airport, the Netherlands; and Oostende and Koksijde Airports, Belgium.

(2) Receive and discharge REFORGER equipment from four MSC ships (USNS COMET, USNS METEOR, GTS CALLAGHAN and AMERICAN RANGER) at water ports of

Vlissingen, the Netherlands and Gent, Belgium during deployment; and onload REFORGER unit equipment at the port of Bremerhaven, Germany during REFORGER redeployment operations.

(3) Coordinate or provide commercial buses, trucks and military truck transportation for the movement of REFORGER 76 units and equipment between APOD's/APOE's and billeting areas, prepo sites, and MUAA/training areas.

(4) Coordinate or provide commercial truck, train and military truck transportation for the movement of REFORGER 76 equipment between WPOD's/ WPOE and MUAA's.

(5) Establish and operate the Movements Control Center (MCC).

(6) Exercise administrative movement control and provide convoy clearances, march tables, and monitoring for REFORGER forces during deployment, Phase I, for movement from WPOD's and prepo sites to MUAA's; from MUAA's to exercise areas, between exercise areas, and back to MUAA's; as appropriate, during Phase III; and from MUAA's and exercise areas to the prepo sites and WPOE during redeployment, Phase IV.

(7) Provide commercial buses and coordinate German Airlift Support for movement of REFORGER troops to exercise areas as appropriate.

(8) Coordinate and provide all expedited resupply shipments and military line haul support.

(9) Provide aviation support to 5th and 7th Corps.

b. Concept.

(1) Pre-Exercise Coordination. Pre-Exercise planning was initiated in December 1975 and continued through August 1976 with a series of conferences, briefings and visits with representatives from EUCOM, USAREUR, XVIII Abn Corps, 101st Abn Div, 5th Corps, 7th Corps, 21st Spt Comd, MTMC-TTGE and the Host Nations (Germany, Belgium, and the Netherlands). Initial water port surveys were conducted in Belgium and the Netherlands on 13 Feb 76 and 3 Mar 76 respectively and tentative support requirements were submitted to these host nations on 8 Apr 76. Water and aerial port facilities were identified and confirmed at Vlissingen, Gent, Schiphol, Ooostende, and Koksijde on 28 and 29 Apr 76. A highway movements meeting was hosted by the 4th Trans Bde on 28 and 29 Jul 76 with US, German, Belgian, and Dutch representatives at which time tentative deployment convoy routes, speeds, etc., were established. Road reconnaissance from water ports of discharge and prepositioned equipment storage sites to the MUAA's commenced in May. Extensive coordination in selecting convoy routes, convoy support centers, and remain overnight (RON) sites was conducted between May and July. Because of delays in receiving convoy movements data, the deployment march tables were not published until 23 Aug 76. To obtain necessary goods and services for the reception,

discharge and onward movement of REFORGER troops and cargo from Belgium and the Netherlands, a working group meeting was held at the US Army Procurement Agency, Europe on 27 May 76 to develop input for government to government contracts which were presented to MOD Belgium on 2 Jun 76 and MOD Netherlands on 4 Jun 76. After a sequence of meetings and modifications to the contracts, the contracts were formalized on 2 and 9 Jul 76. A 4th Trans Bde representative attended an airlift/sealift conference at McDill AFB, Florida, 11-14 May 76 and observed a test loading of helicopters on Roll-on/Roll-off (RO/RO) ships at Norfolk, Virginia on 19 May 76. Coordination for the reception and deployment of REFORGER forces by air was conducted with USAREUR, 5th Corps, 21st Spt Comd, 101st Abn Div, 42nd MP (Customs) Gp, APOD/APOE personnel (Host Nation Officials, MAC, and USAFE) and Community Commanders through a series of meetings and on-site visits. The 4th Trans Bde served as the focal point for rail planning. In-country rail moves and deployment/redeployment rail moves were planned and coordinated in May and June and finalized at the Deutsche Bundesbahn rail scheduling conference, 26-30 Jul 76. A representative from our 3d Movement Region visited the 101st Abn Div during the period 31 Jul-5 Aug to brief on the movement plans for deployment, in-country rail moves and redeployment with regard to the 101st Abn Division. The Movement Control Center became operational on 16 Aug 76 and was staffed in accordance with the SOP on Military Movement Control for US/GE Support of REFORGER.

(2) Prior to Phase I. Advanced party elements of the 101st Abn Div were received at Rhein Main AFB on 8 Aug 76 and were moved to their respective initial locations within the FRG.

(3) Phase I, Reception (10-30 Aug 76). Air deployment flow planning information was received from the 101st on 12 Aug 76. Arrival airfields at Rhein Main, Ramstein, Koksijde and Schiphol became operational on 15 Aug. Oostende APOD became operational on 22 Aug. Exercise forces commenced arriving at Rhein Main and Koksijde on 16 Aug, Ramstein and Schiphol on 18 Aug and Oostende on 22 Aug. Air deployment was completed on 1 Sep 76. The American Ranger and USNS Comet berthed at the Port of Vlissingen and the GTS Callaghan and USNS Meteor berthed at the Port of Gent on 20 Aug 76. The American Ranger and the USNS Comet commenced discharge operations on 20 Aug 76. The GTS Callaghan and USNS Meteor commenced discharge on 21 Aug 76. Discharge operations were supervised by MTMC-TTGE and were completed at both ports on 23 Aug 76. In conjunction with host nations, Combined Traffic Centers were established to monitor all transportation activities in Belgium and the Netherlands. Combined Traffic Centers were also activated at Koln, Mainz, and Ansbach to monitor and report all convoy movements from the WPOD's and prepo sites to MUAA's. Liaison personnel were placed with the 7th Corps MCC at Illesheim to monitor rail and highway moves and at the Mendig RON site to coordinate convoy movement and assist in resolving problems. Convoy movements from the ports to the MUAA's commenced on 23 Aug and were completed on 29 Aug. Thirty-one M750 and M373 shop vans were moved by highway from the water ports to the MUAA's utilizing 37th Transportation Group assets. Four MILVAN's were moved from the Port of Gent by host nation commercial highway assets. All aircraft were received at the Port of Gent, assembled, test

flown, and subsequently flown to the MUAA's. All non-convoyable vehicles, trailers, general cargo and MILVAN's were moved by rail to the MUAA's. All equipment was closed into the MUAA's by 30 Aug 76. The Rail Operations Division, 4th Trans Bde, served as the single point of contact on matters pertaining to all rail moves. TMO Kaiserslautern was designated as the single point of contact for consignors involved in Red Ball. Red Ball resupply commenced on A-Day (27 Aug) utilizing 37th Trans Gp and 205th Avn Co (ASH) assets. All transportation within the BENELUX was coordinated through the host nation. Commercial transportation in FRG was coordinated and contracted through the Deutsche Bundesbahn.

(4) Phase II, Preparation for Combat (31 Aug - 6 Sep 76). This phase was devoted to organization of units and equipment within the MUAA's and maintenance of equipment in preparation for the Field Training Exercises. During this period, the 4th Trans Bde conducted final coordination and planning for movement of the 101st from the MUAA's to the exercise sites and between exercise locations by convoy, commercial bus, and host nation air capability. Convoys, commercial bus, and German Airlift moves from MUAA's and Ramstein AB to Gordian Shield took place from 4 to 6 Sep. TMO forward activities were co-located with 5th and 7th Corps to support and monitor convoy and rail movements as well as military line haul requirements. Redeployment planning also continued in the development of host nation support in the vicinity of Bremen/Bremerhaven, and the development of plans for movement of personnel and cargo to and through APOE's and the Bremerhaven WPOE. Military line haul and Red Ball support continued.

(5) Phase III, Field Training Exercises (6-17 Sep). Red Ball resupply and military line haul support continued through 17 Sep. Six CH-47's were provided to 5th Crops from 6-10 Sep and to 7th Corps from 11-17 Sep for support of FTX's. Convoy march tables were published and convoys, commercial bus moves and German Airlift took place on 10, 11, and 15 Sep for movement of personnel and equipment between exercise areas. TMO Forward activities coordinated augmentation bus and line haul transportation, and monitored and reported movements to and between exercise areas. Redeployment coordination and planning continued. Planning for movement of REFORGER personnel and equipment for Post FTX Activities (Partnership Training) commenced.

(6) Phase IV, Post FTX Activities and Redeployment (18 Sep-8 Oct). A TMO was activated at Illesheim to coordinate, monitor and report all transportation activities originating within the MUAA areas. The CTC at Ansbach was reactivated with additional CTC's established at Wiesbaden and Hannover and a liaison representative was placed at the Homburg RON site to monitor and report convoy movements to the Bremerhaven WPOE area. The CTC Ansbach also monitored convoy movements to the prepo sites. The TMO Bremerhaven provided liaison to the 21st Spt Comd, monitored arrival of rail and convoy movements, and coordinated commercial bus transport from billeting areas to the Bremen Airport. A total of 62 commercial buses was

provided from the MUAA's to 29 different locations for those units participating in Post FTX training with Allied Forces. Redeployment convoys from the MUAA's to prepo sites and Bremerhaven took place from 19 Sep to 2 Oct and 20 to 29 Sep 76, respectively. Non-convoyable equipment was moved by rail from the MUAA's to Bremerhaven with the last train arriving on 4 Oct 76. During the period 18-26 Sep 76, redeployment aircraft were flown to Bremerhaven. The redeployment onload of the four ships at the Port of Bremerhaven commenced with the loading of the GTS Callaghan on 24 Sep 76 and continued sequentially with the USNS Meteor, USNS Comet, and American Ranger. The operation was completed on 1 Oct 76. Redeployment of REFORGER personnel was accomplished at Bremen Airport, Rhein Main and Ramstein Air Bases during the period from 21 Sep through 8 Oct 76. The 1/75 Ranger Battalion departed Ramstein AB on 21 and 22 Sep 76. Redeployment from Bremen commenced on 23 Sep and continued through 8 Oct. Due to the changeover between FY7T and FY 77 on 30 Sep 76, redeployment flights at Rhein Main and Ramstein were not scheduled to start until 1 Oct 76. However, MAC was able to identify additional available missions which could be flown in FY7T and, as a result, seven (7) flights were changed to depart between 27-30 Sep from Rhein Main. Personnel and equipment from one REFORGER non-divisional flight remained in the FRG to support Exercise Able Archer and redeployed from Rhein Main AB on 3 Nov 76.

3. Significant Activities:

a. Exercise Planning Cycle.

(1) Coordination with the host nations (Belgium, the Netherlands and Germany) was quite extensive since this was the first time REFORGER troops and equipment were deployed through water and aerial ports in Belgium and the Netherlands and was also the first time the US relied upon host nations to provide almost complete support for REFORGER deployment, even though it was accomplished in direct coordination with US counterparts.

(2) Movement and host nation support planning were severely hampered by the lack of complete and specific data on personnel and equipment being deployed. Detailed plans were made using fragmented and "best guess" information and adjustments had to be made as more specific information became available. In some cases, this information was not available until the troops and cargo arrived. Planning, although desired to be extremely flexible, was very difficult due to budget constraints, shortage of personnel resulting from the CHASE reorganization of this command, and the requirement to be specific in developing procurement contracts with the host nation.

b. Reception Airfield Operations (Deployment). Reception of REFORGER personnel arriving in C-141 aircraft during the deployment phase took place at five aerial ports. Ramstein and Rhein Main Air Bases in FRG received

those personnel going to prepositioned equipment storage sites for issue of POMCUS equipment and those going directly to MUAA's. The airbase at Koksijde and the airport at Oostende in Belgium were used for reception of personnel and equipment in support of port clearance at the Port of Gent. Schiphol International Airport in the Netherlands received REFORGER flights for personnel and equipment in support of port clearance at the Port of Vlissingen. The reception function was performed by the 4th Trans Bde Reception Division which provided the MCC spot status reports as events occurred, i.e., aircraft block times, unit identification, passenger count, quantity of baggage/TAT and bus/S&P departure times. Unit personnel were moved in the FRG by Deutsche Bundesbahn (DB) bus transportation arranged by the 2d and 3d Movements Regions and baggage was cleared by 37th Trans Gp S&P's. Host nation buses and trucks were provided in the Netherlands and Belgium to move personnel and baggage from the arrival airfields to billeting areas in the vicinity of the ports. Flight arrival delays were minimal. An operational statistical summary follows:

DEPLOYMENT (8 AUG - 1 SEP)

INBOUND FLIGHT INFORMATION

Airfield	# Flights	PAX	Cargo S/T	# S & P's	# Buses
Ramstein AB	49	4,225	233	50	94
Rhein Main AB	55	4,934	265	60	107
Koksijde AB	20	1,301	183	26	33
Oostende AP	15	1,409	69	27	32
Schiphol AP	9	845	37	10	18
TOTALS:	148	12,714	787	173	284

c. Port Operations (Deployment). For the first time, REFORGER used three (3) RO/RO and one (1) break-bulk ship to move REFORGER unit vehicles, helicopters and miscellaneous troop equipment into the theater via BENELUX ports. No troops other than 30 supercargo personnel were moved by this mode. All vessels arrived on 20 Aug and discharge operations proceeded smoothly with the last vessel completing off-load by 23 Aug. Convoyable vehicles were marshalled in staging areas within the ports to await the start of convoy operations. Non-convoyable vehicles, trailers, MILVANS,

and other equipment were loaded on rail cars in the port for movement to the MUAA's. Helicopters were discharged at the Port of Gent, assembled and flight tested within the port, and flown to the airfield at Ursel for onward movement to the MUAA's. Four MILVAN's were moved from the Port of Gent to the MUAA by host nation commercial highway. Facilities and labor were provided at both ports by the Host Nation under agreements specifically negotiated for REFORGER. Port operations were conducted by the MTMC Transportation Terminal Group, Europe, and were augmented at each port by a Contract Supervision Detachment and a Cargo Documentation Detachment from CONUS. The 4th Trans Bde maintained operational command of USATTGE on behalf of USAREUR. A summary of port operations follows:

DEPLOYMENT

PORT OPERATIONS INFORMATION

Vessel	Port	No. of Vehicles	No. of Helicopters	No. of MILVAN/Vans	S/T Misc	Discharge Time
Ranger	Vlissingen	292	0	235/0	372.0	62.3 Hrs
Comet	Vlissingen	756	0	0/0	0.0	41.5 Hrs
Callaghan	Gent	581	246	3/13	15.5	55.5 Hrs
Meteor	Gent	627	102	11/0	25.0	37.3 Hrs
		2,256	348	249/13	412.5	

d. Convoys (Deployment). For the first time, REFORGER exercise convoys crossed international borders during deployment while enroute to the MUAA's located in the FRG. The march tables were prepared by the 1st and 2nd Movements Regions and fully coordinated with the three host nations involved. Complete enroute convoy support was provided by the appropriate host nation. Convoys began departing Vlissingen at 0400 hrs daily with 15 minutes between convoy and were escorted to the German border by host nation MP's. Convoy routes were selected to avoid congested areas, allow maximum travel distance within the respective host nation, and still utilize the most direct routes. Convoy progress reports were provided to the host nation Combined Traffic Center via their respective communications systems and were relayed to the 4th Trans Bde MCC by US liaison personnel. Upon arriving at the FRG border, escort responsibility was assumed by US Military Police and the convoys were led to the RON site at Mendig. The RON site was operated by the German Bundeswehr with assistance as requested from USAREUR elements. Convoys proceeded from Mendig to the four MUAA's (Oberdachstetten, Illesheim, Giebelstadt and Kitzingen) and were monitored by US MP's and German Feldjaegers utilizing the highway regulating net and Combined Traffic Centers in Koln, Mainz and Ansbach in accordance with the SOP on Military Movement

Control for US/GE Support of REFORGER (reference 1c). Convoys from prepo sites to MUAA's and other locations were coordinated, controlled and reported as in previous REFORGER exercises. A summary of deployment convoys follows:

Movement	Dates	#Convoys	#Vehicles
Vlissingen-MUAA's	23-28 Aug	16	375
Gent-MUAA's	23-29 Aug	24	515
Prepo Site-MUAA's	22-25 Aug	9	366
TOTALS:		49	1,256

e. Rail Operations (Deployment). REFORGER 76 rail movements were successfully accomplished with no major problems experienced. All trains moved generally as scheduled. One area of note involved in-country units submitting unrealistic changes in equipment to be moved to such an extent that the changes in some cases caused complete trains to be concelled or combined with other trains on short notice, causing confusion, and some delays. Our perception of the cause of this problem centers on the late, last-minute changes in force composition by the operations personnel. We will discuss this directly with G-3 types on future exercises. Some units were slower than normal in loading their equipment aboard rail cars and this resulted in delays of several hours. This, again as in REFORGER 75, caused a "snowball" effect since all rail equipment for subsequent moves had already been programmed. This problem stems from the lack of adequate tie-down equipment and the lack of training. We will also address this with the Corps and have prepared a short presentation, with accompanying explanations, on tie-down of equipment to be given at Brigade/Battalion Commanders Course at Vilseck. The discharge of MILVAN's loaded with Division equipment was especially noteworthy. Three (3) Deutsche Bundesbahn sideloaders were used for the MILVAN discharge and sixty MILVAN chassis were pre-staged at Nuernberg for this operation. Through careful coordination and scheduling, sideloaders and chassis were shuttled between each of the rail heads and the MUAA's, thus efficiently and expeditiously effecting discharge. A summary of rail deployment activities follows:

	In-Country Units	REFORGER Forces	TOTAL
Special Trains	83	12	95
TCL/B4's (PAX cars)	195	11	206
Flatcars	1319	381	1700

f. Convoy and Bus Support for Field Training Exercises. Convoy movements into and out of the FTX areas were characterized by significant fluctuations in the number of vehicles that actually were included in the final convoy composition versus the number of vehicles programmed. Changes to convoy composition were made by the Division without providing advance noticication to the 4th Trans Bde and this caused an undesirable impact on supporting elements in the areas of refueling points, messing facilities, convoy escorts and precoordinated road space and time reserved for specified numbers of convoy vehicles. The most common cause of the fluctuations was reportedly due to the earlier infiltration of vehicles. The movement of personnel in support of the FTX's that exceeded the Division's organic capability was provided by Deutsche Bundesbahn buses. A summary of FTX convoy and bus moves follows:

Movement	Dates	#Convoys	#Vehicles	#Buses/PAX
MUAA-Gordian Shield	4-6 Sep	14	1,487	63/2986
Gordian Shield-Cool Gin	10 Sep	1	56	13/589
Gordian Shield-MUAA	10-11 Sep	6	625	85/4032
Gordian Shield-Blauwe Diemel	11 Sep	1	55	13/593
Blauwe Diemel-Lares Team	11 Sep	1	29	0/0
TOTALS:		23	2,252	174/8200

g. German Air Operations. The German Air Transport Service provided thirty-six sorties of C-160 aircraft for REFORGER field training exercises. Nine sorties were used to insert the 1/75 Ranger Battalion into the Gordian Shield exercise area in a night time airborne operation during the early morning hours of 5 Sep 76. Twenty-seven sorties were used to transport the Blauwe Diemel task force from Kassel-Calden to Kitzingen on 15 Sep 76. Coordination for REFORGER German air support was effected by the 4th Trans Bde. A summary of German air operations follows:

Date	Airfield	Sorties	PAX	Vehicles
5 Sep	Ramstein	9	447	0
15 Sep	Kassel-Calden	27	534	69
TOTALS:		36	981	69

h. Red Ball Transportation Services. A Red Ball resupply line haul transportation service was established to provide for the expeditious movement (within 24 hours of the depots transportation movement request) of repair parts and other high priority items to units supporting or participating in REFORGER. Red Ball, utilizing 37th Trans Gp assigned and attached assets and the 205th Avn Co, commenced on A-Day (27 Aug 76) and continued through the last day of Phase III (17 Sep 76). USAREUR Material Management Center (UMMC) high-priority section in Zweibrucken received all Red Ball requests from the 17 authorized Red Ball customers and notified the appropriate depot. The depot requested transportation from TMO Kaiserslautern between 0600-0700 hours daily for military highway or air transportation. Coordination for Red Ball was conducted by TMO Kaiserslautern directly with USAREUR depots, the Motor Transport Clearance Authority (MOTCA), and the 205th Avn Co. MOTCA submitted Red Ball requirements to the 37th Trans Gp NLT 0730 hours daily. Transport vehicles were spotted at the primary shipping depot, Kaiserslautern (KAD) NLT 0900 hours and at other depots by 1000 hours. Upon arrival at the customer's location, Red Ball cargo was off-loaded expeditiously. This greatly assisted the drivers in staying within the 24 hour delivery time. The average number of stops for each load was 1.85 and the average round trip distance traveled was 411 miles. Four Red Ball shipments were delivered by the 205th Avn Co from the KAD airhead. A statistical summary of Red Ball activity follows:

AEUTR-SPO-R
SUBJECT: 4th Trans Bde After Action Report, Exercise CERTAIN FORCE/ REFORGER 76

RED BALL WEIGHT DISTRIBUTION

Weight Range(lbs)	(1) #CMTM's	% of Total CMTM's	Weight Total	% of Total Weight	Avg Wt Per Load
1-50	5	13.9	104	0.10	21
51-250	11	30.5	1449	1.40	132
251-1000	10	27.8	6151	5.95	615
1001+	10	27.8	95694	92.55	9568
TOTALS:	36	100%	103398	100%	

(1) CMTM - Commitment

i. REFORGER Truck Company. The 594th Trans Co (Med Trk) from Ft. Campbell was placed under the OPCON of the 37th Trans Gp on 19 Aug to assist in the support of REFORGER truck requirements. The members of the 594th Trans Co had received extensive drivers training on the intricacies of driving in Europe prior to their arrival and had valid USAREUR driver's licenses. The company was issued 61 5-ton tractors and 120 S&P trailers and tasked to provide line haul transportation support to augment 37th Trans Bde assets (general support of the 101st Abn Div; shuttle MILVAN's from/to railheads at Giebelstadt, Illesheim, Kitzingen, and Oberdachstetten to the MUAA's; transport rations to training locations; and transport Red Ball resupply that necessitated use of tractors and S&P trailers). The company was committed daily at 75 to 90 per cent of the available vehicles and only one recordable accident (involved minor property damage) was incurred while the company drove in excess of 173,000 miles. A summary of the 594th Trans Co operational statistics for the period 23 Aug-22 Sep follows:

	Cargo S/T	Mileage
Red Ball	44	2,722
Other Support	3,824	170,818
TOTALS:	3,868	173,818

j. Military Highway, Line Haul and Direct Support. The total movements involving the 37th Trans Gp were significant in volume. Of the 4,215 initial vehicle commitments, 927 were for POL, 302 were tractors pulling REFORGER unit trailers, and the remaining 2,986 were for movement of general

cargo. Refrigeration requirements for REFORGER could not be met in total using military vans without severely detracting from Theater support requirements. Compensation was adequately accomplished utilizing contractual refrigeration support, thereby eliminating static use of military linehaul refrigerated vans. Use of lowbed trailers was significant in that equipment available was fully committed at all times and the 37th Trans Gp could only meet about 50% of the requirements with its available organic assets. Throughout the exercise, thirty-six 5,000 gallon fuel tankers were provided for direct support of the two corps.

k. Convoy Operations (Redeployment). Convoys during the redeployment phase were characterized by close adherence to march tables to include actual convoy vehicle composition coinciding with programmed numbers. Also, there was a marked improvement in convoy movement discipline compared with deployment and FTX convoys. The redeployment convoy schedules were established to meet the ship loading sequence at Bremerhaven. This necessitated movement from the MUAA's to RON site at Homberg where the vehicles were cleaned the following day to meet the US Department of Agriculture inspection requirements for vehicle reentry into CONUS. Thus, on the third day after departing from the MUAA's, the convoys moved to Altenwalde and Schwanewede to await call forward to port facilities at Bremerhaven for loading on the REFORGER vessels. All redeployment convoys were provided MP escorts with German Feldjaegers providing traffic control at entrances to autobahns and other critical areas. Commbined FRG-US traffic centers at Ansbach, Weisbaden and Hannover operating under the US/GE movements control SOP for REFORGER maintained visibility of convoy progress within their geographical areas and instituted control measures to integrate convoys with route conditions while providing the MCC with progress reports. Convoys returning to the PREPO sites from the MUAA's were also monitored and provided with MP escorts. The safe driving record on deployment, FTX and redeployment convoys is noteworthy in that there were only four reportable accidents with no serious injuries. This low accident rate by the Division indicates their drivers had received intensive drivers training prior to deployment with the results being a highly commendable REFORGER driving record. A summary of the redeployment convoys follows:

Movement	Dates	No. of Convoys	No. of Veh
MUAA's to Bremerhaven	20-29 Sep	9	906
MUAA's to PREPO sites	19 Sep 2 Oct	12	488
TOTALS:		21	1,394

l. Rail Operations (Redeployment). Initially, some difficulty was experienced in obtaining and accurately defining the Division's redeployment requirements; however,once precise information was obtained, all moves were accomplished in an efficient manner, on or ahead of schedule. Loading at the railhead for in-country units proceeded at a slower than normal pace but delays were not as great as those experienced during the deployment phase. Also, during redeployment of REFORGER forces, a test was conducted to test the feasibility of checkpoint reporting of rail moves while in progress. Once the DB was alerted to the requirement, the train passage time reports from the two designated checkpoints at Bebra and Elze were received in a timely manner. A summary of rail redeployment activities follows:

REDEPLOYMENT

	In-Country Units	REFORGER Forces	Total
Special Trains	70	15	85
TCL/B4's (pax cars)	165	26	191
Flatcars	1243	403	1646

m. Port Operations (Redeployment). The same ships used for deployment were used for redeployment with all loading being done at the Port of Bremerhaven under the supervision of the MTMC-TTGE. Due to the limitations of available staging areas and berthing space, redeployment ships were essentially worked consecutively with some overlapping between vessels. Movement of Division equipment to the port was performed in reverse order of the method used for deployment. All movements, including the movement of Division equipment by rail, were carefully scheduled and controlled so that arrivals would coincide with the vessel loading sequence. This careful coordination, coupled with the local National Labor Forces experience in the handling of military vehicles, helicopters and impedimenta, resulted in a smooth, highly efficient operation. The 101st aircraft were flown into the port area during the period 19 to 26 Sep 76. As aircraft arrived, blades were removed, aircraft were deprocessed, bagged and staged, and then aircraft were towed alongside the vessel and loaded aboard by cranes. Convoy vehicles were moved into Schwanewede and Altenwalde for final cleaning; staged at Carl Schurz Kaserne on the day prior to ship loading where they received a final customs/agricultural inspection; shuttled into the port where they were staged by type and vessel; and then either driven aboard or alongside the vessel for loading. Some of the equipment arriving by train was loaded from rail cars directly aboard the American Ranger while the other equipment was staged and then loaded aboard one of the four vessels. A summary of port operations follows:

AEUTR-SPO-R
SUBJECT: 4th Trans Bde After Action Report, Exercise CERTAIN FORCE/ REFORGER 76

REDEPLOYMENT PORT OPERATIONS

VESSELS	DATE ON BERTH	NUMBER VEHICLE	NUMBER HELICOPTERS	MILVAN CONT	MTON MISC	LOAD TIME
Callaghan	24 Sep	622	240	0/19	335.6	98.5 Hrs
Meteor	26 Sep	634	97	0/10	106.0	79.3 Hrs
Comet	28 Sep	871	0	8/0	28.2	50.5 Hrs
Ranger	01 Oct	171	0	214/0	2510.0	89.0 Hrs
TOTALS:		2298	337	249/29	2979.8	

h. Airfield Operations (Redeployment).

(1) Bremen Airport. All REFORGER personnel involved in the redeployment of REFORGER units' equipment through Bremerhaven water port were redeployed through Bremen Airport. These personnel were billeted at five locations in the Bremen/Bremerhaven area; moved by commercial bus and military vans to the Bremen Airport were they received a 100 percent customs inspection of baggage in a hangar; and then moved to the Commercial Charter Building by shuttle bus for inspection of carry-on baggage and to await flight departure. In the meantime, baggage was palletized at the hangar and loaded aboard the aircraft.

(2) Ramstein Air Base. Main body troops and troops turning in POMCUS stocks were redeployed at Ramstein Air Base. Personnel were moved from post FTX allied training areas and from MUAA's into the Einsiedlerhof RON site and prepo sites; organized into aircraft flight configurations; and then moved into Ramstein AB via commercial bus and military van sequentially to meet the MAC flight schedule. A one-stop, 100 percent, customs inspection was conducted at Ramstein and personnel were then moved to the MAC Fleet Service Building which was used as a holding area for departing flights. Baggage was palletized in the customs inspection area, staged, then loaded aboard the aircraft.

(3) Rhein Main Air Base. A hangar at Wiesbaden Air Base was used for a one-stop, 100 percent, customs inspection for those troops redeploying from Rhein Main AB (cargo flights were inspected at Rhein Main AB). Troops returning from post FTX allied training were billeted and organized into flight configurations at the Wiesbaden RON site, inspected, and moved to Rhein Main; troops in the MUAA's were organized into aircraft loads in the MUAA's and moved through the Wiesbaden customs facility to Rhein Main. Baggage was palletized at Wiesbaden. All moves were made by commercial bus and military S&P trailers or vans. A hangar was used at Rhein Main as a troop holding facility and troops/cargo were scheduled into this facility by MAC mission number sequence. One DC-10 mission was flown from Rhein Main

and carried the equivalent of four C-141 passenger-configured loads. Although gross weight of passengers and baggage was within contract specifications for this mission, the loose stowage of baggage in the holds caused this aircraft to be "cubed-out", and 22 pieces of baggage were moved aboard subsequent missions.

(4) A summary of air redeployment follows:

REDEPLOYMENT
OUTBOUND FLIGHT INFORMATION
21 Sep - 8 Oct 76

Airfield	#Flights	PAX	Cargo S/T	#Buses	Type Aircraft
Ramstein AB	46	4,174	246	88	C-141
Rhein Main AB	52	4,113	321	91	C-141
	*1	* 376	*18	*8	DC-10
Bremen AP	44	3,898	232	85	C-141
TOTALS:	143	12,561	871	272	

*DC-10 Flight (replaced four (4) C-141 flights)

(5) Topographic Support. No problems were experienced in developing requirements for topographic products. Initial issue of planning stocks and bulk stocks was adequate. There were no problems in obtaining additional topographic products after the exercise commenced. However, highway maps were inadequate for highway reconnaissance because they were not current and did not display newly constructed roads and autobahns and did not depict some of the completed or proposed routes.

4. ATTAINMENT OF OBJECTIVES: The areas that are highlighted below are based on CERTAIN FORCE/REFORGER 76 objectives provided to this headquarters by USAREUR early in the planning cycle. Discussion is limited to 4th Trans Bde activities and centers primarily on those activities which occurred during the execution phase of the exercise.

a. Exercise Strategic Deployment Planning and Capability (Sea and Air).

(1) Port Operations

(a) Although MTMC has overall responsibility for the operation of the ports, 4th Trans Bde, by virtue of its status as the USAREUR executive agent for exercising operational command of TTGE, is vitally interested in the ability of ports to perform their planning based on COMPASS data. COMPASS data was used initially to book the vessels in CONUS and as the planning

document on which theater planners based the preparations for port clearance, rail and highway operations. If an objective rating were to be given to planning success based on this data, that rating would have to be marginal, at best. Transportation operators throughout the system were pressed by well-defined time constraints but were able to bridge the information gaps through intensive management and the abilities of highly qualified port and movements control personnel. The fact remains that if COMPASS data is to be used as a planning tool, additional work must be performed to make it not only correct in the sense of computer accuracy, but also less cumbersome and more meaningful to the average soldier or civilian who must accomplish the detailed planning required to move unit equipment to destination.

(b) Once the discrepancies contained in the COMPASS listings were resolved, the pre-coordination, planning, and actual discharge of the vessels were accomplished in a highly efficient and expeditious manner.

(2) Airfield Reception Activities. These activities have been repeatedly practiced in past REFORGERS and border on being routine, both from the viewpoint of arrivals at large military airfield complexes and smaller civil sites. Airfield clearance concepts and techniques using either military or Host Nation assets have proved viable; however, more flexibility is needed in contracting for host nation support in the BENELUX. During REFORGER 76 pre-deployment planning, it was not possible to predetermine all specific transportation requirements due to last-minute changes in aircraft loads made in CONUS.

b. Demonstrate US Flexibility to Reinforce NORTHAG. From the prespective of our Movements Control Center, convoy and rail moves planned in support of exercises Cool Gin and Grosser Bear respectively were executed within the parameters of normally accepted standards.

c. Exercise BENELUX LOC Agreements.

(1) A frank appraisal of this facet requires acknowledgement of major shortcomings in the attainment of this objective. There were outstanding attempts to honor the spirit of the agreements by all concerned; however, execution was hampered by a lack of flexibility needed to frequently adjust requirements. This rigidity must be attributed to the built-in restrictions of state of the art, US peacetime procurement regulations and current budgetary reimbursement mechanics of both US and Host Nation agencies.

(2) Additionally, it was apparent on occasions that the LOC agreements are a series of bi-lateral agreements where multi-national interfaces would be better suited in areas such as rail operations, convoy control and reporting.

d. To Improve Standardization, Rationalization and Interoperability Through Combined Operations. Other than as noted in paragraph c (2) supra, this proved to be a resounding success in the establishment of Combined Traffic Centers, and port operations at Gent and Vlissingen, and the use of German Air Force C-160 aircraft for airlanded and airdropped operations.

5. PROBLEM AREAS/LESSONS LEARNED:

a. The most apparent problem area in REFORGER 76 was that inadequate quantities of reliable voice communications facilities continued to plague timely coordination attempts and reporting activities. With fewer logistics personnel in theater coordinating more and more activities over a greater geographic area, capability to make timely contact for command and control, to discuss, negotiate and/or resolve differences and issues must be present now to meet the contingency, not after the transitional period is over.

b. Detailed discussions of problem areas of varying magnitude are attached.

6. COMMANDERS SUMMARY AND RECOMMENDATION:

a. Due to the rotation of many key personnel with REFORGER experience, the expanded geographic scope of the exercise, the austere manning resulting from Project CHASE,the specialized air-mobile structure of the REFORGER Division, and a lack of appreciation by CONUS-based forces of certain subtleties of USAREUR's mixed tactical, functional and area/community organizational responsibilities, REFORGER 76 could not be characterized as an easy exercise to support. It is apparent that since the inactivation of TASCOM and implementation of the three support regions concept (5th Corps, 7th Corps and 21st Spt Comd communities), there is no longer a single standard for determining adequacy of support relative to troop comfort and amenities. This was particularly evident during redeployment when at one departure airfield TV sets were made available while none were available at the other two airfields. Although the inter-relationship of these regional commands is understood by USAREUR troops, the "who-is-in-charge" syndrome was overplayed by CONUS-based forces in a manner that robbed austerely staffed USAREUR elements of valuable time needed to execute plans to provide adequate support.

b. Host Nation support and LOC agreements functioned within the current peacetime limitations. Planners must now find a way to streamline peacetime fiscal restrictions when the theater assumes the wartime exercise posture to test the functioning of an agreement. Additionally, to improve effectiveness, LOC agreements must be converted into multinational vice bi-lateral arrangements.

c. Oversophistication of transportation documentation to meet the demands of the information explosion in this computer era may have passed the point where it is no longer a tool but instead a meaningless, misunderstood burden to a typical combat battalion making a unit move. This issue needs to be resolved and in this regard, we will provide our recommendations on transportation documentation requirement for movements by air and surface.

d. The extensive use of MILVAN's reemphasized the recognized gap between unitized/containerized doctrine and placing improved specialized equipment in the hands of troops in the field. USAREUR must identify this major shortfall and take positive steps to provide container mode transfer through the positioning of the MHE forward in the Corps area. Further, we believe it may be advantageous to convert one of our truck companies to a unit equipped with container handling equipment.

e. Although instruction on the purpose of march tables is commonplace in service schools, there appeared, at least initially, to be little understanding or respect by CONUS-based forces for time schedules or vehicle quantities contained in published march tables. It is recommended that USAREUR, exercising its OPCON, specify that march tables are, in effect, a USAREUR order that each convoy commander is responsible for executing.

f. Motor transport elements of the Brigade proved adaptable and responsive to the support requirement of Corps and CONUS-based forces. The exercise has caused an internal examination of the goals of commitment techniques that theoretically provide maximum efficiency of each prime mover asset versus the trade-off of other techniques that provide enhancement of flexibility and command and control, but may result in idle or underused equipment. The Brigade will continue to develop options on how best to support the tactical unit with commercial line haul tractors and will make a recommendation as soon as the scenario and force package for REFORGER 77 are available.

g. If the value of these REFORGER exercises is to be maximized, we need to minimize the use of "exercise" instruction in favor of the instructions and procedures (e.g. war SOP) that would be applicable under wartime conditions.

h. There was much discussion during the course of this year's exercise as to the issue of "who-is-in-charge". This comment applies

AEUTR-SPO-R
SUBJECT: 4th Trans Bde After Action Report, Exercise CERTAIN FORCE/ REFORGER 76

equally at arrival and departure airfields. The Exercise and Reception Division of this Command is tasked to coordinate all activities incident to the arrival, processing and departure of units at APOD/E. In the future, the USAREUR LOI should clearly state that this Brigade is tasked with such responsibility and that support will be under the USAREUR airhead OIC who will be a member of the 4th Trans Bde.

FOR THE COMMANDER:

58 Incls
as

RICHARD E. THOMPSON
MAJ, AGC
Adjutant General

Tel: OBL Mil (2313) 684/805

TAB D

1. AREA: Air Deployment

2. TITLE: Division Air Deployment Plans

3. PROBLEM: Air deployment planning information was not received from the 101st Abn Div until 12 Aug 76. This did not allow sufficient time for the 4th Trans Bde to properly coordinate ground transportation to move troops from arrival airfields to first destinations since flights started arriving on 16 Aug. In many cases, the personnel configuration aboard the aircraft did not agree with the Division plans. This delay also had an undesireable impact on the convoys originating at prepo sites in that it did not allow sufficient time for planning and coordinating enroute support for convoys, requesting march credits, and contracting for bus support. A typical example of this was the cancellation of all five (5) convoys scheduled from GAD on 24 Aug 76.

4. RECOMMENDATIONS: a. That definitive air deployment planning information be provided to the 4th Trans Bde at least two (2) weeks prior to arrival of the first REFORGER flight.

b. That air deployment planners identify unit personnel for convoys far enough in advance to ensure that march credits can be obtained on the desired routes, and appropriate convoy support can be coordinated.

TAB D

1. AREA: Prior Planning

2. TITLE: Deployment Air Flow

3. PROBLEM: The air flow developed by the deploying unit was not prepared in sufficient detail to plan for onward movement of personnel and baggage. Arriving flights had to be checked by unit liaison personnel to determine the IUAA they were going to. This caused delays in moving the personnel.

4. RECOMMENDATIONS: a. All personnel be briefed prior to arrival as to their destination IUAA.

b. The senior individual aboard each flight for each IUAA be responsible for assembling and controlling those personnel destined to his IUAA.

c. All baggage be marked or color coded for each destination IUAA.

1. AREA: Deployment Operations

2. TITLE: Organization of Aircraft Loads

3. PROBLEM: The deployment flights for REFORGER were not efficiently organized in CONUS to interface with ground transportation upon arrival in FRG. For example, mission numbers D091 (DIV 072) and D093 (DIV 074) were scheduled to arrive at Ramstein AB at 0800 and 0900 respectively on 27 Aug 76, both were DIVARTY flights and both flights had troops scheduled to go to Oberdachstetten and Giebelstadt. By switching 26 personnel from D091 with a like number from D093, all personnel on D091 would have been destined for Giebelstadt with no real impact on D093 thus eliminating the requirement, cost involved, and inconvenience to the troops for one bus and S&P to stop at two destinations. Another example is mission D013 (DIV 002) arriving at Rhein Main AB, 18 Aug 76. It had 55 passengers from 6 units going to Illesheim, 17 passengers from 3 units going to Oberdachstetten, 2 passengers for Frankfurt, 1 for Augsburg, 12 for Stuttgart and 7 for Kitzingen. Excess transportation and route runs were required in order to move personnel and baggage to the proper sites. In some cases, the baggage was placed on one vehicle with a route run type delivery schedule causing baggage to arrive late at the last site. From a purely economic standpoint, the Deutsche Bundesbahn commercial buses and 37th Trans Gp equipment available to support airfield clearance operations do not lend themselves to transporting small groups.

4. RECOMMENDATION: a. That the deploying unit organize its aircraft loads to interface with surface transportation in Europe and eliminate multiple destinations for troops on any given flight wherever possible.

b. That destinations for passengers aboard each aircraft be frozen 5 days prior to aircraft departure from CONUS.

TAB D

1. AREA: Airfield Operations

2. TITLE: Exercise Supplemental Personnel Data Sheets (ESPDS) for Non-Divisional Units

3. PROBLEM: The 4th Trans Bde was tasked by USAREUR OPORD 6-76 for CERTAIN FORCE/REFORGER 76, para 3k, Annex D, to collect Exercise Supplemental Personnel Data Sheets from all Non-Divisional units at the arrival airfields and water ports and deliver them daily to MILPERCENEUR. This tasking traditionally has been assigned to the 4th Trans Bde during past REFORGER exercises, but was not practical during REFORGER 76 since there was no means of ensuring that cards collected in Belgium and the Netherlands were delivered daily to MILPERCENEUR. Other problems encountered included the following: There was no clear definition of which units were Non-Divisional as opposed to Divisional; each ship/aircraft troop commander had to be asked if he had Personnel Data Sheets and, if he did have them, he was not aware of their disposition; and some units arrived without the Personnel Data Sheets.

4. RECOMMENDATION: That the need for these ESPDS be reviewed in light of existing war plans and that if deemed necessary they be dispatched by AUTODIN to MILPERCENEUR prior to unit departure from CONUS and that changes only be provided by the unit directly to MILPERCENEUR upon arrival by the unit in Europe.

1. AREA: Command and Control

2. TITLE: Bus Arrival Report During Deployment

3. PROBLEM: Buses arriving at the Major Unit Assembly Areas (MUAA's) from arrival airfields within FRG could not be identified with a specific MAC flight mission number since personnel on the buses did not know what flight they were on. This was further complicated by the fact that many flights contained personnel going to various initial destinations and the chalk commander's responsibility ceased at the arrival airfield. This was discussed with the Division Transportation Officer, 101st Abn Div (AASLT), and he stated that they did not want the chalk commanders to know the MAC mission numbers for their flights as they preferred to use division chalk numbers to avoid confusion. This problem was somewhat resolved by putting "REFORGER 76" signs in the windows of the commercial buses at the arrival airfields and handing a 3x5 card to the senior occupant of each bus identifying the MAC mission number and stating "Please call 2313-612 upon arrival at destination" (4th Trans Bde Movements Control Center).

4. RECOMMENDATIONS: a. That each chalk commander be briefed in CONUS and advised of the MAC mission number for his flight and the initial destinations for all personnel on his flight.

b. That, prior to deployment, specific reporting points be identified at each initial destination in FRG (MUAA, prepo site, etc.) for reporting bus and S&P arrivals.

TAB D

1. AREA: Prior Planning

2. TITLE: Control of Nondivisional Units

3. PROBLEM: Throughout deployment and redeployment of REFORGER 76 units, it appeared that no one had a firm control of nondivisional units. Although XVIII Airborne Corps did all the planning and coordination for deployment of nondivisional units in CONUS, there was no representative sent to USAREUR to coordinate the reception and convoy movement during deployment and the redeployment ot these units. During deployment, unit representatives could not resolve transportation problems and in many cases, USAREUR host units could not be contacted, thus effective coordination for transportation support could not be accomplished. USAREUR DCSLOG Transportation assumed control of the nondivisional units for planning redeployment; however, positive control was never established and the redeployment planning for transportation and airfield reception operations often reached crucial periods when accurate information on these units was virtually nonexistent. The net result was last-minute planning and transportation arrangements being made by 4th Trans Bde personnel and the non-publication of a firm redeployment flow plan.

4. RECOMMENDATIONS: a. That the transportation officer of the major unit (division) be tasked with the responsibility to coordinate the entire deployment and redeployment of all units participating in the exercise (as was the case of prior REFORGER exercises).

b. That, if the major participating unit does not assume total responsibility, the CONUS unit that plans deployment from CONUS send a representative to USAREUR to coordinate the deployment and redeployment of the nondivisional units.

1. AREA: Redeployment Operation

2. TITLE: Utilization of Cardboard Boxes for Troop Baggage.

3. PROBLEM: Cardboard boxes and duffle bags were used by REFORGER troops for packing personal and organizational equipment for deployment to Europe. These cardboard boxes deterioriated drastically during the FTX and post FTX phases and became difficult to secure and palletize for redeployment to CONUS. Pallets had to be rebuilt due to bulging of pallets cause by additional crushing of boxes and settling during transportation to the departure airfield. The time wasted in repalletizing cardboard boxes contributed significantly to delays in aircraft departures.

4. RECOMMENDATION: That duffle bags or footlockers be used in the future in lieu of cardboard boxes for troop baggage.

TAB D

1. AREA: Airfield Operations

2. TITLE: Redeployment Organizational Changes

3. PROBLEM: Although the redeployment requirements had been discussed, coordinated and finalized prior to REFORGER deployment, numerous changes, often dictated by unplanned requests from the 101st Airborne Division, occurred prior to the movement of the redeployment missions. The changes required procurement of additional space in the vicinity of all three redeployment airfields. This was necessitated by requests from the 101st Airborne Division and 42nd MP Customs Group for a one-stop customs check of personal baggage, carry-on baggage and the personnel themselves. The continuous piece meal changes that took place during the two-week period prior to and during redeployment caused many unnecessary problems and made it extremely difficult to negotiate with civilian and US Air Force personnel for additional space and services at departure airfields

4. RECOMMENDATIONS: a. Total requirements for equipment, airfield space and personnel must be identified well in advance and definitely prior to unit deployment.

b. That once the move of personnel and equipment begins, changes to the plan be limited to only those necessary for continuing the operation.

1. AREA: Prior Planning

2. TITLE: Airfield Operations and Support

3. PROBLEM: Airfield support was planned and coordinated during the REFORGER conferences held prior to deployment of the 101st Airborne Division. Support as planned for deployment was provided at the five (5) arrival airfields. However, support at the three (3) departure airfields for redeployment was substantially different from that originally planned or envisioned. Due to requests from the Division, additional support requirements were placed on the communities and this brigade which were not included in USAREUR tasking and were above that which was initially planned. In many instances, the support provided was dictated by availability of service/equipment and/or initiative of personnel to attempt to acquire the service/equipment desired. The end result was that different services/equipment were provided at the various redeployment airfields. Ramstein provided cushioned lounge chairs, television room with three televisions, and postal facilities, all of which were not available at the other locations. Although it was not a no-cost service as requested by the Division, only the Rhein Main airfield had an AAFES barber in the holding area to provide haircut service. Another area of airfield operations which caused many problems was the uncertainty of where customs TAT/baggage inspection would be performed--MUAA/billeting area versus airfield. As a result of changes to the original plan, agencies other than this brigade became involved in procurement of space/covered areas at airfields when, in fact, only this brigade should have been involved.

4. RECOMMENDATIONS: a. That all services/equipment provided at departure airfields be standardized by USAREUR prior to commencement of deployment.

b. That recommended changes to original plans for airfield support during deployment and redeployment be approved by USAREUR.

c. That this Brigade be clearly established in the USAREUR OPORD as the single coordinator with USAFE/MAC for operating/support space required at APOD's/APOE's and with community and other support elements for equipment/services to be provided in support of airfield reception/processing operations.

TAB D

1. AREA: Prior Planning and Coordination

2. TITLE: In-Flight Meals

3. PROBLEM: All in-flight meals for REFORGER aircraft were arranged for and provided by the Military Airlift Command (MAC). In-flight meal problems occurred at Bremen Civilian Airport on the first day of redeployment. The US Department of Agriculture representative refused to pre-clear the cabin area of the first and third flights because the in-flight meal included dairy and red meat products. He claimed that those two categories of items were prohibited from being shipped to CONUS on flights that were pre-cleared in Europe. After discussion between the USDA representative, MAC and USAREUR personnel, milk was removed from the in-flight meal packages and the two (2) flights departed without being pre-cleared. The second aircraft had no in-flight meals aboard when it arrived and the crew had no instructions to divert to another air base to pick up meals prior to taking off for CONUS. This problem was ultimately solved by placing two (2) MCI meals per soldier aboard the aircraft. By the second day of operation, the problem of dairy and red meat products was resolved and the flights were permitted to depart in a pre-cleared status with those items aboard if proof was established that the dairy and red meat products originated in CONUS.

4. RECOMMENDATIONS: a. It is imperative that coordination be effected between on-the-ground representatives of MAC, USDA and USAREUR to assure that future CONUS flights related to exercises are not delayed because of in-flight meals that do not meet USDA regulations.

b. That MAC assure that all aircraft are properly supplied with in-flight meals prior to departure for CONUS.

1. AREA: Prior Planning

2. TITLE: Deploying Unit Requirements

3. PROBLEM: There were too many people coming from CONUS with varying requirements for space, equipment and related services.

4. RECOMMENDATION: During the initial planning for a deployment, the deploying unit should clearly state its requirement in writing and the purpose of the requirement. These requirements can then be identified in minimum and maximum. Based on these written requirements, USAREUR should designate the unit to be responsible to meet these requirements. The deploying unit might have a single Point of Contact with one alternate deployed in advance for coordination; otherwise the Point of Contact should be with the unit in CONUS. These Points of Contact will effect the necessary coordination within the overall written requirements as approved by USAREUR.

TAB D1

1. AREA: Command and Control

2. TITLE: Unity of Command

3. PROBLEM: Several commands were represented in the LOC, e.g., 21st Support Command, 4th Transportation Brigade, MTMC, and 101st Airborne Division. While 21st Support Command had been tasked with coordination of the LOC operation, it was apparent that coordination is not the function which will ensure early resolution of problems and specific direction in an environment as dynamic as the Reforger deployment. In effect there is a pressing need for a Commander not only in the Port Complexes but continuing through the line of communications. One of the great misnomers of Reforger 76 was the term LOC. LOC was used throughout the USAREUR structure as pertaining to operations in Gent and Vlissingen when in fact, it extends into the MUAA. Regional Commanders were vitally interested in those aspects of the deployment which occurred in their AO's but interests diminished as deploying elements moved across boundaries.

4. RECOMMENDATION: The LOC Commander should have the responsibility for reception and onward movement of forces deploying through APOD/WPOD to the MUAA. This directive authority (perhaps in the form of an executive agent) should extend to all Army elements operating in support of the deployment.

TAB D 2

1. AREA: Reception

2. TITLE: Supporting Services (Laundry, Banking, Bus, Medical, etc.)

3. PROBLEM: All US military personnel participating in the deployment phase were not immediately aware of locations and schedules of services available for use at the exercise sites within the Benelux LOC.

4. RECOMMENDATION: A handout brochure containing all pertinent information on services available should be given to each individual as part of their in-processing (USAREUR).

TAB D

1. AREA: Prior Planning

2. TITLE: Host Nation Support Requirements

3. PROBLEM: During several LOC Support Requirement meetings between US and Host Nation representatives, additional requirements or changes to previously positively identified requirements were given to the Host Nation representatives by US personnel who were not responsible for the areas in which the requirements were initially established.

4. RECOMMENDATION: USAREUR should specify a single Point of Contact for the US Army with each Host Nation. Further, USAREUR should designate appropriate units (and the Point of Contact within the unit), who are responsible for specific areas. This assignment of responsibility and the individuals associated with such assignments, should be provided to the Host Nation(s) with a statement that support requirements will not be accepted from personnel other than those particularly identified as the Points of Contact for that specific area of responsibility; and further, that these Points of Contact will be the only personnel authorized to make requirement changes during the actual exercise unless POC name changes have been provided by USAREUR to the Host Nation.

TAB D

1. AREA: Prior Planning

2. TITLE: Development of Responsive Commercial Bus Contracts

3. PROBLEM: The commercial contracts negotiated with the Host Nations (Belgium and the Netherlands) were too specific in terms of quantities, origins, and destinations to provide real-time response to changing requirements. The contracts were developed to provide passenger service in accordance with a rigid deployment plan which in fact failed to materialize. An example is the arrival of 101st soldiers at an APOD in Belgium but destined for the port of Vlissingen in the Netherlands. There was no provision in the contract for this since these personnel were programmed to arrive at the APOD in the Netherlands. A change to the contract had to be negotiated and justified.

4. RECOMMENDATION: Bus contracts in support of an operation as large as the deployment of a division should be "Open Ended" and allow the contracting officer's representative the flexibility to provide the responsive support in consonance with good traffic management.

1. AREA: Communications

2. TITLE: Communications Support in Water/Air Port Operations

3. PROBLEM: Telephone communications support was inadequate and therefore not as effective and efficient as required for command and control interface with the many commercial activities involved. For example, at the Port of Gent there were approximately seventy-five (75) subscribers for five (5) outside lines. Initially, one commercial line was installed for MTMC-TTGE use. This phone was heavily used by many units and activities during the first several days and this, in itself, became a problem. After the military switchboard was fully operational,there was considerable communications interference on the commercial phone to the extent that on many occasions the commercial telephone could not be used at all. Another aspect of the communications problem is that related to the integration of information associated with the aerial and water ports and the dispersed areas of operations within each of these areas and billeting sites. The interrelationship among the many, various activities within a port operation requires immediate and responsive communications support.

4. RECOMMENDATIONS: a. For all future exercises of this nature, that reliance be placed on commercial telephones within the Host Nation Countries with a minimum number of extensions for each line.

b. If the recommendation in paragraph a above is not economically feasible, recommend that sufficient main lines with dedicated commercial access be provided to accommodate the number of subscribers requiring them.

c. That adequate communications equipment similar to the Motorola MT220 FM radio, FSN 5820-L9000-53D, be explored for use within a port (aerial/water) operation.

TAB D

1. AREA: Port Operations

2. TITLE: Customs Agreement and Procedures

3. PROBLEM: The blanket customs clearance and the procedures for handling such clearance agreed upon by Nation to Nation agreements did not get shown to all the working level people in the Host Nation.

4. RECOMMENDATION: Sufficient notice be given to insure that information filters to all levels. A check should be made to ascertain understanding at the various levels.

1. AREA: Visitor Control

2. TITLE: Control of Visitors at all Levels and at all Activities

3. PROBLEM: There were too many visitors, including some that were unannounced, coming into the operating units and the Terminal Group Headquarters. Some visitors, under the shelter of "observer", came and stayed several days. These people, after getting a briefing and a tour of all activities, just stood around the headquarters wanting to talk or "chit chat". Regardless of the position one holds, a lesser ranked individual feels obligated to stay with the visitor and answer questions.

4. RECOMMENDATION: That all visitors be limited to one-half day, and regardless of title, position or rank (with extremely few exceptions), be accomodated through the visitor's bureau.

1. AREA: Prior Planning

2. TITLE: Advance Receipt of Ship Pre-Stow Plans

3. PROBLEM: Due to the fact that Port Handling/Stevedore Contracts, within the ports used for the exercise, were not part of a normal military port with day to day operations, the requirement for early receipt of accurate pre-stow plans (approximately 90 days prior to the arrival of the first ship) was important. Pre-stow plans were not received in sufficient time to accurately identify stevedore and port handling requirements for contract negotiations.

4. RECOMMENDATION: Pre-stow plans should be estimated as early as possible, preferably not later than 90 days prior to ships arrival at the Port of Debarkation. Information as to heavy lifts, general nature of the cargo and peculiar items that may require special handling should be made known. It is recognized that a requirement for a pre-stow plan, 90 days in advance, could result in a roughly estimated stow plan; however, updating significant changes to the pre-stow plan would be acceptable and is recommended.

TAB D

1. AREA: Port Operations

2. TITLE: Receipt and Accuracy of Ship Manifests and Final Stow Plans

3. PROBLEM: The late receipt (less than 2 days prior to ship's arrival) and the numerous errors (i.e., lack of vehicle description, duplicate numbers, mismatch of numbers, and missing final destination codes) of the ship's manifest and final stow plan hampered port clearance planning, surface mode determination, and destinatination determination. Errors made on Transportation Control and Movement Documents (TCMD's) by the deploying unit were further perpetuated in Ocean Manifests.

4. RECOMMENDATIONS: a. For future exercises of this nature, a courier, designated for each ship being loaded, would hand carry a copy of the final stow plan and ship's papers (manifest) by the most expeditious transportation available to the POD Terminal Commander. Port clearance plans and discharge operations could then be finalized in preparation for the ship's discharge immediately upon arrival.

b. Each unit subject to deployment should prepare a "pre-made" TCMD for each piece of equipment. This TCMD could then be verified by the Unit Property Book Officer and retained on file within the unit for use when required. A verification procedure is recommended.

c. The Marine Corps Mechanized Embarkation Data System should be investigated for applicability to all large troop movements. Adoption of this system as a standard for unit moves by sea would provide necessary data without the high costs attendant to new systems development if interface with the Standard Port System can be achieved.

d. A comprehensive MILSTAMP training program should be conducted for deploying units by MTMC. This would eliminate inaccurate or incomplete MILSTAMP data being provided and ultimately being perpetuated into the transportation system as was experienced in the Reforger exercise.

1. AREA: Prior Planning

2. TITLE: Identification of Equipment to be used in Ports only

3. PROBLEM: Certain equipment (empty blade boxes, helicopter spreader bars, dollies and spare parts) shipped from CONUS for use in deployment and redeployment ports was not fully identified and no Point of Contact was designated to provide this information. This caused some confusion and delays in identifying, assembling and loading these items for delivery to the redeployment port.

4. RECOMMENDATION: Early identification of these items as "Port Use Only" and manifested accordingly would assist deployment port operations in planning and delivery of these items to the redeployment port (Redeploying Unit).

TAB D

1. AREA: Prior Planning

2. TITLE: Cargo Identification

3. PROBLEM: Determine the best method to correlate vehicles and equipment with the ocean manifest to facilitate port clearance. The ocean manifest identified some vehicles and equipment to be destined only to the ports of Vlissingen and Gent. Visual inspection of the cargo to obtain destination information was required before onward movement could be effected. The DA Standard Port System TA Master File (address file) only reflected Reforger 76 UIC's and unit designations without reference to destination MUAA's. Destination information would have facilitated the processing of port clearance documentation. In addition, numerous manifest entries for vehicles did not include necessary information (vehicle model, dimensions and USA number) thereby making cargo identification even more difficult.

4. RECOMMENDATIONS: a. Training in MILSTAMP documentation should be emphasized for units subject to overseas deployment.

b. Maximum use be made of available system capabilities to include data requirements for inland movement of cargo.

c. Manifest data include necessary MILSTAMP information.

1. AREA: Prior Planning

2. TITLE: Forecasting of Railcar Requirements

3. PROBLEM: To develop the best method to project actual requirements for railcars. The 101st Division COMPASS listing, which identified equipment by anticipated convoy and rail movements, was used for planning number of rail cars required, by type, and the movement train schedules.

a. The COMPASS data reflected that 60 percent of the MILVANS weighed more than 10 tons; therefore, rail planning was based on one MILVAN per car (LGV cars). However, the manifests showed 98 percent of the MILVANS under 10 tons thus permitting the use of LGJ cars (2 MILVANS per car) and reducing the total number of MILVAN trains.

b. Direct loading of MILVANS from ship to rail by destination was planned. After arrival of the American Ranger, cargo was found to be mixed in stowage. For this reason, the majority of the MILVANS had to be double handled to provide proper loading by destination.

c. Movements planning called for 36 mules per railcar (bundled 3 high). Most mules arrived unbundled (or with two different destinations bundled together). Only 12 bundles could be loaded on a railcar as no equipment was available to rebundle mules at the port.

d. There is always the unknown, such as vehicles scheduled for convoy movements which become inoperable or are damaged; late manifest changes (additions); and similar actions which will require additional railcars.

4. RECOMMENDATIONS: a. In addition to COMPASS listings, unit load plans prepared by deploying units should reflect shipping configuration of equipment, (i.e., items and weight of equipment loaded in MILVANS, limitations because of mounted equipment, etc).

b. Rail requirements, associated with port clearance and inland movement, must be identified as early as possible.

c. Based on lessons learned from this exercise and from this type force, additional railcars need to be readily available for use.

TAB D

1. AREA: Port Operations

2. TITLE: M-750 Semi-trailer Shop Vans not compatible with European Commercial Highway Truck Tractors

3. PROBLEM: The M-750 Semi-Trailer Shop Vans could not clear the ports using Host Nation highway or rail assets for the following reasons:

a. The M-750 has a twenty-four (24) volt electrical system, whereas the European commercial highway assets have a twelve (12) volt system.

b. The electrical receptacle on the M-750's will not accept the European commercial vehicles' cable.

c. Movement of M-750's by rail requires the use of deep-well rail cars which were not available.

4. RECOMMENDATIONS: a. Given our continued reliance on Host Nation support, future specifications for the procurement of any type of semi-trailers should require the same type of electrical system as is presently used on MILVAN chassis.

b. As an interim solution for semi-trailers already procured, the procurement of an adaptable cable should be considered for use between twelve (12) volt electrical outlets and twenty-four (24) volt semi-trailer electrical receptacles. This would result in the trailer lights being dimmer; however, this would be an acceptable interim measure. (For any extensive use, the light bulbs could be changed from twenty-four (24) volt to twelve (12) volt).

1. AREA: Prior Planning

2. TITLE: Equipment Color Code

3. PROBLEM: All Division vehicles were to be color coded by MUAA (Kitzingen - Green/Gray; Oberdachstetten - Red; Illesheim - Yellow; and Giebelstadt - White). This concept of color coding was good. However, many vehicles were not color coded; those that were coded were very difficult to differentiate due to excessive use of green tape, unit color codes, and no designated location of the color code. In essence, the color coding system was ineffective. Additionally, certain equipment, designated for delivery to MUAA's, was used in helicopter assembly operations and thus was not available for rail movement until after helicopter assembly operations were completed. This hampered expeditious loading of rail equipment.

4. RECOMMENDATIONS: a. Designate a specific location for the color code (e.g., the right top corner of the windshield for prime movers, and the forward right side middle for trailers and vehicles without windshield) along with the shipping labels in the same locations.

b. Deploying unit and loading port insure that codes are applied by the deploying unit.

c. Equipment needed by deploying unit for use in port operations must be clearly marked and identified in the ocean manifest.

TAB D

1. AREA: Deployment Operations

2. TITLE: Inadequate Driver Support

3. PROBLEM: The 101st Airborne Division (Air Assault) was requested to provide eighty (80) drivers in Gent and forty (40) drivers in Vlissingen, to be used by MTMC-TTGE Benelux Terminal for round-the-clock RO/RO discharge operation on the USNS COMET, USNS METEOR, and GTS CALLAGHAN. The number of drivers requested was approved through channels to and by the 101st Airborne Division; however, the total number was not provided at either site. The number of drivers received each day was never consistent, and as a result, could not be totally relied upon for ships discharge operations.

4. RECOMMENDATION: For future exercises with requirements of this nature, military support requirements should either be assigned to a unit(s) as a Direct Support Mission or they should be disapproved sufficiently early in the planning phase in order that other resources (Host Nation military or civilian) can be utilized.

1. AREA: Command and Control

2. TITLE: Host Nation Movement Control

3. PROBLEM: Host nation movement control did not function beyond national boundaries. There was no formal mechanism for international communication between Belgium, FRG and the Netherlands military, nor was there an identified supra-national headquarters with the authority to adjudicate conflicts should one have occurred. In fact, the 4th Transportation Brigade liaison team at the Combined Traffic Center functioned as the primary conduit for information between the various national movement control elements. This was to some extent tied to the bi-national agreements which the US has with the individual countries. If the doctrine of centralized movement control is viable, Reforger 76 deployment from the Benelux pointed up a serious structure deficiency. While the USAREUR MCC acted as a coordination center for US movements, it can be assumed that, given a crisis, logistical movements and unit deployments of several nations would be transiting the Benelux/FRG area and that prioritizing and real time controls would be necessary.

4. RECOMMENDATIONS: a. An AFCENT JMCC should be established to resolve movements conflicts associated with transportation movements.

b. Consideration be given to establishing multi-national agreements in the area of transportation.

c. AFCENT movements conferences should include an explanation by each nation as to their movements control principles and methods of operation for all modes of transportation. Such a practice would insure an understanding of interlocking systems associated with an LOC on the continent.

d. The communications network of each Host Nation Combined Traffic Center need to interface with each other to allow the interchange of movements data. The US system (TAC SAT) should be a backup to this host nation net but served in a dual capacity which permits the US movements control personnel to communicate with the USAREUR MCC.

TAB D 7

1. AREA: Deployment Operations

2. TITLE: Preparation of Vehicles for Movement

3. PROBLEM: A cursory inspection of vehicles by CTC personnel after they arrived in BENELUX ports revealed that vehicles required extensive maintenance efforts in order to prepare them for convoy movement. Masking tape used on glass, including windshields and headlamps, was virtually "baked on" by time and was extremely difficult and time consuming to remove. In some instances, convoys departed with vehicles that had inoperable taillights, burned out headlights, and tape and dirt on the windshields and lights. Many vehicles had to be "jump started". Due to the short time period available to drivers once they reached the vehicle staging area, only minimal operator maintenance was performed. The total problem was further aggravated by the need to expeditiously move convoys out of the port to their destinations. The end result was that approximately 10% of the vehicles broke down while enroute to destination MUAA's.

4. RECOMMENDATIONS: a. Greater attention must be paid to the preparation of vehicles before the vehicles depart CONUS and upon initial arrival in overseas areas.

b. The need to place masking tape on windshields and headlights needs to be challenged and eliminated.

c. A team (either of the deploying unit or of the overseas Area Support Command) be established to thoroughly inspect the vehicles (ESC green and safe) and apply the IRAN concept.

TAB D

1. AREA: Topographic Support

2. TITLE: Highway Reconnaissance and Convoy Routing

3. PROBLEM: The quality of topographic products available for highway reconnaissance received from the USAREUR Map Center were considered unsatisfactory. Being out of date, maps received did not reflect newly opened Autobahns from Benelux port throughout the FRG. The only way to satisfactorily accomplish this task was to make out-of-pocket purchases to obtain quality commercial maps from agencies such as ADAC. These commercial maps provided the detailed highway intelligence needed to plan convoy routes.

4. RECOMMENDATIONS: a. That the topographic center make available for transportation highway planning, current maps updated in the same manner as travel maps. This method would give location of newly constructed entrances and exits, detour routes and rest areas.

b. If military maps cannot be provided, recommend procurement of commercially current highway maps of all areas involved in the exercise.

1. AREA: Deployment Operations

2. TITLE: Driver's Identification for Convoys

3. PROBLEM: To develop a system for fast identification of vehicle operators. To quickly and accurately match drivers arriving by air transportation with their assigned vehicles, the 101st Air Assault Division SOP required each driver to carry a card which identified the vehicle he was to drive. An excessive time delay was experienced in collecting the cards and getting information to 101st port personnel (cards were collected at the RON site). Once the data was provided to port personnel, vehicles were pulled out of a congested staging area and prepared for early morning convoys (maintenance,fuel, etc). Valuable time was lost and in several instances convoy commanders alledged that certain drivers were not qualified on vehicles they were assigned to drive. While the objective--associating a driver with his assigned vehicle--is valid, the application of this objective to a major deployment reduces flexibility available to deploying unit as well as to those charged with port clearance. The focus of attention should be the relocation of vehicles to the MUAA. Therefore, the command and control structure needs to know the number of drivers scheduled for each sortie by destination--MUAA--and assign such drivers to vehicles destined for this same location.

4. RECOMMENDATIONS: a. Vehicles be given to qualified drivers for movement to a common destination without regard to the normal assigned driver for a specific vehicle.

b. MAC passenger manifests include some indicator identifying individuals as drivers. Alternatively, the advanced command and control element of the deploying unit could have unit rosters which identify individuals and their duty assignment.

TAB D

1. AREA: Deployment Operations

2. TITLE: Convoy Markings

3. PROBLEM: a. Bilingual convoy signs were too big. The large size covered the radiators of the lead vehicles which resulted in immediate overheating and in some cases covered the tail lights of the trail vehicles.

b. Stanag 2154 (Military Motor Movement) does not place a requirement to display convoy signs on lead and trail vehicles. It does, however, require that clearance numbers be written on the sides of each vehicle in a column and convoy flags be used to indicate lead, trail and convoy commander's vehicle. Further, there are no standard provisions on US made vehicles, as on Bundeswehr vehicles, to display convoy flags.

4. RECOMMENDATIONS: a. Convoy signs if used be tailored to fit 1/4 ton trucks without interfering with the radiator as indicated above.

b. All vehicles to be used as lead, trail or convoy commander's vehicles be equipped with a standard flag mount which can be attached to the vehicle(s) when necessary.

TAB D

1. AREA: Deployment Operations

2. TITLE: Convoy Baggage

3. PROBLEM: To develop means of coordinating deploying troop units actions. Prior to marshalling the first days convoys from Vlissingen, port supervisory personnel from the 101st Air Assault Division were advised of the necessity to retain troop baggage aboard trucks by convoy element and to reposition it into deploying vehicles in the convoy marshalling area. 101st personnel failed to follow this guidance and placed the total convoy's baggage on the ground in one central location. Failure to follow guidance resulted in a 35 minute delay in the start time of the first convoy as convoy elements were forced to stop, search in the dark and pick up baggage from the consolidated baggage.

4. RECOMMENDATION: That detailed coordination be made between unit port elements, convoy commanders and billeting detachment personnel to identify and resolve questions in procedures prior to actual convoy alignment.

1. AREA: Deployment/Redeployment Operations

2. TITLE: MP Escorts for Convoys

3. PROBLEM: Due to MP escorts being provided for convoy movements, the REFORGER exercise lost the opportunity to observe the reaction of units unfamiliar with European road networks actually performing under existing movement regulations and pre-established march tables. Participating units did not receive the benefit of learning the importance of proper planning of convoy movements, march tables and convoy discipline.

4. RECOMMENDATIONS: a. While preparing for REFORGER, units should place keen emphasis during training upon the critical requirement for strict adherence to march tables and the imperative requirement for convoy discipline.

b. Future REFORGER convoy movements should be with minimal MP escorts thus testing the adequacy of current procedures for such movements and to realize the importance of proper planning for march tables and convoy discipline.

TAB D

1. AREA: Deployment Operations

2. TITLE: Convoy Operation Procedures

3. PROBLEM: Deploying unit convoy procedures need to be improved. The first day's convoy departed the port of Vlissingen late. There appeared to be a lack of general knowledge on the part of 101st Division personnel with respect to convoy procedures and the responsibilities of the convoy commanders. A limited amount of land-highway movement training in CONUS would appear to be quite beneficial for deploying troop elements. This is especially true when deploying forces are primarily air oriented. The host nations reported difficulties with 101st Airborne Division drivers' methods of operations on the first day of operation. Specific difficulties reported were:

a. Unauthorized stopping on side of road for latrine breaks instead of using rest halt facilities.

b. Vehicles passing each other and waving to their buddies.

c. Drivers changing "on the fly" instead of when the vehicle was stopped.

d. Poor discipline at the first rest halt in as much as drivers would not return to the vehicles in time to meet the start time.

4. RECOMMENDATIONS: a. That deployment forces be trained in convoy procedures and techniques while in CONUS.

b. That convoy operations be practiced and unit responsibilities associated with convoy operations be established prior to troop unit arrival in the European theater.

1. AREA: Identification for Convoy Vehicles

2. TITLE: Difficulty in Identifying Convoy Vehicles

3. PROBLEM: The Feldjaeger units had problems determining the number of vehicles actually in a given convoy. This resulted from the fact that Bn and or Co Commanders would travel part way with the convoy in order to assure that no problems were encountered. When they were satisfied, they left the convoy and returned to the MUAA. Thus, the vehicle count would suddenly change and the Feldjaeger units were unable to locate or account for the missing vehicles. Additionally, some units covered the bumper markings or their vehicles making it impossible to identify units making moves.

4. RECOMMENDATION: That all vehicles traveling as part of a given convoy be clearly identified with the convoy control number, and only those vehicles that are convoying the entire route be allowed to depart the SP. Additionally, units should be instructed not to cover bumper markings during administrative convoy movements.

TAB D

1. AREA: Deployment Operations

2. TITLE: US MP Personnel at CTC's in Germany not Adequately Prepared

3. PROBLEM: As was the situation last year and the year before, MP liaison personnel at Combined Traffic Center (CTC), Koeln and Mainz, did not know they were going to be in the CTC until 2-4 days prior to the exercise. The MP's were outstanding personnel but not well informed on US/FRG SOP. As a result, it took about two days OJT for them to understand their mission and render the required assistance.

4. RECOMMENDATION: US MP liaison personnel be identified and linked up with the appropriate CTC staff at least 30 days in advance.

TAB D

1. AREA: FTX Support

2. TITLE: Rail Budgeting

3. PROBLEM: 4th Trans Bde has responsibility for budgeting, costing and defending the budget for rail moves conducted by 5th and 7th Corps units and, as a result, the Brigade is often involved with detailed planning considerations for which information is not available at this headquarters. Last minute changes by the moving unit as to the type of equipment ordered and the routing used had considerable impact in that the actual cost of the move often exceeded the programmed costs by a considerable amount. This fragmentation of the budgeting/planning effort adversely affects overall fiscal management, control and responsiveness.

4. RECOMMENDATION: That the responsibility for budgeting rail moves be given to the Corps, thereby allowing Corps Commanders to weigh the fiscal impact of alternatives and set priorities within given constraints. 4th Trans Bde can assist the Corps in developing cost estimates.

TAB D

1. AREA: FTX Support

2. TITLE: Tardy Rail Loading for In-Country Moves

3. PROBLEM: It was noted that throughout REFORGER, in-country units were continually slow in loading for rail moves. Reports from the load sites indicated an insufficient number of personnel working on the loading of equipment, although a portion of the problem can be attributed to inexperience and lack of familiarity with rail loading and tie-down procedures.

4. RECOMMENDATIONS: a. That the importance of timely loading be stressed to units moving by rail and that they conduct additional training in rail loading procedures.

b. That the rail movement schedules, once finalized, be considered as USAREUR directives with no deviations authorized unless specifically approved by the Cdr, 4th Trans Bde.

1. AREA: Military Highway and Rail Movements

2. TITLE: Documentation of Unit Moves via Military Highway

3. PROBLEM: Movement of unit equipment in conjunction with a unit move, military highway assets of the 37th Trans Gp or host nation assets necessitates proper documentation for control and accountability purposes. The theory expressed by the division was that transportation assets augmenting the unit for a tactical move were, in effect, a part of that unit which eliminated documentation requirements since the transportation assets were considered to be organic transportation. While this is a valid view when truck units are assigned in a direct support role, it is not compatible with a GS, line-haul movement. It similarly could not necessarity apply if host nation commercial or military highway assets are used to satisfy the movement requirement.

4. RECOMMENDATION: A review of the DOD MILSTAMP Regulation and STANAG publications revealed no specific definition of requirements for unit move documentation. Resolution of this matter should be developed within USAREUR for promulgation in STANAGS and input to TRADOC for use in our training programs.

TAB D

1. AREA: FTX Support

2. TITLE: POL 5,000 Gallon Tankers as Static Rapid Refueling Points

3. PROBLEM: POL tankers (5,000 gallon) were used at Rapid Refueling Points in a static position. A platoon of the 102d Truck Company (Med) (POL), a non-divisional unit in support of REFORGER was issued forty-eight 5,000 gallon tankers from POMCUS. These assets combined with organic Corps POL tankers were not adequate to meet all REFORGER POL tanker requirements and necessitated the commitment of 37th Trans Gp POL tankers to meet REFORGER Rapid Refueling Point requirements. These additional requirements on the 37th Trans Gp exceeded the Group's 5,000 gallon tanker availability when combined with non-REFORGER tanker requests.

4. RECOMMENDATIONS: a. Static positioning of 5,000 gallon POL tankers reduces line haul delivery capability and should only be used as a last resort.

b. Collapsible POL bladders should be used for static Rapid Refueling Points. This equipment should be organic to the Corps.

TAB D

1. AREA: FTX Support

2. TITLE: Liaison Teams

3. PROBLEM: The Corps requested transportation services to include requirements for "on the scene" assistance to augment Corps movements control capability. The Brigade is not manned to provide such augmentation.

4. RECOMMENDATION: Three liaison teams consisting of an officer and NCO from the 37th Trans Gp and Movements Regions moved between the MUAA's and the FTX areas to provide visibility over 37th Trans Gp truck assets, coordination for RED BALL and other military highway deliveries and to assist coordination of military highway and movements control requirements. These liaison teams were augmented by command and control elements of the Truck Group and Movements Regions during periods when heavy truck assets were committed.

TAB D

1. AREA: FTX Support

2. TITLE: Availability of Corps Transportation Assets

3. PROBLEM: In many instances, the Division transportation requirements were entered directly into TMO channels without being first offered against Corps transportation assets. Numerous instances were observed during the FTX's where Corps assets were available but not used while 37th Trans Gp equipment was being committed within the Corps' area thus decreasing the general support capability available to satisfy all of USAREUR's military highway requirements.

4. RECOMMENDATION: All Division transportation requests should be balanced against Corps transportation asset availability prior to being passed through TMO channels.

TAB D

1. AREA: Military Highway Support

2. TITLE: Definitive Areas for Matching Commitments with Requirements

3. PROBLEM: Commitments passed to the 37th Trans Gp often gave grid coordinates as a "report to" location without the name of the unit, point of contact or telephone number. A part of this problem stemmed from the need to protect unit locations from a security point of view. However, this incomplete data resulted in late spots and pulls and in some instances no spot or pull as the driver/vehicle was appropriated by on-the-scene Division/Corps personnel for separate commitments. Such actions then necessitated the 37th Trans Gp having to dispatch additional vehicle assets to fulfill the original request.

4. RECOMMENDATIONS: a. Requests for vehicle commitment should include unit name, location, point of contact and a means of contacting.

b. An alternative to fit some situations would be to establish readily identifiable areas within each MUAA that would serve as central "reporting to" locations for all commitments for a specific MUAA with requesting units providing an escort from the central location to the specific commitment initial location. This "reporting point" could have command and control representation from the 37th Trans Gp and movements control from TMO's.

TAB D

1. AREA: Military Linehaul Support

2. TITLE: Expeditious Discharge of Linehaul Trailers

3. PROBLEM: Even though loads were inbound cleared, customers were often not prepared to off-load transportation assets so that they could be released for further missions. At the REFORGER MUAA sites and at permanent party major customer sites, insufficient capability existed to ensure expeditious off-loading. C-Rations (MCIs) were required to be moved during the exercise and were seldom unloaded. As of 8 Nov 76 MCI's were still loaded on trailers at various Class I points, Ration Breakdown points and depots.

4. RECOMMENDATIONS: a. That sufficient MHE and other offloading assets be planned to assure a capability for expeditious discharge of transportation assets and that all MCI's be pre-staged in a forward area prior to the arrival of REFORGER units.

b. If static storage of MCI's on S&P trailers is a viable concept, then supply organizations should draw trailers from War Reserves and move them around on a tow-away basis.

TAB D

1. AREA: FTX Support

2. TITLE: Special Purpose Transportation Equipment Requirements

3. PROBLEM: a. The 37th Trans Gp has limited special purpose organic equipment to support the increased requirements imposed by the REFORGER exercise. The assigned number of M-172 lowbed trailers was inadequate to support this years REFORGER exercise and, as a result, several commitments had to be non-confirmed. The primary use of the M-172 lowbed was to move Division forklifts within and between the MUAA and FTX areas to load/unload S&P trailers. The well-defined time frames for the FTX's resulted, at times, in requirements for lowbeds in excess of the nineteen organic to the 37th Trans Gp.

b. The off-road capability (M-Series truck, tractor) of the 37th Trans Gp was inadequate to support some field commitments. The only off-road capability was found in the two POL units organic to 37th Gp and in the REFORGER medium truck company which was attached for the exercise. Utilization of commercial tractors off improved roads proved tenuous and required frequent recovery by tactical vehicles. Because 120 trailers were issued to the 594th Trans Co, the REFORGER unit, sufficient S&P trailers were available. These trailers were fully utilized and created no maintenance or control problems. They were continually accounted for and turned in without difficulty.

4. RECOMMENDATIONS: a. Advanced planning should examine the possibility of carefully scheduling the use and movement of forklifts to reduce peak demands, and/or identify additional lowbed assets assigned to other USAREUR units or in depot stock to be used for back-up support.

b. That two M-series medium truck companies be put on the REFORGER troop list for next year, each with 60 trailers. This would provide for both sufficient S&P trailers and off-road capability.

TAB D

1. AREA: FTX Support

2. TITLE: Unit Movements Between Corps

3. PROBLEM: The 4th Trans Bde was tasked to plan and coordinate major unit movements from one Corps area to another. This tasking implied that the Corps lacked the capability to perform this function required under existing transportation doctrine.

4. RECOMMENDATION: Major unit movements between Corps should be planned and coordinated by the losing Corps. This appears to be valid rationale to increase in peacetime the Corps capability to plan and coordinate Corps movements.

TAB D

1. AREA: Airlift Support

2. TITLE: Host Nation Intra-Theater Airlift Support

3. PROBLEM: Although German C-160 airlift was offered without regard to reimbursement of funds, the procedures, used during REFORGER 75 verbally concurred upon for host nation participation in providing backup intra-theater airlift support, were not recognized for REFORGER 76 by USAFE and Military Airlift Center Europe. Indications are that this year's REFORGER planning activities failed to include Air Force involvement, specifically, with regard to German Luftwaffe participation. Although German airlift support was formally requested though USAFE, the 4th Transportation Brigade coordinated details with the Germans to employ the 50 cost-free C-160 sorties in satisfying unified airborne and airlift training goals and NATO inter-operability objectives. Details regarding weather minimums, alternate airfield selections and availability of hangar and airbase runway facilities at Ramstein for preliminary training could have been accomplished more expeditiously by USAFE or the Airlift Center and wartime training realism might have been enhanced. Thus,it is readily apparent that established procedures for requesting host nation support in the event of over-commitment of USEUCOM airlift resources were ignored.

4. RECOMMENDATION: That USAFE be involved in all REFORGER planning.

TAB D

1. AREA: Air Support

2. TITLE: Emergency or Rapidly Required Airlift

3. PROBLEM: Although the Military Airlift Center Europe (MACE) maintains a standby C-130 for quick-alert, launching this aircraft is constrained by the DOD Foreign Clearance Guide. MOD or DAO overflight and cargo clearance is normally required 48 hours in advance. During Phase I of REFORGER, this command processed on a Thursday a request for a Saturday movement of 37 personnel from Rhein Main Air Base to Gent, Belgium. The request was approved by USAFE only to be rejected by MACE. It was recommended to USAFE and MACE to request a waiver regarding the 48 hours prior approval for clearance requirement from the DAO in Belgium or to contact the MOD, Bonn, FRG for employment of C-160 aircraft not regulated by the DOD Clearance Guide. Due to lack of response, the 37 personnel were sent to Gent by commercial bus.

4. RECOMMENDATION: Multilateral host nation, NATO agreements be established to allow streamlining of Air Force procedures for quick reaction airlift in support of Central Europe.

Incl 48

1. AREA: Post FTX Training

2. TITLE: Drivers Training

3. PROBLEM: 37th Trans Gp assets were required to transport the baggage and equipment of divisional personnel to train at numerous locations with members of the Belgian, British, Canadian, Dutch, French and German armies. It was imperative that the pick-up of the Divisional personnel and their baggage/equipment be accomplished in a timely manner to ensure that all personnel, baggage and equipment could properly clear customs inspection points. Untimely delays would result in critical disruption of the programmed redeployment air flow.

4. RECOMMENDATION: Future post FTX training exercises that necessitate off-the-road transportation support should provide for the participation of REFORGER truck units. This procedure would result in the transportation assets being immediately available for the return during the final stages of redeployment.

1. AREA: Interexercise Movements

2. TITLE: Planning Data From REFORGER Units

3. PROBLEM: Information received from the 101st ABN Div for interexercise movements was not complete and in many cases inaccurate. The actual number of vehicles scheduled to convoy often changed considerably and the problem was compounded by a large number of infiltrating units. There was a wide discrepancy in the quantity of vehicles indicated on the march tables establishing the convoy clearance compared to the quantity of vehicles reported arriving and departing at the various critical points/check points manned by Provost Marshal and movements personnel. March table revisions and republications were made at the last minute, but this proved to be futile in certain instances due to perpetual changes. Some march units reflected on the March Tables were nonexistent due to the massive infiltration by various units.

4. RECOMMENDATION: That REFORGER exercising units be required to submit detailed plans for movements planning purposes. Once march tables are completed and finalized, units should not be allowed to make changes or infiltrate except for unforeseen requirements, and then only when properly coordinated with movements control elements. Infiltrating advance parties should be included in the detailed plans submitted to allow for traffic control at the various rest halts and RON sites to preclude unnecessary traffic congestion along the programmed route of march. Additionally, infiltration must be restricted to only that amount authorized by USAREUR Reg 55-1, i.e. less than 10 vehicles, traveling over public highway within an hour from the same point of origin and traveling over the same route to the same destination.

1. AREA: USAREUR Transportation Support Procedures

2. TITLE: Inadequate Knowledge by CONUS-Based Forces as to the European Transportation System

3. PROBLEM: CONUS-based REFORGER units were not sufficiently familiar with transportation procedures or their responsibilities and requirements in the European environment, thus degrading the quality, responsiveness and flexibility of the transportation support furnished. This manifested itself in all areas of transportation support and resulted in untimely, inadequate and improper transportation forecasting and requesting by the user, which in turn caused over or under allocations of transportation assets. Additionally, basic actions routinely performed by in-theater shippers such as properly loading and tieing down loads, replacing side boards and tarps on stake and platform (S&P) trailers and preparing Transportation Control and Movement Documents (TCMD's) IAW MILSTAMP in many cases were not accomplished, causing confusion and movement delays. In several instances, commitments were received which provided such short notice that the planning effort was disrupted. Although these commitments were performed, extraordinary efforts were required by the entire organization. This problem permeated all phases of the exercise and was finally beginning to resolve itself due to the education gained by CONUS-based forces near the end of the redeployment phase.

4. RECOMMENDATION: That USAREUR and the 4th Transportation Brigade develop a program to ensure that CONUS-based forces oriented to Europe are aware of the European transportation system and are capable of operating within the European transportation system. This should include, but not be limited to providing appropriate CONUS units with pertinent regulations and policies (e.g. USAREUR Regulation 55-355 and applicable 4th Trans Bde Regulations/SOP's) with sample formats for requesting support and expanding the transportation liaison visit to the CONUS REFORGER Forces both in scope and personnel to provide thorough briefings on actual make-up of the European transportation system, its organizational structure, area support relationship, duties of the requestor/shipper, actual geographic locations of transportation activities in respect to the LOC and maneuver area. The individual dispatch technique of commitment normally utilized by the Military Motor Transport Group units and the duties of convoy commander to abide by published march tables should be specifically highlighted.

TAB D

1. AREA: Pre-Exercise Planning

2. TITLE: Reports and Statistics

3. PROBLEM: To develop more meaningful reports. The transportation reports contained in the REFORGER operations order format have been perpetuated year after year without an in depth evaluation of the current impact upon subordinate elements to fulfill the reporting obligations. To illustrate, excessive manhours were utilized in developing historical data for reports during the redeployment phase of REFORGER. Monitoring movements is a necessity, but data such as when a train starts to be off-loaded in a port, its completion time, or the number of pieces of general cargo loaded aboard a ship at a particular time becomes meaningless and does not facilitate operating units in accomplishing their missions.

4. RECOMMENDATION: That for future exercises, the 4th Transportation Brigade participate in the development of the draft operations order annex relative to movements reporting to assist in determining what aspects of each specific operation need to be reported up the chain to various levels of interest in order to adequately portray realistic and meaningful program/status information in appropriate time frames.

1. AREA: Communications

2. TITLE: Lack of Adequate Communications in the Illesheim MUAA

3. PROBLEM: Communication with REFORGER units by military (Class A & TASS) telephone proved inadequate. HQ, 3rd Movements Region was tasked to plan and coordinate inter-exercise movements and the redeployment of the 101st ABN Div (AA). This required direct contact with the Division's MCC. Use of military telephones from point to point resulted in delays in relaying movement changes, cancellations and new commitments. The TASS line for HQ, 3rd Movements Region was not installed. Commercial telephones in HQ, 3rd Movements Region, various TMO Forwards, SUPCOMS, Corps, and RON sites proved invaluable for passage of data and changes. The 101st Div was not provided with commercial telephone capability until the end of REFORGER. In those areas where commercial telephones were not available, the RTT Rigs provided timely and adequate communications. The Division MCC did not have RTT capability, and during Gordian Shield Exercise the lack of communications was very evident.

4. RECOMMENDATION: That in future REFORGER exercises the playing unit provide or be provided with interfacing communication assets. Military Class A & TASS telephones, commercial telephones and RTT Rigs would provide the flexibility necessary to receive and pass on requirements, commitments and changes thereto regardless of the geographical location of the exercising unit. The RTT Rigs are a valuable means of communication, and should be provided at the 4th Transportation Brigade, Region HQ, MOTCA, Corps, TMO's Forward and RON sites as an alternative to military telephones. Should direct communication with the MCC of the exercising unit be required again, a RTT Rig should be at that location as well. Communication back-up can be provided by commercial telephones at movements control center and Corps insuring sufficient and adequate communications throughout the REFORGER net. Additionally, consideration should be given to the installation of TELEX in those instances where forward TMO's operate from fixed facilities for extended periods of time as was the case with Illesheim and Katterbach.

TAB D 1

1. AREA: Redeployment

2. TITLE: Coordination of Transportation Commitments

3. PROBLEM: To coordinate transportation requirements, especially during redeployment, there existed a need for a well-defined point of contact to serve as an interface between the division and the 4th Trans Bde. The multiplicity of points of contact tended to work against effective communication and ultimately reduces responsiveness in obtaining well-defined requirements and resolving conflicts.

4. RECOMMENDATION: That the Division MCC be the Division's single point of contact for all redeployment transportation and related matters.

TAB D

1. AREA: Transportation Documentation

2. TITLE: Transportation Documentation Production Procedures

3. PROBLEM: MTMC-TTGE Bremerhaven Terminal assumed full responsibility for documenting the movement of all cargo, thus not only acting as the transhipment point, but also as the initial shipper. This resulted in the following problems:

a. Shipping documents were produced, using the DASPS, from the deployment phase manifest data which was incomplete. This required manual TCMD's to be prepared by Bremerhaven Terminal personnel.

b. The shipping documents for cargo that was to arrive in port by rail were given to 101st Airborne Division personnel to affix to that cargo. The TCMD's for a particular train arrived bundled together in an envelope. Terminal personnel had to retrieve the documents and then each piece of equipment on the train had to be matched with the proper TCMD which was then affixed to the cargo. This process was extremely time consuming and took personnel away from their normal duties.

c. The shipping documents were distributed according to convoy staging sites and rail staging sites; unfortunately, the equipment did not arrive according to plan. Convoy sites received cargo that was to be transported by rail and vice versa at the rail sites. This created the requirement for a great deal of manual TCMD preparation.

4. RECOMMENDATION: That on future REFORGER exercises and similar operations, those organizations shipping cargo and equipment be manned with appropriate documentation personnel so as to be in a position to offer, document, and deliver that cargo to be shipped in the proper manner to the Port of Debarkation.

1. AREA: Reporting

2. TITLE: Maintenance Request, DA Form 2407

3. PROBLEM: As in previous exercises, commanders of all CONUS-based REFORGER units, 21st SUPCOM, CEGE, and all 5th and 7th Corps maintenance support units were required to prepare and submit the National Maintenance Point (NMP) copy of DA Form 2407 each time a piece of POMCUS equipment received either organizational or direct/general support maintenance. Copies were submitted to CEGE at the end of each exercise phase. This appears to be an unnecessary requirement since CEGE indicates this data is not utilized, but is merely collected and forwarded if requested. This year no disposition instructions have been received at CEGE or 21st SUPCOM.

4. RECOMMENDATION: That the requirement, as specified in Appendix 6 to Annex L to the USAREUR and 7th Army OPORD, be deleted from all future REFORGER exercise Operation Orders.

TAB D

1. AREA: Issue of POMCUS Stocks

2. TITLE: Adequacy of Prescribed Load Lists

3. PROBLEM: The Prescribed Load List (PLL) for the 594th Transportation Company was inadequate. This same situation has been reported in previous REFORGER After Action Reports. Specific lists and recommendations have been provided CEGE.

4. RECOMMENDATION: That the experience of previous REFORGER exercises be applied when examining and establishing the truck company PLL, and that the recommended lists provided to CEGE be utilized in the future.

TAB D

1. AREA: Deployment and Redeployment

2. TITLE: MILVANS Loading and Unloading for Rail/Highway Movement

3. PROBLEM: The total MILVAN picture proved to be especially challenging. We were fortunate during the exercise to have dry weather during those periods in which inclement weather could have delayed handling of MILVANS and adversely impacted on rail and vessel schedules. Among problems which were overcome was the transfer of MILVANS on/off chassis in field sites, the drayage to the railheads of large quantities of these vans with limited chassis, and the loading of the vans from chassis to railcars. The primary MHE utilized were commercial sideloaders hired from the Deutsche Bundesbahn (German Federal Railway). As demand for this equipment is high, DB officials required precise scheduling of requirements and only with reluctance and open apprehension allowed the equipment to be programmed for use away from the immediate vicinity of the railhead. Experience during the exercise confirmed that, in addition to sideloaders, it was possible to use the 20 ton RT crane with spreader bars and a well qualified operator on dry hardstand with adequate space to load MILVANS onto chassis; however, to achieve an acceptable level of productivity all conditions had to be optimum. During inclement weather or in areas with space constraints, RT cranes proved both dangerous and impractical as a viable alternative to especially designed container handling equipment.

4. RECOMMENDATION: That the 4th Trans Bde be provided organic container movement and sideloader capability. Additionally, consideration should be given to the testing of other host nation assets to further test interoperability and wartime concepts since organic military sideloader resources, in respect to total theater requirements, will remain very limited.

TAB D

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY MEDICAL COMMAND, EUROPE
APO 09403

AEMPO-P

11 JAN 1977

SUBJECT: USAMEDCOMEUR After Action Report Exercise REFORGER 76

Commander in Chief
USAREUR and Seventh Army
ATTN: AEAGC-E
APO 09403

Attached as Incl 1 is the US Army Medical Command Europe After Action Report for Exercise REFORGER 76.

FOR THE COMMANDER:

ALLAN J. SNYDER
COL, MSC
Chief of Staff

1 Incl
as

TAB E

US ARMY MEDICAL COMMAND

AFTER ACTION REPORT, REFORGER 76

1. References:

a. HQ, USAREUR and 7A OPORD 6-76 for Exercise REFORGER 76 (U).

b. USAMEDCOMEUR OPORD 6-76 for Exercise REFORGER (76).

2. General:

a. A summary of the tasks assigned USAMEDCOMEUR by Reference 1a includes:

(1) Provide or arrange for the provision of medical support for US Forces engaged in deployment and redeployment operations.

(2) In coordination with 5th Corps, 7th Corps and 21st Support Command (formerly 1st Support Brigade), plan for and provide medical support to the initial unit assembly areas (IUAA) and major unit assembly areas (MUAA).

(3) In coordination with 5th Corps, 7th Corps, plan for and provide medical support for FTX GORDIAN SHIELD and FTX LARES TEAM.

(4) Provide medical support for US Forces participating in exercises conducted in the Northern Army Group (NORTHAG) area.

(5) Coordinate with 24th Engineer Group to determine potable water, supply points in the designated FTX areas.

(6) Assume operational control (OPCON) of CONUS based medical units deployed to Europe as part of REFORGER 76.

(7) Provide technical assistance to 42nd MP Group (Customs) in the granting of agricultural clearance for equipment being returned to CONUS during redeployment operations.

(8) Issue prepositioned medical equipment and supplies to participating dual-based CONUS units, provide resupply of Class VIII expendable materials, provide medical maintenance support as appropriate, and receive and store medical equipment from dual-based units upon their redeployment.

3. USAMEDCOMEUR Unit Participation

a. The HQ USAMEDCOMEUR staff's participation in Exercise REFORGER 76 began with HQ, USAREUR's development of the Exercise OPORD and related planning when personnel of the HQ USAMEDCOMEUR staff

acting in their capacity as representatives of the USAREUR Chief Surgeon fully participated in all HQ,USAREUR planning activities. At the same time, the individuals engaged in planning at the USAREUR level were also involved in developing the USAMEDCOMEUR support plan for the exercise. Throughout the exercise period, the Commanding General, USAMEDCOMEUR, executed his responsibilities as the USAREUR Chief Surgeon through staff representation at the HQ USAREUR REFORGER 76 Coordination Center. At the same time, staff members of this headquarters made frequent staff visits to subordinate units, USAREUR units, and CONUS-based units, engaged in REFORGER activities.

b. CONUS-units OPCON to USAMEDCOMEUR were actively employed to support Exercise REFORGER 76. The following describes their operations:

(1) The 546th Medical Company (Clearing), Fort Benning, Georgia, deployed to Europe with 120 personnel including four medical officers. The unit completed its movement to Europe on 20 August 1976 and by 23 August had moved to the Giebelstadt and Kitzingen MUAA sites where the company provided dispensary type medical support for REFORGER personnel from 23 August to 24 September 1976. During FTX GORDIAN SHIELD, one clearing platoon was dispatched along with an ambulance platoon to form a composite medical company in support of the 11th Armored Cavalry Regiment. In support of FTX LARES TEAM, two clearing platoons were deployed, one platoon operated from a medical support site at Neumarkt in support of the Orange Forces, while the second platoon operated at a medical support site at Feuchtwangen in support of the Blue Forces. During the period, the 546th Medical Company (Clearing) was operational. It provided outpatient medical treatment to 720 personnel, 63 of whom were held overnight, and provided quarters-type medical care in the Clearing Company facilities.

(2) The 514th Medical Company (Ambulance), Fort Devens, Massachussetts, arrived in Europe on 20 August 1976, drew its prepositioned equipment and moved by convoy on 23 August 1976 to the Giebelstadt MUAA, arriving the same day. While in the MUAA, the unit was responsible for ambulance support at the MUAA rail heads, during loading and off-loading operations, and was also available for unprogrammed ambulance requirements. During FTX GORDIAN SHIELD, support was provided to Blue Forces by one ambulance platoon which joined a clearing platoon of the 546th Medical Company to form a composite medical company supporting the 11th Armored Cavalry Regiment; additional ambulances were deployed to support the 32nd Combat Support Hospital (CSH) at Friedberg and the 101st Airborne Division. The 514th Med Co (Ambulance) continued to support the Blue Forces during FTX LARES TEAM by moving the entire company to the medical support site established near Feuchtwangen and supporting the 1st Armored Division, 101st Airborne Divsion, and 2nd Armored Cavalry Regiment.

All ambulance support was designed to service actual injured and sick personnel; ambulance support for FTX's was not be be used for support of simulated casualty play. Upon conclusion of FTX LARES TEAM, the 514th Medical Company returned to the Giebelstradt MUAA and continued its rail head and on-call ambulance support until released to turn in its equipment and redeploy to CONUS. During the course of its operations in Europe, the 514th Medical Company (Ambulance) evacuated 219 patients accumulating a total of 51,837 miles driven in support of REFORGER 76.

(3) The 556th Medical Company (Ambulance) from Fort Dix, New Jersey, arrived in Germany on 20 August 1976, drew its prepositioned equipment and moved to the Kitzingen MUAA site arriving 23 August 1976. The 556th Med Co was tasked to provide ground ambulance support to all MUAA sites including the 128th CSH at Oberdachstetten, as well as participate in FTXs GORDIAN SHIELD and LARES TEAM. During GORDIAN SHIELD, elements of two ambulance platoons were deployed to support the 8th Infantry Division (Orange Forces). These elements were then shifted south to the Neumarkt medical support site to join the company headquarters and Third Platoon in support of the US and Canadian elements of the Orange Forces during FTX LARES TEAM. Upon FTX termination, the 556th Med Co returned to Kitzingen and continued its support of all MUAA sites until released to return its equipment to the prepositioned storage site. During its period of participation in REFORGER 76, the 556th Medical Company drove a total of 68,968 miles, moving a total of 750 patients.

(4) The 48th Med Det (Environmental Sanitation), Fort Leonard Wood, Missouri, and the 223rd Med Det (Environmental Sanitation), Fort Carson, Colorado, arrived in Europe on 17 August 1976. Both units moved on 23 August to the Oberdachstetten MUAA site and assumed responsibility for preventive medicine inspection services at all MUAA sites, conducting inspections in conjunction with preventive medicine personnel of the 101st Airborne Division. During FTX GORDIAN SHIELD, the 223rd Med Det operated as a neutral unit providing preventive medicine inspection services to both forces while the 48th Med Det continued MUAA support. With the start of FTX GORDIAN SHIELD, the 48th Med Det moved to the VII Corps maneuver area and provided preventive medicine inspection services to both forces while the 223rd returned to the MUAA. At the termination of the FTX phase, both units returned their equipment to storage and OPCON was transferred to 42d Military Policy Group (Customs) to conduct agricultural inspections of equipment being returned to CONUS. Both teams completed their activities at Bremerhaven, returned to Frankfurt, and left Europe on 3 October 1976.

c. 30th Medical Group supported Exercise REFORGER 76 with Combat Support Hospitals, ground and air evacuation elements, and provided command control for both in-country and CONUS-based non-divisional medical units. Specific unit participation included:

(1) Headquarters and Headquarters Detachment, 30th Medical Group, was tasked by this headquarters to provide or arrange for the provision of health services support to the MUAA sites and FTXs GORDIAN SHIELD and LARES TEAM using assigned medical units and CONUS-based non-divisional medical units. A command and control element of HHD, 30th Med Gp, moved to the Oberdachstetten MUAA site on 17 August 1976 to supervise and coordinate the provision of health services support for the four MUAA sites. The headquarters element moved to Giessen on 4 September 1976, to supervise health services support during FTX GORDIAN SHIELD, and on 10 September, moved via CH 54 helicopters to Katterbach, where it directed health service support operations for FTX LARES TEAM. At the conclusion of the VII Corps FTX, the HHD element returned to Oberdachstetten to continue its mission in support of the MUAA sites.

(2) the 32d CSH stationed at Ludwigsburg deployed to Ray Barracks, Friedberg, and provided hospital support to participants in FTX GORDIAN SHIELD. The main deployement to Friedberg was accomplished in a two phased air movement operation using MAC C-130 aircraft to fly the bulk of the hospital's equipment from Echterdingen Airfield at Stuttgart to Finthen Army Airfield near Mainz. At Finthen Army Airfield, the C-130 loads were discharged, sling loaded under CH-47 Chinook helicopters, and flown to Friedberg. All elements of the hospital arrived by 2400 hours, 31 August and the hospital was declared fully operational by 1430 hours, 3 September. During the period 3-12 September 1976, 97 patients were hospitalized at the 32d CSH of which 26 were transferred to other hospital facilities.

(3) The 128th CSH moved from Ludwigsburg to the Oberdachstetten MUAA site and became operational (less surgical capability which became operational 13 September) on 24 August and remained in position providing hospital support for REFORGER personnel at all four MUAA sites as well as FTX LARES TEAM participants and also provided outpatient support for elements at the Illesheim and Oberdachstetten MUAA sites. During the period it was operational, 24 August through 24 September 1976, the 128th CSH treated 1,749 personnel on an outpatient basis while admitting for inpatient treatment 184 patients, 36 of whom were later transferred to fixed facilities or evacuated to CONUS.

(4) The USAREUR based 42d Med Co (Amb), and 651st Med Co (Amb) provided ground evacuation support to REFORGER activities in a backup role to the CONUS based ambulance companies. During the period of the REFORGER Exercise, these two companies drove over 25,818 miles and evacuated 236 patients.

(5) Aero-medical evacuation support for REFORGER 76 was available from the six air ambulances deployed with the 326th Med Bn, 101st Airborne Division, and the European based 421st Med Co (Air Amb), and its four attached units, the 15th, 63d, 159th, and 236th Medical Detachments (Helicopter Ambulance) (RA). The 421st Med Co and its attached units provided aero-medical evacuation support to all phases of Exercise REFORGER beginning with the positioning of MEDEVAC aircraft at SHAPE,

Belgium, and Nieder Mendig, Germany, to support air and ground convoy operations during the deployment of the 101st Airborne Division through the BENELUX LOC, and ended with the positioning of an air ambulance at Bremerhaven during redeployment. During the exercise period, air ambulances of the 421st Med Co and attached units support US Corps' FTXs GORDIAN SHIELD and LARES TEAM, and US elements participating in 1st Belgium Corps FTX BLAUE DIEMEL, and the UK Mobile Force, FTX COOL GIN. During the REFORGER period, aircraft of the 421st Med Co flew a total of 259 REFORGER-related missions, carrying 168 patients and 124 passengers, resulting in the accumulation of a total of 496.4 flying hours.

d. The US Army Medical Materiel Center, Europe, which is responsible for the storage and maintenance of the Class VIII equipment and supplies for REFORGER units, prepared and issued the medical equipment and expendable medical supplies for two medical companies (Ambulance), one medical company (Clearing), and two medical detachments (Preventive Medicine) to the deploying CONUS-based units. At the same time, twenty-two expendable medical supply sets were prepared for the two Combat Support Hospitals. Depot-level medical maintenance support was also provided to medical units operating in support of REFORGER at their field locations.

e. All US Army Medical Department Activities (MEDDAC), in the FRG as well at the SHAPE MEDDAC in Belgium, were involved in the support of REFORGER 76. The following is a summary of the health services support provided by these fixed facilities during REFORGER 76.

(1) Bad Cannstatt MEDDAC furnished a medical liaison/ambulance team composed of one officer and five enlisted men to coordinate with Dutch medical officials for the medical support of deployment operations in the Netherlands, supported field Class I issue points with veterinary inspection services, and provided hospitalization and outpatient medical care for REFORGER elements operating in the Bad Cannstatt MEDDAC area of operation.

(2) Bremerhaven MEDDAC provided health services support to US elements participating in the I German Corps FTX GROSSER BAER, and those units involved in redeployment to CONUS through the Bremerhaven port. Prior to redeployment operations, the Bremerhaven MEDDAC established contact with medical elements at the German Army Kasernes, where transient US personnel were to be billeted, published an information paper for transient personnel regarding the provision of health services support by US and GE elements, and maintained extremely close relations with the host nation medical elements throughout the redeployment period. In addition to coordinating the use of existing US and GE medical facilities, Bremerhaven MEDDAC established aid stations at the dock-side aircraft preparation and loading site, and at Bremen International Airport.

(3) Landstuhl MEDDAC was tasked to provide a medical liaison/ambulance team composed of one officer and seven enlisted men to coordinate with Belgian medical authorities for the medical support of deployment operations in Belgium. This team also had responsibility for supervising operations of the medical liaison/ambulance team in the Netherlands. Further taskings of Landstuhl MEDDAC included health services support to the Initial Unit Assembly Areas (IUAA) within its area of operations and the provision of both officer and enlisted personnel to augment the two CSHs.

(4) SHAPE MEDDAC was tasked to monitor the operations of the medical liaison/ambulance teams in Belgium and The Netherlands, coordinate and provide facilities for the air ambulance deployed to SHAPE to support air and ground convoy movements through the LOC, provide a three man ambulance team at the Beauverchain Airbase refuel site and provide augmentation personnel to support CSH operations in Germany. In the accomplishment of these tasks, the Commander, SHAPE MEDDAC, played a vital role in adjusting the attitude of CONUS-based personnel regarding the support provided by the two host nations.

(5) The Augsburg, Frankfurt, Heidelberg, Nuernberg, and Wuerzburg MEDDACs provided health service support to all REFORGER operations and provided both officer and enlisted personnel to European-based divisions participating in the REFORGER FTXs, and the CSHs deployed in support of REFORGER. The 97th General Hospital in Frankfurt, the 130th Station Hospital at Heidelberg, and the USAH, Nuernberg, provided additional support to REFORGER elements by virtue of their close proximity to IUAAs, MUAAs, or FTX maneuver areas.

4. Concept:

a. REFORGER 76 was characterized by an increased dependence on the host nations of Germany, Belgium, and The Netherlands to support both deployment and redeployment operations. USAMEDCOMEUR provided a medical liaison/ambulance team at the two deployment parts to provide first aid support at the dock and coordinate the medical support provided by the two host nations and directed SHAPE MEDDAC to assist and support the two medical liaison/ambulance teams.

b. CONUS units were supported by existing health care facilities while drawing prepositioned equipment and in the the IUAAs. Health services support in the MUAA, unique in its independence from existing fixed medical facilities, was provided by a combination of CONUS and USAREUR based units operating from field facilities. The 128th CSH at Oberdachstetten provided hospitalization support for REFORGER personnel from all four MUAA sites. It also provided physician sick call support for the Illesheim and Oberdachstetten sites while physician sick call support at Kitzingen and Giebelstadt was provided by the CONUS-based

546th Medical Company (Clearing). Ambulance support to the MUAA sites was furnished by the 556th Med Co (Amb), a REFORGER unit with USAREUR air ambulance support on station at Oberdachstetten at all times. Preventive medicine support was provided by CONUS medical detachments, and dental support for the MUAAs was provided at the 128th CSH. Health service support needs which exceeded the capabilities of the medical elements in the MUAA were coordinated through the HDD, 30th Med Gp control element at Oberdachstetten.

c. During the V Corps FTX GORDIAN SHIELD, health service support was centered on the 32nd CSH operating from Ray Barracks in Friedberg with ground and air ambulance elements, and preventive medicine elements supporting both Orange and Blue Forces. As a special test, a composite medical company composed of an ambulance platoon and a clearing platoon from two REFORGER units were employed as a composite medical company in support of the 11th Armored Cavalry Regiment. All exercise casualties were evacuated directly to the 32nd CSH for necessary treatment. Individuals whose condition warranted, were transferred directly to the 97th General Hospital in Frankfurt.

d. Health services support for VII Corps FTX LARES TEAM was highly effective due to the establishment of medical support sites at opposite ends of the maneuver area to consolidate Orange and Blue Forces' actual medical support elements. In support of Orange Forces, a medical support site at Neumarkt was established with one clearing platoon of the 546th Med Co, the 556 Med Co(Amb), the 514th Med Co (Amb), and one air ambulance of the 421st Med Co. Hospitalization for FTX LARES TEAM was provided by the 128th CSH with the USAH Nuernberg available for serious cases.

e. During the redeployment of the equipment of the 101st Airborne Division through Bremerhaven, the provision of health services support in the Bremerhaven area was the responsibility of the Bremerhaven MEDDAC. Through close coordination with German Army medical elements, a medical support plan was developed for the support of transient USAREUR and CONUS personnel employing both US and GE medical elements operating from garrison medical facilities with US medical teams at a loading dock as well as Bremen International airport.

5. Significant Activities:

a. The extensive dependence on field medical elements to provide health service support was a new and significant departure from earlier REFORGER exercises. Previous REFORGER exercises did employ field medical units, but only to support the maneuver phase, during the pre- and post-maneuver periods fixed medical facilities support the REFORGER forces. REFORGER 76 saw the employment of both USAREUR and CONUS-based non-divisional medical units to provide outpatient care (both medical and dental), hospitalization, ground and air evacuation and preventive medicine support from 23 August to 24 September 1976, to personnel in the MUAA sites and during both US FTXs. It should be noted that

under no circumstances was a patient held at a field medical treatment facility if his condition merited treatment or hospitalization in a fixed medical facility. As a result of the emphasis on employing field medical resources in the role for which they were designed, significant benefits were attained such as: dedicated treatment units immediately adjacent to temporary troop population areas were able to adjust to special requirements unique to the population serviced, troops were hospitalized in close proximity to their units to permit better support by the individual's unit as well as minimizing problems encountered in previous exercises with returning discharged patients to their units; Medical Corps and Army Nurse Corps officers designated to join Combat Support Hospitals during mobilization were employed in patient care operations under field conditions with one of the two deployed hospitals and gained valuable experience in the capabilities and limitations of the Combat Support Hospital.

b. CONUS-based non-divisional medical units commited to medical support of Exercise REFORGER, performed their mission-oriented responsibilities in a highly effective manner. During the 31 day period that they were employed in support of REFORGER operations, the CONUS medical units, OPCON to USAMEDCOMEUR, performed their TOE missions in a timely and skillful manner reflecting an expert and highly effective chain of command as well as a large number of MOS qualified enlisted personnel.

c. Employment of Military Community Activity liaison personnel at all USAMEDCOMEUR hospitals was a highly effective means of insuring the rapid return of discharged hospital patients to their units. Since the military communities were tasked with the responsibility of transporting discharged patients to their units, their role was enhanced by the effectiveness of these liaison personnel with an equal benefit to the hospitals of relieving them of reponsibility for discharged patients. Especially noteworthy was the Personnel Holding Facility VII Corps operated at Katterbach during FTX LARES TEAM.

d. C-130 and CH-47 aircraft were used to deploy the majority of the equipment of the 32nd CSH from Ludwigsburg to Ray Barracks, Friedberg, demonstrating the air mobility of the unit. Twelve MAC C-130 air sorties were programmed to fly containerized elements of the 32nd CSH from Echterdingen Airfield, Stuttgart, to Finthen Army Airfield at Mainz. Ten of these flights were flown to Finthen Army Airfield while weather conditions made it necessary to land the last two flights at Rhein-Main. From Finthen Army Airfield, CH-47 Chinook helicopters of the 11th Aviation Group sling-loaded and flew the containers to Ray Barracks, flying a total of 22 sorties. This mobility demonstration fully satisfied the guidance contained in paragraph 3.X.(5), Reference 1a, directing REFORGER participants to investigate and employ USAFE and German transportation sources and provided invaluable training for both Army and Air Force personnel involved in planning and executing this movement.

e. Exchange of USAREUR and 101st Airborne Division evacuation pilots minimized the likelihood of pilot error while engaged in medical evacuation operations. This infusion program was designed in an attempt to minimize any possible delay in emergency patient evacuation which could have resulted from pilot inexperience with European flying conditions and procedures. On 20 August 1976, six pilots of the 421st Med Co reported to the 326th Med Bn, 101st Airborne Division, at Koksijde, Belgium, for infusion into the air ambulance platoon of the battalion, while 6 pilots of the 326th Med Bn were picked up by the 421st Med Co at the Oberdachstetten MUAA site on 21 August 1976. The program was considered a success by all concerned parties in that pilots stationed in Europe were familiarized in techniques employed by the 101st Airborne Division while the pilots of the 326th Med Bn became proficient in European aviation techniques.

6. Exercise Objectives

USAMEDCOMEUR had three objectives to be satisfied during the course of the exercise. All objectives were accomplished to a greater degree than was initially expected.

a. The first objective was to exercise CONUS-based REFORGER medical units in an actual patient care role and evaluate the effectiveness of the units. As evidenced in paragraphs 2 and 5 of this report, maximum use was made of those units through all the phases of REFORGER 76 and each CONUS unit demonstrated that it was fully capable of performing its mission as set forth in the applicable TO&E.

b. The second exercise objective was to learn more about the host nations' ability to support US elements operating in a non-US region. During the deployment and redeployment phases, much dependence was placed on support by the appropriate host nations. The quality of support and the manner in which it was provided proved of great interest to this command and educated many members of this staff as well as commanders and staffs of subordinate units.

c. A third objective was to minimize the impact of REFORGER 76 on the existing USAMEDCOMEUR health services support system. To accomplish this objective, a major effort was made to employ both USAREUR and CONUS-based field medical units to provide medical support at the field sites as opposed to having REFORGER personnel being moved to fixed facilities which were not usually in the immediate proximity of the troop concentrations. A comparison of data from REFORGER 75 and REFORGER 76 supports the accomplishment of this objective. Particularly noteworthy was the increase in outpatient treatments by field medical units of 1,000 more patients in 1976 than in 1975.

USAMEDCOMEUR CARE COMPARISON

	1975		1976	
FIXED FACILITIES				
Outpatient Visits	2,107		1,190	
Hospital Admissions		300		238
FIELD FACILITIES				
Outpatient Visits	556		1,604	
Hospital Admissions		120		269
TOTAL Outpatient Visits	2,673		2,794	
Hospital Admissions		420		507

7. Problem Areas

a. Insufficient planning for and practice of essential preventive medicine techniques.

(1) Discussion: The two preventive medicine teams OPCON to this command during the exercise period conducted preventive medicine inspecitions of latrines, dining facilities, water points and shower facilities, at the four MUAA sites, as well as in the FTX areas. As a result of their inspection, it was determined that latrine facilities were inadequate for the troop strengths supported. Field dining facilities did not have adequate facilities for refrigeration of perishable items. Mess kit washing facilities were inadequate, waste disposal was inadequate, approved water purification techniques were not being employed, chemicals provided for purification equipment use were often found to have less potency than indicated, units drew water from unapproved sources, water was not being tested by those units for residual chlorine, and unit field sanitation teams, required by AR 40-5, were not being utilized.

(2) Recommendation: Field Sanitation problems can only be overcome by command emphasis at all levels. Company level field sanitation teams must be designated and trained and staff planning for Exercise REFORGER 77 as well as other exercises must incorporate Army Medical Department preventive medicine personnel in all planning activities. Specific planning should be made to increase the number of latrines, and fabricate and employ urinal facilities. At the same time, consideration must be given to either increasing the refrigeration capability of field dining facilities or modifying the ration cycle in some manner to avoid food spoilage.

b. Age of POMCUS Equipment

(1) Discussion: The M4B1 3/4 ton ambulance issued to medical companies (Ambulance) presented a significant problem. Specific problems associated with the use of this item of equipment included: drivers were not familiar with the vehicle since these units either have the M-725 1 1/4 ton ambulance or the new M-886 ambulance; technical manuals for vehicle operators and organizational maintenance personnel were not issued to the units; and on numerous occasions, repair parts for the M43B1 had to be acquired from the CEGE storage site at Mannheim.

(2) Recommendation: Replace the M4B1 ambulance with the M-725 ambulance which is being replaced in active service by the M-886 ambulance, and insure that adequate stocks of technical manuals are issued to deploying units. To avoid a problem in stocking repair parts, some of the M-725 ambulances could be totally cannabilized to create a reserve of repair parts.

c. Absence of authorization visibility for selected CTA equipment in POMUS equipment

(1) Discussion: Changes to the Army authorization document system placed tentage, space heaters, and folding canvas cots into a Common Table of Allowances authorization document. Accordingly, these items, which are mission essential for medical units, are not reflected on POMCUS equipment authorization documents for equipment stored by CEGE. This loss of visibility has resulted in CEGE not applying resources toward maintaining a sufficient level of these items. Through prior coordination with DCSLOG, arrangements were made to issue deploying units these CTA items, but even then the issue was incomplete.

(2) Recommendation: POMCUS authorization documents must be adjusted to reflect all items of equipment a unit is going to require to accomplish its mission regardless of the source of authorization.

d. Planning for Medical Support of FTX GORDIAN SHIELD

(1) Discussion: THe initial medical concept developed for medical support of FTX GORDIAN SHIELD called for the establishment of medical support sites with ground and air ambulances and medical treatment facilities located in the rear of the Blue and Orange Forces supporting the maneuver elements. Representatives of V Corps indicated that this would not be possible, stating that Orange and Blue Force commanders indicated an unwillingness to have non-divisional medical units operating in their rear area. Accordingly, medical support was fragmented and not effectively positioned to support the maneuver forces; a specific example of this problem was the locating of air ambulances at Giessen

Army Airfield from which site it was not possible to establish radio communications with the 32nd CSH and a large portion of the maneuver area.

(2) Recommendation: On all large scale exercises where dedicated medical support is to be employed, these medical units must be allocated space on the periphery of the maneuver area in a location which permits rapid road movement to all maneuver elements, is close to supporting maintenance units and Class I and III points, has sufficient open areas of heliport operations, had land line communications support and permits effective FM radio operations.

e. Reporting Personnel hospitalized in Civilian Hospitals

(1) Discussion: There were several instances in which US Army personnel were hospitalized in civilian hospitals, but this command was not so advised until several days later. There is a definite need for this data so that the individual's absence from duty can be formalized by the appropriate USAMEDCOMEUR Hospital and US medical authorities can monitor his treatment and make arrangements for the individual's transfer to US control at the earliest opportunity.

(2) Recommendation: All units must be impressed with the need for rapid and complete reporting of all US personnel in civilian hospitals to USAMEDCOMEUR at the earliest opportunity. This requirement should be stressed to all participants during the pre-exercise coordination period.

f. Use of Unauthorized FM Radio Frequency for MEDEVAC Operations by 101st Airborne Division

(1) Discussion: During pre-exercise planning conferences, representatives of the 101st Airborne Division were told that FM radio frequency 30.75 was the approved MEDEVAC frequency for USAREUR and could be used anywhere in Southern Germany (The FRG has since changed this, and extended the use of FM radio frequency 30.75 for medical evacuation to all the FRG). During FTX GORDIAN SHIELD, it was observed that the 101st Airborne Division was employing a different FM frequency for aero-medical evacuation operations, with the six air ambulances of the 326th Med Bn monitoring the unauthorized MEDEVAC frequency. This practice was continued during FTX LARES TEAM except that aero-medical evacuation elements also monitored the approved 30.75 FM frequency. It should be noted that while the air ambulances were deployed to support FTX-generated requirements from either Blue or Orange Forces, they were also subject to respond to requests from non-exercise sources. However, the unilateral decision of the 101st Airborne Division to use a separate MEDEVAC frequency effectively precluded the six air ambulances of the 101st Airborne Division from performing any aero-medical evacuation missions other than those generated by their own division elements.

(2) Recommendation: USAREUR policy should clearly state that medical treatment units participating in field training exercises should always be prepared to provide medical treatment for exercise participants as well as other individuals not associated with the exercise. Furthermore, USAREUR policy should indicate that actual medical support will not be restricted for the sole support of a selected force but will be available to all personnel. Lastly, it would appear necessary to restate the USAREUR policy regarding MEDEVAC frequency use and should indicate that FM frequency 30.75 is the only frequency to be employed for MEDEVAC operations.

g. Patients evacuated to Hospitals with Assigned Weapons

(1) Discussion: During the FTXs, numerous situations arose where personnel who clearly would require hospitalization were evacuated to the supporting hospital with their individual weapon. This situation arose as often with personnel who were non-emergency cases as it did with true emergency cases. Hospitals are capable of providing security for the normal personnel property of the patients. However, weapons security is a difference matter and the stringent requirements to secure weapons justifies retention of weapons at the unit level.

(2) Recommendation: USAREUR should continue to stress the need for personnel to leave their individual weapons with their units when being admitted to the hospital.

h. Mixing simulated patient play and actual patient care

(1) Discussion: The combining of actual patient care with simulated patient handling is not a good idea and can confuse medical personnel as well as impede or delay treatment of actual patients. The biggest problemzoccured in requests for air ambulance support of simulated MEDEVAC with no indication that the request was for a simulated casualty.

(2) Recommendation: Major commands should continue and be encouraged to increase their conduct of simulated casualty play on future exercises and ARTEPS. Mixing of actual and simulated patients is not recommended at the field hospital level. If aero-medical evacuation request are to be used for simulated patients, then the patient must be clearly marked as a simulated casualty and the related radio traffic must also indicate that the request is for a simulated patient.

i. Combat Support Hospitals require additional equipment, and in some cases, modification of existing equipment.

(1) Discussion: During the operation of the CSHs, several equipment requirements were identified which would enhance the hospitals'

ability to perform their mission. Specific items required included:

(a) A portable X-Ray unit is needed. The addition of this item of equipment would minimize the need to move patients to the fixed X-Ray unit and could mean a significant savings of time in the treatment of surgical patients.

(b) Surgical instruments available in CSH sets are not provided in sufficient numbers; some are outdated, and others impractical.

(c) Water storage equipment is inadequate. The 500 gallon water bladders should be replaced or augmented by 1,500 gallon bladders.

(d) In the event of a power failure in certain areas of the hospital, manual or battery powered equipment must be avaible for patient care. Specific items of concern are:

1. a manual suction-pressure apparatus should be authorized for each operating room.

2. Dual beam emergency lights powered by rechargable nickel cadmium batteries are required for each ward.

(e) Side rails should be developed and issued for use with the CSH bed. At present, the only means of protecting patients is through use of restraint straps which are inconvenient and uncomfortable and also interfere with patient treatment.

(2) Recommendation: Department of the Army should review these proposals and take appropriate action.

j. Unit Identification Code (UIC)

(1) Discussion: Individual records require the inclusion of the UIC on the patient's unit. Most patient did not know their unit's UIC, which caused significant problems for medical records personnel and delayed prompt submission of individual medical records generated by hospital patients.

(2) Recommendation: HQ USAREUR should include UICs of CONUS REFORGER units in the REFORGER Operations Order.

k. Personnel deployed to Europe not medically qualified for Field Duty

(1) Discussion: Personnel were deployed to Europe whose physical/mental condition should have precluded their participation in REFORGER 76.

In one case, a female soldier was released from a CONUS medical treatment facility on 16 August 1976, following treatment for psychiatric problems; upon arrival at Ramstein Air Base, she was immediately admitted to the 2d Gen Hosp at Landstuhl for treatment of her psychiatric problems, and medically evacuated to CONUS for continued treatment. In a second case, a CONUS-based soldier was admitted for treatment of a duodenal ulcer and medically evacuated to CONUS; and in a third case, a soldier was returned to CONUS because of possible exposure to rabies prior to departing CONUS.

(2) Recommendation: CONUS elements deploying to Europe must carefully review the physical status of their personnel and evaluate each questionable case on an individual basis.

1. Absence of approved helicopter landing facilities at USAH Bremerhaven

(1) Discussion: At present, air ambulances operating in the Bremerhaven area must use the heliport at Carl Schurz Kaserne. It is a 7-10 minute drive from Carl Schurz Kaserne to the USAH Bremerhaven, which is where the air ambulance crews are normally billeted. During REFORGER 76 redeployment, a UH-1H helicopter operated from the hospital grounds, thus reducing both the time required to respond to emergency calls and the time needed to deliver patients to the hospital.

(2) Recommendation: The USAH Bremerhaven should be surveyed for construction of a helipad in accordance with approved technical standards, and if the area is approved, construction must be effected to accomplish this action. Noise abatement considerations and coordination with civilian authorities should be included in this survey.

8. Lessons Learned

a. Control over aero-medical evacuation operations

(1) Discussion: During the two US Corps FTXs, air ambulance support was provided from several locations. The pre-exercise concept called for the air ambulance site closest to the requestor to respond to the request. In practice this system did not work, due primarily to the effects of terrain and distance on FM radio transmissions.

(2) Lesson Learned: There must be one central control agency designated to direct the flying of air ambulance missions; this agency must be equipped and located in such a manner as to permit its immediate communication with all exercise players and supporting elements.

b. US Personnel must be carefully oriented regarding Host Nation Support

(1) Discussion: During the deployment phase it became obvious that the CONUS-based elements arriving in Belgium and The Netherlands had not been effectively oriented regarding the host nation concept. This problem was apparent in the individual soldier from CONUS who had to adjust to a different life style, and also the CONUS command elements, which had to adapt their concepts and plans to the policies and procedures of the host nations. The situation gradually improved and by the time redeployment operations were in process, it was evident that the CONUS units had made the transition and felt comfortable with host nation support.

(2) Lesson Learned: Troop elements must be very carefully educated regarding the concept of host nation support. The differences in life style, concepts, and procedures must be a subject of mandatory training for all personnel.

c. Problems of Returning Hospitalized Personnel to their Units can be minimized through effective planning

(1) Discussion: During previous REFORGER exercises, a major problem was encountered in the return of discharged patients to their units. Units would not pick up their personnel and attempts to deliver personnel to their units during FTXs either failed or took an excessive amount of time to accomplish. During REFORGER 76, this problem was minimized due to the Military Community Activities being given the responsibility of returning REFORGER personnel to their units. During FTX LARES TEAM, a VII Corps personnel holding facility operated by the Corps AG was extremely effective in relieving the 128th CSH of responsibility for discharged patients.

(2) Lesson Learned: The most effective means of returning discharged hospital patients is through the use of Military Community Activity resources and special AG processing teams.

9. Commanders' Summary and Recommendation

a. Summary: The deployment and redeployment of REFORGER elements by sea and air, dependence upon host nations for support, operation of field billets (MUAA sites) for an extended period of time, and the conduct of two major FTXs constituted a radical departure from previous USAREUR REFORGER exercises. Accordingly, the USAMEDCOMEUR support of REFORGER 76 demanded an equally unique concept. The final support plan developed by USAMEDCOMEUR was designed to make maximum use of non-divisional REFORGER medical units and European-based USAMEDCOMEUR field medical elements to support the MUAA sites and both

US Corps' FTXs. This plan provided the REFORGER units a dedicated medical support system capable of rapid reinforcement by the existing USAMEDCOMEUR health services support system and at the same time it afforded the personnel of these medical units an opportunity to perform those patient care functions the unit would accomplish under emergency conditions. However, it must be stated here that REFORGER 76 revealed a disturbing number of violations of basic preventive medicine policies and procedures. This problem is not new, it has been identified during previous exercises, and must be resolved before the next REFORGER exercise. The problems of inadequate latrines, use of unsafe water, spoilage of rations, and absence of unit-level field sanitation teams can only be corrected by command action at all levels.

b. Recommendations:

(1) Future REFORGER troop lists should include an appropriate proportion of field medical units which could be used for exercise support.

(2) Preventive medicine considerations must be stressed in all future exercise planning and a review of preventive medicine policies/procedures should be added to the program of instruction for both the Battalion Commanders Course and the Company Commanders Course.

DEPARTMENT OF THE ARMY
HEADQUARTERS, 5TH SIGNAL COMMAND
APO 09056

CCE-OP-OE

2 2 DEC 1976

SUBJECT: REFORGER 76 After Action Report

SEE DISTRIBUTION

1. The purpose of this correspondence is to provide the after action report required by USAREUR and Seventh Army OPORD 6-76 for REFORGER 76.

2. Narrative Description.

a. Explanation of Concept.

(1) Communications support to the operation would be phased to coincide with the overall operational phases. 7th Signal Brigade would install tactical area communications while 2d and 160th Signal Groups continued to operate fixed facilities and provided extensions, terminations and internal distribution of tactical circuits as required. Pole line and cable construction support would be provided for required Corps Control installations by 63d Signal Battalion. COMSEC mobile maintenance contact teams (MMCT) would be provided by the Theater COMSEC Logistics Support Center (TCLSC), 63d Signal Battalion, in support of each Corps and the 101st Airborne Division (AASET) in the Major Unit Assembly Area (MUAA).

(2) Leased circuit requirements would be funded by JCS with funds allocated to USARCCO, Ft Huachuca, AZ. Budgetary suballocations would be made to USAREUR subordinate commands to meet their requirements. Local leased services (i.e. DBP telephones, TELEX, etc) would be funded by 5th Signal Command to the extent funds were available. When funds were exhausted requestors would provide Reimbursable Orders (DA Form 2544) for additional services.

(3) BENELUX LOC Communications would rely heavily on host nation commercial communications for long distance trunks

into the FRG and commercial telephones to interconnect outlying locations and the main port areas. Commercial telephones and TELEX would provide an initial capability until tactical communications could be installed. Communications would be coordinated, installed, operated and maintained in the BENELUX by 2d Signal Group with operational control of CONUS-based tactical signal units to deploy for that purpose. Single channel TACSATCOM terminals would be deployed, as coordinated with 101st Abn Div, to provide a Movements Control Net with stations at Ghent, BE: Mendig, FRG; Oberursel, FRG; and Illesheim, FRG. The 14th Avn Unit (ATC) would provide ATC liaison personnel for the BE Army operated ATC facility at Ursel, BE.

(4) During Phases I and II tactical communications support would consist of a limited expansion of the 7th Sig Bde Emergency Deployment Communications Network (EDCN). An Army Area Signal Center (AASC) would be added to serve the Division MUAA, services expanded to HQ USAREUR, and extensions of the tactical system installed to provide ready access for 21st Support Command, 4th Transportation Brigade and 5th Signal Command HQ into the Tactical Automatic Switching System (TASS). A medium power HF system would be installed from Illesheim to Ft Campbell, KY for two direct voice channels. The Ft Campbell end would be terminated by 11th Signal Group, USACC.

(5) Area communications would expand by the addition of AASC, systems and terminals to support the FTX in V and VII Corps, in turn. The basic structure of Phases I and II would remain the same. CONUS-based signal units in the BENELUX LOC, at the completion of their operation, would deploy to Illesheim and be placed under OPCON of the 101st Abn Div.

(6) At the conclusion of the FTX the tactical communications would be disestablished. The post-FTX demonstration and training would be supported by the same systems as in Phase I and II, with an additional system to connect the demonstration site to the administrative dial network. Redeployment would be supported by the established garrison and tactical network with heavy reliance on host nation support at Bundeswehr installations. A TACSATCOM movements net would again be established with stations at Illesheim, Homberg, Oberursel and Bremerhaven.

(7) 14th Avn Unit (ATC) would deploy Orange and Blue Flight Operations Centers (FOC) for ATC in each Corps FTX and control towers for the post-FTX demonstration and redeployment.

CCE-OP-OE
SUBJECT: REFORGER 76 After Action Report

22 DEC 1976

b. Significant Activities.

(1) Cable construction teams from 6981st CLG, 63d Sig Bn, deployed in late July and early August. The teams installed pole lines for tactical cable, several sections of 100 and 200 pair cable and a series of distribution boxes at Giessen Army Depot in support of the V Corps control center. Several pole lines with messenger strand were constructed at Katterbach Army Airfield in support of VII Corps headquarters.

(2) 7th Signal Brigade began deployment on 7 August to establish the HF station at Illesheim, install AASC 01 to support the MUAA, and expand the EDCN. Personnel from 2d Sig Gp, augmented by 7th Sig Bde, deployed to the BENELUX to coordinate installation of commercial telephones and activation of leased circuits. Task Force Twin Lion, comprised of elements of HHD 25th Sig Bn and a platoon of the 333d Sig Co (Comm Cen Ops), began arriving by air, with equipment, at Koksijde, BE on 16 Aug 76. The unit completed its deployment on 17 Aug, circuits and services were activated by the host nation on schedule, and communications were 85% operational by 18 Aug 76. B Co, 16th Sig Bn, arrived at FRG APOD, between 12 and 18 Aug, drew POMCUS and deployed to field locations on 25 Aug 76. The unit was placed under the OPCON of 7th Sig Bde who passed operational control to the 1st Sig Bn for administrative and deployment operations and 26th Sig Bn during committment for communications support.

(3) 7th Sig Bde continued to expand the tactical area communications system throughout the phases to an eventual network that included six AASC's. The network was tied together by 81 multichannel systems carrying 582 voice, teletypewriter and data circuits and included six major demodulation points and 30 terminals. A total of 13 AN/TTC-38 tactical automatic switches, including one deployed from CONUS with the 16th Sig Bn, were interconnected in the network (network diagram attached as Inclosure 1). A total of 859,000 calls were handled by the switches with no significant outages recorded by any of the nine 7th Sig Bde switches. Record traffic was processed by six tape relays and four DSTE's. A total of 8,355 messages were processed by these facilities. A traffic summary is provided at Inclosure 2.

(4) 7th Sig Bde provided HF radio support throughout the operation, to include a system to Ft Campbell discussed in b (2) above, a USAREUR Ground Liaison Officer (GLO) Net

and the USAREUR Weather Net (UWN) . The GLO Net consisted of nine stations, two of which were in the UK, and transmitted 483 messages. The availability rate of the stations of 96.7% is indicative of a highly successful operation. The UWN Net control station transmitted a total of 21,179 messages to some eight out-stations of the Corps/Divisions. Of these 14,990 or 74% were received, exceeding the 70% goal of the USAREUR Staff Weather Officer (SWO).

(5) COMSEC MMCT's were deployed to support the 101st Abn Div (AASLT) in the MUAA and V and VII Corps areas in the FTX. The reinforced MMCT's at the two Corps provided (a) DS and limited GS to units w/o organic capability, (b) backup DS and limited GS to Corps, (c) limited DX and (d) operational readiness float. During the overall operation 329 work orders were completed with an expenditure of 519.1 man hours.

(6) The 14th Aviation Unit (ATC) provided liaison personnel to Ursel, BE to assist U.S. Army aviators and coordinate operations with the Belgian Army operated ATC facility at the marshalling airfield. The 14th also operated both Orange and Blue Flight Operations Centers (FOC) to provide ATC and assist in air space management in each Corps FTX. A tactical tower was provided at the post-FTX demonstration site and additional assistance provided at Bremerhaven during redeployment.

(7) Leased commercial circuits were processed in support of BENELUX LOC operations, HQ USAREUR, JVCC and V and VII Corps. A total of 60 circuits were leased at a cost of $52,576.00 (Inclosure 3). Commercial telephones, TELEX and mobile radio-telephones were ordered by various commands more extensively than in REFORGER 75. Final accounting has not been completed, however approximately 150 telephones were ordered at an estimated cost of $60,000.00.

3. Attainment of Exercise Objective.

a. The overall objectives of the exercise, as stated in USAREUR OPORD 6-76 and as applicable to this command, were attained.

b. Host nation support and the LOC agreements were extensively exercised in the BENELUX during deployment and throughout the FRG during the exercise and redeployment. Circuit activations were timely, quality acceptable and communications support good.

c. Quality communications support was provided to meet requirements in all phases of the exercise. The overall systems reliability for 7th Sig Bde was 95.6%. Extensive interface between the tactical and fixed system was established to facilitate operations of the many commands involved.

d. Tests of TACSAT employment, the CONUS HF system and DSTE deployment generally produced meaningful results which will be used in future plans and exercises.

4. Lessons Learned.

a. Problem. 5th Sig Comd exercise staff organization requires improvement.

(1) Discussion. During REFORGER 76, as in REFORGER 75, exercise planning, coordination and direction was performed by the Exercise Branch within the normal organization structure and without augmentation. While the operation was successful, a number of actions could have been conducted in a more effective and timely manner had wider staff involvement been established. The increased complexity of the exercise, including BENELUX operations, OPCON of forces to 5th Sig Comd, FTX across the USAREUR area and financial delays and constraints, presented abnormal situations which the Exercise Branch is not equipped to deal with on a routine basis. No designated action officers were identified for other areas within DCSOPS or in DCSLOG, DCSRES and DCSPA, however, each staff section had clearly defined responsibilities. The Exercise Branch was required to take countless actions which should have been the responsibility of other elements.

(2) Lesson Learned. The exercise magnitude and complexity dictates the establishment of an "ad hoc" organization similar to that of the USAREUR REFORGER Coordination Cell. The Exercise Branch should remain the focal point for coordination, however, an O-5 or O-6 should be appointed at 5th Sig Comd Deputy Exercise Director and key action officers appointed from DCSRES, DCSLOG and DCSPA. Within DCSOPS action officers from Frequency, Telecom, Voice, ATC and the Ops Center should be designated. This task force would periodically meet to plan the operation, prepare appropriate directives, brief subordinate units and coordinate matters during execution. Such a task force is required for every exercise requiring significant staff participation. (i.e., WINTEX.).

b. Problem. Procedures for assigning telephone control numbers are inflexible.

(1) Discussion. Telephone control numbers are required to place CONUS AUTOVON and long distance commercial calls through any dial service assistance switchboard operator. Present techniques call for assignment of these numbers by the signal groups, on an area basis, with the assignments based on the community structure. An FTX is usually outside of and larger than any specific community and often covers areas which include both groups. Local switchboard operators are prepared to recognize only those series of numbers for their particular community.

(2) Lesson Learned. Telephone control procedures need revision to take into account wide ranging and remote operations. A system of unique numbers for exercise use, allocated to participating units and accepted by any DSA should be established. Such an allocations should be accomplished by this HQ rather than the signal groups.

c. Problem. Coordination of communications in the BENELUX LOC.

(1) Discussion. During REFORGER 76 extensive commercial communications services were required in the BENELUX. Requirements were placed directly on the PTT, through the MOD concerned, and through the established ALLA procedures. Coordination was effected by this HQ, by 2d Sig Gp, by TF Twin Lion and, in some cases, by the user. The result was confusion for the PTT and MOD and a lack of clear understanding of concepts for the supporting signal units and the users.

(2) Lessons Learned.

(a) Initial planning should be conducted by this HQ through the MOD concerned for broad requirements, dates of services, etc. The procedures for planning and ordering are currently being addressed in BENELUX LOC agreements and plans by USEUCOM J-6.

(b) Once initial planning has been accomplished, the responsibility should be turned over to the supporting signal unit for final coordination of support plans, user requirements and installation of services by the host nation. The supporting unit should be the single point of contact for users and the host nations for communications requirements.

d. Problem. Responsibilities of host unit are unclear.

(1) Discussion. USAREUR OPORD 6-76 designated this HQ as the host unit for certain non-divisional signal units and placed them under OPCON upon arrival at APOD. The OPCON relationship is defined as authorizing the assignment of missions but does not connote administrative and logistical responsibilities. As these units are retained under USAREUR "command," USAREUR retains that responsibility. OPCON was transferred by this HQ to subordinate units without any amplifying instructions regarding admin/log responsibilities. Since USAREUR assumed these to be included in the host unit role, this HQ, by default, retained the responsibility.

(2) Lesson Learned.

(a) In future operations, units which this command hosts and has OPCON of will be transferred to subordinate units. Appropriate directives which transfer OPCON will define the hosting responsibilities.

(b) USAREUR should clarify its directives and either attach units vice OPCON or provide a comprehensive definition of ths host/sponsor role.

e. Problem. Identification of tactical switchboards and tactical to fixed trunks.

(1) Discussion. Numerous interconnections were planned and established between tactical switches and fixed DCO's to facilitate communications from garrison to the field. This requirement is essential, operated successfully and must continue. The identification of the switchboards and the trunks was not uniform however, causing operator and user confusion. Tactical switchboards identified themselves in a variety of ways (i.e., "TASS", "AASC 01", "01", "9301 TASS", etc). The trunks at fixed DSA switchboards were similarly identified in a variety of ways (i.e., "Tactical", "TASS", "CIDER", "AASC 42", etc). As a result subscribers did not know what to ask for and, once connected, whether they had reached the desired switch.

(2) Lesson Learned. A uniform designation and answering procedure is necessary for user and operator understanding. In the future, trunks from DSA switchboards will be marked with the designated PRSL of the tactical switchboard to which connected (i.e., 9449) or the switchboard designator

(i.e. MILESTONE) if the switchboard is manual. Operators will be instructed to answer using that some designation and users educated as to the procedures to use to request service.

f. Problem. Medium power tactical HF systems to CONUS are not reliable.

(1) Discussion. 7th Sig Bde was tasked to provide an AN/TSC-38B terminal to terminate the Illesheim end of a two channel, voice HF system from Ft Campbell, KY to Illesheim, FRG. The purpose was to provide administrative service directly to Ft Campbell for the 101st Abn Div from their Division Base. The system was installed and operated from 7 Aug - 2 Oct 76. Due to the extremely long radio path and the lack of availability of optimum frequencies, the system seldom could simultaneously send and receive. As a result, only 190 calls were recorded during this 56 day period.

(2) Lesson Learned. Operation of an HF system to CONUS should not be considered as a reliable means of communications. The operation is not cost-effective, did not provide the desired service and should not be planned in the future.

g. Problem. DSTE support to 1st Arm Div DISCOM.

(1) Discussion. 7th Sig Bde provided a transportable DSTE to support 1st Arm Div DISCOM during FTX LARES TEAM. The purpose of the support was to provide a data transmission capability for CS3 data to the 2d Support Command. This was to serve as a test of this capability in a field environment. Equipment operational problems were encountered initially, however, were resolved early in the operation. The DISCOM relocated daily and was unable to integrate the large and cumbersome DSTE in its convoys. As a result, the DSTE was seldom relocated and restored to service prior to the next move. Virtually no traffic was passed.

(2) Lessons Learned. Although not considered a conclusive test, the operation clearly indicated that the present large and cumbersome DSTE is not designed to support a highly mobile operation. Reliable data transmission in that environment cannot be anticipated. There is a clear need for a smaller, more mobile transceiver capability.

h. Problem. ATC procedures in a tactical environment.

(1) Discussion. ATC procedures in accordance with instrument flight rules (IFR) require close control, hand-off and flight following for each aircraft/flight and normally are referred to

as "positive control". ATC procedures in accordance with visual flight rules (VFR) are less rigid and strict and normally are referred to as "procedural control"; the complexity or laxity of the procedures may vary to meet the differing requirements of a particular situation. For Reforger 76 a lesser control than in previous Reforger exercises was allowed for VFR flights. That portion of the Army air space, over the division area of operation, was designated as under division control; VFR procedural control was exploited with flight plans filed locally. Interface with the Corps level FOC occurred only when flights left the division area/air space or when flights needed to operate in accordance with IFR. Search and rescue and flight following using the Corps FOC was available on request. All flights entering or departing the exercise area were coordinated through and flight followed by the Corps FOC until reaching (or on leaving) the division area. This resulted in less activity at the FOC and allowed better coordination and control where it was needed. Airspace managers had the neeessary information and no safety or operational problems were experienced.

(2) Lesson Learned. The procedural control used throughout the exercise was in concert with the Airspace Management Study subsequent to Reforger 75. Such procedures should be continually refined and applied in future exercises.

i. Problem. Communications requirements for ATC element.

(1) Discussion. The introduction of 348 additional aircraft with the 101st Abn Div significantly increased air operations at three airfields in the MUAA and direct communications with the Army Flight Operations Detachment (AFOD) in Heidelberg was required for filing of flight plans during pre and post-FTX operations. Blue and Orange FOC's established in both V and VII Corps required direct access to AFOD as well as reliable communications to Air Force and Army elements. FOC's normally collocate with Air Force elements and located with a CRP at Wasserkuppe in V Corps and with an FACP at Auernheim in VII Corps. Good communications with the Air Force was available but to the Army elements is limited to trunking through the Air Force into the Army system. A last minute requirement to extend a leased circuit to the FOC from a DBP pickup point vic Auernheim was identified by 14th ATC.

(2) Lesson Learned.

(a) The USAREUR Aviation Office and supported aviation elements must be queried early in planning to identify

communications requirements such as to AFOD or an FOC.

(b) FOC's and USAFE CRP's should locate in tactically sound locations with respect to scenarios and not far removed from exercise areas, such as on the Wasserkuppe.

(c) The FOC should be considered a major unit to be served by the area communications system. Whenever located with a CRP, a system should be installed to provide access for the FOC into the Army Command and Area Communications System (ACACS) and interswitch trunking from a USAFE AN/TTC-30 to the ACACS AN/TTC-38.

5. Unresolved Problems.

a. Problem. No formal tasking procedure exists for non-DCS circuit activations.

(1) Discussion. Procedures presently exist for activation of DCS and leased circuits through DCA issuance of a Telecommunications Service Order (TSO). Similar procedures exist in tactical circuit routing charts (CRC) and Communications Frag Orders (CFO) to route and reroute tactical circuits. When activation of a circuit over a non-DCS multichannel system, a long distance cable system or a local cable system is required, no procedure is in effect. This becomes a particularly severe problem when a tactical/fixed interface is involved.

(2) Recommendation. That 5th Signal Command establish the responsibility for directing such circuit activations in one office and standardize the format and information required for such actions.

b. Problem. The role of the Area Signal Representative (ASR) in interface of tactical and fixed operations.

(1) Discussion. While the focus of Reforger exercises is on tactical operations, to include communications, considerable impact is felt at existing fixed communications facilities. The heaviest impact is at the installation selected as the Corps Control location and at those installations where major participants are located and continue to conduct full or partial operations from garrison. Coordination is primarily accomplished at the headquarters level and the ASR, usually the company commander of the signal company serving the area, is seldom fully informed.

(2) Recommendation. USAREUR subordinate commands be directed to coordinate with the ASR of their local installation and the area in which they plan to conduct operations. ASR's should also be included in 5th Sig Comd conferences with subordinate unit representatives so that full scope of the operation is understood, both tactical, leased and fixed military.

c. Problem. Inordinate support of the Division MUAA was required.

(1) Discussion. During Reforger 76 the support of the 101st MUAA/Div Base required a signal battalion plus, a severe burden on all forces involved. VII Corps had the 472d Sig Co (2d SUPCOM) plus other units' switchboards; 7th Sig Bde provided an AASC (1st Sig Bn), a DSTE (26th Sig Bn) and a tropo and AN/TSC-38B radio system (72d Sig Bn); 2d and 160th Sig Gps had a number of installer/repairmen in the area; numerous cable teams were employed and the 501st Sig Bn (101st Abn Div) performed many local installations. Communications far exceeded plans, no central coordination was established and confusion resulted.

(2) Recommendations.

(a) The command with the geographic area responsibility for the MUAA should coordinate all divisional requirements.

(b) Military dial telephones and commercial dial and leased circuits should provide an initial and very limited capability.

(c) The division signal battalion should deploy early in the flow and install its own internal communications.

(d) 7th Sig Bde should provide access from the MUAA into the ACACS.

d. Problem. The deployment/redeployment planning and responsibility for non-divisional signal units is inadequate.

(1) Discussion. Deployment of non-divisional forces was the responsibility of XVIII Airborne Corps, however, every planning session focused on 101st Abn Div operations with little attention given to other forces. As a result problem areas were not recognized and adequate provisions made for such items as B Co, 16th Sig Bn equipment arriving by sea, 235th TACSAT Det arriving in the BENELUX by air and 25th Sig Bn/333d Sig Co

convoying from the BENELUX after host nation support had ended. Non-divisional forces were "chopped" to the host unit upon arrival despite POMCUS issue and other actions required to prepare them for mission employment. Redeployment of these units with unique requirements also broke down at various points. During an actual operation the host unit will probably be deployed or deploying to perform its wartime mission and would not be available to do the detailed coordination for the CONUS-based units which, in turn, will be larger in size.

(2) Recommendations.

(a) That separate deployment and redeployment conferences, to address non-divisional units only, be held with the responsible CONUS and USAREUR commands, including host units.

(b) That arriving forces "chop" initially to 21st Support Command to issue equipment, prepare them for combat and move them to a designated location or release point where they then "chop" to the OPCON command. This might be considered for the division as well.

(c) That 21st Support Command regain OPCON when units return to MUAA for POMCUS turn-in.

e. Problem. Funding for commercial communications.

(1) Discussion. Funding for local commercial communications services (i.e. DBP telephones, TELEX, BASA phones, mobile radio telephones) was provided during Reforger 75 and 76 by 5th Sig Comd. JCS/DA funds were provided to USACC who allocated them to 5th Sig Comd. USAREUR subordinate commands requiring service then placed requirements on this HQ and the requirements were met to the extent funds were available. Once funds were exhausted the requestors were required to provide a Reimburseable Order (DA Form 2544) for additional services. This process absolves the users of any responsibility for managing the quantity and costs of communications services and places this HQ in the unenvialbe position of attempting to estimate another command's requirements long before the concept is fully developed.

(2) Recommendation. In future exercises each command should be required to fund for its requirements, charging costs to the Reforger budget. Each command should provide a pre-exercise forecast of requirements and submit the necessary DA 2544 for those services anticipated. This will result in each command estimating its own requirements and managing its own resources and should result in a more responsive process for establishing necessary service.

f. Problem. Definition of LOC communications requirements.

(1) Discussion. Operations in the BENELUX LOC involved a number of commands (i.e. - 21st Sup Com, 4th Trans, MTMC, 101st Abn Div, USAREUR) with no command responsible to draw the operation together and totally plan operations. Communications were planned by this HQ in a virtual vacuum since none of the commands had any real concept of operation, no clear command lines were drawn, no communications requirements were stated and no agency was responsible overall. Notwithstanding the above, communications support from the host nations had to be stated in specific terms and deployment of CONUS based units planned.

(2) Recommendation. That a USAREUR command be made responsible for the BENELUX LOC and be given a clearly stated directive authority over all forces operating therein, to include the deploying division. That command would then have the responsibility to coordinate and develop communications requirements to be met by 5th Sig Comd.

g. Problem. C-E staff participation in and liaison with Reforger Coordination Cell.

(1) Discussion. A complex operation such as Reforger 76, conducted in phases, will always involve changes in the supporting communications networks. Communications via multiple means and over multiple paths is always planned to enhance flexibility and insure reliability. During Reforger 76 there was a lack of understanding by many representatives in the coordination cell as to what communications were available and how to use them. The absence of a communications briefing for daily update and a C-E representative on the staff reduced the usefulness of existing communications.

(2) Recommendation. That a communications portion be included in the daily Reforger briefing and that a liaison representative from the C-E Staff Office, the 43d Sig Bn or the 7th Sig Bde be readily available to assist staff representatives during the operation.

h. Problem. Command and control of TACSATCOM resources.

(1) Discussion. The 235th Sig Det (TACSATCOM) was attached to the 101st Abn Div as has that unit been attached to the deploying division in previous years. Such an attachment presented problems in employing equipment to support deployment and redeployment and precluded its use for command and control requirements such as in GROSSER BAER. Other ramifications have

been presented separately in messages and correspondence from the DCSC-E. The extremely limited and flexible TACSATCOM resources should be under theater control and not dedicated to a single division.

(2) Recommendation. That USAREUR emphasize to FORSCOM that TACSATCOM resources are to be deployed to USAREUR and not attached to the division and that USAREUR place the forces under 5th Sig Comd OPCON to be employed, as directed, to meet theater-wide requirements.

6. Rationalization, Standardization and Interoperability (Inclosure 4).

7. Commander's Summary.

a. Reforger 76 was one of the most demanding exercises, from a communications viewpoint, for this command to date. The success achieved during the operation is indicative of the state of training of our soldiers and the spirit of cooperation that has developed within the communications community. A number of the problems noted herein can be resolved within the command and are included to document the value of the exercise and provide the stimulus for corrective action.

b. Of particular note is the operation in the BENELUX LOC. This operation presented numerous "firsts" for this command. It was the first time we have had OPCON of CONUS-based deploying forces, the first time we have conducted tactical operations in the BENELUX and the first time a fixed station oriented signal group has assumed OPCON of and employed a tactical unit. From a staff planning and subordinate unit viewpoint, that portion of the operation by itself was extremely beneficial.

c. Wide ranging exercises such as Reforger 76, which incorporate strategic mobility and tactical combat operations, serve to test all aspects of this command's mission. Such exercises are invaluable in testing our readiness and providing lessons which will result in improved procedures. Future exercises of this type are essential to training our staff and high subordinate units in their primary mission - providing high quality and reliable communications service to the Theater Army.

FOR THE COMMANDER:

Grady Howell, Jr.
GRADY J. HOWELL, JR.
CPT, AGC
ASST AG

4 Incl
1. Telephone Network Diagram
2. Record Traffic Summary
3. Leased Circuit Summary
4. RSI initiatives

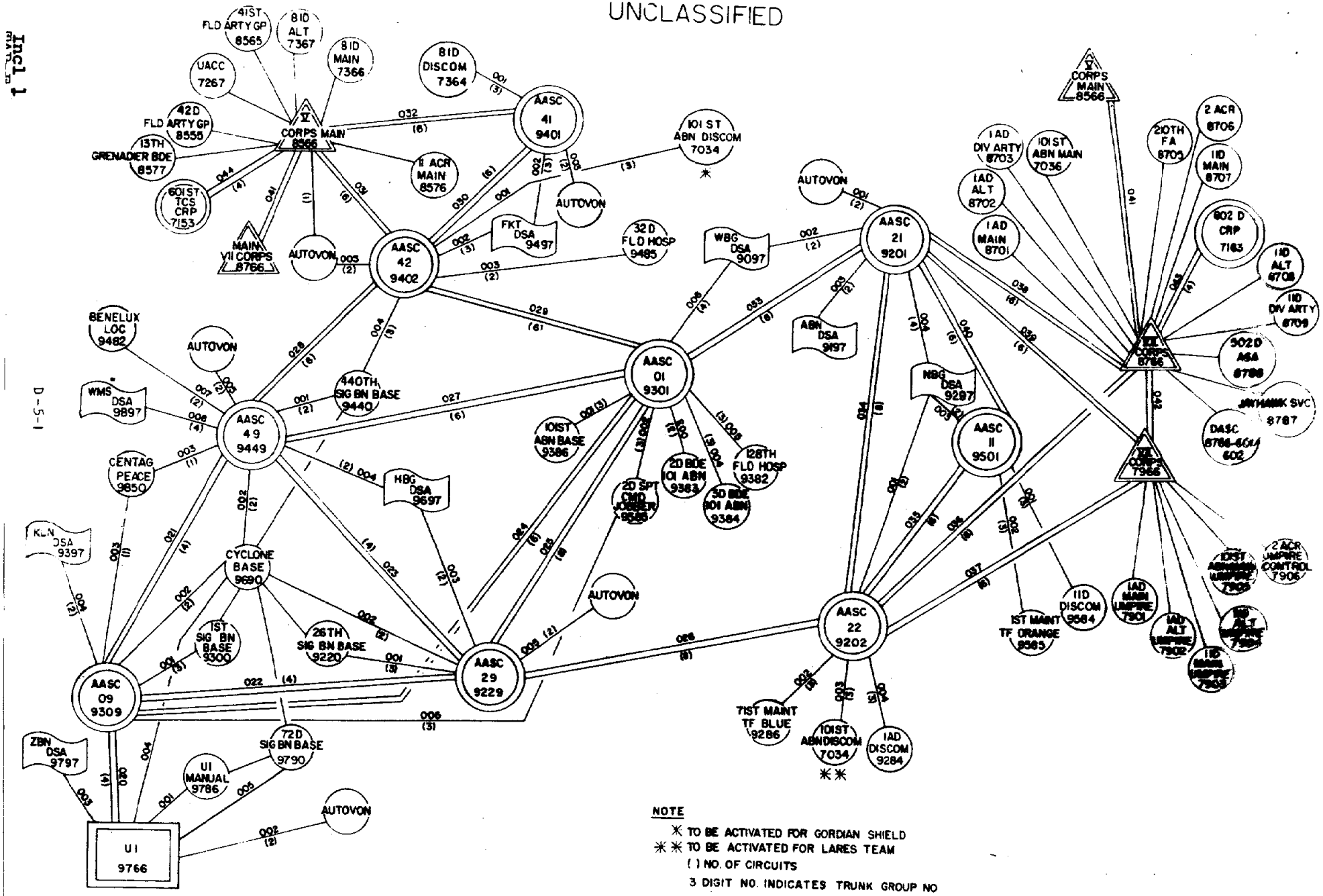
22 DEC 1976

CCE-OP-OE
SUBJECT: REFORGER 76 After Action Report

DISTRIBUTION:

X, Plus
CINCUSAREUR, ATTN: AEAGC-REF 76, APO 09403 (10)
CDR, 21st Spt Cmd, APO 09325 (2)
CDR, 7th Sig Bde, APO 09028 (5)
CDR, 2d Sig Gp, APO 09086 (5)
CDR, 160th Sig Gp, APO 09164 (5)
CDR, 63d Sig Bn, APO 09056 (3)
CDR, 14th Avn Unit (ATC), APO 09025 (3)

UNCLASSIFIED



NOTE

✳ TO BE ACTIVATED FOR GORDIAN SHIELD

✳✳ TO BE ACTIVATED FOR LARES TEAM

( ) NO. OF CIRCUITS

3 DIGIT NO. INDICATES TRUNK GROUP NO

UNCLASSIFIED

MESSAGE TRAFFIC ANALYSIS

	FLASH	IMMEDIATE	PRIORITY	ROUTINE	TOTAL
O1AASC	86	184	775	470	1,515
11AASC	0	39	279	149	467
21AASC	52	80	437	250	819
22AASC	2	76	628	419	1,125
41AASC	18	247	358	148	771
42AASC	18	59	249	74	400
J1DSTE	74	408	423	253	1,158
KODSTE	12	85	344	256	697
V1DSTE	63	164	267	99	593
E6DSTE	0	0	0	0	0
TOTAL	325	2,142	3,770	2,118	8,355

GLO NET - 483 MESSAGES 96.7% reliability

UWN - 21,179 MESSAGES 74.0% reliability

Inclosure 2

TAB F

REFORGER 76 CIRCUIT INFORMATION

CCSD	COMMERCIAL CIRCUIT NUMBER	TO/FROM LOCATIONS	COST
UTEVWGH5	DBP237197	Katterbach/Frankfurt	$1945
UTEVWGH6	DBP237196	Frankfurt/Heidelberg	1031
UTEVWGJN	DBP237194	Frankfurt/Kaiserslautern	839
UTEVWGJP	DBP237195	Frankfurt/Giessen	877
UTEVWGJQ	BRTTP001690	Ghent/Vlissingen	585
UTEVWGJQ	NPTTP001690	Ghent/Vlissingen	539
UTEVWGJR	BRTTP001691	Ghent/Vlissingen	585
UTEVWGJR	NPTTP001691	Ghent/Vlissingen	539
UTEVWGJS	BRTTP001692	Ghent/Vlissingen	585
UTEVWGJS	NPTTP001692	Ghent/Vlissingen	539
UTEVWGKN	DBPT237218	Eisenberg/Giessen	917
UTEVWGKP	DBPT237219	Giessen/Echterdingen	1298
UTEVWGKQ	DBPT237220	Augsburg/Giessen	1746
UTEVWGKR	DBPT237221	Baumholder/Schwarzenburn	1329
UTEVWGKT	DBPT237224	Katterbach/Munchweiler	1015
UTEVWGKU	DBP237228	Grafenwoehr/Wurzburg	1040
UTEVWGKV	DBP237227	Heidelberg/Auernhem Ue Treucht-linger	766
UTEVWGKW	DBP237229	Wasserkuppe/Heidelberg	762
UTEVWGKX	DBP237231	Katterbach/Wurzburg	682
UTEVWGKZ	DBPT237240	Katterbach/Moehringen	916
UTEVWGK1	DBP237237	Katterbach/Moehringen	1431
UTEVWGK2	DBPT237233	Katterbach/Moehringen	939
UTEVWGK3	DBP237241	Katterbach/Nuernberg	480
UTEVWGK4	DBP237239	Katterbach/Fuerth	474
UTEVWGK5	DBPT237242	Katterbach/Gruenstadt	1186
UTEVWGK6	DBP237243	Katterbach/Nuernberg	468
UTEVWGK7	DBP237244	Katterbach/Illesheim	429
UTEVWGK8	DBPT237234	Katterbach/Moehringen	916
UTEVWGK9	DBPT237235	Katterbach/Moehringen	916
UTEVWGLA	DBP237236	Katterbach/Moehringen	1400
UTEVWGLB	DBP237238	Katterbach/Fuerth	474
UTEVWGLC	DBPT237247	Katterbach/Augsburg	856
UTEVWGLG	DBP237252	Wasserkuppe/Giessen	762
UTEVWGLH	DBP237253	Ansbach/Katterbach	378'
UTEVWGLJ	DBP237254	Ansbach/Katterbach	378
UTEVWGLK	DBP237255	Ansbach/Katterbach	378
UTEVWGLM	DBP237257	Amberg/Bindlach	562
UTEVWGLN	DBPT237258	Katterbach/Bad Tolz	1162

CCSD	COMMERCIAL CIRCUIT NUMBER	TO/FROM LOCATIONS	COST
UTEVWGLO	DBPT237261	Leipheim/Stet Am Kaltnmkt	$ 980
UTEVWGLT	DBP237264	Illesheim/Vic Rheden-elze	1254
UTEB9ERM	Army OC 11101337	Feldberg/Ansbach	40
UTEB9ERM	DBP237216	Schalkhausen/Feldberg	1729
UTEB9ERN	Army OC111013400	Feldberg/Ansbach	66
UTEB9ERN	DBP237215	Schalkhausen/Feldberg	1729
UTEN9ERP	DBOP237225	Ansbach/Feldberg	1603
UTEB9ERT	Army OC11101336	Feldberg/Giessen	22
UTEB9ERU	Army OC11101334	Feldberg/Giessen	22
UTEB9ERV	Army OC11101335	Feldberg/Melibocus	33
UTEB9ERW	Army OC11105241	Donnersberg/Heilbronn	33
UTEB9ERX	Army OC11105242	Donnersberg/Heilbronn	33
UTEB9ERY	Army OC11101338	Feldberg/Giessen	66
UTEB9ESF	Army OC11101339	Feldberg/Giessen	44
UTEB9ESR	Army OC11101341	Feldberg/Ringenkopf	13
UTEB9ESS	Army OC11101342	Feldberg/Ringenkopf	13
UTEVWGJ1	DBP001684	Gent/Heidelberg	2366
UTEVWGJ2	DBP001685	Gent/Heidelberg	1963
UTEVWGJ3	DBP001686	Gent/Heidelberg	2187
UTEVWGJ5	DBP001688	Gent/Darmstadt	2330
UTEVWGJ6	DBP001689	Gent/Kaiserslautern	1963
UTEVWGJ4	DBP001687	Gent/Heidelberg	1963
		TOTAL	52,576

RSI INITIATIVES

1. Action Area: The ringing frequencies of Belgian commercial and military telephone circuits are not compatible with U.S. Army tactical ringers.

a. Military Consequences:

(1) U.S. tactical telephones and switchboards produce a 20 HZ ring while Belgian equipment uses a 50 HZ ring. One will not activate the other's equipment. This makes it impossible to establish telephone trunks between tactical switchboards and requires the use of the appropriate design telephone on a local circuit. Lateral coordination via common user networks becomes virtually impossible, necessitating point to point circuits or radios.

(2) Leased circuits between U.S. facilities via Belgian RTT circuits must be ordered with no ringing and VF converters provided at either end. While this does not hamper operations it requires additional converts not normally installed.

b. Recommended Improvements: An interface box for 20 HZ to 50 HZ conversion, and vice versa, should be fabricated or procured to provide the capability. Such an item would be relatively inexpensive and should be acquired in a limited quantity to equip units operating with Belgian forces in the BENELUX.

c. Related Information: Although detailed investigation has not been conducted, AFCENT or NORTHAG may have such devices as Belgian Army forces are part of those formations.

2. Action Areas: Identification of tactical equipment to interconnect on Belgian and Netherlands PTT lines.

a. Military Consequences: Present LOC support agreements require PTT approval of tactical equipment prior to any connections to circuits. Although no problem was encountered during Reforger, virtually no U.S. equipment has been tested and approved. This could preclude future use of host nation telecommunications resources.

b. Recommend Improvements: Current efforts to develop bi-lateral LOC plans should identify U.S. tactical communications equipment which may be envisioned to be connected to PTT circuits. The appropriate engineering tests and certification, if required by the host country, should then be scheduled and conducted. As new equipment enters the U.S. inventory the acceptance list will have to be updated.

c. Related Information: An extensive list of accepted equipment for the DBP has already been published based on DBP conducted engineering analysis and field tests. Other nations may be willing to certify equipment based on DBP acceptance.

UNCLASSIFIED

~~CONFIDENTIAL~~

DEPARTMENT OF THE ARMY
Headquarters, 4th Brigade 4th Infantry Division (Mechanized)
APO New York 09358

AETHWE-S3 16 November 1976

SUBJECT: Interim After Action Report-FTX Spearpoint (U)

Commander
V Corps
APO 09079

1. (U) References:

a. V Corps Letter of Instruction--Certain Force/REFORGER 76, dtd 12 Aug 76.

b. V Corps Letter of Instruction for FTX Spearpoint, dtd 14 Oct 76.

c. 8th Infantry Division Field SOP, dtd 25 Oct 74.

d. 4th Brigade, 4th Infantry Division (Mech) Field SOP, dtd 26 Aug 76.

e. 4th Brigade, 4th Infantry Division (Mech) OPORD 3-76, dtd 26 Oct 76.

2. (U) The 4th Brigade, 4th Infantry Division (M), participated in EXERCISE SPEARPOINT with one mechnized infantry battalion, one armor battalion, one field artillery battalion, a cavalry troop, an engineer company, and the support battalion. The brigade was augmented by tactical photography and water purification elements from 8th Infantry Division and by laundry and bath facilities from 3d Support Command (Corps).

3. (U) Participating Units.

HQ, 4th Brigade, 4th Infantry Division (M)
2d Battalion, 28th Infantry
1st Battalion, 70th Armor
2d Battalion, 20th Artillery
E Troop, 1st Squadron, 10th Cavalry
F Company, 4th Engineerns
64th Support Battalion
Platoon, B Company, 2d Battalion, 22d Infantry
TAC Photo Section, 8th Signal Battalion
Water Purification Section, 12th Engineer Battalion
Laundry and Bath Platoon, 29th Supply and Service Company

CLASSIFIED BY CDR, V CORPS
SUBJECT TO GENERAL DECLASSIFICATION
SCHEDULE OF EXECUTIVE ORDER 11652
DECLASSIFY ON 31 DEC 82.

UNCLASSIFIED

~~CONFIDENTIAL~~

4. (C) Explanation of Concept.

a. V Corps message, dtd 071501Z April 76, Subject: Warning Order-Certain Force/REFORGER 76, directed 4th Brigade, 4th Infantry Division (M) to participate in British Army of the Rhine EXERCISE SPEARPOINT as an Orange Force player. EXERCISE SPEARPOINT was a two-sided, free-play exercise designed to test a new British division organization employed by the Blue Forces. The exercise was conducted 2-12 November 1976. The major participant of the Blue Force was 2d Armored Division, British Army of the Rhine. The major participant of the Orange Force was the Fourth Division, BAOR, consisting of 6th Armored Brigade (UK), 4th Brigade, 4th Infantry Division (M) (US), and two Danish battalions (one armor and one reconnaissance). There were approximately 5,500 troops on the Blue Force and 4,500 on the Orange Force. Both sides were controlled by I (UK) Corps. The scenario called for Orange Forces to attack along the SALZGITTER BAD (NC 9467) GRONAU (NC 5270) axis to secure crossings on the LEINE RIVER and to prepare to continue the attack across the WESER RIVER. The offensive operations were followed by a mission to defend west of the LEINE RIVER while Blue Forces attacked. Preparation for the exercise included extensive coordination, reconnaissance, and a CPX prior to deployment.

b. SPEARPOINT planning milestones were as follows:

22 Jun 76 - Initial coordination conference with I (UK) Corps and 4th Division at BIELEFELD.
2 Sep 76 - S2/S5 coordination meeting.
2 Oct 76 - Logistics conference.
9 Oct 76 - Reconnaissance of exercise area.
13-14 Oct 76 - OPNS/Logistics/Signal/S5 visit to 4th Division.
18-19 Oct 76 - 4th Brigade Division CPX.
19 Oct 76 - British OPNS/LOG coordination visit to 4th Brigade.
25-26 Oct 76 - Final coordination meeting with 4th Division.
28 Oct 76 - Begin deployment to exercise area.
30 Oct 76 - Deployment completed.
30 Oct-3 Nov 76 - Pre-maneuver training.
1 Nov 76 - JEEPEX and RECON of exercise area.
4 Nov 76 - STARTEX.

061200-072400 Nov 76 - Administrative Halt.

10 Nov 76 - ENDEX.
10-14 Nov 76 - Redeployment to Wiesbaden.

c. The objective of the exercise was to test 2d Armored Division in a GPD setting in order to evaluate new tactical and logistical concepts, in particular:

UNCLASSIFIED

~~CONFIDENTIAL~~

(1) Logistic support forward of the Corps rear boundary.

(2) Initial deployment over long distances to battle positions.

(3) Tactical deployment within the Division, including regrouping (changing task organization) to meet differing tactical situations; the earmarking of reserves at division level and their employment in and outside division boundaries.

(4) Command and control procedures at Battle Group (battalion task force), Task Force (Brigade), and Division level.

(5) Division rear area security.

d. Offensive planning was based on Orange Forces employing threat organization and tactics. Artillery used threat ranges and characteristics of similar Warsaw Pact weapons. Defensive planning was based on the active defense concept using US organization.

5. (U) Chronological summary of significant activities.

301300 Oct 76 -	Completion of deployment of 4th Brigade and attached units to the exercise area and occupation of the initial concentration (assembly) area.
300700 Oct 76 - 010700 Nov 76	Pre-maneuver phase. Units conducted training at small unit level and reconnoitered the exercise area. Six hundred soldiers were escorted on tours of the inter-zonal border by the British Frontier Service.
010900 Nov 76- 011300 Nov 76	A JEEPEX was conducted for the initial offensive operation with participation to platoon leader level.
020600 Nov 76 - 030900 Nov 76	TF 2-28 and E/1-10 Cav were repositioned within the concentration area to allow Blue Forces to occupy the SALZGITTER RIDGE.

AETHWE-S3 16 November 1976
SUBJECT: Interim After Action Report-FTX Spearpoint (U)

040700 Nov 76 -
041700 Nov 76 A successful attack was conducted to secure objectives on the RIVER NETTE. The Orange Forces used threat organization and tactics. The Danish Reconnaissance Squadron screened in front of 4th Brigade, followed by E/1-10 Cav representing regimental RECON elements. The brigade attacked with TF 2-28 in the North and TF 1-70 in the South. TF 2028 was successful in infiltrating through the SEHLDERWALD (NC 8463) and arrived at their objective at 041215 Nov 76. TF 1-70 did encounter some opposition; however, they were still successful in securing their objective.

042200 Nov 76 -
050045 Nov 76 TF 2-28 conducted a dismounted night attack to secure the east end of the HARYERWALD. The attack surprised and eliminated a Blue Force Tank Company.

050900 Nov 76 -
051200 Nov 76 Orange Forces committed the 6th Armored Brigade into the BOCKENEM BOWL in a successful attempt to get Blue Forces to commit the division reserve. TF 2-28 remounted and continued their attack to the Northwest. TF 1-70 swung south by passing Blue Forces and was apparently on the way to the FOEHRSTE BRIDGE (NC 5757) across the LEINE, thus cutting off much of the Blue Force. A notional counterattack from the southeast was inserted and the brigade was ordered into a hasty defense around LAMSPRINGE.

051200 Nov 76 -
051700 Nov 76 TF 2-28 and TF 1-70 conducted a series of attacks against stubborn enemy forces (part of the Blue Force Reserves) in the wooded ridges north of LAMSPRINGE. When the enemy finally withdrew, the brigade went into a hasty defense for the night.

060700 Nov 76 -
061200 Nov 76 E/1-10 Cav, augmented by scout platoons from 2-28 and 1-70, applied pressure as the Blue Forces withdrew over the LEINE RIVER.

061200 Nov 76 -
072400 Nov 76 Administrative Halt.

AETHWE-S3 16 November 1976
SUBJECT: Interim After Action Report-FTX Spearpoint (U)

080500 Nov 76 -
080800 Nov 76 Brigade units moved into attack positions to prepare for crossing the LEINE RIVER.

081200 Nov 76 -
081830 Nov 76 Brigade conducted an administrative crossing of the LEINE RIVER and attacked against heavy resistance to secure bridgehead objectives. The brigade was then ordered into a hasty defense.

090600 Nov 76 -
091800 Nov 76 Brigade conducted an active defense as Blue Forces attacked. Although the southern flank was forced back by Blue Forces attacking from an out-of-bounds area, very heavy casualties were inflicted on the Blues. TF 2028 was successful in defeating three separate full-scale coordinated attacks before the umpires administratively allowed the Blue Forces to succeed. This action terminated the tactical play for the 4th Brigade units.

100700 Nov 76 -
131700 Nov 76 Redeployment to Wiesbaden and Mainz.

6. Specific problem areas and recommended solutions. Inclosure 1.

7. Lessons Learned. Inclosure 2.

8. This headquarters cannot comment on the achievement of the objectives in paragraph 4c since they pertain to Blue Forces. However, the participation of the 4th Brigade and attached units in EXERCISE SPEARPOINT resulted in achievement of the objectives established by this headquarters. The brigade's command and control structure and logistical activities were exercised in a very realistic manner in a highly fluid battlefield situation. Combat and combat support units successfully accomplished their missions over long distances and varied terrains. The exercise was an invaluable training experience for the War Eagle Brigade and contributed significantly to the combat readiness of the units that participated.

/s/
RICHARD A. SCHOLTES
Colonel, Infantry
Commanding

3 Incl
1. Problem Areas
2. Lessons Learned
3. Special Staff Study

CF: Commander, 8th Infantry Division, ATTN: G3 APO 09111

Incl 1 (Problem Areas) to Interim After-Action Report Exercise SPEARPOINT

Problem: Insufficient tac air assets for Orange Forces.

Discussion: The distribution of tac air assets to the Orange Forces was not in sufficient quantity to create realism in the scenario. There was not enough to have any significant impact on Orange Force maneuvers.

Recommendation: NATO Air Bases should be integrated into exercise scenarios and should be dedicated to specific units for duration of the problem.

Problem: The Immediate Air Request Net was Inadequate.

Discussion: The Immediate air request net for Orange Forces was cumbersome and ineffective. There was no direct radio link between the TACP's and the ASOC. We were forced to use either the Division Command Net or the Bruin System.

Recommendation: The NATO Standardized Air Request Net in Allied Tactical Pamphlet 27 (A) should be utilized.

Problem: Sunday Services.

Discussion: Inability to generate Sunday Services (both Protestant and Catholic) in widely spaced and fast moving combat units. Church Services announcements made at Battalion level did not reach the soldier.

Recommendation: Encourage and provide weekday services. In a field/combat situation, everyday can be Sunday. Provide services at Company/Battery/level whereever possible. Encourage chain of command to inform soldier of times and places of religious services.

Problem: POL Issue.

Discussion: Special permission was required for issue of bulk POL products from depots during weekends.

Recommendation: During exercise periods facilities should be operated on a full time basis. Unless this is enforced, the maneuver elements and the support unit often have limited fuel available for issue after the weekend/holiday period.

Problem: Cyrpto Systems.

Discussion: The complete interface of communications systems will never be realized due to separate crrpto systems (hardware and software) currently in use by U.S. and British units.

Recommendation: It is recommended that a Crupto System be designated for NATO Forces which permits both hardware and software communications interface.

Problem: Telecommunications Center Interface.

Discussion: Message traffic initiated at British field locations failed to arrive at final U.S. destinations. Tracer action through British channels indicated that traffic passed through British and NATO relays but as late as 8 Nov, had failed to clear U.S. stations.

Recommendations: It is recommended that more Joint Forces traffic be initiated during exercise and non-exercise periods to ensure that all operators at all relays are familiar with NATO routing procedures.

Lesson Learned: Effective and extensive Chaplain coverage is only possible with organic Chaplain transportation.

Lesson Learned: Chaplains should have their base of operations in trains areas. They can move from these areas into troop/combat areas to spend time counseling and accompanying troops. (Trains areas are usually more stable than HQ areas and move less. Moving his base of operations disrupts Chaplain Ministry to troops).

Lesson Learned: Laundry and Bath Unit facilities cannot be fully utilized if located more than 25 kilometers from the troop concentration area. Several suitable L & B locations must be identified so that the facility can move to a location where it can best support the combat elements. In addition, repair parts and laundry and bath maintenance personnel must be readily available to correct maintenance difficulties. The Brigade Support Battalion must be aware at all time as to the operational status of the Laundry and Bath unit and advise all Bde elements when that status changes.

Lesson Learned: Trash Disposal. Several trash disposal points must be identified for use within the exercise area. Failure to do so results in wasted man hours and unnecessary vehicle requirements.

Lesson Learned: Potable Water. Sites must be available throughout the area of operation. To prevent delays, it is imperative that all necessary medical inspections be accomplished in advance of water requirements. After the medical inspection, all units must be made aware of those sites suitable for usage.

Lessons Learned: Support Battalion. The Support Battalion should move to the exercise area ahead of maneuver elements and remain in the exercise area until all maneuver elements have departed. To do otherwise, results in time spans when no direct support is available. Of particular importance are the areas of POL, maintenance, transportation and medical support.

Lesson Learned: Rations. British Rations were used throughout the Spearpoint Exercise. U.S. personnel were instructed in the proper preparation of the British (10-1) ration by food service personnel from the British Army prior to the exercise. The (10-1) ration is suitable when prepared at the company/battery level. Preparation of the (10-1) below the company level is not satisfactory because of the lack of cooking equipment and training of personnel to cook at that level. Additionally the U.S. ration is suitable for use by the individual soldier.

Lesson Learned: POL. There appears to be no major problems in this area. A minor problem does exist in that British 5 gallon cans cannot be used to refuel the U.S. Sheridan without the use of a funnel.

Lesson Learned: Maintenance/Repair Parts. No interoperability exists in this area.

Lesson Learned: Ammo. Very limited compatibility between the U.S. and British ammunition.

Lesson Learned: FM/VHF Radios. Interoperability tests with the U.S. AN/VRC 12 series FM radio and the British C-42 VHF Radio disclosed that the two families were netable in the non-secure, squelch-off mode in the 30-60 MHZ range. Reception on the AN/VRC 12 side from the C-42 was "scratchy" but audible.

Lesson Learned: High Frequency Radios. Interoperability tests with the U.S. AN/GRC 106 and AN/GRC 155A (Air Force) radios and the British C-42 Radio disclosed that the radios were netable in frequency range. The AN/GRC 106 Radio must be detuned by 600 HZ below the listed operating frequency. Both voice and CW operations were possible.

Lesson Learned: Interoperability tests with the U.S. MGC17 Comm Center (AN/PGC1 and AN/CGC 3 equipment) and the British equipment (Siements T 100-R) disclosed that the only possible interface without equipment modifications would be the exchange of tapes. Both British and U.S. reperforatoes utilize the Murray code. If U.S. tapes are utilized less the clear text printing line, tapes may be interchanged.

Lesson Learned: Facsimile. No interoperability tests were conducted between the U.S. AN/GXC-7A tactical facsimile (Facsimile being tested at MASTEN) and the British Nufax facsimile receiver due to non-availability of the AN/GXC-7A. It is recommended that this be explored in more detail as the AN/GXC-7A becomes available to tactical units in NATO.

Lesson Learned: Dial Telephone. Interoperability tests with the U.S. military dial telephone TA-800 and the British BPO 709 dial telephone disclosed that the two are incompatible. The TA-500, when dialed, will seize the British automatic exchange (M433) and will transmit through the exchange to the BPO 706. The TA-500 will not receive voice or ring from the BPO 706 through the British auto switch.

Lesson Learned: VHF Radios. Interoperability tests with the U .S. AN/ 103 VHF radio and the British Bruin M432 radio component of the radio relay system were conducted during which it was disclosed that the baseland radio portion of the system were netable.

Lesson Learned: Maneuver Damage Procedures worked well. To facilitate accountability and swift reaction to maneuver damage, the 4th Bde organized an Internal Damage Control HQ. The Bde S-5 section acted as the HQ with a Maneuver Damage Control Team attached to each maneuver element. Each of the 4 teams, headed by an officer, was equipped with a vehicle with communications, sufficient forms to document the damage and pioneer tools to repair very minor damage. The teams reconned proposed areas with quartering parties, followed elements conducting attacks and returned to concentration areas to record damage as it occured. This system enabled the Bde to compile 359 reports of damage by eyewitnesses, to react quickly to potential problem areas and to enable the Bde to stay constantly abreast of the damage situation at any point in the problem play. The most significant accomplishment of the teams is the ability to determine the extent of AMERICAN ONLY damage and SHARED damage by plotting incidents with respect to time and location. This information complied in the master Maneuver Damage After Action Report should prove helpful to the claims office in the ajudication of damage claims.

Lesson Learned: Maneuver units are capable of rapidly responding to verbal changes in mission. The routine procedure for the British 4th Division was to issue verbal orders directly from the Division Commander to the Brigade Commander. The Brigade Commander followed the same procedures with the Battalion Commanders because of time constraints. The units proved themselves capable of executing verbal orders without any written documents (not even overlays in many cases).

Lesson Learned: Differences in terminology between Allies caused some initial confusion. Different meanings attached to military terms, especially refering to unit sizes (e.g., British squadron=U.S. company) caused some initial confusion. However, after a short time, U.S. participants were using British terminology with relative comfort.

Lesson Learned: Limitations on Orange Force problem play detracted from the training value. Exercise Spearpoint was designed not to inject any casualty, prisoner of war, or vehicle damage play into the Orange Forces activities. There was also no chemical play and no air defense assets on the Orange side. This was done so that the majority of the controller/evaluator/umpire assets could be focused on the Blue Division that was being tested. However, this situation detracted from the training value gained by Orange Players.

EX
REFOR-
GER
AAR
USAREUR
1976
v. 3
pt. 1