



# MANPRINT BULLETIN

Vol. VI No. 6

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## MANPRINT in Cost and Operational Effectiveness Analyses (COEAs) Study

by Gerald Klopp, Ph.D

TRADOC Analysis Command (TRAC), Ft. Benjamin Harrison, IN

The COEA is one of the primary decision support documents in the materiel acquisition process. It is the primary analysis showing the strengths and weaknesses of each of the alternatives being proposed to meet the military mission requirements under the acquisition effort. Alternatives can range from new employment of existing systems, upgrades to existing systems, or the development and acquisition of new systems.

One of the concerns of the Army in the examination of system alternatives is the contribution of human performance to overall system and unit performance (operational effectiveness) and the contribution of human resource costs to overall system operation and support costs. Assessments of these human issues are an important part of the overall assessment of the alternatives' cost and operational effectiveness. Historically, the Army has not been very aggressive in addressing such MANPRINT considerations in the COEA process. This study, under the guidance of TRAC, Fort Benjamin Harrison, will address these concerns and

will capture lessons learned to significantly improve the extent to which MANPRINT is addressed in future COEAs.

continued on page 2 >

<b>MANPRINT in Cost and Operational Effectiveness Analyses Study</b> .....	1
Gerald Klopp, Ph.D.	
<b>A Look at the MANPRINT Practitioners Forum</b> .....	3
Gretchen Eberhard	
<b>Army Creates New Command in Orlando</b> .....	5
<b>MANPRINT Notes</b> .....	6
<b>Movers &amp; Shakers</b> .....	7
<b>MANPRINT Training</b> .....	8
<b>Meetings of Interest</b> .....	8
<b>* READERSHIP SURVEY *</b> ..	9

**CONTENTS**

"Remember the Soldier"

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## MANPRINT in COEAs (continued)

performance assessment responsibilities. Areas of consideration primarily dealt with assessing areas of importance in a COEA and what proportion of allotted resources should be expended in those areas. Also, SME inputs were sought regarding the availability and possible utility of various computer software and databases to assist analytical efforts in the COEA process. Response to these questionnaires have been both encouraging and enlightening.

The products expected from this effort are (1) a fifty-page (approximate) handbook

(not a cookbook) that will guide COEA analysts in determining what MANPRINT issues to address and suggesting tools and data sources that can aid them in their efforts; and (2) identification of Research and Development (R&D) that will be required to fill in COEA MANPRINT gaps in tools and procedures. Draft products will be available in the first quarter of FY93. Should questions arise concerning this effort, please contact Mr. Robert Clarke, AEPCO, Inc., Suite 300, Rockville, MD 20855, (301)670-6770, or Dr. Dan Risser, DRC, 60 Concord St., Wilmington, MA 01887-2193, (508)658-9100.

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## A Look at the MANPRINT Practitioners Forum

Gretchen Eberhard

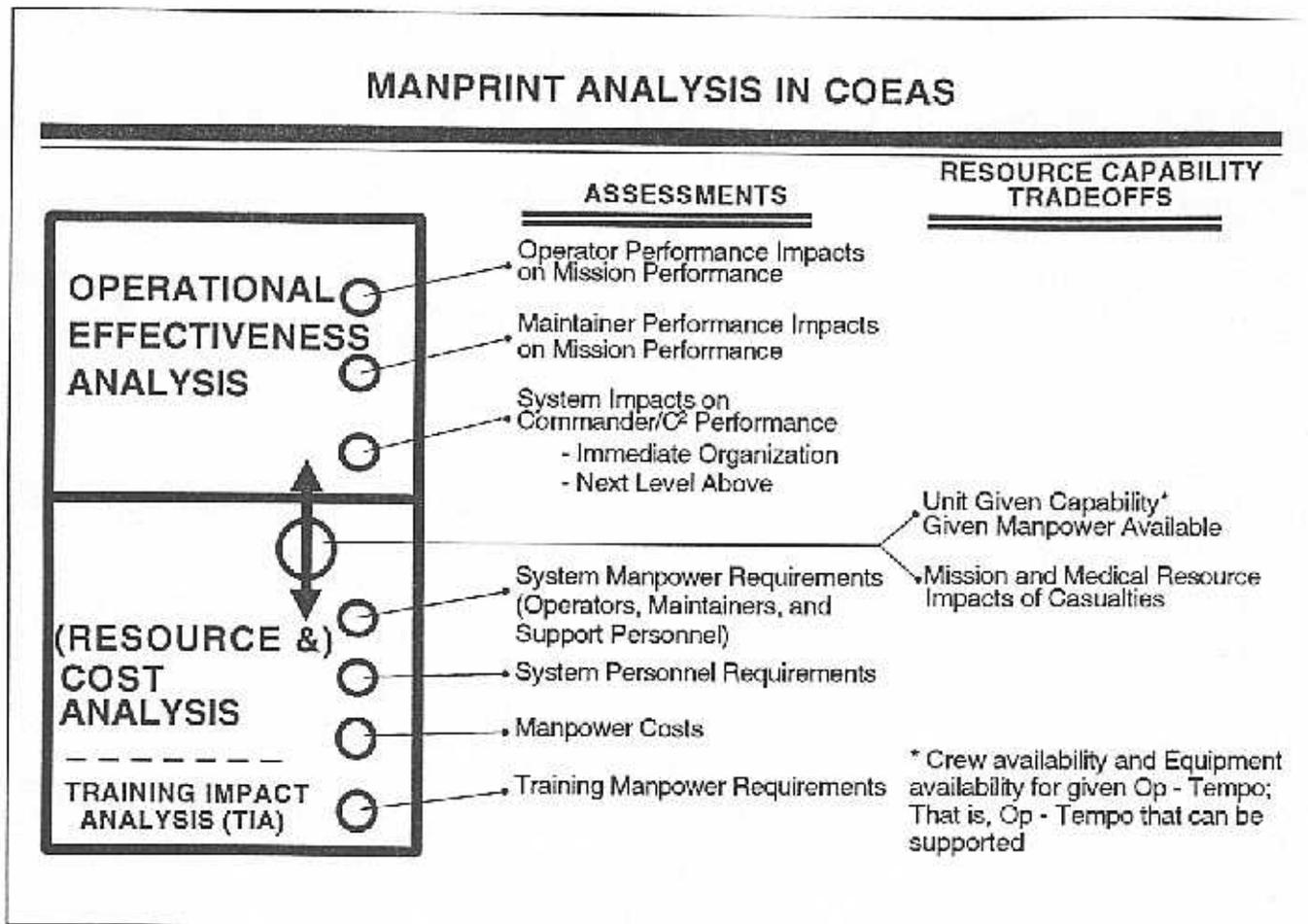
The MANPRINT Practitioners Forum 1992 was held on June 16-17 at the Ramada Hotel in Alexandria, VA. The forum, sponsored by the Department of Army, Deputy Chief of Staff for Personnel, MANPRINT Directorate, was attended by over 190 representatives from both the Army and industry. The forum theme, MANPRINT process improvement, was carried out through presentations of process execution and discussions of influences on the process.

The two day event commenced with a welcome address from Dr. Hal Booher, Director of the MANPRINT Directorate, followed by the keynote address from BG John E. Longhouser representing the Assistant Secretary of the Army for Research, Development, and Acquisition. BG Longhouser spoke about the role of the acquisition process in the Army of the future. Challenges to Army acquisitions include a reduced defense budget, increased costs, a declining force structure and an eroding industrial base. BG Longhouser advocated "doing more with less" by carefully examining the process to identify those aspects not adding value so as to either eliminate or modify them to achieve and maintain a more streamlined acquisition process. BG Longhouser emphasized the importance of Program Managers gathering representatives from all aspects of an acquisition together early in the process to examine and define the

MANPRINT priorities for the program. He encouraged the MANPRINT Practitioners in attendance to enlighten the PM on the MANPRINT program, to seek a commitment from the PM to establish and follow through on a MANPRINT plan for the program, to include user involvement, and to ensure the preservation of communication throughout the acquisition so as to benefit the soldier upon fielding of the system.

Information concerning new and restructured organizations within the Army was presented. Tom Killion presented the audience with an overview of the newly formed Army Research Lab (ARL). Of interest to MANPRINT Practitioners will be the movement of the System Research Lab, Manned Systems Group, and the MANPRINT Coordination Office of the Army Research Institute to ARL. This new MANPRINT Division will hold as primary functions MANPRINT analysis support to DCD and AMC; and the development and validation of tools for MANPRINT support. Al Galbavy also presented an organizational overview of the newly created U.S. Army Simulation, Training and Instrumentation Command (STRICOM) located in Orlando, FL.

continued on page 4 ▶



**Figure 1**

The basic study approach is as follows:

- Review existing COEAs for extent of MANPRINT considerations;
- Confer with experienced COEA analysts for their thoughts and experiences regarding the inclusion of MANPRINT considerations in COEAs;
- Develop a conceptual framework for addressing MANPRINT in COEAs (see Figure 1).

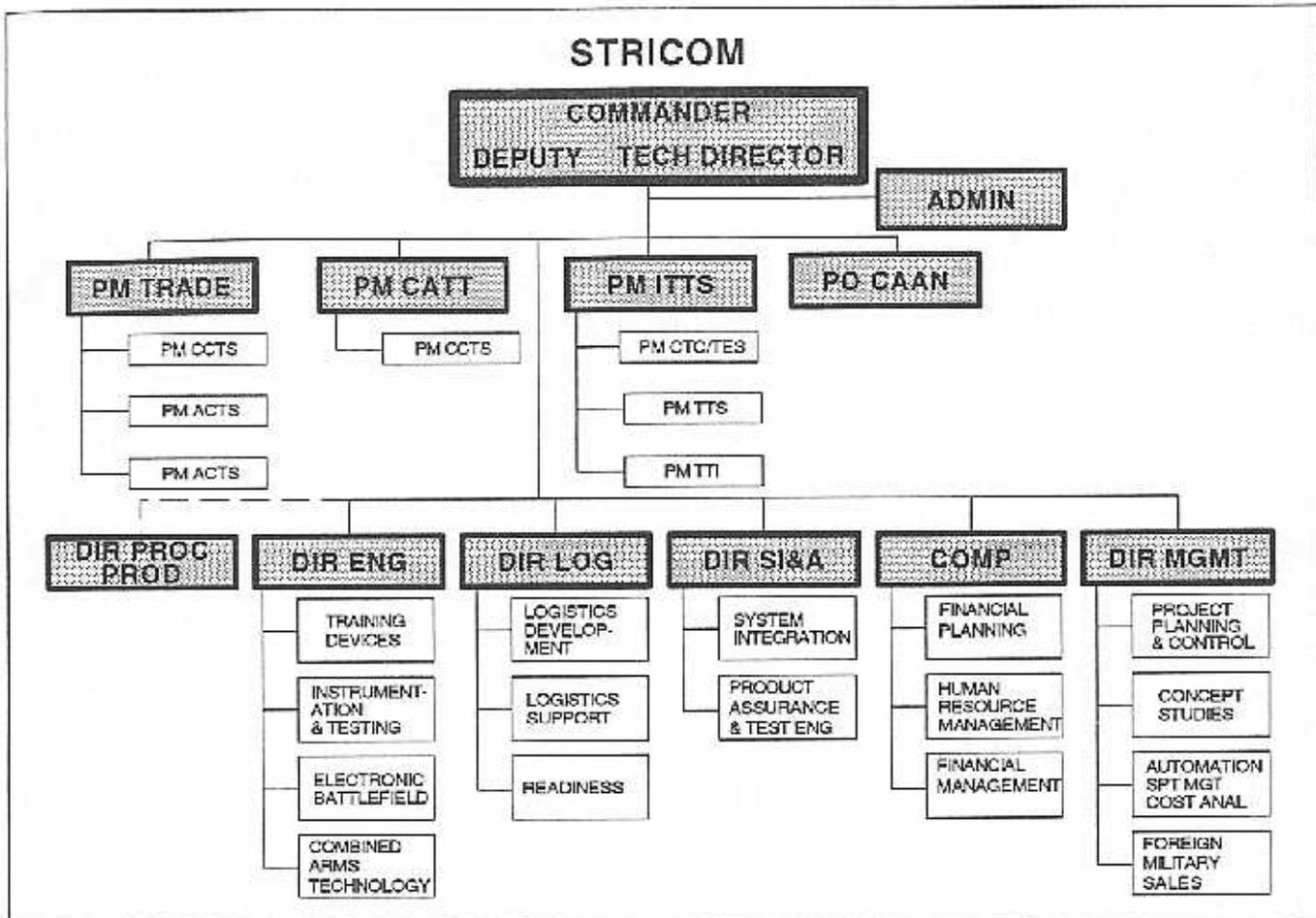
In keeping with this basic approach, a detailed review of eight (8) major acquisition program Milestone II COEAs has been conducted. These reviews have

helped to establish a baseline as to how various TRADOC agencies address MANPRINT, particularly Manpower, Personnel, and Training (MPT), when preparing a COEA.

Subsequent to those initial analyses, a questionnaire regarding COEAs was developed and circulated throughout TRADOC to personnel who could be considered COEA Subject Matter Experts (SMEs). The questionnaire focused on study directors and planners, as well as analysts with MPT and human

**continued on page 3**

# ARMY CREATES NEW COMMAND IN ORLANDO



The U.S. Army Simulation, Training and Instrumentation Command (STRICOM) was formally activated on May 5, 1992 at Orlando, FL.

Lt. Gen. Billy Thomas, Deputy Commanding General, U.S. Army Materiel Command, presented the colors of the new command to Col. John M. Gravois, Interim Stricom Commander during a ceremony at the de Florez Building in the Central Florida Research Park, adjacent to the University of Central Florida.

The new command is a significant expansion of the Army's role in simulation and will add two new Project Managers to the area in addition to PM TRADE which has been in Orlando since 1976, when it

absorbed the Army Training Device Agency (ATDA).

Project Manager Instrumentation, Targets, and Threat simulators will relocate from Aberdeen Proving Ground, MD, and the Project Manager Combined Arms Tactical Trainers will be formed from the current PM TRADE staff. A Brigadier General, yet to be named, will command STRICOM and report directly to the U.S. Army Materiel Command. Currently, it is anticipated that the additional employees will come from within the Army's current work force. Significant hiring outside the Army is not anticipated.

continued on page 6 ▶

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## Practitioners Forum (continued)

Dr. Jim Fobes, Chief of the MANPRINT Division at the U.S. Army Operational Test and Evaluation Command (OPTEC), provided information on OPTECs role in supporting evaluator's MANPRINT requirements and described the MANPRINT issue tracking system used by his division.

MANPRINT domains updates were also presented. Stephen P. Dwyer from TRADOC Headquarters explained the TRADOC guidance relating to the Manpower, Personnel, and Training domains throughout the acquisition process. The U.S. Army Human Engineering Laboratory (HEL) was represented by Dick Armstrong from the Ft. Rucker, AL field office. Mr. Armstrong spoke on the topics of HEL organization and recent HEL support of MAISRC level programs such as the Joint Computer-Aided Acquisition and Logistics System (JCALS). LTC Gary M. Bratt from the Office of the Surgeon General supplied information on the Health Hazard domain and described the objectives, implementation efforts, and key players of the Health Hazard Assessment Program, as well as a listing of typical health hazards. From the U.S. Army Safety Center (USASC) in Ft. Rucker, AL, Dwight Lindsey described the role and importance of safety considerations in the acquisition process and listed recent contributions by USASC for efforts to include a report on Crew Coordination in Army Aviation Accidents.

Two presentations dealt with the rules and regulations related to the requirement for the implementation of a MANPRINT program for all acquisition programs, whether major or non-major programs. Ric Sylvester from the Office of the Undersecretary of Defense, Assistant Deputy Director for Acquisition Policy spoke about the DoD 5000 series providing historical background on the series which includes a manual, an instruction, and a directive. Additionally, he covered two issues: implementation of the series of documents and the integration of science and technology into the system.

Representing the U.S. Army Armor Center, Dennis Lipscomb provided a description of the System MANPRINT Management Plan (SMMP) to include the SMMP process, the importance

and contribution of the MANPRINT Joint Working Group (MJWG), and typical problems encountered in the process.

Program Management Offices provided process execution examples in three diverse acquisition programs. From the Single Channel Ground Airborne Radio (SINCGARS) Program Office, MAJ John Zellmer provided the audience with an update of the SINCGARS program and the MANPRINT influence successfully integrated into the program. SINCGARS design modifications due to MANPRINT were illustrated as well. Dave Shoop and Paul Laster from PM Night Vision & Electro-Optics in Ft. Belvoir, VA and Robert Burley from Hughes briefed on the design of the Thermal Weapon Sight providing insights to the implementation of a MANPRINT program in the acquisition. Jim Minninger and MAJ Mike Rusko presented a briefing on the contribution of MANPRINT to the acquisition of the Comanche Helicopter. MAJ Rusko provided the audience with an overview of the program called TSM-Forward (Comanche) which places TRADOC personnel on-site with the contractor to provide operator and maintainer expertise.

Representing the Deputy Chief of Staff for Personnel Integration, U.S. Total Army Personnel Command, Diana Lueker spoke of the importance of MANPRINT in the acquisition of automated information systems (AIS). She also discussed the need for published guidance for the performance of MANPRINT for AIS. Jim Dyser from the U.S. Army Information Systems Command (USAISC) at Ft. Huachuca, AZ continued with the topic of the need for MANPRINT in the information systems, both hardware and software, arena. Mr. Dyser stressed the importance of software and the need for MANPRINT to pay more attention to this area. He also highlighted the problem areas for non-MAISRC systems.

Presentations were made displaying the automated resources available for the performance of manpower, personnel, and training efforts. Dr. Laurel Allender from the MANPRINT Division of the Army Research Laboratory described the past, present and

continued on page 6 ▶

# MOVERS & SHAKERS

PEOPLE IN THE NEWS

## From DCSPI, PERSOM

- Lt. Col. William Aldridge has been selected as the new chief, MANPRINT Division. He is currently assigned to USAREC. He will be arriving on 3 August 92.
- Maj. James Vaas, Armor, has been assigned as Chief, Combat Arms Section, Combat Systems Branch. Maj. Vaas joins DCSPI from Fort Knox where he was the S3 and XO, 1st BN, 10th Calvary.
- Cpt. Harold Fennimore, Field Artillery, has been assigned as an ORSA officer in the Analysis Branch. Cpt. Fennimore's last assignment was in Augsburg, Germany.
- Cpt. Cheryl Rittman, Military Police, has been assigned as an ORSA officer in the Analysis Branch. Cpt. Rittman's last assignment was in Hanau, Germany.
- S. Sgt. (P) Kenneth Conkright, 75F30, has been assigned as an action Officer in the Personnel Systems Section, Information Systems Branch. S. Sgt. Conkright's last assignment was with the 199th PSC in Korea.
- Lt. Col. John Carley, the Current Chief, MANPRINT Division, will be retiring at the end of July.
- Cpt. Alison Tichenor, Analysis Branch, departed in June for assignment as the XO, 177th Finance Support Command in Korea.
- Sgt. Maj. John Vincent, Information Systems Branch, retired at the end of June.
- Sgt. Maj. Floyd Rayburn, Combat Systems Branch, will be retiring at the end of July.

## From MANPRINT Directorate

- Lt. Col. Nelson Laughton has retired. Nelson found employment only 10 minutes from his home. He will be working on environmental issues for TAMSCO in their Edgewood, MD office.
- Lt. Col. James Rowan moved on to the Electrical Engineering and Computer Science Department at George Washington University in Washington, DC. Jim is the departmental "Executive Officer."
- Nick Giordano, who was loaned to us by Human Engineering Lab, left for Korea to be the FAST program advisor.

## **New Command in Orlando (continued)**

Colonel John M. Gravois, Project Manager for Training Devices (PM TRADE) and Interim Commander STRICOM said of the new command, "We worked hard for this, and to see it come together is very rewarding for the entire work force. The Army will benefit greatly from the expertise that is already here, and as new missions come to Orlando, so will the expertise to execute them." Mr. Jimmy Williams, Deputy PM TRADE, stated, "PM TRADE has much to be thankful for."

He noted that the base closings and layoffs in some locations offer a sharp contrast, and that "a smaller Army may make training more important than ever... every soldier must know his job thoroughly; even more thoroughly than before. Our simulation, training, and instrumentation equipment will help provide that knowledge."

STRICOM and its Project Managers are collocated with the Naval Training Systems Center. With the creation of STRICOM, along with the Naval Training Systems Center, the University of Central Florida's Institute for Simulation and Training, and the many Department of Defense contractors, Orlando has become the major center for the armed forces simulation and training community.

## **Practitioners Forum (continued)**

future of the HARDMAN III software which provides estimates of manpower, personnel, and training needs for a new system. HARDMAN III is currently available through ARL and is expected to be available through the Defense Technical Information Service (DTIC) in the near future. In a related presentation, Mr. Harold Robinett, DCSPI PERSCOM, provided information on the FOOTPRINT Database which is the primary provider of military manpower, personnel, and training data to support MANPRINT analyses.

Dr. Bill Blackwood briefed the objectives of the MANPRINT National Workforce Study being

## **MANPRINT Notes**

- ☆ Asst. Sec. Army (Res. Dev. & Acq.) SARDA, sent a version of AR70-1 as an IOL. They eliminated all mention of MANPRINT and used the OSD term, HSI. We have nonconcurred and are working to correct this error. It would seem somewhat ironic for the British and others to adopt MANPRINT only to have the U.S. Army drop it.
- ☆ SARDA has restarted its effort to produce a new acquisition handbook a.k.a. DA PAM 70-XX.
- ☆ The MANPRINT Directorate has begun some publication efforts. We are starting to revise AR 602-2. Additionally, we are considering the development of a MANPRINT Users Source Guide. This loose-leaf notebook would update and combine Practitioners Guide, SMM Procedural Guide, Handbook for Source Selection, and the NDI Acquisitions Handbook. RFP development would be covered in considerable detail. However, the RFP Development Handbook would be retained.

conducted by PRC, Inc. and MTL International Inc. His briefing included a discussion of problem areas identified with MANPRINT as a career such as the non-availability of formal training and career progression issues. The attendees completed a survey prepared by the contractors. An open discussion closed out the forum with topics including future MANPRINT related guidance, the MANPRINT Point-Of-Contact Directory, MANPRINT and Non-Developmental Items (NDI), and the issues of waivers for the performance of MANPRINT and MANPRINT related documentation throughout an acquisition program.

# READERSHIP SURVEY

## TO CONTINUE RECEIVING THE BULLETIN:

1. Take a few moments to answer the following questions. Just remove the sheet from the Bulletin and either fold the sheet over, address side out to mail, or just FAX ((703) 695-3195) the completed questionnaire.
2. Tear off the back cover (be sure your mailing label is on it). Check your label, if it is not correct, fill in the Reader's Response information. Be sure to complete the Phone/FAX line and print below it you electronic mail address, if you have one, or write "No E-mail."
3. Return the cover and the questionnaire by August 15, 1992.

- Harry Chipman

## READER'S BACKGROUND INFORMATION

Employed by: Government  or Industry  (check one)

United States  or Foreign  (check one)

Military  or Civilian  (check one)

Please indicate the primary mission of your organization.

Acquisition	<input type="checkbox"/>	Combat Arms	<input type="checkbox"/>	Policy	<input type="checkbox"/>
Logistics	<input type="checkbox"/>	Combat Support	<input type="checkbox"/>	Manufacturing	<input type="checkbox"/>
Training	<input type="checkbox"/>	Combat Development	<input type="checkbox"/>	Consulting	<input type="checkbox"/>
R & D	<input type="checkbox"/>	System Safety	<input type="checkbox"/>	Other _____	<input type="checkbox"/>
Other Combat Service Support	<input type="checkbox"/>	Health Hazard Assessment	<input type="checkbox"/>		

Have you attended any MANPRINT courses or seminars?

Yes  No

## BULLETIN CONTENTS

On a scale of 1 (not at all useful) to 7 (extremely useful) please rate the following.

The articles in the **MANPRINT Bulletin**

1 2 3 4 5 6 7

The **MANPRINT Notes** section of the Bulletin

1 2 3 4 5 6 7

The **Movers & Shakers** section of the Bulletin

1 2 3 4 5 6 7

The **Meetings of Interest** and **MANPRINT Training** sections of the Bulletin

1 2 3 4 5 6 7

The **MANPRINT Bulletin** in total

1 2 3 4 5 6 7

**In future issue: PM and TSM - Soldier discuss  
"Soldier as a System"**

## MANPRINT TRAINING FY93

### MANPRINT Action Officer Courses

**5 - 15 January 1993**

# 93-003 JFK Warfare Center, Fort Bragg

**26 January - 5 February 1993**

# 93-004 MRSA, Lexington, KY

**23 February - 5 March 1993**

#93-005 ENG School, Ft Leonard, MO

### MANPRINT for Managers Courses

**24 -24 March 1993**

#93-004 FA School, Ft Sill, OK

## MEETINGS OF INTEREST

**22 - 24 June 1993**

**1993 Acquisition Research Symposium** Holiday Inn, Crown Plaza, Rockville, MD.

Submit a one page typewritten abstract by July 24, 1992. Include the title, author(s), addresses and phone numbers. Abstracts should be based on their relevancy to current issues in acquisition management. The symposium sub theme is "Research and Reality: Closing the Gap."

Contact: Mr. Calvin Brown or Ms. Joan Sable at DSMC, (703) 805-2525 or DSN 655-2525.

**2 - 5 November 1992**

**Interservice/Industry Training Systems Conference.**

San Antonio, TX. Contact: Jerry Jerome, Conference Chairman, (813) 628-6100, ext 5225; Pres McGee, Program Chairman, (607) 721-4856.

**3 - 6 November 1992**

**DOD Human Factors Engineering Technical Group**

Huntsville, AL. Contact: Dick Armstrong, (202) 255-4455/DAN 558-2069 or Louida Murray (303) 798-2617.

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## MANPRINT INFORMATION

**POLICY:** MANPRINT Directorate, HQDA (DAPE-MR), Washington, DC 20310-0300. AV 225-9213, COM (703)695-9213.

**MANPRINT TRAINING:** US Total Army Personnel Command, ATTN: TAPC-PI-MP, 200 Stovall St., Alexandria, VA 22332-0400. AV 221-3706, COM (703)325-3706.

**PROCUREMENT & ACQUISITION:** US Army Materiel Command, ATTN: AMCDE-AQ, 5001 Eisenhower Ave., Alexandria, VA 22333-0001. AV 284-5695, COM (703)274-5696.

**DIRECTORY OF DESIGN SUPPORT METHODS/HSI AND HFE RESEARCH INFORMATION:** Defense Technical Information

Center, MATRIS Office, DTIC-AM, San Diego, CA 92152-6800, (DSN) 553-7000, (619) 553-7000.

**HUMAN FACTORS ENGINEERING STANDARDS & APPLICATIONS:** Human Engineering Laboratory - MICOM Detachment, ATTN: SLCHE-MI, Redstone Arsenal, AL 35898-7290. AV 746-2048, COM (205)876-2048.

**MANPOWER, PERSONNEL, AND TRAINING RESEARCH:** US Army Research Institute, ATTN: PERI-SM, Alexandria, VA 22333-5600. AV 284-9420, COM (703)274-9420.

**TEST & EVALUATION:** Operational Test & Evaluation Command, 4501 Ford Ave., Alexandria, VA 22302-1458; (703)756-2487.

LTG Thomas P. Carney, Deputy Chief of Staff for Personnel

COL John R. Miller, DCS Personnel Integration, US Total Army Personnel Command (Proponent for Army MANPRINT Training)

Mr. Harry Chipman, ODCSPER Coordinator

Ms. Susan L. Culkin, Editor

Harold R. Booher

Director for MANPRINT

The MANPRINT Bulletin is an official bulletin of the Office of the Deputy Chief of Staff for Personnel (ODCSPER), Department of the Army. The Manpower and Personnel Integration (MANPRINT) program (AR 602-2) is a comprehensive management and technical initiative to enhance human performance and reliability during weapons system and equipment design, development, and production. MANPRINT encompasses the six domains of manpower, personnel, training, human factors engineering, systems safety, and health hazard assessment. The focus of MANPRINT is to integrate technology, people, and force structure to meet mission objectives under all environmental conditions at the lowest possible life-cycle cost. Information contained in this bulletin covers policies, procedures, and other items of interest concerning the MANPRINT Program. Statements and opinions expressed are not necessarily those of the Department of the Army. This bulletin is prepared bimonthly under contract for the MANPRINT Directorate, Office of the Deputy Chief of Staff for Personnel under the provisions of AR 25-30 as a functional bulletin.