# TRAINING AND DOCTRINE COMMAND

# 1ST QTR - FY97 UPDATE

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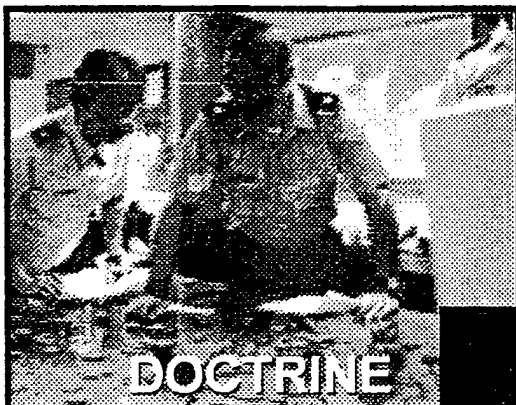
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*TRADOC . . . WHERE TOMORROW'S VICTORIES BEGIN*

## GENERAL WILLIAM W. HARTZOG
## COMMANDER TRADOC

# REPORT DOCUMENTATION PAGE

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# 1ST QUARTER, FY97, UPDATE
# TABLE OF CONTENTS

This is a pivotal time for the Army and the Training and Doctrine Command. Momentous changes in the strategic landscape, changes in our nation, and changes to our force structure present challenges and opportunities for all of us to accomplish the missions required of the U.S. Army. The business of TRADOC is to meet these challenges by identifying, developing, and fielding capabilities which are the right combinations of Doctrine, Training, Leader Development, Organizations, and Materiel to support our Soldiers. Following are some of the Army/TRADOC initiatives that will impact on the Army, our soldiers, and organizations in the not too distant future.

**GENERAL WILLIAM W. HARTZOG**
**COMMANDER**
**U.S. ARMY TRAINING AND DOCTRINE COMMAND**

# DOCTRINE

*The Army's doctrine lies at the heart of its professional competence. It is the authoritative guide to how Army forces fight wars and conduct operations other than war. Never static, always dynamic, the Army's doctrine is firmly rooted in the realities of current capabilities. At the same time, it reaches out with a measure of confidence to the future. Doctrine captures the lessons of past wars, reflects the nature of war and conflict in its own time, and anticipates the intellectual and technological developments that will bring victory now and in the future.*

**FM 100-5, Operations**: The latest version of 100-5 was published on the Army's 218th birthday, June 14, 1993. As the Army's keystone manual, it focuses on warfighting, yet it addresses the full range of conditions within which the Army will operate. TRADOC has developed and fielded an education package containing teaching points on new concepts as they pertain to illustrated historical examples used in FM 100-5. The education package contains a CD-ROM disk, 35mm slide presentation, and video tape. Contact or write Joint Visual Information Activity, Warehouse 3, Bay 3, Tobyhanna Army Depot, Tobyhanna, PA 18466-5102, DSN: 795-7937, COMM: (717) 894-7937, FAX DSN: 795-6106 for a copy of the education package. USACAC has begun revising FM 100-5, a late 1998 publication date is projected.

**FM 100-6 Information Operations**: As the Army's new capstone publication for Information Operations (IO), this manual supports the National Military Strategy (NMS) and explains the fundamentals of information operations for the Army. Information Operations doctrine reflects, and goes beyond, the joint military strategy of Command and Control Warfare (C2W), which implements Department of Defense (DOD) and Information Warfare policy. Information Operations identifies information as a major influence on operations at the tactical, operational, and strategic levels. It enables commanders to successfully integrate information, information systems, and their effects across the full range of military operations. Such integration enables and enhances the elements of combat power. Synergy is created which contributes to

increased lethality, survivability and tempo in combat as well as highly credible capable forces in operations other than war. Moreover, IO doctrine addresses the framework that will enable the commander to use all available information, protect the ability to sense, process, integrate, decide, act on, and manage that information, as well as, exploit and deny the adversary's ability to do the same. This manual facilitates the transition of the total U.S. Army to the Information Age. (Published Aug 96)

**FM 100-7, Decisive Force: The Army in Theater Operations:**
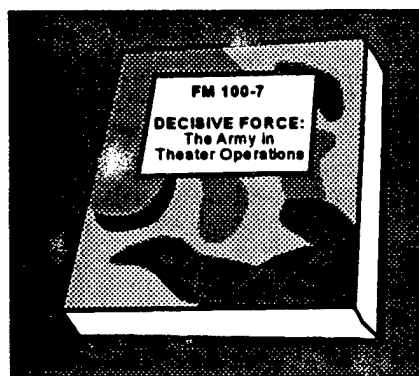


The Army's capstone manual for conducting operational-level activities linking tactical-level actions to theater objectives. This manual describes the requirement for the Army Service Component Commander (ASCC) to conduct the three strategic and operational-level roles: establish joint, combined, interagency, non-governmental agencies, and private voluntary organization linkages; conduct support operations; and conduct operations. Evaluation efforts are currently underway to determine the need to expand ASCC doctrine. If required options include revising FM 100-7 or creating a new publication. (Published May 95.)

**FM 100-8, The Army in Multinational Operations**: Will be the Army's capstone manual for conducting multinational operations. This manual addresses multinational command and leadership considerations, discusses factors affecting planning, describes possible coalition/alliance command structures, and functional considerations for the commander at the operational and tactical level. It includes host nation support and a

guide for coalition operations. (To be published 1st QTR FY 97.)

**FM 100-10, Combat Service Support (CSS):** This is the capstone CSS manual that depicts the Army CSS organizations and describes how they support commanders at all echelons by integrating supply, transportation, maintenance, health services, personnel support, and field services. It provides the basis for subordinate CSS doctrine, materiel, training, and organizational development. (Published Jul 95.)

**FM 100-12, Army Theater Missile Defense (TMD) Operations:** This manual will describe roles, responsibilities, requirements and functions for each of the operational elements of TMD. FM 100-12 is being developed in consonance with approved Joint Doctrine, specifically, JP 3-01.5, "Doctrine for Joint Theater Missile Defense" (30 March 1994). This manual is also integrating lessons learned and insights derived from Prairie Warrior 96 and the Theater Missile Defense Advanced Warfighting Experiments (AWE) conducted during Exercises Roving Sands 95 and 96. FM 100-12 will address the threat, active defense, passive defense, attack operations and C4I, the 4-pillars or elements of TMD, as recognized in JP 3-01.5. Emphasis will also be given to integration of Army TMD efforts throughout the theater, providing for a robust theater-level command and control structure. The Initial Draft of the manual was distributed to over 130 Army, Joint and operational field elements for review and comment during the Sept-Nov 95 time period. Comments received were reviewed and included, as appropriate in the coordinating Draft of FM 100-12, which was distributed for review and comment in March 1996. The ADA School requested and received approval from DCSDOC, TRADOC, to push back the publication date for the manual by 6-months, in order to ensure integration of TMD AWE 96 insights and lessons learned. (To be published 2nd Qtr FY 97.)

**FM 100-13, Battlefield Coordination Detachment (BCD):** This manual provides capstone doctrine for BCD operations and serves as the basis for the BCD's Table of Organization and Allowance. FM 100-13 describes the BCD's organization, mission and functions; discusses the BCD's interface with

the ARFOR Staff, the JFACC's Joint Air Operations Center (AOC), the Navy's Tactical Air Control Center (TACC) and the Marine's Tactical Air Command Center (TACC); and specifies the BCD's liaison, communications, and automation requirements. (Published Sep 96.)

**FM 100-15, Corps Operations:** The new FM 100-15 succinctly aligns Corps and Army-level doctrine. The central focus of the manual will be warfighting. The manual also addresses force projection operations and the structure of the battlefield and battle command of the corps. Finally, it delineates battlefield responsibilities in the joint environment, to include operations as a JTF/ARFOR headquarters. The manual has been approved for publication with an estimated delivery date of 17 Oct 96 to the field. (Approved for publication Oct 95).

**FM 100-16, Army Operational Support:** This manual addresses operational-level logistics and support functions - CONUS through theater-level. It specifically addresses the operational commander's vision of support; keys to operational support; theater organization and structure, operational-level CSS functions; operational-level support functions, force protection and rear operations. FM 100-16 also reflects the current Army focus on contingency operations and force projection. (Published May 95.)

**FM 100-17, Mobilization, Deployment, Redeployment, and Demobilization (MDRD):** FM 100-17 is a guide for Army commanders and planners involved in MDRD. It describes the process used to MDRD Army elements through the use of required assets (forces/units, manpower/individuals, facilities, and logistics). The manual also introduces the reception, staging, onward movement, and integration (RSO&I) process. FM 100-17 is currently under revision. FM 100-17 will serve as the overarching document for a series of FM 100-17 manuals; FM 100-17-1, Army Pre-positioned Afloat Operations; FM 100-17-2, Army Pre-positioned Ashore Operations; FM 100-17-3, RSO&I; FM 100-17-4, Deployment; and FM 100-17-5, Redeployment. Publication of FM 100-17 is postponed pending completion of the FM 100-17 series of manuals to ensure it contains the proper hooks and links.

Proponency for the manual has been transferred to CASCOM.

## FM 100-17-1, Army Pre-positioned Afloat (APA) Operations : In March 1993, it was determined the only way the military could increase its deployability was to expand its investment in three areas of the Army Strategic Mobility Program triad: sealift, airlift, and afloat pre-positioning. This manual establishes the doctrinal framework for one portion of that triad, Army War Reserve-3, APA. APA is the expanded reserve of equipment for an armor brigade, theater-opening CS/CSS units, port-opening capabilities, and sustainment stocks aboard forward deployed pre-positioned afloat ships. This manual describes APA operations to include missions, capabilities, command relationships, communications, and security. It discusses the organization, responsibilities, and command relationships ranging from the National Command Authorities, Joint Chiefs of Staff, Combatant Commander (CINC), to the Brigade Commander performing the APA mission. (Published Jul 96.)

## FM 100-18, Space Support To Army Operations: The Army's capstone manual on how to use space system capabilities to enhance mission accomplishment across the full range of military operations. It emphasizes enhancements offered by space systems in communications; reconnaissance, intelligence, surveillance, and target acquisition (RISTA); weather, terrain, and environmental monitoring, position and navigation; and missile warning. This manual provides a foundation for leader development, training, and space-related modernization initiatives that support the Force XXI Army's missions and provides soldiers with a decisive advantage worldwide. It is relevant from the highest levels of command to the soldier in the foxhole. (Published Jul 95.)

## FM 100-19, Domestic Support Operations: Describes the concept, interface, and process of providing Army assistance to U.S. civil authorities. It serves as a reference for service and professional military education and includes mandated and legislated require-ments. It includes considerations and principles for command and staff planning and execution. FM 100-19 incorporates lessons learned from numerous operations and

recognizes the requirements dictated by the National Military Strategy. Coordination with DA staff, TRADOC, MACOMs, CINCs, joint staff, and federal, state, and local governmen-tal agencies is being conducted to ensure harmonized actions. Finally, this manual emphasizes the linkages of interagency operations and missions. (Published Jul 93.)

## FM 100-20, Stability and Support Operations: This is a capstone manual that provides the basis for Army support to various national policy options in Stability and Support Operations. It provides leaders with a basic concept of, the political-military environments in which they are conducted, and the nature of national goals and objectives in these environments. It is the starting point for development of plans and orders. Previously published as *Military Operations in Low Intensity Conflict*, the final draft version of this manual is currently being staffed and can be viewed on the USACGSC Corp and Division Doctrine Directorate website. (To be published 1st QTR FY 97.)

## FM 100-23, Peace Operations:
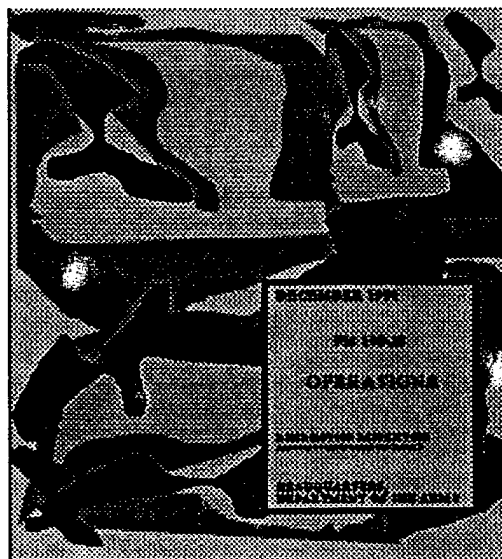


## FM 100-25, Army SOF Operations: This manual describes the operational capabilities and fundamental principles of the U.S. Army Special Operations Forces (ARSOF). It provides the authoritative basis for the subsequent development of special operations (SOF) doctrine, training, capabilities, and equipment. Its intent is to give commanders a

framework for the proper employment of SOF. (Initial Draft to be published 4th QTR FY 96)

Provides guidance to commanders for conducting the full range of missions in support of international peacekeeping and peace enforcement efforts. This manual addresses the special requirements of these operations, to include planning, force tailoring, command, control, coordination, liaison, logistics and intelligence. It also reviews the unique operational environment of peace operations, including United Nations and non-United Nations' operations, as well as the require- ments for operations in the interagency arena and with multinational forces and non- governmental organizations. It applies the principles and tenets of Army operations to peace operations and examines the variables of consent, use of force, and impartiality. (Published Dec 94.)

**FM 71-100, Division Operations**: This manual addresses tactical operations of the division in war. Focus is on division deploy- ments and war fighting. It applies the concepts addressed in the 1993 version of FM 100-5 to division operations. The new FM 71-100 has been integrated both vertically and horizontally with recently written field manuals such as FM 101-5, Staff Organization and Operations; and TTP manuals FM 71-100-1, Armor and Mechanized Division Operations, FM 71-100-2, Infantry Division Operations, FM 71-3, The Armored and Mechanized Brigade and FM 7-30, the Infantry Brigade. (Published Aug 96.)

**FM 71-3, Armored and Mechanized Infantry Brigade**: The U.S. Army Armor Center is proponent for this manual. They wrote it in concert with the U.S. Army Infantry Center and School. The latest version of FM 71-3 incorporates new Army doctrine reflected in the 1993 edition of FM 100-5. The manual includes doctrine and tactics, techniques and procedures for armored and mechanized brigades in conducting operations across the entire range of military operations. (Published Jan 96.)

**FM 71-2, Tank and Mechanized Infantry Battalion Task Force**: The U.S. Army Infantry School is lead for this manual; co-proponent is U.S. Army Armor Center. The revised FM 71-2 will incorporate new Army doctrine reflected in the 1993 version of FM 100-5. The focus of this manual will be warfighting. It will provide TTP for employment of force as it exists and will provide appendixes for digitization of the tank and mechanized infantry battalion task force. (To be published 4th QTR FY 97.)

**FM 71-1, Tank and Mechanized Company Team**: The U.S. Army Armor Center is lead for this manual; co-proponent is the U.S. Army Infantry School. Revised FM 71-1 will provide tactics, techniques and procedures for the M1A2 and Bradley company/team. It will refine mission profiles and provide TTP for heavy/light link-up and operations with task force scout platoons. (To be published 3rd QTR FY 97.)

**Army Universal Task List (AUTL)**: The Army Universal Task List (AUTL), formerly the Blueprint of the Battlefield (BOB), is a comprehensive, hierarchical listing of strategic, operational, and tactical level of war functions. The AUTL will serve as the Army's tactical level tasks of the Universal Joint Task List. The pamphlet applies to the Active Army, the U.S. Army Reserve, and the National Guard by providing a standard set of functions, their definitions, and reference codes to identify what the Army does on or in the support of the battlefield at each of the three levels of war. The AUTL will undergo a final DA staffing prior to publication as a DA Pamphlet. (To be published 1st QTR FY 97.)

**TR Reg 25-32, TRADOC Doctrinal Literature Program (TDLP)**: This manual establishes policy and assigns responsibility for writing, coordinating, integrating, reviewing, and approving doctrinal literature. It applies to TRADOC and non-TRADOC preparing agencies responsible for doctrine development and production. It provides a common framework from which doctrine writers Army- wide are able to work together toward translating concepts and establishing consensus on the "body of thought" that is doctrine. CAC, CASCOM, and TRADOC have formed a working group to address key doctrinal policy issues. The working group will initiate the policy review at a doctrine conference hosted by CAC 1st QTR FY 97. (To be published 2nd QTR FY 97.) (POC Army Doctrine: LTC Cutler, DSN: 680-3080 e- mail cutlerg@emh10.monroe.army.mil)

## JOINT DOCTRINE

The major publication efforts under way in JDD at this time are JP 3-56, Command and Control Doctrine and Procedures for Joint Operations; JP 3-09, Doctrine for Joint Fire Support; JP 5-00.1, Joint Tactics, Techniques and Procedures for Joint Campaign Planning.

The Joint Doctrine Working Group meeting of 18-19 Jan 96 directed a complete rewrite of JP 3-56 and revisions to the 3rd Draft of JP 3-09. The Joint Doctrine Directorate (JDD) will develop the first draft of the new JP 3-56 by focusing on the desires of the warfighting CINCs. JP 3-09 is poised for closure in the next several months. JP 5-00.1 had a productive Joint Doctrine Working Group effort in late January, and was provided as a proposed final draft to the DA staff in May.

The Joint Doctrine Directorate is guided, in all that it does, by the CJCS' statement that the CINCs' warfighting requirements = Joint warfighting doctrine. We attempt to advocate jointness in all of our work.

The Joint Doctrine Directorate's primary task is authorship of 25 joint publications. Since December 1995, JDD has implemented several initiatives to markedly enhance its ability to perform that mission. These are the JDD Quarterly Project Update Program, Liaison Program, and Officer Professional Development Program.

The Joint Doctrine Director is COL Michael L. Smith. He can be reached at DSN 680-3153/3951 or e-mail: smithm@emh10.monroe.army.mil Your comments are truly welcome.

### Publications Update

**JP 3-0, Doctrine for Joint Operations:** TRADOC has written 12 joint publications that the joint staff has approved and published. The most significant of those is JP 3-0. It is the joint equivalent of FM 100-5 Operations and affects most other important pubs in the joint system. (Published Sep 1993). (POC COL Smith DSN 680-3153 e-mail: smithm@emh10.monroe.army.mil)

**JP 3-06, Doctrine for Joint Riverine Operations:** Provides the doctrinal basis for organization, training, operational employment and sustainment of joint riverine forces. The publication was introduced at the SouthCom-sponsored Distinguished Visitors Seminar as part of the Fuerzas Unidas Counterdrug (Riverine), 24-27 Sep 96. (Proposed Publication released May 1994) Comments solicited from conference attendees. (POC LTC Duffy DSN 680-4134 e-mail: duffym@emh10.monroe.army.mil)

**JP 3-07, Joint Doctrine for Military Operations Other Than War:** Expands the discussions in JP 3-0 of the principles and considerations associated with joint operations below the level of large scale, sustained combat operations. The publication describes many of the operations and provides examples of the principles of MOOTW in action. (Published and distributed 16 June 1995) (POC Mr. Rinaldo DSN 680-2965 e-mail: rinaldor@emh10.monroe.army.mil)

**JP 3-07.3, JTTP for Peace Operations:** Expands the work done in the previously approved JP 3-07.3, JTTP for Peacekeeping Operations, in order to include Peace Enforcement. First draft was distributed in April 1996 and the proposed final draft was submitted to the Department of the Army September 30, 1996. POC Mr. Rinaldo DSN 680-2965 e-mail: rinaldor@emh10.monroe.army.mil)

**JP 3-07.4, Joint Counterdrug Operations:** Provides the doctrinal basis for organizing, conducting, and sustaining joint counterdrug operations. The publication was introduced at the SouthCom-sponsored Distinguished Visitors Seminar as part of the Fuerzas Unidas Counterdrug (Riverine), 24-27 Sep 96. (Publication released 9 August 1994) Comments solicited from conference attendees. (POC LTC Duffy DSN 680-4134 e-mail: duffym@emh10.monroe.army.mil)

**JP 3-07.6 JTTP for Foreign Humanitarian Assistance:** Provides tactics, techniques, and procedures to be used by joint forces in conducting foreign humanitarian assistance operations. Describes interface and coordination required between the joint task force and other governmental agencies (OGA), non-

governmental organizations (NGOs), private voluntary organizations (PVOs) and international organizations (IO) likely to be operating in such areas. The proposed final draft was forwarded to the Joint Staff on 26 June 96. Publication is scheduled for 1st Qtr, FY97. (POC LTC Wallace DSN 680-3892 e-mail: wallaces@emh10.monroe.army.mil)

**JP 3-07.7 JTTP for Domestic Support Operations**: Provides procedures to be used by joint forces in conducting support within the continental US, Alaska and Hawaii, and US territories and possessions. Applies to major categories of Military Support to Civil Authorities (MSCA)and Military Support to Law Enforcement Agencies (MSLEA). The second draft was distributed for coordination on 5 June 1996. Publication is scheduled for 2nd Qtr, FY97. (POC Mr. Rinaldo DSN 680-2965 e-mail: rinaldor@emh10.monroe.army.mil)

**JP 3-09, Doctrine for Joint Fire Support**: Clarifies relationships and responsibilities for those fires that assist land and amphibious forces to maneuver and control territory, populations, and key waters. Included are discussions on issues such as FSCL, Joint Targeting Coordination Board (JTCB), and relationships between air, land, and sea components. JP 3-09 supports a series of pubs such as **JP 3-09.1, Joint Laser Designation Procedures, JP 3-09.2, JTTP for Radar Beacon Operations** and **JP 3-09.3, JTTP for Joint CAS**. The publication has been delivered to the Joint Staff and is awaiting approval. (POC LTC Floyd 680-2778 e-mail: floydw1@emh10.monroe.army.mil)

**JP 3-09.1, Joint Laser Designation Procedures**: This publication provides planners and users with information on laser designators, acquisition devices, and laser-guided munitions. It describes laser planning and coordination procedures and laser system capabilities and definitions. The publication also provides guidance regarding safety considerations, general information on laser codes, and reference information. JP 3-09.1 is currently undergoing an accelerated revision and the second draft is scheduled to be distributed for world-wide coordination during the 1st Qtr, FY 97. (POC LTC Floyd DSN 680-4134 e-mail: floydw1@emh10.monroe.army.mil)

**JP 3-13, Joint Doctrine for Information Warfare**: This publication will provide the overarching doctrinal guidance for Information Warfare in joint operations. It will provide a common conceptual framework for offensive and defensive activities, and use of information in military operations. This publication is currently under development by the J38. Publication is scheduled for 4th Qtr, FY 97. (POC LTC Mike Quinn DSN 680-2298 e-mail: quinnm@emh10.monroe.army.mil)

**JP 3-15, Joint Doctrine for Barriers, Obstacles, and Mine Warfare**: Provides barrier, obstacle, and mine warfare guidelines for the planning and execution of theater strategy, campaigns and joint operations during peacetime or combat operations. Describes command and control, employment and countering enemy employment. Current Pub is under revision. Preliminary coordinating draft staffing has been completed. Final coordinating draft is due 1st Qtr 97. (POC MAJ Finnegan DSN 680-2888 e-mail: finnegas@emh10.monroe.army.mil)

**JP 3-18, Joint Doctrine for Forcible Entry Operations**: Provides guidance concerning joint forcible entry operations. This publication addresses forcible entry principles associated with Command and Control, planning, execution, and support, as well as the interface between airborne, special operations forces, and naval expeditionary forces (amphibious forces). A revision of the proposed final pub (based upon Joint Staff comments) is being done by ALSA. The completed revision was submitted to the Department of the Army in July, 1996. (POC LTC Wallace DSN 680-3892 e-mail: wallaces@emh10.monroe.army.mil)

**JP 3-18.1, Joint Airborne and Air Assault Operations**: Provides guidance on employment of airborne and air assault forces. This publication integrates existing Service doctrine into a single source publication that addresses principles of Command and Control, planning, execution, and support requirements involving airborne and air assault operations. Preliminary coordination comments were forwarded to the Department of the Army 19 June 96. JDD conducting a review of CINC, Joint Staff and Service inputs, due to ODCS (DAMO-FDQ) 15 Oct 96. (POC LTC Duffy DSN 680-4134 e-mail: duffym@emh10.monroe.army.mil)

**JP 3-56, Command and Control Doctrine and Procedures for Joint Operations**: This revision will provide overarching guidance on joint force command and control principles and applicable procedures and techniques derived from the principles. This will include information management processes, systems support, and organizational principles. This pub was assigned to HQ TRADOC for re-write on 26 Jan 96. The draft has been developed through a process of literature research, interviews with senior joint staff officers (flag level) and collaboration with an expert writing team from the Armed Forces Staff College. a draft will be distributed for review during the first week in October. A workshop will be conducted at Ft. Monroe on 24 October 1996 to review issues and comments and finalize the draft. Owing to its relative importance as key joint doctrine, a decision brief will be conducted at the Joint Doctrine Working Party on 23 Oct. 96 recommending elevation of the pub to keystone doctrine in the hierarchy of joint pubs. (POC LTC Gregory DSN 680-3454 e-mail: gregoryr@emh10.monroe.army.mil)

**JP 4-07, Joint Tactics, Techniques, and Procedures for Common User Logistics During Joint Operations**. This joint publication will standardize guidance across logistics functional areas and provide a single source publication for conducting common user logistics operations within a theater and a joint task force. The program directive for this publication is currently undergoing final staffing. Publication is scheduled for 2nd Qtr, FY98. (POC LTC Quinn DSN 680-2298 e-mail: quinnm@emh10.monroe.army.mil)

**JP 4-01.8, Joint Tactics, Techniques, and Procedures for Joint Reception, Staging, Onward Movement, and Integration**: The Joint Doctrine Working Party held 16-17 April 1996 at the Joint Warfighting Center recommended the Army be designated as the lead agent for developing this publication. The pub will provide guidance and outline procedures for the reception, staging, onward movement and integration of forces during joint operations. The program directive was approved in late June 96. Publication is scheduled for 1st Qtr, FY 98. (POC LTC Mike Quinn DSN 680-2298 e-mail: quinnm@emh10.monroe.army.mil)

**JP 4-06, Joint Tactics, Techniques, and Procedures for Mortuary Affairs in Joint Operations**. This publication establishes joint doctrine and provides joint tactics, techniques, and procedures (JTTP) for mortuary affairs in joint operations to a joint force commander (JFC) and staff. It outlines procedures for the search, recovery, evacuation (to include tracking of remains), tentative identification, processing, and/or temporary interment of remains in theaters of operations. JP 4-06 was released for world-wide staffing 1 Mar 96, as a Proposed Pub, for final coordination. Publication is scheduled for 4th Qtr, FY96. (POC LTC Quinn DSN 680-2298 e-mail: quinnm@emh10.monroe.army.mil)

**JP 5-00.1, Joint Tactics, Techniques, and Procedures for Campaign Planning**: Provides guidelines for the planning of theater and subordinate campaigns. Expands on guidance currently found in JP 3-0, Doctrine for Joint Operations, JP 5-0, Doctrine for Planning Joint Operations, and JP 3-56, Command and Control Doctrine and Procedures for Joint Operations. Discusses considerations for the application of operational art, elements of design and the integration of strategic and operational functions. Held joint working group (23-24 Jan 96) to review comments received from the worldwide review of the second draft of JP 5-00.1. Final Pub turned over to DA Lead Agent (DAMO-FDQ) in April 96. Publication scheduled for 1st Qtr, FY 97. (POC LTC Duffy DSN 680-4134 e-mail: duffym@emh10.monroe.army.mil)

**The Joint Doctrine Directorate Liaison Program**

The JDD Liaison Program was created to enhance information exchange with agencies interested in joint doctrine-especially the staffs of the warfighting CINCs. The JDD has formalized liaison activities with the following organizations:

- US Atlantic Command
- US Central Command
- US European Command
- US Pacific Command
- US Space Command
- US Strategic Command
- US Transportation Command
- US Forces Korea

- Joint Warfighting Center
- Air Force Doctrine Center
- Naval Doctrine Command
- Marine Corps Combat Development Command
- Air Land Sea Application Center
- US Coast Guard Doctrine Team
- Joint Special Operations Forces Institute
- Joint Targeting School
- Battle Command and Training Program-Operations Group Delta
- MCCDC/MAGTF Staff Training Program
- Mobility Concepts Agency
- CGSC, Fort Leavenworth KS
- Several TRADOC Directorates

(POC LTC Wallace DSN 680-3892 e-mail: wallaces@emh10.monroe.army.mil)

## The Joint Doctrine Directorate Officer Professional Development (OPD) Program

JDD sponsors and conducts a monthly OPD Program. Since the program started in February 96 there have been 17 classes presented to personnel within the Tidewater Area. The presentations focus on current issues affecting the entire joint community and are expertly presented by instructors from USACOM J-721. All interested personnel are invited to attend. Upcoming presentations include: "Joint Logistics" (4 Oct 96), Joint Air Defense/Airspace Control (1 Nov 96), and Joint Medical (15 Nov 96). POC LTC Wallace DSN 680-2778 e-mail: wal-laces@emh10.monroe.army.mil)

## The Joint Doctrine Directorate Quarterly Project Update Program

JDD's Quarterly Project Update Conferences are conducted to update the Tidewater joint doctrine community, Allied Liaison Officers, and Defense Contractors on projects that are being worked by JDD. They also seek to provide a forum for discussion of key doctrinal issues. Col Jack Colley, Director, Joint Doctrine Directorate, J7, Joint Staff, provided a highly informative and timely briefing on the Chairman's doctrine dissemination program at the most recent conference (19 Aug 96). Approximately 75 personnel attended from across the Tidewater joint doctrine community. Our next Quarterly Project Update Conference will be held on Friday, 15 November 1996,

0900-1100 hrs at the Fort Monroe Club, Fort Monroe, Virginia. (POC LTC Gregory DSN 680-3454 e-mail: grego-ryr@emh10.monroe.army.mil)

## Articles for Publication:

Being submitted for inclusion in Joint Force Quarterly's Winter 96 edition:
- Standing JTF HQ
- Joint Doctrine Development Process
- The Case for a Joint TRADOC
- Command and Control Procedures for Joint Forces
- Joint Forces in Peace Operations

(POC COL Smith, JDD Director)

## Joint Warfighters (JWF) Joint Test and Evaluation (JT&E) Joint Feasibility Study (JFS)

In January 1995, the Army nominated "Joint Warfighters" as an OSD sponsored Joint Test and Evaluation Program. OSD chartered JWF as a JFS in June 1995 with the Army as the lead Service. The focus of JWF was on operational level fire support in support of a joint task force. Recommendations to training, organization, material, and C4I systems as well as possible recommendations to doctrine and TTPs may all be outcomes of the JT&E. When chartered, JWF will be conducted over a three year period. On 9 July 96, TRADOC provided a JWF briefing to the OSD Senior Advisory Council (SAC). During this briefing, the SAC decided to extend the feasibility study for at least six additional months. The SAC allocated the additional time for JWF to implement refinements to the program. (POC LTC Floyd DSN 680-2778 e-mail: floydw@emh10.monroe.army.mil)

## FUTURE DOCTRINE

The Army After Next initiative continued during 1st Quarter, FY97. The purpose of this initiative is to create a methodology and organization within DCSDOC to perform the function of supporting the Commanding General, TRADOC with his mission to identify, develop, and articulate a long range/future vision for the Army. The intent is to provide the CG, TRADOC a staff vehicle for addressing issues dealing with the development of a force capable of meeting the

full range of Army missions likely to be required in the world of 2020 and beyond. This force, labeled the Army After Next (AAN), is expected to be significantly different, both in form and function, than its predecessor, Army XXI. Determining what will change and how best to manage that change for the Army will be one of the primary concerns of this initiative. As the systems of Army XXI start to reach a point of obsolescence around 2015, an opportunity may exist to field a significantly different kind of Army.

On 6 May 96, GEN Reimer, Chief of Staff, was briefed on the AAN initiative and explicitly approved the program, which was then announced by message to the Army. The program will be anchored by two major events each year. The first is a paper provided to the Chief of Staff each June providing a comprehensive statement on the future looking out about 25 - 30 years (briefed and released in June 1996); the second is a major wargame each winter focused on examining strategic and operational issues that could effect the future Army. Out of this process, issues and concepts will be identified for further development.

The focus of activity for this quarter has been to preparations for the first AAN Winter Wargame to be conducted 27 January - 7 February 1997. An initial set of Wargame Workshops were conducted 25-26 June 96 to organize elements that will be involved in building the forces and issues for the wargame. From those initial Workshops there have been several off sites, conferences, and IPRs that have lead to the following time lines. For the Tactical Wargame portion at Fort Leavenworth: IPR: 1-3 October 96; Rehearsal: 21 - 25 October 96; and the Wargame: 4 - 8 November 96. For the Winter Wargame at Carlisle: IPR: 17 October and (TDB) November 96, Rehearsal: 9 - 13 December 96, and the Winter Wargame: 27 January - 4 February 97. (POC Future Doctrine: COL Starry, DSN 680-4126/PROFS-STARRYM or e-mail starrym@monroe.emh10.army.mil)

## INTERNATIONAL ARMY PROGRAMS

In support of the National Military Strategy and to enhance the U.S. capability for multinational force compatibility, TRADOC remains extensively involved in international activities with allied and friendly armies. Involvement includes bilateral staff talks and conferences with 10 armies, participation in approximately 40 multinational working parties, and Subject Matter Expert Exchanges (SMEE) with the armies of Japan, Latin American countries, and European nations. During the 1st quarter, FY97, TRADOC will hold Steering Committee meetings with Germany and France. Staff Talks will be conducted with the Republic of Korea and Japan. Several Subject Matter Expert Exchanges are scheduled, as well as activities in support of EUCOM's Joint Contact Team Program (JCTP) with Eastern and Central Europe and Joint Staff's program of mil-mil contacts with the Former Soviet Union. Visits by foreign military dignitaries will be hosted. (POC International Army Programs: COL Davis, DSN 680-2741, PROFS DAVISD or e-mail DAVISD@monroe.emh1.army.mil)

## INTELLIGENCE

**Opposing Forces (OPFOR) Surrogate Vehicle (OSV) M113/BMP-2**



TRADOC instituted the OSV program to fill the need for realistic OPFOR vehicles to replace

the M551 vehicles in use at the Combat Training Centers (CTCs). The OSV will represent the Soviet manufactured BMP-2 Armored Infantry Combat Vehicle (AICV) and consist of a M113A3 modified with welded durable forms and detachable visual modifications (VISMODS) to approximate the overall length, shape and firepower of the actual BMP-2. As a bonus, the M113 based OSV carries dismounted infantry (a capability missing in the M551) and its turret is built around M2 Bradley subassemblies, providing continued MOS related training for OPFOR soldiers. Implementation of the OSV BMP-2 into the CTCs will continue to provide a credible opponent capable of challenging US Army Forces.

**FM 100-60 through 67, Opposing Forces (OPFOR):** TRADOC Pam 350-12 through 17, Heavy/Light Opposing Force (OPFOR) Handbooks are under revision for publication as FM 100-60 through 67. TRADOC fielded the 350 series pamphlets for interim implementation until publication of the FMs.

**FM 100-60, Heavy Opposing Force Organization Guide:** Breaks from past tradition of focusing on one country and provides a flexible capabilities-based heavy opposing force model that represents various countries. It is not a fixed order of battle, but it provides the building blocks to derive a heavy force order of battle. It is fully adaptive to the training needs of the force projection Army. (To be published 4QTR FY96.)

**FM 100-61, Heavy Opposing Force Operational Art:** Provides an operational overview of the heavy capabilities-based opposing force. It contains military thought, strategic operations, offensive and defensive operations, troop control, reconnaissance, artillery, NBC and Smoke, air defense, engineer, logistics, airborne and special purpose forces. (To be published 2QTR FY97.)

**FM 100-62, Heavy Opposing Force Tactics:** Provides a tactical overview of the heavy capabilities-based opposing force. It contains combat formations, troop control, march, reconnaissance, offensive and defense tactics, fire support (artillery, antitank, air and air defense) NBC and Smoke, engineer, logistics,

and radio electronic combat (To be published 4QTR FY97.)

**FM 100-63, Light Opposing Force Organization Guide:** Breaks from past tradition of focusing on one country and provides a flexible capabilities-based light opposing force that represents various countries. It is not a fixed order of battle, but it provides the building blocks to derive a light forces order of battle. It is fully adaptive to the training needs of the force projection Army. (Published April 96.)

**FM 100-64, Light Opposing Force Operations and Tactics:** Provides an operational overview and the tactics of the light capabilities based opposing force. It contains military thought, organization for combat, combat operations, airborne and air assault operations, naval operations and amphibious landings, partisan operations, logistics, engineer, and rear area operations (To be published 2QTR FY97.)

**FM 100-65, Opposing Force Equipment Guide:** Provides a description and the capabilities of various types of military and related equipment available on the world arms market (To be published 4QTR FY98.)

**FM 100-66, OPFOR in Operations Other than War:** Provides a broad range of conventional and unconventional military threats the Army may face in a peacetime operation environment. It will allow the user to select a specific level of opposing force or tactical environment to meet the training needs of the force. It will not address disaster relief operations, where an opposing force is not present. The manual will describe non-mechanized small unit operations (battalions and below) and continue to the lowest level of the military spectrum; guerrilla forces (To be published 4QTR FY97.) (POC - Opposing Forces Directorate, LTC Jeff Dunham, DSN 680-5419, e-mail DUNHAMJ@monroe-emh10.army.mil) (POC - Threat Support Directorate, Mr Nick Comer, DSN 552-7937, PROFS COMERN LEA1 or E-mail COMERN@leavenworth-emh1.army.mil)

# TRAINING

*Our challenge is to maintain the essence of our education and training system, the Army University, not the pieces. This means a quality school system, but not necessarily at the current locations. Our training strategy must utilize the best combination of live, virtual and constructive simulations and simulators. This strategy must unite the many ongoing efforts into a clear, coherent vision to produce trained and ready units in the environment of the next century. Some of our efforts in that direction follow.*



## ARMY TRAINING XXI Programs and Initiatives:

**Force of Tomorrow:** The U.S. Army designs the 21st Century (Force XXI) beginning now to achieve related fielding and support decisions by the year 2000 in order to fully field the total Army force that is capable of meeting our Nation's 21st Century challenges. Force XXI will be built in a series of iterations guided by decisions made at successive quarterly DoD/Force XXI AAR meetings. The campaign includes three axes: Joint Venture (main axis); TDA/Institutional Army (supporting axis); and the Army Digitization Office (supporting axis). Using Joint Venture (JV), the Army is executing a series of Advanced Warfighting Experiments (AWE) and Advanced Warfighting Demonstrations (AWD) to define the force of tomorrow: Force XXI. The strategic objective is to transform the force from an Industrial Age Army to a knowledge and capabilities based, power projection Army (Force XXI), capable of

land force dominance across the continuum of 21st Century military operation, by redesigning the fighting forces and leveraging information technology to better support combat and sustainment base functions. As the Army creates Force XXI, we must concurrently develop the means and methods to train and sustain the force. To achieve the maximum potential of Force XXI, the Army must use a spiral development process allowing early decisions based on projected requirements and emerging concepts. By using the spiral development process, the Army can leverage technological improvements to continually integrate changes as tomorrow's force is developed. (POC - COL Marlin, DSN 552-4498/3919/e-mail: marlind@leav-emh1.army.mil)

**Army Training XXI (AT XXI):** TRADOC developed the AT XXI concept to ensure that training is included in every phase of Force XXI development. AT XXI integrates all the numerous on-going initiatives and future developmental efforts to produce a coherent, integrated training system and strategy for Force XXI. In June 1995, the Army Deputy Chief of Staff for Operations (DCSOPS) formally acknowledged AT XXI as the training component of the JV axis of the Army Campaign Plan to develop Force XXI. TRADOC's AT XXI concept incorporates three strategic plans in the development of the JV training component: Warfighter XXI (WF XXI), Warrior XXI (W XXI) and Warfighter Network (WARNET).

The WF XXI Campaign Plan (CP) is the main attack for AT XXI and focuses on the unit training pillar. The WF XXI CP provides a strategic vision and an integrated plan for how the future Army will train battle staff and collective tasks.

The W XXI CP focuses on the development of the institutional and self-development pillars of training. The W XXI CP provides a strategic vision and an integrated plan for the development of the Total Army School System (TASS) to meet the institutional and self development training needs of Force XXI.

WARNET XXI provides the linkage of training acquisition, new equipment training, and digitization of training support products. WARNET XXI integrates training support needs

into system/hardware materiel requirements to ensure a complete training subsystem is fielded. WARNET XXI develops and provides new equipment training packages for proponent use in developing institutional training programs and exportable training products for units; and ensures that contractor developed training products are digitized in accordance with Army standards and integrated into the force. (POC LTC Rhodd, DSN 552-7810/e-mail: rhoddr@leav-emh1.army.mil)

**AT XXI Conference:** The AT XXI Conference was conducted 26 Feb - 1 Mar 96 at Hampton, VA. The purpose of the AT XXI Conference was to synchronize the resourcing, execution, and deliverables for Army training initiatives - WF XXI, W XXI, and WN XXI. ODSOPS message designated WF XXI as the training axis for the Force XXI Joint Venture axis. Two WF XXI conferences have been executed to date. The purpose of the WF XXI conferences was two-fold: to inform the Army at large of training initiatives to train the Army of the 21st Century and to institutionalize evolutionary change in how the Army will train as technology is leveraged to conduct mission oriented training within constraints of declining resources. (POC LTC Rhodd, DSN 552-7810/e-mail: rhoddr@leav-emh1.army.mil)

WARFIGHTER XXI  Programs and Initiatives:

**WF XXI COMPONENTS:** The five components of the WF XXI campaign plan are: the Standard Army Training System (SATS); Training Support Packages (TSP); Training Aids Devices, Simulations, and Simulators (TADSS); the Standard Army After Action Review System (STAARS); and the Army Training Digital Library (ATDL). SATS (under development by the Army Training Support Center) provides an automated training management system designed to enhance the planning, resourcing, execution and assessment of battle-focused training for the unit and unit commander. Training Support Packages (TSPs) are a task based information package that provide structured situational training scenarios for live, virtual, and/or constructive training environments, and assist the commander in conducting and assessing training. TSPs (brigade and battalion) are under development.  Warfighter TSPs will be

produced in ASAT and electronically connected to SATS through the ATDL. TADSS provides integrated, effective tools for the unit and institutional commander to efficiently conduct training. The STAARS provides a standardized, automated storage and distribution system giving the unit and institutional commander a training assessment and resource tool and the Army a doctrinal based information collection system. The ATDL (under development by the Army Training Support Center) stores the data and provides unit and institutional commanders access to data from many information sources necessary to plan, resource, execute, and assess training. (POC - COL Marlin, DSN 552-4498/3919/e-mai:Marlind@leav.emh1.army.mil)

**Standard Army Training System (SATS):** SATS is a computer-based software system that automates training management doctrine found in Field Manual (FM) 25-100, *Training the Force*, FM 25-101, *Battle Focused Training*, and FM 100-5, *Operations*. It provides for the opportunity to incorporate training plans and products, readiness reporting tools, calendars (3 dimensional), and schedules. It allows development and display of all unit activities at all echelons and, through the related databases, associated resources may be computed. SATS accesses and feeds all Army Training Digital Library (ATDL) components as well as other Warfighter XXI (WF XII) components. Using Microsoft Windows SATS version 4.0 serves as the keystone Army effort to bring training management into the twenty-first century. The system combines training doctrine with automation technologies to help trainers develop and manage their training programs. Future SATS (version 4.x) will provide enhancement to better support the needs of both Active and Reserve Component units with a wide array of training management features. SATS 4.x will be local area network (LAN) and wide area network (WAN) capable and support additional WF XXI components. (POC - Mr. Joe Dugan, DSN 927-4166, e-mail DUGANJ@eustis-emh20.army.mil)

**Training Support Packages (TSP):** TSP is a structured situational training template offering live virtual, or constructive battle staff and collective training events and assists the commander in executing and assessing training. TSPs (WF) provide task based

products (orders, overlays, execution matrices, etc) to plan, prepare and execute battle command/staff (individual through collective) and unit (collective) training.

The Force XXI Training Program (FXXI TP) at Fort Knox is the lead effort for WFXXI TSP development. FXXITP is focused on the mounted brigade and represents a prototype strategy for transitioning the Army from the way it trains today to how it will fight in the future. The FXXITP describes which tasks are to be trained to a given standard using prescribed live, virtual, and constructive simulations. Fort Knox has pioneered development of structured individual and small group staff training in the form of tables, and exercises based on detailed tasks, conditions, and standards (TCS).

Currently the Combined Arms Center (CAC) is in the early developmental stages of a structured division level staff training program called the Simulations based Division Army Trainer (SIMDART). SIMDART will provide the division commander a staff training vehicle for individual, staff group, and battle staff collective training. (POC - Major Lopez, DSN 552-3919/ e-mail Lopez1@leav.emh1.army .mil)

**Deployable Range Package (DRP):** This program is designed to provide deployed U.S. Forces with live fire and force-on-force training capabilities in the theater of operations. The training concept is to develop a light and heavy DRP to support brigade size elements. These will be configured to meet the commander's training needs and will include MILES, target lifting devices, targets and controlling weapons sustainment and live fire maneuver training. The heavy DRP will support all small arms qualification and sustainment training. The original concept was tested successfully during Operation Restore Democracy in Haiti and expanded to support exercise Intrinsic Action in Southwest Asia. Intrinsic Action included force-on-force company-level training and platoon/company live fire. The current training support concept includes individual and leader training using a mixture of live/constructive/virtual TADSS and video teletraining (VTT). This concept is being used to support training for units involved in Operation Joint Endeavor. Ranges have been established in Hungary, and additional range

requirements in Croatia and Bosnia are under consideration. VTT capabilities are planned for Hungary, as well as Macedonia. (POC - Mr. Goodman, DSN 927-2320, e-mail GOOD-MANW@eustis-emh20.army.mil)

**Multiple Integrated Laser Engagement System (MILES) 2000:** The proponent for this acquisition program managed by the Simulation, Training, and Instrumentation Command is the Combat Training Support Directorate (CTSD) of the Army Training Support Center (ATSC). The purpose of the program is to replace the ground direct fire basic MILES systems currently in the field at homestation. MILES devices shoot eye-safe "laser bullets" to simulate actual weapons systems and range from the M-16 rifle up to and including the M1A2 tank.
   - MILES 2000 devices will incorporate a number of enhanced capabilities over those found in the current system, among them.
   - Each player, to include manworn infantry systems, will transmit Player Identification (PID).
   - Vehicle systems will be subject to multiple levels of kills, (i.e. catastrophic, firepower, mobility, and communications).
   - Combat vehicles will be subject to aspect-angle dependent kills.
   - All players will have the capability to store 500 time-tagged events for downloading and after action review purposes.
   - All systems will incorporate improved manufacturing and power management techniques which promise to reduce support costs. (POC - Mr. Lembke DSN 927-4713/ e-mail Lemker@eustis-emh20.army.mil)

**Simulated Area Weapons Effects/ Multiple Integrated Laser Engagement System II (SAWE/MILES II):** The proponent for this acquisition program managed by the Simulation, Training. and Instrumentation Command  (STRICOM) is the Combat Training Support Directorate (CTSD) of the Army Training Support Center  (ATSC). The purpose of the program is to integrate the dire fire MILES force-on-force training capability with area weapon effects:  indirect fire (artillery mortars, and naval gunfire), mines, and chemical and nuclear munitions. SAWE/MILES II devices will incorporate a number of enhanced capabilities over those found in the current MILES system, among them:

- SAWE/MILES II incorporates Global Positioning System (GPS) to provide individual player (Vehicle Detection Devices and Manworn Detection Devices) determined position which is used to assess area weapons effects.

- Vehicle Detection Devices and Manworn Detection Devices provide connectivity to Combat Training Center-Instrumentation System (CTS-IS).

- Each vehicle transmits Player Identification (PID).

- Each vehicle console has a built in test capability and provides the crew synthesized voice cues.

- Vehicle systems will be subject to multiple levels of kills, (i.e. catastrophic, firepower, mobility, and communications).

- Combat vehicles will be subject to aspect-angle dependent kills.

- Vehicles will have audiovisual cues to simulate engagement by area weapons.

- Programmable time of flight for TOW missiles.

- Manworn Detection Device has a M40 protective mask compatible interface to enforce chemical assessments based upon proper mask utilization.

- All players will have the capability to store 500 time-tagged events for future downloading and after action review purposes.

- Mine Effects Simulators simulate antitank and antipersonnel mines.

- A Chemical Agent Alarm Simulator is provided.

- Mission Control Station provides a central user and fire mission interface, enabling both red and blue force play. (POC - Mr. Adkins DSN 927-4631/ e-mail Adkinsd@eustis-emh20.army.mil)

**Standard Army After Action Review System (STAARS):** STAARS standardizes all current and future After Action Review systems to provide trainers, training developers, combat developers with Doctrine, Training, Leader Development, Organizational Design, Material, and Soldier Systems (DTLOMS) base information and feedback on performance of systems, students, and units. It provides the training resource manager with usage rates and operating costs of all training resources. In the future, STAARS supports the data collection requirements of the force and material development communities. The data from STAARS must be standardized,

irrespective of the environment in which the exercise was conducted (live, virtual, constructive), and provide assessment of the unit's training proficiency, unit readiness, lessons learned, and resource management. future STAARS uses DSI as the Army's information highway to feed information to ATDL. (POC - Major Carpenter, DSN 552-3919/ e-mail Carpentm@leav.emh1.army.mil)

**Army Training Digital Library (ATDL):** ATDL is the information foundation and the single, common component between Warfighter XXI, Warrior, XXI and Warnet XXI training campaign plans in support of the Army Training XXI training strategy. When implemented, the ATDL will provide a globally accessible digital repository of training knowledge sets and interactive applications to support training of individuals and units.

ATSC is developing ATDL to provide normal library functions, maintain a library information catalog, produce statistical and management information, provide a help desk and transmission of requested training information. Objectives include gathering and consolidating Army training information, and to implement smart training technology that will fully support the needs of training developers, trainers, soldiers, and units. These objectives will be met through a broad range of initiatives that include communications, data digitization and collection, establishing file protocols, implementing a distributed architecture of standardized and integrated information. Development of the ATDL and its integration with other Army information systems will be a continuing process. The ATDL system is being designed with enough flexibility so that the Army can make use of future technologies.

The ATDL action plan, laying out developmental milestones, is being updated and will be included within the Functional Description. A Mission Needs Statement (MNS) has been completed and submitted to HQ TRADOC for coordination. Coordination of the MNS is pending briefing to the HQ TRADOC Information Management Support Council (IMSC). (POC - Mr. Baston, DSN 927-4767/e-mail: bastond@eustis-emh20.army.mil)

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A Mission Needs Statement and Functional Description have been completed. An action plan laying out developmental milestones has been completed in draft and is being staffed for comment. The ATDL development, and its integration with other Army information systems will be a continuing process. The system is being designed with enough flexibility so that the Army can make use of future technologies. (POC - Mr. Ham, DSN 552-7845/e-mail: hamj@leav-emh1.army.mil)

**Army Training Information Management Program (ATIMP):** The ATIMP mission is to integrate and standardize Army training information systems. An ATIMP Information System includes any system that automates the following functions: Army institutional training, individual and unit proficiency, training support. ATIMP core systems are the Automated Systems Approach to Training (ASAT), Standard Army Training System (SATS), Automated Instructional Management System-Redesign (AIMS-R), TRAMOD Executive Management Information System (TEXMIS), and Army Training Digital Library (ATDL).

Key functions in the ATIMP are:

Top-down management of Army training information system improvements.
Standardization of processes and practices across Army training.

Cross-functional integration of processes, data and information systems.
Central guidance and direction of information systems development and services, using DoD-wide architectures, standard data elements, and common methods and tools.

The Army Training Model (ATM) is a critical element in the overall ATIMP mission. It is a guiding framework for all missions and functions in Army training. The ATM provides a common understanding of all Army training activities and data for Army leaders and managers, enabling them to integrate processes, data, and systems within and across missions and functions.

The ATIMP goal is to guarantee the standardization, functional and technical integration, interoperability, sharing , and accuracy of training information by ensuring functional area support and by facilitating the development of automated systems that support the Army's mission to manage training. (POC - Ms. Colbert, DSN 927-4166, e-mail COLBERTE@eustis-emh20.army.mil)

**Operations Group Delta - JTF Training:** Battle Command Training Program (BCTP), Operations Group D is tasked with the mission to prepare Army organizations for joint command and control roles. They work closely with Army service component commanders and Warfighting CINCs to bring the rigor of BCTP to joint exercises, in which an Army organization is acting as a JTF or ARFOR HQs. The primary training audience is the corps in a joint role, but divisions and ad hoc joint organizations have been supported. The team is capable of providing home station seminars, support to exercises, and support to operational missions. (POC - LTC Weith, DSN 680-5747/e-mail weithg@emh12.monroe.army.mil)

## WARRIOR XXI Programs and Initiatives:

**Warrior XXI:** WARRIOR XXI defines those future activities in the TDA Army and the institutional axis of Force XXI required to train the total Army of the future. WARRIOR XXI has eight major initiatives. Each of these lanes represent a major initiative which will dramatically change the way we organize and how we manage and train soldiers of the future. These initiatives are: Distance Learning, Classroom XXI, Deployable Training/Mission Rehearsal, Total Army School System (TASS), Diagnostics, Clusters & Satellites, Automation/Digitization, and Training Development. These initiatives will change the training paradigm for both institutional and self-development training. When combined with WARFIGHTER, the main effort, WARNET XXI and WARRIOR XXI will provide the architectural foundation for the future Army institutional schoolhouses. (POC - Mr. Buckley, DSN 680-5535/e-mail buckleyj@emh12.monroe.army.mil)

**Distance Learning:** Distance learning is a concept for the delivery of training to the soldier when and where it is needed. It is the engine of change that makes Classroom XXI achievable. Distance learning is not a discrete technology but incorporates a number of emerging technologies to move distributed learning from the realm of the possible to that of the practical. These technologies range from simple paper applications to complex distributed interactive simulations. Two of the main technologies for the future will be computer based multimedia programs and interactive video training. Generally, learning is distributed in either a synchronous mode (real time) or asynchronous mode where it can be retrieved without time constraints. A new requirement will be emerging for Army Training Support Cluster (ATSC) to publish "TV Training Guides" which provides a schedule of "live" or synchronous listings. These should also include other DoD and programs provided by civilian organizations linked into the Army system. A media library catalog for asynchronous training materials will be provided through the Army Training Digital Library (ATDL). This will be accessible via extensive worldwide corporate and government electronic networks which provide a range of capabilities from simple text transmissions to VTC. POC - Ms

Brown DSN 680-5529/e-mail brownj@emh12.monroe.army.mil

**Classroom XXI (CR XXI):** CR XXI is a major effort within WARRIOR XXI that will lead TRADOC to the 21st Century. CR XXI focuses on the use of technology to leverage information in a variety of ways to increase the Army's war fighting capability. The goal of CR XXI is to take the classroom to the battlefield and the battlefield to the classroom. It will provide world-wide access to digital information, training, and simulation. Established networks will provide a natural evolution to integrating the classroom with unit training and providing maximum participation in joint and combined training ventures. CR XXI, in essence, creates an environment which capitalizes on many diverse technologies. Multimedia classrooms have the capability to allow worldwide access to information or expertise via such technologies as video teletraining (VTT) and Internet to import training. An essential element is the digital formatting of training support materials. The digital format of the training database (training materials and products) will enable faster, more economical means of delivery including automated testing. It will provide a firm foundation for the automation of training development and training management. Communication links will be made within and between Clusters and Satellites, the CTCs and units. VTT/VTC and fiber optic networks will be established for both fixed and mobile sites. These communications will support the sustainment of the TASS and help establish the Army Knowledge Network and a Classroom XXI which will bring training to the soldier any time and any where in the world. POC - Ms Moore DSN 680-5527/e-mail moorem@emh12.monroe.army.mil

**Total Army School System (TASS):** The Total Army School System (TASS) was implemented as of 1 October, 1995 with the official standing up of the TRADOC Coordinating Element (TCE) at Fort Monroe, VA, and seven Regional Coordinating Elements (RCE). The RCEs are located at Fort(s) Devens (Region A), Lee (Region B), Jackson (Region C), Knox (Region D), McCoy (Region E), Sill (Region F), and Lewis (Region G). The TCE and each of the RCEs have their own Unit Identification Code (UIC) and operate as an independent organization. Staffing at the

RCEs is made up of ten full-time personnel from all components (AC/USAR/ARNG). An overarching TASS Operations Plan (OPLAN-2) was developed, staffed, and distributed to the Army Training Community with guidelines for TASS Implementation. The TCE, TRADOC executive agent for TASS, supervises the RCEs and manages the TRADOC Quality Assurance Program and Policy. The RCEs are responsible for tracking training within their regions, assisting in the resolution of training issues, verifying corrective actions on accreditation issues, regional ammunition management, and oversight of Title XI soldiers. First and Fifth U S ARMY serve as the FORSCOM executive agents for TASS and are responsible for coordinating Annual Training (AT) locations, facilities, courseware, equipment, and assist in identifying training priorities for units. Army National Guard (ARNG) and U S Army Reserve Command (USARC) responsibilities include resourcing units to support individual training require- ments, ensuring equipment availability based on training requirements, participating in the Structure and Manning Decision Review (SMDR), Training Requirements Review Panel (TRAP) processes, and maintaining coordina- tion relationship with the RCEs. TRADOC Proponent Schools are responsible for Program of Instruction (POI) development, Instructor Certification, and school accredita- tion. The TASS transition year is FY96, full implementation FY97, with school accreditation to begin in FY98. (POC - COL Lovett, DSN 680-5579/e-mail lovetth@emh12.monroe.army.mil)

**Total Army Training System (TATS) Course:** Development and implementation of TATS courses are objectives of the Total Army School System (TASS). Toward this end, one of the key goals of the TASS is to transition from Reserve Component Courseware (RC3)/Active Component courses into TATS courses. The value of TATS courses lie in the Army's ability to ensure that soldiers in all components are trained to the same perform- ance standard. Specifically, a T. 3 course is defined as a course designed to in the same Military Occupational Specialty/Area of Concentration (MOS/AOC) skill level, Additional Skill Identified (ASI), Language Identifier Code, Skill Qualification Identifier, or Skill Identifier with the Total Army.

The TATS course ensures standardization by training, testing, and evaluating all course critical tasks to the same task performance standard although training may be conducted at different sites and may involve use of different media/methods for various phases/modules/lessons. Unlike RC3, all course critical tasks taught to the AC are taught to the RC community. TATS Implementation Guidelines and Policy was provided to proponent schools in September 1995. Implementation guidelines include resource implications and key Systems Approach to Training considerations associated with TATS courses. The overall goal is for proponent schools to completely transition from RC3/AC courses to TATS courses over the next 5 years. (POC - Ms. Vallery Doe, DSN 680-5587/e-mail doev@emh12.monroe.army.mil)

**Diagnostics:** Diagnostics consists of an assessment which identifies soldier strengths and weaknesses across the individual training hierarchy -- task through military occupational specialty (MOS). If a soldier needs remedia- tion, the diagnostic will provide access to training or doctrinal materials to guide soldier improvement. Through on-line electronic libraries, soldiers with a computer and modem will be able to access diagnostics through the Internet or electronic bulletin boards from their units or homes, and may download materials for study at their convenience. Potential uses for diagnostics are numerous and support all three pillars of leader development. Diagnos- tics will be used by soldiers to self-develop for new duty assignments or additional duties, sustain current knowledge, and to complete prerequisites prior to institutional training. Supervisors will use diagnostics to assess individual training readiness and to verify soldier knowledge prior to assignment of critical duties. Units can use diagnostics to access training during deployment or while in remote locations. Institutions will use diagnostics to ensure soldiers report to courses with prerequisite knowledge, tailor course plans nstruction to match soldier strengths and aknesses, and allow soldiers to test out of some subject areas so they can focus on areas of weakness or pursue independent study. ATSC is designing several diagnostics to demonstrate "proof of principle." These prototypes will showcase uses of diagnostics in

functional courses, common subjects, and MOS tasks. Common subjects currently under development include Training Management; Military Operational Terms and Symbols; Basic Map Reading; Map and Terrain Association; SOI, Codes and Authentication; Antennas; SINCGARS Net Control Station Procedures; and Field Wire Laying Techniques. In the MOS/duty position domain, diagnostics will soon be available for Unit Movement Officer and 13F Fire Support Specialist. POC - Ms. Spath, DSN 927-4785/e-mail Spathk@Eustis .emh20.mil

**Automation/Digitization:** The automation/ digitization initiatives provide the transition to the Info Age Army of FORCE XXI. These efforts range from the simple conversion of text to digital formats to training in world-wide distributed interactive simulation exercises using high-fidelity digital representations of actual terrain. The full integration of these computer technologies will greatly enhance our education and training posture and our ability to disseminate and use information. Technology is most cost effective when it replaces, not augments conventional instruction. Current generations of compact optical discs can store 640 megabytes of data which translates to roughly 200,000 pages of text. This equates to a hundred volume encyclopedia. Reproduction cost per compact disc is approximately $3 per disc. The cost savings are coupled with increased capabilities. The same disc which stores text can also store audio and video formation. Costs of storage are continuing to shrink. For example, a holographic storage device using 35 mm slide size storage cards can store a gigabit of data for the cost of one dollar. While this capability is impressive, it is not sufficient for elaborate synthetic environments or virtual systems. New high density CD-ROM's which can store 5000+ megabytes of data will provide this capability. Although there is still some industrial discussion, it appears that this new format will be called Digital Versatile Disc." Because they are not compatible with current generation CD-ROM systems, caution should be exercised in making massive investment in technologies that will shortly become obsolete. A fielding plan must be developed so that the user community has the requisite hardware in sufficient quantities to utilize CD-ROM's or DVDs. This fielding plan must include

considerations for erasable CD-ROM and DVD technologies, as many of the applications envisioned will require editing and user inputs.
POC - Mr Gregory DSN 927-4468/e-mail gregorym@eustis-emh20.army.mil.

**TRADOC Regulation 350-70:** The TRADOC Regulation 350-70, Training Development Management, Processes, and Products, is a consolidation of all training development (TD) policy (13 TRADOC regulations, four TRADOC pamphlets, several TRADOC memorandums, and TD policy extraction from two other training regulations) into one regulation. The regulation covers the TD process (the Systems Approach to Training (SAT)); training/TD management; Total Army School System (TASS); QA/evaluation including accredita- tion); instructor certification; training product development (individual, collective, self development); and HQ TRADOC, DCST vision of TD initiatives that support Force XXI, including WARRIOR, WARFIGHTER, and WARNET XXI Training Support Package (TSP) description/components; CTC interface; Classroom XXI; distance learning; automation; etc. The result of this consolidation is--
    A reduced number of TRADOC regulations
    Elimination of duplicative, conflicting, and outdated policy and processes
    Streamlined policy that is easier to read and understand (Information Mapped)
    An increased number of and expanded procedural pamphlets
    Clarified and simplified processes.
    Standardized product formats, individual task numbering system, and task titles/verbs.
    Clarified and aligned individual and collective training strategies and supporting plans.
    Written and graphic links to other products, process phases, and TD-related systems (e.g., CBRS, PPBES) via flow charts (needed for automation).
    New TRADOC TD management guidance, including TD workload and manpower management and use of Foreign Disclosure restriction statements (result of TRADOC IG inspection) as well as safety, risk assessment/management, and environmental considerations (DA mandate) in all train- ing/products. (POC - Rachel Serio, DSN 680- 5576/e-mail serior@emh12.monroe.army.mil)

**TRADOC Staff and Faculty Training Program:** The Staff and Faculty Training Program is composed of three major elements: HQ TRADOC (DCST), schools/training battalions, and the Army Training Support Center. As the policy proponent, the DCST is responsible for standardiz approving, and managing staff and faculty development which is required Army wide, TRADOC-wide, or at multiple TRADOC sites such as instructor training, small group facilitator training, and training development training. DCST offers consolidated centralized training manager training in the Senior Training Managers' Course and the Training Developer Middle Managers' Course. TRADOC and RC schools (training battalions) offer staff and faculty development using the mandated instructor training, the standardized Small Group Instruction Training course, and the Systems Approach to Training course. The TRADOC staff and faculty development elements also provide training to meet local requirements. The ATSC program is a centralized support system to develop and deliver standardized video teletraining for Active and Reserve Components (AC and RC) instructors as part of the Total Army School System (TASS). As program manager, ATSC will provide standardized training, course design, development, delivery (to include multimedia technology), certificates, course material reproduction, and student management. Under the TASS concept, AC and RC instructors can be linked via satellite to the proponent responsible for instructor training. ATSC's efforts currently focus on three standardized courses: Small Group Instructor Training Course (SGITC), Total Army Instructor Training Course (TAITC), and Video Teletraining Instructor Training Course (VTTITC). These courses have the option of being delivered in a regular classroom setting or via distance learning technology to facilitate standardized cost effective training Army wide. Currently, the SGITC and VTTITC are available for use. The TAITC should be available in 4th Qtr FY 96. Other selected Staff and Faculty courses will be considered for conversion to delivery using distance learning technology in the near future. (POC - Dr. Spangenberg, DSN 680-5590/e-mail spangenr@emh12.monroe.army.mil)

**Gender Integrated Training (GIT):** In October 1994 Forts Jackson and Leonard Wood began executing gender integrated Basic Combat Training (BCT) or GIT, as it has become known. Under GIT, female soldiers no longer attend BCT in all-female companies. Female soldiers are now intermixed with males in gender integrated companies (optimum mix 75% male/25% female). The BCT Program of Instruction (POI) and standards have not changed. TRADOC has formed a Steering Committee headed by CG, Fort Jackson, consisting of representatives from Forts Jackson and Leonard Wood, Fort Benning (BCT Proponent), Army Research Institute (ARI), HQ, TRADOC, and HQDA, ODCSOPS to monitor GIT implementation during this first year and develop recommended policy adjustments needed for successful long term implementation. The committees' final report to HQ TRADOC will be submitted in Jan 96 with any policy adjustments taking place in FY 96. (POC - SFC Blakey, DSN 680-5621/e-mail blakeyc@emh12.monroe.army.mil)

**Military Training Structure Review (MTSR):** In January 1993, the Services Interservice Training Review Organization (ITRO) initiated a three-year, Joint Chiefs of Staff supported, review of all initial skills training to eliminate training duplication and create savings. During calendar year 1993, Services consolidated Calibration, Helicopter Maintenance, and Water Survival training. Services are now implementing the following consolidations/ collocations approved in 1994: Welding - Army and Marine Corps at Aberdeen Proving Ground (APG), MD; Food Service - Army and Marine Corps at Fort Lee, VA; Civil/Construction Engineer - six sites/all services. Army sites are: Fort Leonard Wood, MO and APG, MD. In addition:

Navy has moved Corrections Training from Fort McClellan, AL to Lackland AFB, TX.

Army, Air Force, and Marine Corps are continuing plans to consolidate/collocate Motor Vehicle Operator Training at Fort Leonard Wood, MO in late FY 96.

Army/Marine Corps are implementing cost effective changes to the consolidated Petroleum courses at Fort Lee, Va. On 30 May 1995, the ITRO Executive Board approved additional training consolidation/collocation as follows: Small Boat training (USA/USCG) at Fort Eustis, VA, and (USN/USCG) at Great Lakes, IL; Communications training (USA/USAF/USN/USMC) at Fort Gordon, GA, Lackland, AFB, and 29 Palms,

CA; and Supply/Logistics training (USN/USMC) at Athens, GA. In January 1996, the Executive Board approved consolidation of USA/USMC Electro-Optical training at APG, MD, the Joint Course on Logistics at Fort Lee, VA, and selected Safety courses at several Service locations. Although MTSR officially ended in December 1995, Services continue to wrap-up studies on Mortuary Affairs, Instructor Training, Ground Control Intercept, and Space Operations/Maintenance. A final report on MTSR is expected by July 1996. (POC - Mr. Shepherd, DSN 680-5645/e-mail shep-here@emh12.monroe.army.mil)

## WARFIGHTER NETWORK:

**Warfighter Network (WARNET) XXI:** Warnet XXI is the TRADOC initiative to reenergize and reorient Army Modernization Training (AMT). Warnet XXI encompasses the process of documentation and standardization of training requirements, training products, and training outputs associated with the acquisition of materiel/weapon systems and training aids, devices, simulators, and simulations. As the training Warnet XXI is the TRADOC initiative to reenergize and reorient Army modernization training portion of the Army's "Equipping the Force" axis of Joint Venture, Warnet XXI supports both Warfighter XXI and Warrior XXI axes. The five components of Warnet XXI (needs analysis, requirements documentation, training products, test and evaluation, and Army training digital library) correspond to the Warfighter XXI and Warrior XXI components as well. Warnet XXI goals are to: integrate training support needs into system/hardware requirements; develop and provide system training support packages (TSP), New Equipment Training (NET) and institutional/unit training needs; and ensure TSPs/supporting training products are digitized for maximum access and use within the Army modernization training infrastructure. (POC - Mr. Ronneberg, DSN 927-2546, e-mail RONNEBED@eustis-emh20.army.mil)

# LEADER DEVELOPMENT
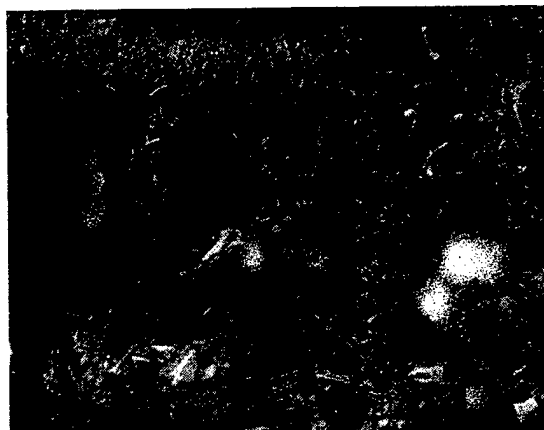


*"Today's Army is growing into the future precisely because we have invested the time, money, human ingenuity, and hard work in leader development over nearly two decades. As we grow we must retain the essence of our leader development process - its warfighting focus. The basics must come first: troop leading procedures; the command estimate process; and intelligence preparation of the battlefield, to name a few."* These thoughts from GEN Sullivan will focus our efforts in the future. We will strive to maintain the finest leader development system in the world in all areas. Some key initiatives are:

**Common Core:** Common core, common military, and directed/mandated training are being incorporated into a single task list for each leader development course. This common core revision project consist of four phases; Phase I is the development of vertically aligned common core task lists, Phase II is the horizontal alignment of tasks across officer, warrant officer, and noncommissioned officer courses and the approval of common core task lists. Phases I and II were completed as of 13 Nov 95. Phase III is the revision/development of task summaries and training support packages/products (TSP) and training implementation, Phase IV is conversion of training support products to CD-ROM or other automated media. Training support products will be developed and training implemented IAW following schedule: Precommision, OBC, WOCS, WOBC, PLDC, BNCOC, and ANCOC by 30 Sep 97; OAC, CAS3, CGSOC, WOAC, WOSC, WOSSC, BSNCOC, and SMC by 31 Dec 97. (POC - Mr.

Ligon, DSN 680-5661/e-mail ligonj@
emh12.monroe.army.mil)

**Captain's Professional Military Education
(PME):** TRADOC is leading a study of the
timing and methodology for training Captains
to ensure synchronization of training with
assignments, i.e. *SELECT-TRAIN-UTILIZE*.
Advanced Courses appear to be timed about
right (normally after the first operational
assignment). However, while CAS3 produces
a superb product, there are two concerns.
First, given the current OPTEMPO in our units,
the 9 week TDY during operational
assignments concems many senior field
commanders. Secondly, Captains are
currently attending CAS3 during their second
or third operational assignments; after they
have held positions that needed CAS3 training.
 Goal is to brief a new concept to the CSA
during 3rd QTR, FY 96 with implementation
beginning late FY97. (POC LTC Kichen 680-
5618/e-mail kichenl@emh12.monroe.army.mil)

# ORGANIZATIONS



Soldiers from the Kentucky Guard's 2nd Bn., 123rd Armd. Regt., practice
civil disturbance control at one of several WKYTS training areas.

*We have observed through constructive and
virtual simulation that significant increases in
lethality, survivability, and tempo are possible in
existing organizations using current doctrine
when digital communications are integrated
horizontally and vertically across combined
arms teams.*

Force Design Directorate is the central point of
contact within TRADOC for force design and
force structure actions. It is the executive
agent for TRADOC in monitoring the Total

Army Analysis process which determines the
total force requirements for the Army. Also, as
the proponent for design of TOE units, it
coordinates all TRADOC force design activities
as follows:

**a. Force XXI:** Constructive and
virtual simulation have indicated that
significant increases in lethality, survivability,
and tempo are possible in existing organiza-
tions using current doctrine when digital
communications are integrated horizontally and
vertically across combined arms teams. To
further test this thesis, the Division XXI
redesign project is being conducted. This
effort consists of the development of
organizations and doctrine by various
TRADOC branch proponents, Force Design
Directorate, and the Battle Lab Integration,
Technology & Concepts Directorate of DCSCD,
TRADOC. Several Army Warfighting
Experiments (AWEs) and simulations are being
conducted to analyze and test new organiza-
tions, concepts and equipment. A brigade of
the 4th Infantry Division will be organized and
equipped as the test organization in FY 97 and
undergo a rotation at the National Training
Center. The results of this test will influence
the decision on the final division design.

**b. Top Down Force Design and
Organization Modularity:** Based on the
Modularity Concept, TRADOC will continue
development of modular, functionally-based
forces that can better align the force with Force
XXI development initiatives. The Top Down
Force Design concept focuses on development
of organizational designs that eliminate
redundant "Cold War" Headquarters and
streamline other C2 structures and organiza-
tions. Near term Top Down Force De-
sign/Modularity efforts are designed, evaluated
and approved through the semi- annual Force
Design Update (FDU) process and executed in
the Total Army Analysis (TAA) process. These
Top Down Force Design/Modularity efforts are
integrated into Force XXI development
initiatives.

**c. Force Design Update (FDU):** The
FDU process evaluates and presents for
approval organizational issues raised by the
field Army or the proponent schools to the
Army's senior leadership. Final approval of the
FDU process is by the Chief of Staff of the

Army. Normally, two FDU cycles are processed each year.

(1) FDU 96-1. The following FDU 96-1 proposals were developed by their respective proponents and approved for field staffing by the DCG, TRADOC, on 5 March 1996. DCG, TRADOC, approved FDU 96-1 issues for HQDA staffing on 9 May 96. Subsequent briefings to ADSCOPS-FD, DCSOPS and VCSA/CSA are scheduled in July 96. (POC MAJ DeMarco, DSN 552-8669/email demarcom@leav-emh1.army.mil).

(a) Conversion of MP TDA Structure to TOE Organizations. Proponent: Military Police School. The Law and Order (L&O) mission has been greatly expanded to support Army operations, creating an exceptionally high OPTEMPO and PERTEMPO, and a designation as a Low Density High Demand force. TDA MPs are commonly stripped from their units to overcome this L&O capability shortfall. MP capabilities to conduct L&O operations in peace, conflict, and war can be increased by converting the maximum number of TDA positions to modular TOE L&O Augmentation, Military Working Dog (MWD), and Customs Operations teams. This provides force planner flexibility to tailor force packages without degrading installation support to unacceptable levels. Requirement generation will be through recapitulation SRCs (L&O and Customs) and each functional MWD team. A total of 4254 conversion candidates are available for MACOMs to consider resourcing 3244 requirements.

(b) Interment/Resettlement Operations and Force Redesign. Proponent: Military Police School. The Interment/Resettlement (I/R) concept combines the MP Confinement and EPW/CI battalion designs by placing common functions and personnel into three modular TOEs - a Bn HHC, EPW modules and Confinement modules. This concept also expands the mission capability to include support to dislocated civilians (DC). Proposed designs provide maximum mission capability (DC, EPW/CI, US prisoners), increased force packaging flexibility and improved deployability across all three environments (peace, conflict, war). The I/R Bn can support 4000 EPW/CI or 8000 DC with four EPW modules, or 1500 prisoners with three confinement modules. This concept advocates the establishment of a new MOS (95I) for I/R personnel, converting 95B and 95C personnel in EPW and Confinement units to 95I. The MP School will develop exportable and resident training packages and current 95B/95C will be "grandfathered" until retraining is accomplished.

(c) Multi-Role Bridging Company. Proponent: Engineer School. Current bridging operations do not support the Army's vision of Force XXI operations. CONUS-based force projection and aging bridge equipment required a re-evaluation of engineer bridging operations. This unit design departs from current bridge unit designs. The MRBC TOE includes two bridge platoons capable of employing four fixed bridge sets and six heavy raft sets. This dual capability allows engineers to emplace one bridge type immediately and still have the other type readily available. The redesign will not degrade bridging capability as active units are transferred to reserve components. The MRBC is designed to operate future bridge systems. There is a requirement for 17 MRBCs (2 per heavy division and light infantry division), a decrease from the current 23 bridge companies, and no additional equipment costs.

(d) Harbormaster Operations. Proponent: Transportation School. All water terminal operations require 24 hour harbormaster capability. The existing harbormaster capability is limited in size and cannot support port opening requirements of the force projection army without augmentation. This concept provides for seven modular, easily deployable, 19 person harbormaster operations detachments capable of 24 hour operations to control vessel operations and related functions from fixed port or bare beach.

(e) Utility Aircraft. Proponent: Aviation School. The AOE AVIM company design required two utility aircraft per company; however, the ARI removed these aircraft. Following implementation of ARI in 1995, the CDR, USAAVNC, has received requests to place these two aircraft back into AVIM companies. This concept fixes AVIM support deficiencies by documenting organic utility aircraft in 41 AVIM companies (based on TAA 03) for a total requirement of 82 aircraft (2 UH-60s per AVIM). The design increases

maintenance responsiveness and adds flexibility and versatility to sustaining wartime priority readiness requirements. Recovery operations and movement of high priority maintenance assets use these aircraft. Resourcing has possible reserve component ramifications by preventing movement of UH-60s to the National Guard and a decrease in the number of required assault companies.

(f) CSM Tactical Wheeled Vehicle. Proponent: Force Design Directorate. This concept provides the Command Sergeant Major (CSM) in a TOE command group position a tactical wheeled vehicle (HMMWV) having communications capability consistent with the commander. The CSM, therefore, can become more involved in each aspect of operations. This allows freer travel to subordinate units to check the health and morale of soldiers, to conduct his role as commander's liaison more efficiently, and move throughout the battlefield with speed and ease to fulfill the commander's intent.

(g) EAD Avenger/MANPAD and MANPAD Battalions. Proponent: ADA School. The proposed designs change the structure of the present corps Avenger battalion and supports TAA 03 EAD FAAD battalion requirements. This concept establishes nine Avenger/MANPAD (36/24) battalions and four MANPAD (72 per) battalions in the ARNG, all resourced through the inactivation of ARNG Chaparral and Hawk battalions and AC Corps Avenger battalions. Due to reduced procurement, MANPADs will substitute until a new Avenger buy can be approved. Major expense is caused through inactivation of units and repositioning of equipment. Requires procurement of additional Avengers.

(2) Force Design Update 96-2. The following issues are under consideration for inclusion in the FDU 96-2 cycle.

(a) Modular PERSCOM and Modular Personnel Group Redesign. Proponent: AG.

(b) Counterintelligence Detachment XXI. Proponent: MP.

(c) Engineer Prime Power Battalion Redesign. Proponent: EN.

(d) Engineer Port Construction Company. Proponent: EN.

(f) Heavy ACR ADA Battery. Proponent: ADA

(g) Battle Control Detachment. Proponent: FA.

(h) Maneuver Brigade Staff Changes. Proponent: AR.

(i) LID Cavalry Squadron Redesign. Proponent: AR/AV.

(j) JSTARS Ground Stationing Module Team. Proponent: FA.

(k) Corps TAB. Proponent: FA.

(l) Battlefield Distribution System. Proponent: CASCOM.

(3) Out-of-Cycle FDU 96-3 Issue. Medical Reengineering Initiative (MRI). The purpose of this Army Medical Department Center and School proposal is a thorough revision of Army medical units making them more effective and efficient in support of Army of Excellence organizations and more easily adaptable to emerging Force XXI organizations. Army of Excellence TOE hospitals will be replaced by smaller common SRC variants which are more responsive and adaptable to a variety of wartime scenarios. A significant reduction in total medical personnel requirements is expected. The concept was approved on 23 April 1996 by DCG TRADOC for field comment with a 28 June 1996 suspense to FDD. TRADOC DCG decision brief is scheduled for 19 July 1996 with tentative VCSA/CSA brief in August 1996. (POC is MAJ Chuck Lappan. DSN: 552-8641.)

d. AC/NG Integrated Division Study: The Army force structure has excess combat organizations and a shortfall of CS and CSS structure to satisfy the National Military Strategy. The Secretary of the Army has approved a plan to reorganize some National Guard (NG) Divisions and Brigades to provide resources for additional CS and CSS structure. The plan includes forming two divisions which integrate units of both the AC and NG. TRADOC has been charged with assessing this

AC/NG concept. The assessment will determine the viability of the concept by addressing doctrine, organization, training, mobilization, mission capability, and resource impacts. Participants include ARSTAFF, FORSCOM and TRADOC elements. The study will provide insights to the suitability, feasibility and acceptability of the concept. It will also affect the recommended division concept of operation, its design, the structure of subordinate division troops and brigades, and necessary resources. (POC Mr. Robertson, ATCD-FA, DSN 552-8674)

## MATERIEL

*Continued budget cutbacks and downsizing of our force have made it imperative that the Army analyze future warfighting capabilities of the force by evaluating, identifying, and prioritizing "Critical" battlefield systems that best support the Army's "Vision of the Future Battlefield." TRADOC, as the architect of the future Army, has the responsibility to provide an organized, trained, and well equipped modern force capable of maintaining the battlefield edge and to achieve Land Force Dominance as the Army transitions into the 21st century. A means of achieving this goal is the leveraging of technology and modernization of our future organizations, so necessary if we are to maintain the combat superiority we now enjoy. In the next few years, you will see a multitude of system upgrades and fieldings. Some of the materiel improvements are:*

**All Source Analysis System:**
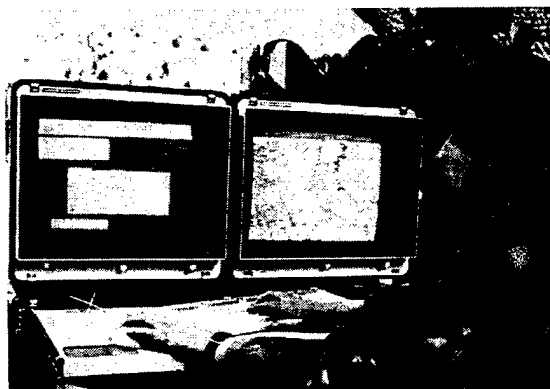


A mobile, automated intelligence processing, fusion, and dissemination system designed to

provide timely, accurate and relevant all source intelligence and targeting support to Battle Commanders (BN through EAC). ASAS Block I is now fielded to 12 high-priority corps/divisions. ASAS-Extended is proven ASAS software on commercial hardware. Currently fielded at I Corps, XVIII Airborne Corps, USFK, PACOM, 10th ID and CENTCOM. ASAS Block II software capability package one is expected to be delivered to 4ID in 4QFY96. (POC: CPT Patrick/DSN 680-4269/PATRICKJ@EMH10. Monroe .ARMY .MIL)

**Improved FLIR (a.k.a. 2d Generation FLIR):**
Ensures we "own the night". Increases ability to acquire and engage targets to maximum effective range of weapons systems. Doubled combat identification range & reduces fratricide. Increases commander's situational awareness and decision time to synchronize fire and maneuver. Standardizes infrared imagery operational criteria and maximizes compatibility and commonality of performance and components. First of three major Horizontal Technology Integration (HTI) initiatives. Digital port facilitates transmission of thermal imagery & battlefield digitization. FUEs are: BFVA3 = FY00; M1A2 = FY00; LRAS3 = FY01. (POC: Mr. Schmidt, DSN 680 2415/ email SCHMIDTH@EMH10. Monroe .army.mil)

**M4 Carbine:**
A shortened variant of the M16A2 rifle which will replace all M3 .45 Caliber Subma-chineguns, and selected M16A2 rifles and M9 pistols. Eighty percent commonality of parts with M16A2. FUE: FY95.(POC: Mr. Schmidt, DSN 680 2415/ email SCHMIDTH@EMH10 .MONROE.ARMY.MIL)

**Medium (7.62mm) Machine Gun Upgrade:**
After extensive operational and technical tests, the Army has selected the M240B, 7.62mm machine gun produced by Fabrique Nationale Herstal as a replacement for 1,434 M60 machine guns in Active Component rifle platoons. This is a ground mounted variant of the coaxial machine gun used in Bradley Fighting Vehicles and Abrams tanks. A similar version of the M240 is the standard USMC and 75th Ranger Regiment medium machine gun. FUE is scheduled for 1QFY97. (POC: Mr. Schmidt, DSN 680-2415/SCHMIDTH @EMH10 .MONROE.ARMY.MIL)

**Thermal Weapon Sight (TWS) AN/PVS-13:**
**A replacement for the AN/PVS-4, AN/TVS-5**
**and AN/PAS-7:** This sight uses thermal technology which performs well in severe darkness, adverse weather and obscurants. There are medium and heavy variants which use a common main body with interchangeable front optics which change the field of view, power, and range. FUE: FY96. A preplanned product improvement program is underway to develop an add-on module which provides laser rangefinder, adjusted aimpoint reticle and a compass/vertical angle measurement to the heavy variant. (POC: Mr. Schmidt, DSN 680-2415/ email SCHMIDTH@EMH10 .Monroe .ARMY.MIL)

**Sniper Day/Night Sight, AN/PVS-10:** A day/night sight for the M24 Sniper Weapon System that provides the same performance during daylight as the present Leopold day sight. During darkness, an integrated Generation III image intensification sight provides detection and recognition ranges of 800 meters, and engagement ranges of 600 meters. FUE: 4QFY96. (POC: Mr. Schmidt, DSN 680-2415/ email SCHMIDTH@EMH10 .Monroe.ARMY.MIL)

**Mini Eyesafe Laser Observation Set (MELIOS), AN-PVS-6:** Combines the capabilities of 7x50 binoculars and a lightweight laser rangefinder. The AN/PVS-6 is lightweight, battery powered, eyesafe, and can be hand-held or tripod mounted. It incorporates a solid-state digital compass and vertical angle measurement (C/VAM) which are viewed through the eyepiece. MELIOS replaces the AN/GVS-5. FUE: 1QFY94. (POC: Mr. Schmidt, DSN 680-2415/ SCHMIDTH@EMH10 . Monroe .ARMY.MIL)

**Bradley Modernization:** The A2 ODS and the Bradley A3 will evolve from the A2. ODS (FUE FY96) addresses required fixes identified during Operation Desert Storm. Those fixes include a combat identification system, GPS/POSNAV, driver's vision enhancer and missile countermeasure device. The Bradley A3 (FUE FY00) is the objective system. Planned A3 improvements are core electronic architecture, 2d Generation FLIR acquisition, command and control software, commander's independent viewer and ballistic fire control.

(POC: MAJ Conrad, DSN 680-4083/ email CONRADG@EMH10.MONROE.ARMY.MIL)

**M1A2:** Deliveries of the M1A2 upgrade tank system for the U.S. Army began in the fall of 1994 and are scheduled to continue through the turn of the century with a production of 1079 tanks. FUE is scheduled for 1CD 1QFY96. By year 2005, the technology used to develop and build the M1A2 will be nearly 20 years old. The armor community is developing a campaign plan for modernizing the tank force for the foreseeable future. (POC: MAJ Conrad, DSN 680-4083/ email CONRADG @EMH10. Monroe.ARMY.MIL)

**M113A3 (Upgrades):** These improvements will allow the M113 mobility, matching the rest of the maneuver forces. Upgrades to the M113 consist of external fuel tanks, reliability Improvement of Selected Equipment (RISE) Power (engine and cross drive transmission upgrades), enhanced armor protection, ramp and belly armor, and improved driver controls. FUE: FY94; completion FY02. (POC: MAJ Stevens, DSN 680-3949/ email STEVENS1 @EMH10.Monroe.ARMY.MIL)

**Up-Armored HMMWV:** The UA HMMWV Vehicle will be produced in a Scout, MP, and an Air Force variant. System possesses increased ballistic protection against small arms fire, artillery airburst, small antipersonnel mines and unexploded artillery submunitions for the crew compartment. FUE: FY96. (POC: MAJ Stevens, DSN 680-3949/STEVENS1@EMH10.M Monroe. ARMY.MIL)

**Long Range Advanced Scout Surveillance System (LRAS3):** The LRAS3 system will provide the Maneuver Commander's timely, accurate 2nd GEN FLIR technology battlefield information from his Battalion Scout Platoons. The LRAS3 is a Scout 2nd GEN FLIR target acquisition system that will provide day, night, all weather target acquisition that will allow the Scouts to identify and acquire enemy targets outside the enemy's engagement ranges. LRAS3 is a 2nd GEN FLIR technology with Laser Rangefinder (LRF), Daylight TV, chemical detection ability and has C3I Compatibility. FUE: FY01. (POC: MAJ Stevens, DSN 680-3949/STEVENS1@ EMH10.Monroe.ARMY.MIL)

**Improved Target Acquisition System (ITAS):** ITAS is an upgrade to current Ground TOW and HMMWV TOW Target Acquisition and Fire Control Systems. ITAS improves Target Detection and Acquisition range, is a pathfinder for 2nd GEN FLIR technology and will allow for growth for the Follow-On to TOW (FOTT) Missile. ITAS is a 2nd GEN FLIR detector with monitor capability, eyesafe laser range finder (LRF), direct view optics, embedded trainer, aided dual target tracking, automatic boresight, and increased range (Ph) capability. FUE: 4QFY97. (POC: MAJ Stevens, DSN 680-3949/STEVENS1@EMH10. Monroe .ARMY .MIL)

**Follow-On to TOW (FOTT):** The FOTT missile will be employed in a similar manner to that of the current TOW missile. The FOTT will provide dedicated heavy anti-armor missile capability for light, air assault, Airborne, and heavy divisions. The FOTT will provide non-dedicated anti-armor missiles for Infantry and Cavalry Fighting Vehicles (IFV/CFV). The FOTT will be day, night, adverse weather capable, increased range and lethality over current TOW IIA/B, reduced time of flight (TOF), have full capability with ITAS/IBAS TOW platforms, and have a degraded performance with non-ITAS/IBAS TOW firing platforms. FUE: FY04. (POC: MAJ Stevens, DSN 680-3949/STEVENS1@EMH10. Monroe .ARMY.MIL)

**Improved Bradley Acquisition System (IBAS):** IBAS is part of the Bradley A3 program and will upgrade current TOW II subsystems. IBAS is the pathfinder for FLIR Horizontal Technology Integration. IBAS will integrate FLIR Horizontal Technology effort and will allow for growth for Follow-On to TOW Missiles. IBAS is a 2nd GEN FLIR with monitor, day TV, eyesafe laser range finder (LRF), automatic boresight, will increase PH of the 25MM and TOW out to the MAX Weapons Range. IBAS will leverage off the Improved Target Acquisition System (ITAS) program. FUE: 4QFY00. (POC: MAJ Stevens, DSN 680-3949/STEVENS1@EMH10. Monroe .ARMY.MIL)

**Multi-Purpose Individual Munitions/Short Range Assault Weapon (MPIM/SRAW):** The Army has entered into a cooperative program with the USMC to develop a shoulder-fired multipurpose weapon to replace the AT4 and the M72 LAW. The Army's warhead developed in the tech base Multi-Purpose Individual Munitions (MPIM) program is connected to the flight module developed by the USMC for their SRAW. The Army's MPIM/SRAW will weigh about 20 lbs and be about 36 inches long in the launch container. It is a fire and forget, inertially guided, fire from enclosure system with very high probability of hitting a bunker at ranges up to 300 meters. FUE is FY00. (POC: CPT Siegmund, DSN 680-2980/SIEGMUNJ@ EMH10.Monroe .ARMY .MIL)

**Improved Mortar Ballistic Computer (IMBC):** Replaces current 23 MBC. The IMBC will use state-of-the-art technology to provide digital message capability and mortar firing data communications. Funding for FP1 only; FUE: FY97. (POC: CPT Siegmund, DSN 680-2980/SIEGMUNJ@EMH10. Monroe.ARMY .MIL)

**Battalion Mortar System:** Will replace 4.2 inch mortar. Max range 7200 meters/minimum range 200 meters. System procured in two configurations, towed version (M120) and carrier version (M121) mounted in M1064. FUE (M120): 4QFY93; FUE (M121): 3QFY95. (POC: CPT Siegmund, DSN 680-2980 /SIEGMUNJ@EMH10. Monroe.ARMY .MIL)

**Javelin:** A man-portable anti-tank system for the U.S. Army and U.S. Marine Corps. The system provides high lethality against conventional and reactive armor and will replace the Dragon. The Javelin is comprised of two major components: a reusable command and launch unit (CLU) and a missile sealed in a disposable launcher container. The CLU incorporates an integrated day/night sight and provides target engagement capability in adverse weather. The CLU may be used in stand-alone mode for battlefield surveillance and target detection. FUE: FY96. (POC: CPT Siegmund, DSN 680-2980/SIEGMUNJ @EMH10.Monroe.ARMY .MIL)

**Wide Area Munitions (WAM):** WAM is a ground emplaced munition which detects and then attacks vehicles from the top at ranges of up to 100 meters. The hand emplaced version

(HEWAM) will be fielded in FY97. (POC: Mr. Morison, DSN 680-2285/MORISONA @EMH10. Monroe.ARMY.MIL)

**Modernized Demolition Initiators (MDI):** MDI represents the military application of commercial shock tube technology to detonate explosives. MDI will be the primary system used to prime and detonate military explosives. It offers increased safety and simplicity compared with current systems. Conventional blasting caps and detonating cord will be retained for special applications not suited for MDI. Procurement has been initiated. Fielding will begin 4QFY96. (POC: Mr. Morison, DSN 680-2285/MORISONA@EMH10.Monroe .ARMY.MIL)

**Air Volcano:**



UH-60 mounted mine launcher, can dispense 960 mines in less than 30 seconds. Fielding to selected aviation units will be completed during FY96. (POC: Mr. Morison, DSN 680-2285/MORISONA @EMH10.M Monroe.ARMY.MIL)

**Deployable Universal Combat Earthmover (DEUCE):** A combat support dozer that will be fielded to combat engineers in the Light Infantry and Airborne units and will displace these units: M9 Armored Combat Earthmover (ACE), D5B, D7F, D7G dozers and associated prime movers with trailers. DEUCE will be fielded in August 1997. (POC: Mr. Morison, DSN 680-2285/MORISON @EMH10. Monroe.ARMY.MIL)

**Selectable Lightweight Attack Munition (SLAM):** A lightweight, multipurpose munition which can be used as a magnetically fused mine, a tripline activated off-route mine, a timed demolition charge or as a command detonated device. When used as a mine, it has a self-destruct function. Will be procured in limited quantities for light forces in FY96. (POC: Mr. Morison, DSN 680-2285/ email MORISONA@EMH10. Monroe ARMY.MIL)

**Kiowa Warrior:** Advanced Armed Reconnaissance Helicopter capable of flying in day or night. Weapon systems consist of Hellfire Missiles, 2.75" rockets and .50 Cal MG. Congress has approved the buy of 3820 Kiowa Warriors to be fielded in cavalry units and Light Division Attack Helicopter Battalions. Currently, 58 percent of the units are fielded, to include much of the XVIII Airborne Corps. Fielding should be complete by FY98. (POC: MAJ Stevens, DSN 680-3949/STEVENS1 @EMH10. Monroe.ARMY.MIL)

**Longbow Apache:** The Longbow Apache consists of a MultiMillimeter Wave Fire Control Radar, a Radio Frequency Interferometer and Longbow Hellfire missile. System provides a true fire-and-forget adverse weather capability. Results of this system show quantum improvement in combat effectiveness. FUE is FY97.(POC: MAJ Stevens, DSN 680-3949/ STEVENS1@EMH10. Monroe.ARMY.MIL)

**C-17 Globemaster III Cargo Aircraft:** The newest C-17, P-27 was delivered to the Air Force's Air Mobility Command on 3 Jul 96. The operational fleet currently consists of 23 C-17s at Charleston Air Force Base (AFB), South Carolina in the 437th Airlift Wing. Two C-17s are at Altus AFB, Oklahoma to support training. Two C-17s are at Edwards AFB, California have completed flight tests and will be assigned to Charleston AFB when modifications are complete later this year. The Air Force plans to station 48 at Charleston AFB, 8 at Altus AFB, at least 48 C-17s at McChord AFB, Washington, 6 at Jackson, Mississippi reserve base, and keep 10 as backup aircraft. (Mr. Sova, DSN 680-3005/SOVAJ@EMH10. Monroe.ARMY.MIL)

**Army Pre-Positioned Afloat:** The Army War Reserve Three (AWR-3) includes sustainment supplies and equipment for a contingency corps, a humanitarian effort, a combat brigade, and a port opening capability. Supplies include all classes needed to sustain deployed contingency corps units up to C+30. Humanitarian support and port opening ships

provide watercraft, trucks, forklifts, cranes, container handlers, food, and shelter items. Combat brigade ships have equipment and 15 days of sustainment supplies for 2 mechanized and 2 armor battalions. The Combat Brigade Afloat is on station and ready for deployment. (Mr. Sova, DSN 680-3005/SOVAJ@EMH10.M Monroe.ARMY.MIL)

**Family of Medium Tactical Vehicles (FMTV):** FMTV is a family of medium trucks sharing common design and components with two payload classes: 2-1/2 tons and 5 tons. FMTV will provide ground transport for personnel, cargo and weapon systems, while reducing operations and support costs for the medium truck fleet. First Unit Equipped (FUE) took place in Jan 96 to selected units of the 82nd Airborne Division. FMTV fielding to the 82nd is continuing. As of 6 Jun 96, a total of 454 trucks had been fielded to 52 units with 216 trucks at Ft. Bragg awaiting fielding and an additional 29 trucks in route to Ft. Bragg. (Mr. Clapp, DSN 680-2609/CLAPPT@EMH10 .Monroe .ARMY.MIL)

**Transportation Coordinators Automated Information Management System II (TCAIMS II):** The TCAIMS II is the U.S. TRANSCOM, Joint Transportation Corporate Information Management (CIM) Center (JTCC) directed DoD deployment system that replaces the US Army's TC ACCIS deployment system and Installation Transportation Office (ITO) CONUS Freight Management system (CFM). This system migrates from the USMC TCAIMS system, Air Force Cargo Movement Operating System (CMOS) and from pieces of the US Army's TC ACCIS and DAMMS -R2 systems. The US Army is the lead development agency and has appointed a PM TCAIMS II under PEO-STAMIS/DISC4. The system is currently scheduled to begin fielding in 3rd quarter FY97. The HQDA DCSOPS and DCSLOG have jointly chartered the Deployment Process Modernization Office (DPMO) at Fort Eustis/Ft Lee to develop the Army doctrine, training and requirements for deployment/redeployment to support fielding of this system. (Mr. Smith, DSN 680-4288/SMITHD4@EMH10. Monroe.ARMY.MIL)

**Improved Fox – NBC Reconnaissance System (NBCRS):**

The NBCRS, M93A1 is an armored reconnaissance vehicle equipped to detect, sample, identify, mark, and report the presence of NBC hazards. NBCRS will rapidly and accurately determine extent and nature of NBC contamination hazard over a specified area with expeditious transmission of information to supported units. Planned improvements will allow for digital communication to disseminate critical information to supported units via the Maneuver Control System (MCS). First Unit Equipped (FUE) is FY98 to Force Package 1 units. (CPT Franks, DSN 680-4412/FRANKSC@EMH10. Monroe ARMY.MIL)

**UH-60Q MEDEVAC Helicopter:** The UH-60Q will provide improved medical, navigational and communication capabilities over the currently employed MEDEVAC (UH-1/UH-60A) aircraft. PM anticipates type classification in Jun 98 and start of modification kit production as early as 4th Qtr 98 if funded in the 98-03 POM. Proposed funding strategy is for conversion of 87 UH60Qs from FY98 thru FY03 to optimize DUSTOFF support for "First to Fight" units. One company will be fielded per Division and ACR to meet minimum FP1 requirements. (MAJ Nickell, DSN 680-3072, No e-mail address is available at this time)

**Aircraft Nondestructive Test Equipment (NDTE):** NDTE will provide Army Aviation Maintenance with state-of-the-art commercial equipment capable of inspecting aircraft components and structures for materiel defects/damage without aircraft disassembly. NDTE will greatly simplify inspection procedures, reduce time required to perform inspections and also be capable of inspecting composite materials found on modern Army aircraft. The NDTE program includes Eddy current, Ultrasonic, Harmonic Bond, and X-Ray test equipment. All divisional and non-divisional AVIM units (FP 1-4) will receive NDTE systems. Aviation Powertrain Repairman (MOS 68D) with an Additional Skill Identifier (ASI) of N2 are the designated operators of the NDTE equipment. Initially a 9 week resident training course conducted by the U.S. Air Force at their training facilities will train selected 68D personnel. The N2 ASI will be awarded to those 68D's who successfully complete the course. Fielding to Force Package I units will begin in Sep 96. (Mr.

Holm, DSN 680-2184/HOLMS@EMH10.
Monroe.ARMY.MIL)

**Integrated Family of Test Equipment (IFTE)
Base Shop Test Facility (BSTF):** The IFTE
BSTF is Automatic Test Equipment (ATE) used
at the Direct Support and General Support
levels of maintenance, to test and isolate faults
in weapon system line replaceable units (LRU)
and shop replaceable units (SRU). It is
designed for state-of-the-art testing of digital,
hybrid, and RF electronics, including spread
spectrum technology. The station is either
housed in a standard Army S-280 shelter,
forming the BSTF, or floor mounted in a free
standing version. The BSTF is transportable
by a 5 Ton truck. Initial FUE was FY92, with
continuous fielding through FY02. The BSTF
is currently planned to support ASAS,
AVENGER, DGM, DRAGON/TOW, GBS,
HAWK, KIOWA WARRIOR, MLRS, NBC-FOX,.
PALADIN, TTC/TTY-39, AN/VRC-12, and
BRADLEY TOW II. (Mr. Marsico, DSN 680-
3155/MARSICOW@EMH10. Monroe
.ARMY.MIL)

**Biological Integrated Detector System
(BIDS):** The BIDS will quickly and reliably
detect and identify the presence of biological
warfare agents. The BIDS is a detector suite
contained in a shelter mounted on a heavy
HMMWV and includes a trailer mounted
generator. BIDS will incorporate existing long-
range secure voice communications and data
transmission systems to rapidly report vital
information to mitigate large-area BW effects.
System improvements are planned for the
FY99/FY03 time frame which will make the
BIDS more effective. The system is UH-60,
CH-47D, and C-130 deployable. There will be
one active BIDS platoon and one USAR
company fielded with 7 systems by Jun 96.
(CPT Franks, DSN 680-4412/FRANKSC
@EMH10.Monroe.ARMY.MIL)

**Remote Sensing Chemical Agent Alarm
(RSCAAL):** The RSCAAL is a remote sensing
chemical agent alarm that detects nerve and
blister agent clouds at distances up to 5 KM.
This system is passive infrared sensor with an
onboard microprocessor. It uses line-of-sight
and scans along a 60 degree arc from the
detector. RSCAAL components consist of
detector, retractable tripod, transit case,
vehicle mount, and standard military power
source. The basis of issue is one per NBC

Reconnaissance Team and fielding will begin
in late 95. (CPT Franks, DSN 680-4412/
FRANKSC@EMH10. Monroe.ARMY.MIL)

**Combat Service Support Control System
(CSSCS):** Provides the logistics commander
and staff the ability to rapidly collect , analyze,
and disseminate critical logistics, medical,
financial and personnel information. CSSCS
will provide timely situational awareness and
force projection information to determine the
capability to support current operations and
sustain future operations. Fielding begins in
Nov 97 to III Corps COSCOM and then to other
III Corps units. (Mr. Van Alstine, DSN 680-
3019/ VANALSTP@EMH10. Monroe
.ARMY.MIL)

**Corps and Theater ADP Service Center-
Phase II (CTASC-II):** Provides the com-
mander with the capability of mobility and
interoperability of split-based logistical
operations to sustain an operation. Provides
increased ADP capability to rapidly and
efficiently satisfy wartime information
requirements, provides greater survivability
through mobility and standardization of
hardware and software systems. Fielding of
the CTASC-II to XVIII Airborne Corps
COSCOM began in Nov 95 and the system is
going through fine tuning. One CTASC-II
system has been fielded to USAREUR and is
fully operational. Fielding will continue
throughout the Army as systems become
available. (Mr. Van Alstine, DSN 680-
3019/VANALSTP@EMH10. Mon-
roe.ARMY.MIL)

**Combat Service Support Automated
Information Systems Interface (CAISI):** Fills
a current shortfall by providing a capability for
the STAMIS to be packet capable. CAISI is a
user-owned and operated capability that allows
CSS automation devices to exchange
information via tactical and commercial
communications networks to include
automation systems within the sustaining base.
CAISI connects existing incompatible devices
to networks. Fielding to XVIII Corps COSCOM
units is currently ongoing. Fielding will
continue throughout the Army as systems
become available. (Mr. Van Alstine, DSN 680-
3019/ VANALSTP@EMH10 . Monroe
.ARMY.MIL)

**Automatic Chemical Agent Detector Alarm (ACADA):** The ACADA is an automatic point detector (scheduled to replace the M8A1) that will detect both nerve and blister agents. The system will weigh less than 15 pounds and be 0.5 cubic feet or smaller in size. The new system will have the added blister capability improvement over the M8A1 as well as a decrease in the number of false alarms. The basis of issue for the ACADA is one for one replacement for the M8A1 and is currently funded for Force Package 1 and 2 units. Fielding is currently scheduled for 1QFY97. (CPT Franks, DSN 680-4412/FRANKSC@ EMH10. Monroe ARMY.MIL)

**AN/UDR-13 Pocket Radiac:** The Pocket Radiac is a radiation dosimeter that measures initial and residual gamma radiation and prompt neutron radiation. The system will automatically alert the operator when safe radiation dose is exceeded. The system improves on the IM-93 in that it measures both prompt and residual gamma and neutron radiation doses and also measures dose rate that previously required a different detector (IM-174/AN-VDR-2). The system will replace the IM-93 with a Basis of Issue of one per platoon. System is currently scheduled for fielding in Feb 98. (CPT Franks, DSN 680-4412/FRANKSC@EMH10. Monroe ARMY.MIL)

**XM56 and XM58 Smoke Generation Systems:** The XM56 and XM58 are large area, mobile smoke generator systems which produce visual or infrared smoke. Future improvements will include millimeter wave (MMW) obscurant capability. The smoke generator is modular in construction including a power module, visual module, IR module, and future MMW module. The power module uses a gas turbine to disseminate obscurants. The XM56 is HMMWV mounted and the XM58 is mounted in a M113 tracked vehicle. The system requires only two fuels, vehicle/ turbine fuel and fog oil. These systems will be fielded to Force Package 1 units beginning in May 97. (Mr. Dixon, DSN 680-4413/DIXONW@ Monroe EMH10.ARMY.MIL)

**Integrated Meteorological System (IMETS):** IMETS is a mobile tactical automated weather data receiving, processing, and dissemination system designed to provide timely weather and environmental effects forecasts, observations, and decision aid information to multiple command elements at echelons where USAF Weather Teams provide weather support to the Army. IMETS is an Army-furnished system (standard shelter/vehicle, common hardware/ software, and communications) that is operated by USAF personnel and maintained within planned Army support for system components. Seven Block I systems have been fielded thus far. The lack of dollars to fund software support remains a critical problem, with FORSCOM refusing to allow further fieldings to FORSCOM units until the software support issue has been resolved. Block II testing is scheduled for 4QFY96, with first system fielded not later than late 4QFY96/early 1QFY97. (POC: Mrs. Hanks/DSN 680-4077/HANKSJ@ EMH10. Monroe ARMY.MIL)

**Digital Topographic Support System/Quick Response Multicolor Printer (DTSS/QRMP):** The DTSS/QRMP program combines two separate systems into one downsized system. DTSS/QRMP will be capable of receiving, (re)formatting, creating, storing, retrieving, updating, merging, and manipulating digital topographic data, as well as hardcopy reproduction of topographic products. The system will provide the theater commander and his staff automated and integrated terrain products to enhance and compress the decision-making process across the operational continuum. HQDA (DCSOPS) has not finalized a fielding schedule, with initial operational capability still projected for FY98. A mock-up of the DTSS/QRMP was shipped to Fort Hood on 30 May 96 for use during training and operations for Task Force XXI. (POC: Mrs. Hanks/DSN 680-4077/HANKSJ@EMH10. Monroe.ARMY.MIL)

**TROJAN Special Purpose Integrated Remote Intelligence Terminal (SPIRIT) II:** A HMMWV mounted intelligence dissemination satellite communications system which provides access to national and other level intelligence data bases. SPIRIT provides all-source dissemination capabilities including secure voice, data, and fax. SPIRIT will receive, display, and transmit digital imagery, weather and terrain products, templates, graphics, and text between CONUS/OCONUS bases and deployed forces. It supports force projection and split-based operations. TROJAN SPIRIT II will be fielded to Army units in FY96; the USMC has several systems

fielded. (POC: Mr. Hurst/DSN 680-4347/ HURSTJ1@EMH10. Monroe.ARMY.MIL)

**Intelligence and Electronic Warfare Common Sensor (IEWCS) System consists of the Ground Based Common Sensor-Light/Heavy and Advanced QUICKFIX GBCS-L/H&AQF):** A next-generation divisional system which can intercept, locate, and process raw signal data in support of intelligence collection, targeting, and electronic attack. The IEWCS provides target detection, identification, and location reports in near real time to brigade and division commanders. GBCS can also jam enemy tactical communication emitters. It is capable of passing targeting data to TACFIRE in support of a "quickfire" or sensor-to-shooter link. GBCS-L supports light divisions/brigades and GBCS-H supports supports heavy divisions/brigades. The range capability of the GBCS-L/H can be extended by the use of the aerial system known as the AQF. The AQF, in conjunction with GBCS, provides highly accurate location data via its precision location subsystem. All the components of these three systems are the same with the exception of the vehicles and antennas. FUE is scheduled for 3QFY97. (POC: Mr. Floyd/DSN 680-3667/FLOYDW@EMH10.Monroe.ARMY.MIL)

**TROJAN Transportable Mini-Switch (TTMS):** A preplanned product improvement of the TROJAN SPIRIT II system. It provides a materiel solution to eliminate a single source of failure at the Fort Belvoir switching center. TTMS will further eliminate dual satellite hops and provide TROJAN SPIRIT II connectivity for an intra- and inter-theater digital voice switching capability. TTMS is employed at theater level and handles up to 12 TROJAN SPIRIT II. System I to be fielded to Pacific area in FY 97. System 2 is at the Fort Belvoir switch to support equipment movement operations at the switch. System 2 will be fielded to support European and SW Asia areas of operations in FY 97. (POC: Mr. Hurst/DSN 680-4347/HURSTJ1@EMH10. Monroe.ARMY.MIL)

**Joint Surveillance Target Attack Radar System (Joint STARS):** An Army-Air Force wide area surveillance system to provide battle management and targeting information. Supports situation development and targeting of mobile and fixed ground targets. Joint STARS consists of an Air Force E8C aircraft and Army ground station modules (GSM). The E8C collects moving target indicator (MTI) and synthetic aperture radar (SAR) data using a multi-mode radar. The GSM receives/analyzes radar imagery from the E8C. It supports intelligence and targeting functions with near real time data. Joint STARS (two E8C and 13 GSM) conducted a successful deployment in support of Operation Joint Endeavor from Dec 95 to Mar 96. Army and Air Force testers deployed with the system and are currently briefing Multi-service Operational Test and Evaluation results to senior Army and Air Force officers. The first production aircraft was delivered to Air Combat Command on 11 Jun 96. Initial operational capability will occur in FY97. (POC: MAJ McNeill/DSN 680-5477/MCNEILLW@EMH10. Monroe .ARMY.MIL)

**Enhanced Tactical Radar Correlator (ETRAC):** A tactical mobile ground processor (normally at corps) for receiving advanced synthetic aperture radar system (ASARS) data from U2R aircraft via a direct data downlink. ETRAC major function is to provide ASARS imagery to Modernized Imagery Exploitation System (MIES) for exploitation, situation and target development. ETRAC is C-130 self-deployable. First ETRAC fielded to XVIII Abn Corps in May 95 with second system fielded to V Corps in Feb 96. (POC: Mr. Waller/DSN 680-3441/WALLERJ@EMH10. Monroe .ARMY.MIL)

# SOLDIER



*The Army's most valuable resource is the Soldier. Regardless of how superior our leadership, weapons, and technologies might be, it is the soldier who is the backbone of the Army. We are providing a comprehensive program to modernize the soldier as a battlefield system and to maximize warfighting capabilities by enhancing lethality, command and control.*

**Soldier System:** The total Army program for modernizing the soldier as a system. It includes all soldiers and provides for acquisition of all items worn, carried, or consumed by soldiers for individual use in a tactical environ-ment. The ultimate result will be greatly enhanced combat capabilities as well as full integration of the soldier into the digitized battlefield. The Soldier System will produce three major variants of an integrated fighting system: Land Warrior for dismounted soldiers, Air Warrior for air crewmen, and Mounted Warrior for armored vehicle crewmen. The dismounted system includes a modu-lar weapon with thermal sight, improved ballistic protection, a soldier computer/radio, combat ID, and other capabilities. Ini-tial fielding of the dismounted Land Warrior System is programmed to begin in FY00. (Mr. Roberts/DSN680-3512/e-mail Robertsd@emh-10.monroe.army.mil)

**Soldier Enhancement Program (SEP):** A quick reaction program initiated by Congress in 1990 to expedite modernization of infantry soldier equipment. The program has since been expanded to include all soldiers and to address quality of life issues in the field. The focus is on nondevelopmental solutions which can be ready for procurement in 36 months or less. The program includes small arms, optics, munitions, clothing and individual equipment, and individual combat rations. (Mr. Rob-erts/DSN680-3512/e-mail Robertsd@emh-10.monroe.army.mil)

**Force Provider (FP):** One operational set (six modules) is supporting the peacekeeping effort in Europe. The system is operated by LOGCAP contractor. Two modules are scheduled to be completed in FY 96. A winterization kit testing for water distribution kit successful. Project completion of all 36 modules by FY02. (CPT Hamilton/DSN680-3039/e-mail Hamiltoa@emh-10.monroe.army.mil)

**The Army Field Feeding System-Future (AFFS-F):** The U.S. Army Combined Arms Support Command (CASCOM) and the U.S. Army Natick Research, Development, and Engineering Center continue refining the total AFFS-F equipment and concept. The concept involves upgrading current field feeding equipment, developing rations that are appealing to the soldiers, integrating a new class I automation system, and improving the force structure to meet the needs of the Force XXI Army. (CPT Hamilton/DSN680-3039/e-mail Hamiltoa@emh-10.monroe.army.mil)

**Laundry Advanced System (LADS):** CASCOM recommended the system change to become a water-based system. The contractor has made modifications to increase capabili-ties. (CPT Hamilton/DSN680-3039/e-mail Hamiltoa@emh-10.monroe.army.mil)

**Field Latrines:** This program addresses improving identified field sanitation problems. The operational requirements document (ORD) for the Modular Initial Deployment Latrine is approved. The ORD for the Maturing Theater Latrine is awaiting approval. Currently, individual bags are in the supply system. (CPT Hamilton/DSN680-3039/e-mail Hamil-toa@emh-10.monroe.army.mil)  ·

**Family of Space Heaters:** All requirement documents for this program are approved. Testing is being conducted and refinements currently are taking place. (CPT Hamilton/DSN680-3039/e-mail Hamiltoa@emh-10.monroe.army.mil)

**Tent and Shelters Program:** The CASCOM is now the TRADOC Tent/System Manager. CASCOM is responsible for the coordina- tion of tentage/shelter actions, reviewing proposed materiel requirements documents, providing guidance, and designating TRADOC school as proponent for new tentage when proponency is undetermined. (CPT Hamilton/DSN680-3039/ e-mail Hamiltoa@emh-10.monroe.army.mil)

**Multi-technology Automated Reader Card (MARC):** The JROC approved the Services' recommendations to include the MARC as part of Joint Asset Visibility and to support it in the FY 97-01 Program Objective Memorandum (POM). The Joint Personnel Asset Visibility (JPAV) system, a subset of Total Asset Visibility (TAV) will use the MARC as a means to capture data and transfer it to a variety of systems to provide total visibility of personnel. The card contains a digital photograph, printed and embossed information, bar code, magnetic stripe, and computer chip. Tested capabilities include readiness processing, mani-festing, accountability, dining facility headcount, patient reception at medical clinics, field medical treatment documen-tation, and prisoner of war information/ tracking. (MAJ Johnston/DSN680-2539/e-mail Johnstoa@emh-10.monroe. army .mil)

**Armored Security Vehicle (ASV).:** The ASV is a light, armored, combat support vehicle. It is needed to provide minimum essential protection to selected MP units in highly exposed threat environments. The primary vehicle requirement is bal-listic protection (wraparound and overhead), and gas particulate ventilated face piece system. These requirements are in addition to achieving comparable mobility, communica-tions, and firepower capabilities of the current MP weapons platform. A contract was awarded 12 Dec 95 to Textron Marine and Land Systems for four ASV prototypes for government testing. This is a Program Executive Office-Tactical Wheeled Vehicle-managed program for the Military Police. First unit equipped is expected in 2QFY98. (MAJ Johnston/DSN680-2539/e-mail Johnstoa @emh-10.monroe.army.mil)

**Light Vehicle Obscuration System (LVOSS):** The LVOSS is a 66mm, self-defense smoke/obscurant device externally mounted on light vehicles such as High Mobility Multipur-pose Wheeled Vehicle (HMMWVs). Light vehicles do not have an effective means of pro-viding obscuration smoke for concealment and nonlethal self defense. The operational need for the LVOSS system has been documented in support of the infantry's HMMWV equipped TOW units and MP-variant HMMWVs. A Milestone I In-Process Review recom-mendation to enter Phase II of development was approved by the Milestone decision authority on 29 Feb 96. First Unit Equipped is expected in 4QFY00. (MAJ Johnston/DSN680-2539/e-mail Johnstoa @emh-10.monroe.army.mil)

**Mission Need Statement (MNS) for Automated Military Police Functionality:** The TRADOC DCSCD recommended approval of this MNS to Department of the Army (Deputy Chief of Staff for Operations and Plans (DA ODCSOPS) on 14 Nov 95. The MP Corps (including U.S. Army Criminal Investigation Command) has a critical operational need for an automated functional application. Currently, MAP information is manually consolidated from oral and written reports into briefings, charts, forms, and reports, etc. State-of-the-art information automation technologies will modernize the MP information operation capabilities, fully integrate and operate on Force XXI battle command systems' common operating environment, contribute critical functional battlespace information in a timely manner, and comply with Congressional and DOD mandated standards for reporting criminal activities. (MAJ Johnston/DSN680-2539/e-mail Johnstoa@emh-10.monroe.army .mil)

**Mission Need Statement (MNS) for the Security of High Value, Sensitive, Pilferable items:** DA ODCSOPS (DAMO-FDJ) approved this MNS on 9 Feb 96. This capability is required to improve security and protection of high value, sensitive, or pilferable items such as night vision devices, global positioning systems, small arms repair parts, etc. The initial objective of this system is to avoid mission degradation through by preventing loss

of CIIC items. A secondary objective is to alleviate the necessity of commanders using soldiers to perform excessive guard duty to protect high value and sensitive government property. (MAJ Johnston/DSN680-2539/e-mail Johnstoa@emh-10.monroe.army.mil)

**UH-60Q Medical Evacuation (MEDEVAC) Helicopter:** The UH-60Q will provide improved medical, navigational, and communication capabilities over the currently employed MEDEVAC (UH-1/UH-60A) aircraft. The Office of the Surgeon General approved Army National Guard transfer of $17M to Utility Helicopter Program Manager's Office (UH-PMO) for execution of UH-60Q Phase II (IOT&E) program on 27 Jun 95. PM anticipates type classification in Jan 98. (MAJ Nickell/DSN680-3072/No e-mail address is available at this time)

**MEDEVAC for Combat Casualty Care (MEC3):** DA ODCSOPS approved this mission need statement in Dec 95. The MNS is derived from the U.S. Army Medical Department Center and School's (AMEDDC&S) originally submitted requirement specifying the need for improved armored ambulance and treatment team vehicle. DADCSOPS staffing produced title change for applicability to all future MEDEVAC modernization initiatives. (MAJ Nickell/DSN680-3072/No e-mail address is available at this time)

**Medical Reengineering Initiative (MRI):** The AMEDDC&S CD process for force structure review/revision to support CONUS-based, force projection Army. The principal product of this process, the Combat Health Support Operational Concept, recently was submitted for approval and inclusion into the TRADOC 525 series of pamphlets. This document is the AMEDDC&S's evolving vision of future medical operations and organizational designs. The major tenets of this vision are:

a. Far-forward medical treatment including advanced trauma management and far-forward surgery.

b. Standardized medical units using a modular-designed medical support system.

c. Standardized air and ground MEDEVAC units, using air evacuation as the primary means of MEDEVAC on the battlefield.

d. Maximum use of emerging technology to improve battle-field survivability and decrease mobility and resource requirements.

e. Flexible, responsive, and deployable hospital design and structure.

f. Enhanced ancillary and functional support systems using state-of-the-art technology.

g. Medical command and control units with split-based operational capability.(MAJ Nickell/DSN680-3072/No e-mail address is available at this time)

**Combat Support Medical.:** Resources the modernization, sustainment, and tactical equipment maintenance of the Deployable Medical Systems (DEPMEDS) and the AMEDDC&S's table of organiza-tion and equipment force structure. This program contains numerous lines of basis of issue plans which are both replacements and new items. (MAJ Nickell/DSN680-3072/No e-mail address is available at this time)

**Medical Nuclear, Biological, and Chemical (NBC) Defense Acquisition Program:** Procures products for the centralized management of chemical medical defense products. It procures the initial and improved stocks of NBC pretreatment and treatment products and is executed by the Joint NBC Defense Board. This program contains numerous products which are both replace-ments and new items. (MAJ Nickell/DSN680-3072/No e-mail address is available at this time)

# BATTLE LABS
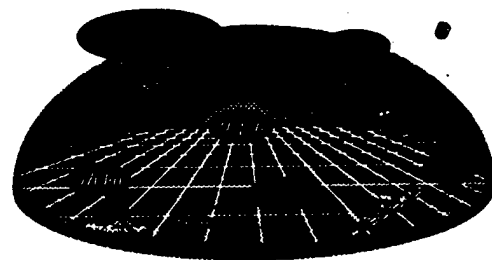


After four full years of growing and maturing, TRADOC Battle Labs continue to be a driving force behind TRADOC's successful efforts in

its role as "Architect of the Future." In their primary role of planning and conducting experiments, the Battle Labs are now poised to conduct another eventful year of exploring the doctrine, training, leader development, organizational, materiel and soldier support (DTLOMS) possibilities for future operations. These funded experiments and demonstrations are a direct result of the technology research and concept development activities in which the Battle Labs have participated throughout the past year. Key Battle Lab input to the Army's *Requirements Determination Process* as outlined above will lead to an Army XXI that will be unmatched in its ability to dominate the future battlefield.

Testimony to the success of the Battle Lab process is the addition of two labs that were formed on 1 October 1996. They are the Maneuver Support Battle Lab (Fort Leonard Wood) and the Aviation Battle Lab (Fort Rucker). The list of current Battle Labs is as follows:
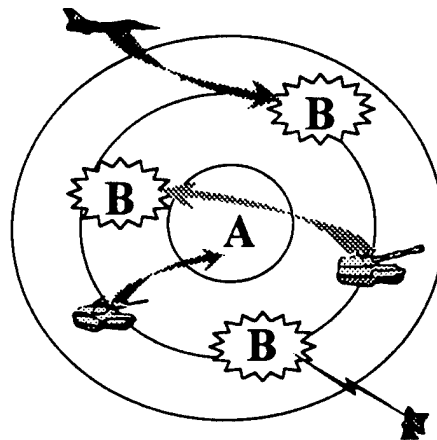
> Aviation (Fort Rucker)
> Battle Command Battle Lab (Forts Leavenworth, Gordon and Huachuca)
> Combat Service Support (Fort Lee)
> Dismounted Battle Space (Fort Benning)
> Depth and Simultaneous Attack (Fort Sill)
> Early Entry Lethality, and Survivability (Fort Monroe)
> Maneuver Support (Fort Leonard Wood)
> Mounted Battle Space (Fort Knox)

Described below are only a few of the many current and future activities of some of the Battle Labs. They are a representation of the kinds of work being done in the Battle Labs to build the future Army. Those labs not mentioned below have similar programs related to their specific area of interest. Additional information about these and other programs can be accessed through the *Battle Labs Home Page* found on the internet at http:\\battlelabs.monroe.army.mil.

### Battle Lab Integration, Technology and Concepts Directorate (BLITCD), DCSCD, HQ TRADOC

BLITCD has coordinated Battle Lab participation in four significant processes that have led to the selection of experiments to be funded in FY 97. These four programs are: 1) Battle Lab Board of Directors Meeting; 2) Science and Technology (S&T) Review; 3) Advanced Concepts Technology (ACT) II Program; and 4) Concepts Experimentation Program (CEP). The purpose of the Board of Directors was to review the experiments that were completed in FY 96 and make recommendations as to whether the technologies experimented with should be 1) submitted as Warfighting Rapid Acquisition Program (WRAP) candidates; 2) developed as a formal requirement and placed in the normal acquisition process; 3) experimented with further or 4) discontinued as infeasible or inapplicable. The S&T Review identified areas in which S&T is lacking and where experimentation funds should be applied. ACTII funds private industry initiated projects based on Battle Lab interests. CEP resources TRADOC internally generated experiments related to all types of future technology.

### Aviation Battle Lab



Having been organized as of 1 October, 1996, the Aviation Battle Lab, based at Fort Rucker, is developing the structure and plans for future experimentation in support of the Army's Requirements Determination Process. Recent activities related to experimentation conducted by Fort Rucker's precursor to the Aviation Battle Lab include the Prairie Warrior 96 (PW97) experiment conducted at Fort Leavenworth. Future known experimentation

activities relate to the Theater Missile Defense Experiment 97 (TMDE97) and PW97.

**Prairie Warrior 96**
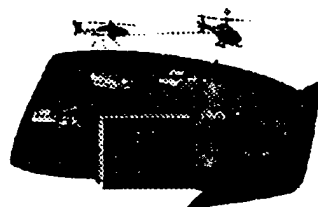


Mobile Strike Force (MSF) issues included employment of the Aviation Brigade as an active Reconnaissance, Intelligence, Security and Target Acquisition (RISTA) force. The specific issue addresses was: How effectively can the Brigade perform the RISTA mission while simultaneously planning and preparing for their decisive operations and sustainment missions?

The Mobile Strike Force (MSF) Aviation Brigade demonstrated a capability to simultaneously plan and execute multiple missions, to include RISTA. At one point the brigade was simultaneously executing a screen, zone reconnaissance, and movement to contact. During this same period the staff was able to plan for their main effort mission (destruction of artillery). The brigade's ability to do this was made possible through the use of MCS/P and ASAS which was employed in the brigade headquarters. Further, the situational awareness of the staff was increased through the use of the virtual UAV, and the JSTARS capability resident within the ASAS. As a result of the automation available, the Aviation Brigade was clearly able to conduct successful mission planning within three 3 hours of receiving an order. The inherent flexibility of the brigade was amply demonstrated by the frequent mission changes, and the requirements to simultaneously operate throughout from the forward to rear boundaries of the MSF battle space.

**Joint Theater Missile Defense (JTMD) 97**
Although there will not be a Theater Missile Defense (TMD) Advanced Warfighting Experiment in 1997, there will be a JTMD initiative conducted to examine theater missile defense (TMD). Since an integral part of TMD is the ability to strike enemy launch platforms deep in the enemy rear area, it is likely that an AH-64 attack battalion will be incorporated in the exercise to examine the impact of such an organization on the overall TMD mission.

**PRAIRIE WARRIOR 97**
PW 97 will examine, in part, the proposed heavy division redesign organizations with the focus being on Battle Command issues and initiatives. PW 96 after action reports identified that one of the areas requiring attention was the management of the third dimension of battle space. As a result, one of the initiatives proposed by the Aviation Battle Lab and the USAAVNC for inclusion in the experiment is the Tactical Airspace Integration System (TAIS). In addition, the Army Airborne Command and Control System (A2C2S) will be submitted as an initiative for inclusion in the experiment.

**Depth and Simultaneous Attack Battle Lab**



**Air Defense Lab and the THEATER MISSILE DEFENSE - EXPERIMENT 1996**
Below narrative provides a summary of the observations and insights gathered during the Theater Missile Defense Experiment (TMDE) 1996.
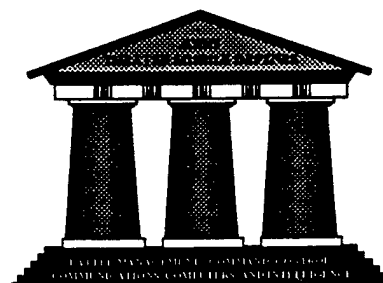
Background: The Theater Missile Defense Advanced Warfighting Experiment conducted in 1995 (TMD-AWE 95) highlighted Force XXI contributions to the joint TMD battle, and validated the integration of the four elements of TMD as the cornerstone of TMD operations. It underscored the importance of not returning to the "stovepipe" approach of prior TMD experimentation and that a horizontal approach to TMD experimentation was absolutely essential if headway in providing solutions to TMD problems is to be continued. TMD-AWE 95 also confirmed the value of the continued development of Synthetic Theater of War (STOW) capabilities, especially those focusing on linkages with other Services. The TMD-AWE program was seen as critical to the Joint Venture process. It provides a high payoff in joint integration, the only chance to assess TMD C2 at echelons above division and ensures the opportunity for an Army lead in the TMD arena.

TMDE96 Issues: CG, USAADASCH, and Director, DS&A BL determined that TMD Experiments should focus on the issues listed below. These issues leveraged planned CINC's experiments and joint exercises which are integrated and supported by simulations in a Distributed Interactive Simulation (DIS) environment and live exercises.

TMD-AWE 96 ISSUES
        Assess Methods of Countering Very Short Range Ballistic Missiles
        Assess Methods of Countering Cruise Missiles
        Assess the Cue-Track-Attack-Assess Target Engagement Methodology
        Refine Joint Groundspace / Airspace Deconfliction Methods
        Assess Joint Theater Passive Defense Warning Methods             .
        Develop Modeling Scenarios That Include Both Force-On-Force and TMD
        Determine the Future of the Army TMD Handbook (Build a "Primer")
        Assess Dissemination of Fused Intelligence Data by "Push and Pull" Data Distribution System

TMDE Overview: The TMD Experiment '96 was comprised of three components/experimentation tools: analysis using models and simulation; live exercise (leveraging Roving Sands 8-16 Jun '96); and

the Synthetic Theater of War (STOW). These components comprised the nucleus of the TMD Experiment and are linked to each of the identified focus areas. Each block represented a focus area for the TMD Experiment.

TMDE Objectives: Based on the above areas, the following objectives were developed for TMD Experiment '96:
        Cruise Missile Defense (CMD)
        Develop a Cruise Missile Defense (CMD) operational concept.
        Identify and rationalize key CMD operational requirements.
        Refine the operational concept for an Aerostat-based sensor
        Develop draft elevated sensor operational requirements with rationale.

C2 NODES
        Develop a draft operational concept, TTP, and initial organizational design for the Army Air and Missile Defense Command.

TMD WARNING
        Develop requirements for TMD warning systems and procedures.
STOW
        Demonstrate an expanded STOW based on TMD AWE 95 experience. Identify and document requirements for future STOW combat developments and training applications

Methodology: TMD E '96 methodology was based on conclusions from the three deliverables published from the TMD-AWE '95: TMD Operational Concept for Force XXI Operations; Army TMD Integrated Handbook; and an Army Integrated Assessment.

The model-test-model approach was used beginning with a pre-live-ex model / simulation effort designed to gain operational insights prior to Roving Sands '96. The insights gained were incorporated into the live exercise phase conducted during the period 8-16 June 1996. During Roving Sands the AAMDC made its operational debut, TMD warning methods will were examined, tracking and engagement of a cruise missile drone was demonstrated and demonstration of an aerostat-based sensor occurred. Following the live exercise, insights gained were fed into the post live exercise modeling phase and compared to the live exercise and pre-live-exercise modeling effort.

TMDE Insights. The insights listed below were gathered as part of Roving Sands '96, the Cruise Missile Defense Analysis, and other leveraging opportunities that were a part of TMDE 96.

**Army Air and Missile Defense Command (AAMDC)**

The AAMDC effectively commanded the EAC ADA brigade and maintained operational continuity as the DAADC during JFACC transition.

The AAMDC provided real-time intelligence information which enabled commanders to make timely decisions on system capabilities and organization, including TBM launch data and airspace control orders.

The AAMDC determined the need for centralized ROE deconfliction air defense planning to ensure proper coordination and dissemination, and produced the ADA annex to the JFLCC OPORD.

The AAMDC validated the need for an active defense CSS cell and LNOs at key air and missile command / operation centers.

**Aerostat**

The Aerostat demonstrated potential value in increasing situational awareness by detecting leading edge of the enemy attack.

The Aerostat demonstrated a potential to increase battle space which can provide the time necessary for preferential engagements.

The Aerostat demonstrated support-ability by using soldiers in launching and recovering operations.

**Cruise Missile Defense (CMD)**

Demonstrated the need for slew-to-cue for SHORAD systems to engage low observable targets.

Demonstrated SHORAD AD capability to combat cruise missile threat.

Verified that "Preferential Engage-ments" are required to prevent collateral damage from low-altitude intercept.

Found that Elevated sensors make preferential engagements and extended range intercepts possible.

Multiple elevated sensors probably required to support a theater of operations.

PAC-3 missile inventory is insufficient to support TBM and cruise missile defense.

**Tactical Ballistic Missile (TBM) Warning**

Beeper technology proved valuable; however, follow-on TBM spot reports required to notify the force of impact, all clear, etc.

National Guard and Reserve forces must be included in digital revolution.

HIDE radios require modifications to fulfill warning.

Determined need for improved passive defense tactics, techniques, and procedures at all levels.

**Synthetic Battlefield Environment (SBE)**

Constructive "real time" TBM kill assessment to Patriot proved valuable for all active participants.

Need exists to include an improved man-in-the-loop simulation for THAAD and Patriot.

Demonstrated necessity to evolve DIS technologies to all exercise players, including allied forces.

Determined need for higher fidelity and maturity in both BMC3 and robustness in the simulation architecture.

**Summary:** The TMDE proved successful in capturing insights relative to those deficiencies noted during the TMD-AWE 95. Additional experiments are still required to integrate all operational elements of TMD in developing Army requirements to support JTMD, to investigate new technologies, and to provide a venue for showcasing synthetic battlefield environment contribution to the joint warfight. The following observations summarize TMDE 96.

The AAMDC demonstrated key air and missile defense functions and proved the need for a unique active defense integrating CSS cell.

The aerostat demonstrated potential in extending the battle space and providing early warning.

The cruise missile defense experiment indicated that SHORAD systems with slew-to-cue possess a cruise missile defense capability and elevated sensors are required for preferential engagements and extended ranges intercepts.

The synthetic battlefield environment made great improvements in providing realistic, real time kill assessments and inter-service connectivity.

TBM warning technological improve-
ments were demonstrated; however, the need
for a theater wide warning system still exists.

## Battle Command Battle Lab (Leavenworth)

### Prairie Warrior 1996 (PW'96)

Prairie Warrior '96, held in May of 1996, was a
Joint Venture Advanced Warfighting
Experiment (AWE) conducted in a Corps/
Division Battle Command Training Program
(BCTP) training environment. Battle
Command Battle Lab (Leavenworth) (BCBL(L))
experimented with technology, staff structure
and integration, and formulation of the
Relevant Common Picture (RCP) using the
Command and General Staff College Elective
Course 'Battle Command Elective' as the
experimentation vehicle.

BCBL(L)'s goal was to integrate experiments
that support the objectives of and continue
investigation into Joint Venture and Force XXI
issues. Accordingly, lessons learned from
Prairie Warrior 95 were incorporated into the
exercise. In addition, Battle Command
Elective students portrayed the Mobile Strike
Force (MSF) with 2010 systems while 4th ID
played the role of the EXFOR with 1999
systems using the interim Force XXI division
design.

The MSF experimented with the Combat
Information Center (CIC) as integrator of
information to develop the commander's RCP
at the division level. Utilizing current
technologies and Maneuver Control Sys-
tem/Phoenix (MCS/(P) as the surrogate Army
Battle Command System (ABCS), the BCBL(L)
examined the potential for enhancement of
command and control operations in the
following areas:

ATCCS Integration. It was
determined that in addition to being fully
trained on Army Tactical Command and
Control System (ATCCS) systems, the digital
Battle Staffs must fully understand their
individual ATCCS system and its integration
into the command and co ol network before
the systems capabilities can be optimized.
Overall, ATCCS integration efforts were very
successful. Also, the products of the legacy
systems were available through MCS/P(beta),
and were found to be stable throughout the
exercise.

Combat Information Center (CIC).
The functions performed by the Combat
Information Center (CIC) at the division level
were critical for the development and
dissemination of the Relevant Common
Picture (RCP) of the modernized force to the
MSF and its brigades. The ATCCS integration
was an essential prerequisite for the CIC to
develop and build the RCP. The RCP was
extremely useful in providing situational
awareness for the MSF and subordinate
commanders.

Voice Recognition. The BCBL(L)
also evaluated the Voice Activation (VA)
module on MCS/P(beta). With a simple
templating of the users voice and a brief
training session, the user gained great
confidence in the VA capabilities and its
usefulness. The hands-off VA tool proved to
be a very useful interface that enhances the
user's ability to input and retrieve information
in MCS/P(beta).
Point of Contact: MAJ Frank Miller, Battle
Command Battle Laboratory, DSN 552-2359,
millerf@leav-emh.army.mil

### Prairie Warrior 1997 (PW'97)

PW'97 is the Command and General Staff
College (CGSC) capstone exercise to be
conducted 12-20 May 97. PW'97 is focused
on providing a BCTP-like experience for the
CGSOC students. Although PW'97 is not an
Advanced Warfighting Exercise in the same
vein as PW'96, it is a Battle Lab Warfighting
Experiment (BLWE) with similar goals and
purpose. It will be an important venue for
experimentation on selected battle command
issues. PW'97 will be a six (6) day exercise to
be held Monday-Saturday with AARs set to
begin the following Monday.

Planning is currently underway for PW'97 with
a major planning conference working group set
for 10 Oct 96. Currently, the scenario is a Joint
Multinational Operation in Lantica (European
terrain, specifically Poland and Eastern
Germany). The exercise includes a robust
EAC structure, the Mobile Strike Force (MSF),
Student Corps, and Coalition Brigades all
participating at Fort Leavenworth. CGSC will
teach a Battle Command Elective (A308) to
train students for the MSF, using advanced
O&O concepts, 2010 combat technologies, and
prototypes or surrogates for advanced

information technologies. The design of the MSF is based on the Force XXI interim division design.

This year's experiment nominations focus on battle command related issues. The following two experiment nominations were submitted by the Battle Command Battle Lab-Leavenworth:

**Nomination 1** - How effectively does the MSF staff meet the needs and/or requirements of a modernized force by developing and disseminating a standardized RCP without a centralized CIC? Who maintains the data base necessary to produce the RCP? How effective is the MSF staff in meeting two-way digital information needs of MSF subordinate units? What types of digital information should the MSF staff make available for MSF subordinate units?

HYPOTHESIS: With an integrated ATCCS network, the Mobile Strike Force (MSF) staff can produce a timely and accurate Relevant Common Picture (RCP) without a dedicated and centralized Combat Information Center (CIC).

EXPECTED MEASURES OR OUTCOMES: Expect the MSF commander and staff to function effectively without a Combat Information Center.

**Nomination 2** - How effective is the voice recognition tool in meeting the needs of users in inputting and retrieving data in MCS?

HYPOTHESIS: A hands-off voice recognition tool enhances a user's ability to input and retrieve information in MCS.

EXPECTED MEASURES OR OUTCOMES: Expect a brigade of the MSF to use voice recognition technology and sustain tempo of operations of its sister brigades.
**Point of Contact:** MAJ Brian Birdwell, Battle Command Battle Laboratory, DSN 552-2360, birdwelb@leav-emh.army.mil

**Battle Command Focused Rotation Program (BCFR)**
In August 1993, the Battle Command Battle Lab (BCBL) received a tasking from the CG, TRADOC to conduct a program of battle command focused training center rotations. The program's intent was to correlate what battle commanders do, what we train them to

do, and what research is doing to assist them. For two years, data was collected from rotations at the National Training Center (NTC), Joint Readiness Training Center (JRTC), Combat Maneuver Training Center (CMTC), and Battle Command Training Program (BCTP), as well as archived Combat Training Center rotation data, battle command workshops and general officer conferences.

An analysis of the data indicated significant systemic problems with battalion and brigade commander performance; it indicated TRADOC can do a better job of educating, developing, and supporting commanders in the areas of fundamental knowledge and basic skills, information management, and decision making.

As a result of this effort, the following products have been, or are being developed for use by battle commanders and their staffs:
- Battle Command Techniques and Procedures Manual (addressed below separately)
- Battle Command CD-ROM Instructional Module
- Maneuver Battalion and Brigade Commander's Battle Command Tasks
- Battle Command Training Strategy
**Point of Contact:** CPT Mark Babakan, Battle Command Battle Laboratory, AV 552-8047, babakanm@leav-emh.army.mil

**"Battle Command Techniques & Procedures Guide"**
The first draft of the "Battle Command Techniques and Procedures Manual" was published on April 21, 1995. It was intended as a supporting document to BCBL Pamphlet 2.1, Battle Command. Its purpose was to provide information to the battle commanders at brigade and battalion levels on the employment of the battlefield operating systems (BOS) and to help further the discussion of battle command. Designed as a pocket primer for commanders and staff officers when conducting field operations and missions of all types, the manual covers selected command topics of a general nature and specifics within each of the seven BOS.

In keeping with the spirit of BCBL's mission, this manual was not intended to be a completed work. Extensive feedback was solicited through questionnaires and interviews

of Subject Matter Experts, CTC Observer Controllers, Commanders, School Commandants, and others. Through August 96 nearly all 3,000 printed copies were distributed to organizations throughout the Army. Requests for additional copies will be handled on a case-by-case basis. The manual can now be accessed on the internet at the BCBL-L homepage (http://cacfs.army.mil). Additionally, TRADOC is currently reproducing the manual on CD-ROM.
Point of Contact: CPT Mark Babakan, Battle Command Battle Laboratory,
AV 552-8047, babakanm@leav-emh.army.mil

## BATTLE COMMAND CD-ROM INSTRUCTIONAL MODULE

The Battle Command CD ROM Instructional Module is a pilot effort, intended to demonstrate the value of this approach in solving the problem of shortfalls in battle command competencies identified by the BCFR program. Its purpose is to provide officers with an opportunity to study selected topics in the art of battle command, using a self-paced and self-evaluated approach. The Instructional Modules will use interactive, multimedia computer software to provide students the opportunity to learn battle command competencies and the underlying skills, knowledge and attitudes. These modules will provide repetitive vicarious experience for the battle command student in field settings at the maneuver battalion level.

This initial effort is not meant to be a comprehensive treatment of all common battle command shortfalls; however, it addresses selected topics and tasks in depth. Each command problem in the Instructional Module has been identified by the BCFR program as one which is critical to the art of command and in which substantial improvements in commander proficiency can be achieved. Battle Command topics include:

- Articulate Vision and Intent
- Assess Enemy Doctrine/Capabilities
- Understand Sources of Battlefield Information
- Organize and Use Command Information Flows
- Systematically Manage Key Information/Requirements

- Balance Versatility/Agility/Flexibility/Synchronization
Point of Contact: CPT Mark Babakan, Battle Command Battle Laboratory,
AV 552-8047, babakanm@leav-emh.army.mil
## Course of Action Support Tool (COAST)
The Course of Action Support Tool (COAST) is a planning and rehearsal tool that helps planners develop and analyze courses of action. Operating in an MS Windows 3.1 environment, it provides a graphical environment where planners can easily develop courses of action and branches for missions. COAST focuses on two parts of the deliberate decision making process: 1) Course of Action (COA) Development; and 2) COA Analysis and Comparison (or Wargaming).

In COA Development, COAST allows friendly and enemy order of battle (OOB) to be created or to be imported from an existing OOB database. Different COAs can be developed and changed easily on a map. Units, graphics and missions are shown for each time period or phase of the operation. COAST helps to determine plan feasibility by showing default unit movement capabilities. COAST allows changes in default speeds and strengths in the event that there are differences in staff estimates and assumptions. For each COA developed on a map, COAST automatically records and fills out a synchronization matrix showing all the units, their movements, missions, decision points, etc.

In the Wargaming process, COAST provides a rudimentary battle adjudicator to give baseline estimates of battle outcomes. Again, changes in outcomes are easily incorporated if the staff disagrees with the COAST outcome assessment. IN addition, it shows the combat ratios of units involved in conflicts. The entire COA is recorded by time slice and can be changed at any point in time. Ultimately, this will allow for a limited sensitivity analysis because it has the ability to show how the effects of certain changes at a given point in time affect the final outcome of the operation.

Project Objective: To integrate doctrinal databases with military graphics to allow planners to develop a graphic course of action that then has an associated database able to provide a baseline course of action analysis and prediction. To help planners easily plan and visualize a military operations through

different phases of the operation. To provide planners with time and resource estimates for operations.

User Testbeds: Currently, COAST is getting user feedback through selected instructors at CGSC CTAC and CAS3. It may be used with selected groups during the Battle Command Elective (BCE) and Prairie Warrior. Point of Contact: MAJ Mike Florio. DSN: 552-2362, COM: (913) 684-2362, FAX: 552-2350, DDN: floriom@leav-bcbl.army.mil

## Flat Panel Display

Flat Panel Display (FPD) Testing and Evaluation is an ongoing BCBL(L) project, the purpose of which is to develop and refine flat panel display requirements for command and control vehicles (C2V) and Airborne Command Posts (ACP). Through the leveraging of several years and millions of dollars of research and development, BCBL(L) is leading this unique opportunity to test, evaluate, and make recommendations for the eventual procurement of flat panel displays to be integrated into air and ground C2 vehicles.

A joint BCBL/PM C2V/ACP Battle Lab Experimentation Plan has been developed to test and evaluate prototype flat panel displays during Prairie Warrior 96 and the FY 96 BCBL(L) project "Classroom XXI". Classroom XXI experimentation will occur from Aug 96 - Mar 97. Key areas of evaluation for the technology include size, resolution, and contrast, as well as the human factor aspects of display layout and integration. Color gas plasma (19, 21 and 30 inch) and liquid crystal (16 inch) display technologies will be evaluated in Prairie Warrior and Classroom XXI.

This effort will greatly improve the ability of commanders/staffs to make responsive command and control decisions due to the improved picture quality of FPDs over existing CRT display technology. Additionally, the size, weight, and power consumption reduction from the use of FPDs will have a tremendous impact on technical design requirements. Army involvement in R&D prototyping will have a strong impact on industry production specifications and will result in subsequent savings to the Army.
Point of Contact: Mr. Mike Freeman, Battle Command Battle Laboratory, DSN 552-2357, freemanm@leav-emh.army.mil

## Voice Recognition

The voice recognition project began as a BCBL(L)-CECOM joint project developed under an FY 95 Broad Agency Announcement (BAA). It continued under a 1996 BCBL(L) Concept Experimentation Program (CEP). The CEP will continue the experiment began under the BAA while adding functional improvements and exploring additional experimental issues found from user feedback during Prairie Warrior 95. Enhancements will convert an initial prototype into a semi-ruggedized UNIX environment, running on CHSII hardware, with an advanced grammar set. The enhanced voice recognition will be integrated into the MCS/P Command and Control system prototype.

The enhanced voice recognition prototype was successfully used in the Mobile Strike Force during Prairie Warrior 96 to further refine voice recognition requirements for ground/air command and control on the move. New software enhancements will allow control and modifications of grammar and syntax to be made by a system administrator who does not need to have extensive experience in speech technology. Refinements will also allow the commander and staff the ability to continue to control the MCS/P application with a remote microphone, so they are not physically tethered to the keyboard or workstation.

Project Objective: This project will develop a speaker dependent voice recognition technology to allow partial voice control of the MCS/P system. It will further enhance a BCBL(L)/CECOM basic prototype voice recognition system, developed under an FY 95 BAA project. It will integrate a voice recognition system more firmly into the MCS/P command and control system. It will develop a S-bus card on a SUN workstation that will present a more compact, integrated solution. It will develop functionalities that allow a system administrator the ability to develop and change grammar files easily and allow those files to be modified for specific unit or user preferences. It will simplify start up procedures and integrate the voice recognition system so that it can be controlled from the MCS/P terminal. These changes will allow the commander and staff more flexibility in using the system and will speed the input of command and data entry.

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## War Lab

War Lab is a joint BCBL-CGSC-STRICOM effort to create a prototype "hands on" 21st century learning environment, both in and out of the classroom, to enhance tactical decision making skills. The goal of War Lab is to design and test a prototype·virtual training environment at the Command and General Staff College that enables users to "train as you fight". War Lab will conduct qualitative and quantitative analyses on the value added of instructional technologies integrated with innovative instructional techniques. Value added lessons learned from War Lab will be considered for incorporation into the CGSC curriculum. The War Lab project will run from Mar 96-Mar 97.

Core to the War Lab classroom environment will be Army Battle Command System (ABCS) software interfaced to CBS and JANUS simulations. Remote access to War Lab will also be explored. The centerpiece ABCS software of War Lab will be MCS/P, Mission Planning Rehearsal Training System (MPRTS), AFATDS, ASAS, CSSCS, FAADC2I, and TEM. Other key instructional technologies to be explored in and out of the classroom include flat panel/large screen displays, voice recognition, interactive multimedia, high speed remote access, and world wide web integration.

Current Status: The WARLAB XXI project is on schedule and within budget. This includes final construction for the classroom facility (classroom 7, Bell Hall) and the integration of high performance computing equipment, audio and visual capability. Prime contractor RTI, and sub-contractor MYSTECH, are heavily involved with CGSC faculty and students gathering feedback on user-interface issues. Contractors are currently modeling a CGSC authored corps battle scenario for use in the Oct 96 and Feb 97 demonstrations.
Point of Contact: MAJ Larry Hollingsworth, Battle Command Battle Laboratory, AV 552-2359, hollingl@leav-emh.army.mil **For more details on this and other projects visit the BCBL homepage at http://cacfs.army.mil**

## Maneuver Support Battle Lab

The Maneuver Support Battlefield Laboratory, TRADOC's newest Battle lab, was officially organized at Fort Leonard Wood, Tuesday, 1 October 1996. MG Clair Gill, Commanding General of Fort Leonard Wood, serves as the Battle Lab Director. COL Ed Arnold serves as the Deputy Director for day-to-day operations. The Commandants of the Army's Chemical, Engineer, and Military Police Schools form the Battle Lab Board of Directors.

The Maneuver Support Battle Lab is responsible for providing direction, oversight, and horizontal integration of experimentation actions for the Maneuver Support Enduring Battlefield Function. Maneuver Support encompasses those actions taken to protect the force from the effects of enemy/adversary action, and to provide the force freedom of movement during military operations.

The Maneuver Support Battle Lab works with the other TRADOC Battle Labs, centers, and all Army schools in matters relating to Maneuver Support. The Maneuver Support Battle Lab also exchanges information with industry, academia, major Army commands, the National Labs, and other DOD agencies.

The Maneuver Support Battle Lab will play heavily in the Force XXI (2000-2010) and Army After Next (beyond 2025) processes. Initial experimentation goals include:

o Leveraging emerging technology to improve digital terrain data acquisition, storage, updates, dissemination and exploitation.

o Provide capabilities needed to conduct land countermine operations.

o Analyze physical security requirements and capabilities needed for Army XXI operations including non-lethal technologies and land mines, robotics, and antiterrorism.

o Provide an integrated joint force protection strategy against all nuclear, biological, chemical (NBC), and radiological weapons, and associated threats.

o Provide an NBC defense battle management system, integrated into Army command and control systems to leverage information

technology in Army XXI and Army After Next operations.

o Identify military technologies which can have application in military
and civilian counterdrug operations.

Currently the Maneuver Support Battle Lab is using the US Army Engineer School's Battle Lab Support Element personnel as its nucleus until additional personnel arrive. The US Army Military Police School and Chemical School at Fort McClellan, Alabama have provided two civilian position authorizations each to Fort Leonard Wood to assist in standing up the Battle Lab prior to the arrival of both schools in 1999. Civilian hiring actions are ongoing and it is anticipated that the Battle Lab will be able to begin limited experimentation beginning 2nd Quarter FY 97, with possible experiments in the areas of rapid terrain data dissemination, countermine, biological detection, engineer planning tools, and obscurants. Current proponent efforts involved with the Task Force XXI and Division XXI Advanced Warfighting Experiments (AWE), and Prairie Warrior 97 continue.

**Point of Contact:** COL Ed Arnold and Mr. Vern Lowrey  (573) 563-4082, DSN 676-4082, Fax 4089. email: amolde@wood-vines.army.mil, lowreyv@wood-vines.army.mil

## TRADOC Analysis Center (TRAC)



TRAC provided significant analytic support throughout FY96 and plans an equally productive year in FY97.  TRAC's analyses will support the Joint Venture (JV) Force XXI axis, major system acquisition decisions, support to DoD, Joint Staff and the warfighting CINCs, and continued scenario development. Analysis results from Phase I of the FXXI Division Design Analysis (DDA) provided the framework to begin the Brigade Design Analysis (BDA).  The BDA Analysis Plan is finished and work will begin upon finalization of scenarios. Also finalized was the study plan for Phase II of DDA.  Final actions on the Prairie Warrior AWE are being completed with final analysis results to be publish early in FY97. The analysis plan for TFXXI is complete and reflects TRAC's coordinated effort within the Army's analytic community.

TRAC completed work in three major studies:

The Anti-Armor Resource Requirements Study

The Army portion of the Tri Service Attack Operations Study

TF Griffin, The Defense Science Board Summer Study

Work continues on additional major studies:

- The Battlefield Identification COEA
- Aerial Common Sensor COEA
- ATACMS Block IIA COEA
- Army After Next

In other efforts, work is nearing completion on the OPLAN analysis for Combined Forces Command, Korea, and work on the Joint Close Support End-to-End Assessment.  TRAC analysts assisted the ACOM staff during Joint Endeavor 96.1 and the American, British, Canadian, Australian (ABCA) working group during Cascade Peak 96.  Scenario work continues for 2 Southwest Asia and 1 Northeast Asia contingencies.

Finally, TRAC's research efforts are maturing. Construction of the Joint Virtual Experimentation Lab is underway, and the Dismounted Soldier Station is undergoing its initial testing and has been demonstrated for the Dismounted Battlespace Battle Lab.

## TRADOC REINVENTION CENTER



TRADOC continues to pursue reinvention efforts based on the authorities delegated by the SECARMY on 14 August 1995. These authorities are:

Coordination Authority. Permission to deal directly with Office of Secretary of Defense (OSD) and other approved reinvention centers or laboratories without having to go through the DA staff first.
Regulatory Waiver Authority. Permission to waive DoD, DA, and TRADOC regulations, directives, instructions, and /or publications, with certain limitations.
Legislative Change Proposal Authority. Permission to submit proposed legislative changes directly to the Office of the Chief of Legislative Liaison (OCLL) without having to filter through the DA staff.
Lab and Prototype Authority. Permission to designate TRADOC labs and prototypes, as needed, with no reporting requirements outside of TRADOC.

The TRADOC Commander established a Reinvention Center Coordination Office (RCCO) to serve as the command reinvention program management office. He also established four reinvention laboratories aligned with the TRADOC Strategic Plan 1995 and major functions of the command: Training, Doctrine, Combat Developments, and Mission Support. The Deputy Chiefs of Staff of these respective functions are designated as Laboratory Directors and delegated full reinvention authority. They are tasked with using Reinvention Center designation and authorities to implement the institutional and cultural changes required to transform TRADOC into TRADOC XXI.

In Jun 96, RCCO developed the Command Reinvention Marketing Plan to reach the lowest level at the installation. As part of the marketing plan, RCCO is currently developing a Reinvention Home Page so critical reinvention information can easily be shared to anyone in the world by way of the World Wide Web. In Jul 96, RCCO fielded the new updated Operations Plan (OPLAN) RC-2. They continue to implement an electronic tracking system database (the Reinvention Action Tracking System or RATS) to capture and monitor all reinvention proposals. The RCCO is currently working with the Director of Management, ODAS, HQDA, to establish a "FAST TRACK" approach to seek relief from restrictive statutory provisions and legislative regulations quickly. If adopted, the approach will reduce the time to implement legislative changes on a test basis from approximately 24-36 months to 100 days.

Each of our four reinvention laboratories is executing actions within its functional area. The Doctrine Lab is working to streamline Army doctrine. As a starting point, the Doctrine Lab is working to reduce 700+ field manuals and joint publications by 20 percent and to reduce the volume of the remaining publications by 20 percent. The lab will also place all unclassified doctrine on the Internet by the end of FY96.

The Combat Developments Lab has implemented a new requirements determination process in conjunction with the FAA requirements process. The Requirements Black Book has been published and describes the process our Army uses to determine and document requirements for operational forces of the future. The Black Book will be the guideline to consolidate multiple TRADOC and Army regulations and pamphlets into a streamlined set of one Army regulation, AR 71-9, and six DA Pamphlets, the DA Pam 71 series.

The Training Lab completed an Operations Plan and initiated an incentive and marketing plan. The lab is processing five waivers of DA

and DoD regulations and three legislative change proposals.

The Mission Support Lab (MSL) completed a review of TRADOC BASOPS regulations resulting in rescission of approximately 61 percent. MSL is reviewing DA and DoD regulations with the intent to retain only those deemed essential. Sixteen DA regulatory provisions have been waived and 39 requests for DA waivers have been worked for alternate solutions. MSL is again for the second year in a row establishing the BASOPS Leveraging and Developments (BOLD) Grants initiative to provide venture capital for promising BASOPS investment opportunities. The program encourages installation garrison commanders to actively identify and pursue reinvention initiatives without adversely affecting scarce installation resources. The FY96 program provided investment funds of $3.9M for 30 initiatives with an expected 5-year return on investment of $62.9M. The FY 97 BOLD Grants program is fully funded and installations will submit their proposals by 1 Nov 96.

TRADOC reinvention efforts will continue to expand, and we are confident our efforts will produce tremendous benefit for TRADOC as well as the rest of the Army.

## U.S. Army Cadet Command



In special ceremonies conducted at historic Continental Park on Fort Monroe, Cadet Command welcomed its new Commanding General on 10 September 1996. Participating in the ceremony to mark the arrival of MG Stewart W. Wallace were Army ROTC cadre and cadets from around the nation. MG Wallace assumed command of the organization from BG John T. D. Casey, who served as acting commander in the period since the retirement of MG James M. Lyle.

MG Wallace comes to this assignment after service as Deputy Commanding General of I Corps and Fort Lewis, Washington. As GEN William W. Hartzog noted during his remarks at the ceremony, MG Wallace is no stranger to the Training and Doctrine Command or the Army ROTC community. As a 1968 graduate of the Army ROTC program at the University of Iowa, he is intimately familiar with ROTC precommissioning training. Additionally, his previous service in the Office of the Inspector General for TRADOC and duty as Director, Division Operations at the Command and General Staff College will prove invaluable in this assignment.

As part of the on-going effort to ensure maximum efficiency in the use of its constrained resources, Cadet Command continues to review its structure. The senior leaders of the Command met in September to explore a wide range of options that would potentially modify the existing organization of the Command. In that process, the guidance from MG Wallace has been clear. No structural or organizational change will be adopted which would compromise the quality of the ROTC product -- the young men and women who will lead our forces into the 21st Century.

With the start of the new academic year, cadets in both the college-level and high school ROTC programs have returned to campus. Current projections indicate that more than 43,000 young men and women will make Army ROTC a part of their total college experience this year. It is anticipated that approximately 206,000 high school students will enjoy the life-long benefits associated with the leadership and character building elements of the high school ROTC program.

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TRADOC NOW HAS A HOME PAGE ON THE INTERNET. YOU MAY OBTAIN ADDITIONAL INFORMATION CONCERNING HQ TRADOC ORGANIZATIONS/ACTIVITIES AND TRADOC INSTALLATIONS BY VISITING THE TRADOC HOME PAGE LOCATED AT WWW-TRADOC.ARMY.MIL