

Copy 3

S/S dtd 7 Oct 94

Army Regulation 602-2

Soldier Materiel Systems

**Manpower and
Personnel
Integration
(MANPRINT) in
the Materiel
Acquisition
Process**

Pentagon Library (ANR-PL)
ATTN: Military Documents Section
Room 1A518, Pentagon
Washington, DC 20310-6050

Headquarters
Department of the Army
Washington, DC
19 April 1990

SUMMARY of CHANGE

AR 602-2

Manpower and Personnel Integration (MANPRINT) in the Materiel Acquisition Process

This revision--

- o Implements DOD Directive 5000.53 and incorporates the provisions of DOD Directive 5000.1 and DOD Instruction 5000.2 (throughout).
- o Clarifies the relationship between the MANPRINT program and the MANPRINT (MP) domains (para 1-4).
- o Assigns responsibilities to Program Executive Officers (PEOs) and Project/Product Managers (chap 2, sec I).
- o Redefines HQDA responsibilities to reflect the reorganization of the DA Staff (chap 2, sec II).
- o Replace product improvement section with materiel change management (para 3-11).
- o Add a MANPRINT in the Source Selection Process (chap 5).
- o Redefines the Human Factors Engineering Assessment (HFEA) and establishes the MANPRINT assessment and the MANPRINT review (app B).
- o Adds policy and procedures for an abbreviated MANPRINT Management Plan (app D).



Headquarters
Department of the Army
Washington, DC
13 May 1994

Immediate Action
INTERIM CHANGE

AR 602-2
Interim Change
No. I01
Expires 13 May 1996

S/S ata 70cf94

Soldier-Materiel Systems

Manpower and Personnel Integration (MANPRINT)
in the Materiel Acquisition Process

Justification. This interim change adds soldier survivability (SSv) as a MANPRINT domain. SSv is defined in terms of soldiers as those characteristics that enable them to withstand or avoid adverse military action (friend or foe), or the effects of natural phenomena, that would result in the loss of life or the loss of capability to continue effectively, the performance of the prescribed mission. SSv is defined in terms of a system as those characteristics that can reduce fratricide, as well as reduce detectability of a soldier, prevent attack if detected, prevent damage if attacked, minimize medical injury if damaged (wounded), and reduce mental and physical fatigue.

This change is based on issues and concerns for SSv noted during Operations Just Cause and Desert Storm and in simulated fratricide at the National Training Centers. It also provides initial direction as to how SSv will be addressed during the materiel acquisition cycle.

Expiration. This interim change expires two years from the date of publication. It will be destroyed at that time unless sooner rescinded or superseded by permanent change or revision.

1. AR 602-2, 19 April 1990, is changed as follows:

Page 3.

Paragraph 1-4a; add "(7). Soldier Survivability."

Paragraph 1-4c(1), line 5; after "...system safety," change to read ", health hazards and soldier survivability."

Paragraph 1-4c(4), line 3; after "...system safety," change to read ", health hazards and soldier survivability issues in an integrated manner."

Paragraph 1-4c(5), line 3; after "...system safety," change

Pentagon Library (ANR-PL)
ATTN: Military Documents Section
Room 1A518, Pentagon
Washington, DC 20310-6050

to read ", health hazards, and soldier survivability information."

Paragraph 1-4c(6), line 6; after "...health," change to read ", safety and survivability...."

Paragraph 1-4d(1), line 2; after "...effectiveness," insert "and survivability...."

Paragraph 1-4d(2), line 4; after "...system safety", change to read ", health hazards, and soldier survivability before making...."

Page 4.

Paragraph 1-5e, line 1; after "...engineering," insert "soldier survivability...."

Paragraph 1-5f, line 2; after "...evaluating the," delete "six" and insert "seven."

Paragraph 1-5k, line 11; after "...HFE," insert "SSv."

Page 5.

Paragraph 2-4e, line 3; after "...health hazards," insert "soldier survivability...."

Page 6.

Paragraph 2-6e, line 3; after "personnel," change to read ", training, and soldier survivability specialists."

Paragraph 2-6. Add new subparagraph "p" to read, "Approve and distribute methodologies to be used by Army personnel in forecasting soldier survivability requirements."

Paragraph 2-9. Add new subparagraph "c" to read, "Provide threat weapon systems analyses and other data as they pertain to soldier survivability to the U.S. Army Research Laboratory - Survivability/Lethality Analysis Directorate, ATTN: AMSRL-SL-I, Aberdeen Proving Ground, MD, 21005-5068."

Paragraph 2-10a, line 3; after "...assessments," insert "soldier survivability."

Paragraph 2-10b, line 3; after "...or potential health hazards," insert "or impact upon soldier survivability...."

Page 7.

Paragraph 2-11e, line 6; after "...health hazard assessment," insert "soldier survivability assessment,...."

Paragraph 2-11m, line 1; after "...personnel," delete "and." Change to read, "...personnel, training, and soldier survivability implications...."

Paragraph 2-11p, line 2; change "six" to read "seven."

Paragraph 2-11s, line 2; after "...resource," insert "...soldier survivability...."

Paragraph 2-12a, line 2; after "...testing," insert "soldier survivability,...."

Paragraph 2-12g, line 2; after "...human factors engineering," change to read ", system safety and soldier survivability RDTE."

Page 8.

Paragraph 2-12i, line 1; after "...human factors engineering," change to read ", system safety and soldier survivability specialists...."

Add new paragraph 2-12l to read, "Ensure that ARL, in coordination with other commands, prepares a soldier survivability assessment (SSvA) on MDAP, ADAP, and designated nonmajor programs. The SSvA will serve as the soldier survivability domain input to the MANPRINT Integration and MANPRINT Assessment Reports (see AR 602-1). SSv assessments of nondesignated ACAT III and IV programs are the responsibility of the materiel developer.

Paragraph 2-12r, line 1; after "...hazard," insert "and soldier survivability assessment by the ARL Survivability/Lethality Analysis Directorate (SLAD)...."

Paragraph 2-13b, line 3; after "...potential," change to read "...health hazards and soldier survivability (medical) concerns."

Paragraph 2-13d, line 1; after "...hazard," insert "and soldier survivability...." Add "Provide SSv and medical concerns to SLAD for inclusion, as appropriate, in domain reports."

Paragraph 2-14a, line 1; after "...human factors," insert "and soldier survivability...." Add " OTEA findings on SSv will be forwarded to SLAD for inclusion in domain assessments, as appropriate."

Paragraph 2-14b, line 7; after "...effectiveness," add "and survivability."

Paragraph 2-14c, line 3; after "...performance," insert "and survivability...."

Paragraph 2-14d, line 2; after "...soldiers," insert "soldier survivability...."

Paragraph 2-14e, line 1; after "...performance," insert ", soldier survivability,...."

Paragraph 2-14g, line 3; after "...with performance," insert "soldier survivability and...."

Paragraph 2-14i, line 7; after "...hazard," insert "and soldier survivability...." Line 9; after "...safety," insert a comma (,); after "...health," insert ", and survivability...."

Add new paragraph 2-14j to read as follows:

SSv findings based on concerns in paragraph 2-14i will be forwarded to SLAD for use in domain assessments.

Page 9.

Paragraph 2-18f, line 2; after "...performance," insert ", soldier survivability,...."

Add a new paragraph 2-18i to read as follows:

Request SLAD conduct an SSvA on all ACAT I, II, and DA designated programs. Conduct internal MANPRINT assessments on all other assigned systems.

Paragraph 3-3b, line 5; after "...safety," insert ", soldier survivability,...." Line 7; after "for," change to read "...conducting human factors engineering and soldier survivability assessments."

Paragraph 3-3d, line 9; after "...safety," insert ", soldier survivability,...." Line 10; after "...hazards," insert "or soldier survivability issues...." Line 11; after "...exposure," insert "soldier survivability deficiencies...." Line 15; after the sentence ending with "...AR 70-1," insert "Soldier survivability issues...."

Page 10.

Paragraph 3-4d, line 2; after "...reliability," insert "and

soldier survivability...." Line 3; after "...will," insert "enhance soldier survivability and...." Line 9; after "...safety," insert " soldier survivability,...."

Page 12.

Paragraph 4-2c, line 6; change the sentence to read as follows:

A copy of the approved SMMP for ACAT I and II, and ADAP programs will be provided to HQDA ODCSPER ATTN: (DAPE-MR), Washington, DC 20310-0300, for informational purposes only. Copies of ACAT III and IV program SMMPs do not require review by HQDA ODCSPER unless otherwise directed.

Paragraph 4-4b, line 3; change "six" to "seven."

Page 14.

Re-letter paragraph "g" to "h." Add new paragraph g to read, "Soldier survivability issues."

Paragraph B-3a, line 6; after "...Hazards," insert "Soldier Survivability...."

Page 16.

Paragraph C-3b(4), line 4; after "...performance," delete "of" and insert ", survivability,...."

Paragraph C-5a, line 3; after "...safety," insert "soldier survivability,...."

Page 21.

Add the acronym "**SSv**" and the term "**soldier survivability.**"

Add the acronym "**SLAD**" and the term "Survivability/Lethality Analysis Directorate.

Page 22.

a. Add the following definitions for Soldier Survivability.

1. SSv is defined in terms of soldiers as those characteristics that enable them to withstand or avoid adverse military action (friend or foe), or the effects of natural phenomena, that would result in the loss of life or the loss of capability to continue effectively, the performance of the prescribed mission.

13 May 1994

2. SSv is defined in terms of systems as those characteristics that can reduce fratricide, as well as reduce detectability of a soldier, prevent attack if detected, prevent damage if attacked, minimize medical injury if damaged (wounded), and reduce mental and physical fatigue.

b. Add the following definition for Soldier Survivability Assessment:

SSvA is a process used to identify potential survivability issues which may be associated with the development, acquisition, operation, maintenance, support, and the changing enemy threat to Army materiel systems. The scope of the SSvA includes: Fratricide and detection reduction, attack and damage prevention, medical injury minimization, and mental and physical fatigue reduction. The SSvA will also include ballistics, electronic warfare, and chemical, biological, and nuclear effects. This identification (effort) will be conducted early in the system life cycle to preserve and protect the soldiers and civilians supporting them to enhance soldier performance and system effectiveness.

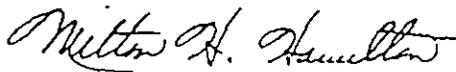
2. Post these changes per DA Pam 310-13.
3. File this interim change in front of publication.

(DAPE-MRP)

By Order of the Secretary of the Army:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:



MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army

DISTRIBUTION: Distribution of this publication is made in accordance with the requirements on DA Form 12-09-E, block number 2533, intended for command level D for Active Army, Army National Guard, and U.S. Army Reserve.

S/S dtd 7 Oct 94

Effective 18 May 1990

Soldier Materiel Systems

Manpower and Personnel Integration (MANPRINT) in the Materiel Acquisition Process

This UPDATE printing publishes a revision of this publication. Because the publication has been extensively revised, the changed portions have not been highlighted.

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

Milton H. Hamilton

MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army

Summary. This regulation implements DOD Directive 5000.53 and incorporates provisions of DOD Directive 5000.1 and DOD Instruction 5000.2. It prescribes policies and procedures and assigns responsibilities for the Manpower and Personnel Integration (MANPRINT) Program in the Department of the Army. It establishes a requirement for the System MANPRINT Management Plan. MANPRINT is an umbrella concept encompassing the domains of human factors engineering, manpower, personnel, training, health hazards, and system safety. The focus of MANPRINT during the life-cycle system management of Army materiel is on influencing materiel systems design and associated support requirements so that developmental, nondevelopmental, and materiel change (product-improved) systems can be operated and maintained in the most cost-effective and safest manner

consistent with manpower structure, personnel aptitude and skill, and training resource constraints of the Army.

Applicability. This regulation applies to the Active Army, the Army National Guard, and the U.S. Army Reserve.

Internal control systems. This regulation is subject to the requirements of AR 11-2. It contains internal control provisions, but does not contain checklists for conducting internal control reviews. These checklists are being developed and will be published at a later date.

Supplementation. Supplementation of this regulation and establishment of command and local forms are prohibited without prior approval from HQDA (DAPE-MR), WASH DC 20310-0300.

Interim changes. Interim changes to this regulation are not official unless they are authenticated by the Administrative Assistant

to the Secretary of the Army. Users will destroy interim changes on their expiration dates unless sooner superseded or rescinded.

Suggested improvements. The proponent agency of this regulation is the Office of the Deputy Chief of Staff for Personnel. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to HQDA (DAPE-MR), WASH DC 20310-0300.

Distribution. Distribution of this publication is made in accordance with the requirements on DA Form 12-09-E, block number 2533, intended for command level I for Active Army, ARNG, and USAR.

695-9213

Contents (Listed by paragraph number)

Chapter 1

Introduction

- Purpose • 1-1
- References • 1-2
- Explanation of abbreviations and terms • 1-3
- The MANPRINT Program • 1-4
- Policies • 1-5
- Communications with industry • 1-6
- Filing and records keeping • 1-7

Chapter 2

Responsibilities

Section I

- Program Executive Officers and Project/Product Managers
- Program Executive Officers • 2-1

Project/Product Managers • 2-2

Section II

HQDA Elements

- Assistant Secretary of the Army (Manpower and Reserve Affairs) (ASA(MRA)) • 2-3
- Assistant Secretary of the Army (Research, Development, and Acquisition) (ASA(RDA)) • 2-4
- Director of Information Systems for Command, Control, Communications and Computers (DISC4) • 2-5
- Deputy Chief of Staff for Personnel (DCSPER) • 2-6
- Deputy Chief of Staff for Logistics (DCSLOG) • 2-7
- Deputy Chief of Staff for Operations and Plans (DCSOPS) • 2-8

Deputy Chief of Staff for Intelligence

- (DCSINT) • 2-9
- The Surgeon General (TSG) • 2-10

Section III

- Commanders of Major Army Commands
- Commanding General, U.S. Army Training and Doctrine Command (CG, TRADOC) • 2-11
- Commanding General, U.S. Army Materiel Command (CG, AMC) • 2-12
- Commanding General, U.S. Army Health Services Command (CG, HSC) • 2-13

Section IV

- Heads of Other Army Elements
- Commanding General, U.S. Army Operational Test and Evaluation Agency (CG, OTEA) • 2-14
- Director of Army Safety (DASAF) • 2-15

*This regulation supersedes AR 602-2, 17 April 1987.

Contents—Continued

Commander, U.S. Army Soldier Support Center • 2-16
Commander, U.S. Army Logistics Evaluation Agency (USALEA) • 2-17
CG, U.S. Army Information Systems Command; CG, U.S. Army Intelligence and Security Command; CG, U.S. Army Medical Research and Development Command; CG, U.S. Army Strategic Defense Command; and Chief of Engineers • 2-18

Chapter 3

MANPRINT in Life Cycle System Management of Army Materiel

Introduction • 3-1
MANPRINT in tailored development programs (The Army Streamlined Acquisition Program) • 3-2
MANPRINT during preconcept activities (requirements formulation and technology base activities) • 3-3
MANPRINT in the concept exploration definition phase (proof of principle activities) • 3-4
MANPRINT in the concept demonstration and validation phase (proof of principle/development proveout activities) • 3-5
MANPRINT in the full scale development—low rate initial production (LRIP) phase (development proveout activities) • 3-6
MANPRINT in the full rate production and initial deployment phase • 3-7
MANPRINT in the logistics readiness and support review (MS IV) • 3-8
MANPRINT in the major upgrade/system replacement (MS V) • 3-9
MANPRINT in nondevelopmental items (NDI) • 3-10
MANPRINT in materiel change (MC) management • 3-11

Chapter 4

Systems MANPRINT Management Plan

Introduction to the System MANPRINT Plan • 4-1
Preparation of the System MANPRINT Plan • 4-2
Procedures • 4-3
The abbreviated SMMP • 4-4

Chapter 5

MANPRINT in Source Selection Process for Major Systems and Designated Acquisition Programs

MANPRINT in the Source Selection Process for Major Systems and Designated Acquisition Programs • 5-1
Treatment of MANPRINT • 5-2
Procedures • 5-3

Appendixes

A. References
B. MANPRINT Review/Assessment and Suggested Report Format

C. Suggested Format for the System MANPRINT Management Plan (SMMP)
D. Abbreviated System MANPRINT Management Plan
E. Sample Source Selection MANPRINT Criteria Weighting
F. Army Acquisition Executive (AAE) Policy Memorandum

Glossary

Index

Chapter 1 Introduction

1-1. Purpose

This regulation—

a. Establishes policies, procedures, documentation requirements, and responsibilities for establishing and supporting Manpower and Personnel Integration (MANPRINT).

b. Emphasizes front-end planning of soldier-materiel system design for optimum total system performance as part of the Army materiel systems acquisition process. (See AR 70-1.) This includes Clothing and Individual Equipment programs (see AR 700-86), and Information Mission Area (IMA) systems, equipment, services, and supplies (see AR 25 series).

1-2. References

Required and related publications and a prescribed form are listed in appendix A.

1-3. Explanation of abbreviations and terms

Abbreviations and special terms used in this regulation are explained in the glossary.

1-4. The MANPRINT Program

a. MANPRINT refers to the comprehensive management and technical effort to ensure total system effectiveness by continuous integration into materiel development and acquisition of all relevant information concerning the following domains:

- (1) Human factors engineering.
- (2) Manpower.
- (3) Personnel.
- (4) Training.
- (5) System safety.
- (6) Health hazards.

b. The philosophy of the MANPRINT Program is to have the Army and industry to answer the question: Can this soldier with this training perform these tasks to these standards under these conditions?

c. MANPRINT includes but is not limited to the following:

(1) Integration of all actions in the materiel acquisition process affecting human performance and reliability. This includes human factors engineering, manpower levels, personnel requirements, training requirements and methods (including training devices), system safety, and health hazards.

(2) Developing equipment that will permit effective soldier-materiel interaction within physiological tolerance limits, training time, soldier aptitudes and skills, and physical capabilities.

(3) Determining and evaluating requirements for overall system performance requirements based upon capabilities and limitations of soldier performance.

(4) Developing and applying methodologies to analyze human factors engineering, manpower levels, personnel, training, system safety, and health hazard issues in an integrated manner.

(5) Developing, maintaining, and using data bases containing human factors, human performance, manpower, personnel, training, system safety, and health hazard information.

(6) Selecting, defining, and developing soldier-materiel interface characteristics, work space layout, work environment, and effective transfer of operator-maintainer skills for similar tasks on similar equipment. The process of developing and defining a work environment includes detailed analyses of the proposed environment on the health and safety of operator and support personnel. Analyses of the work environment also includes consideration of the physical and cognitive demands on personnel based on the operating tempo of the unit in both a training and combat environment.

(7) Determining human performance requirements for new systems and materiel change systems and matching available human aptitudes with training concepts (including training devices and publications) to produce required skills.

(8) Providing basic soldier-materiel system task sequence data to describe, develop, and assess the human performance required in a soldier-materiel system.

(9) Determining the numbers and types of soldiers and civilians needed for manning a system to provide for subsequent personnel planning and training; providing data needed for establishing new military occupational specialty (MOS), additional skill identifier (ASI) or special qualification identifier (SQI) for new or improved materiel systems, doctrine, and force or unit structure.

(10) Assessing the manpower, personnel, and training burden that materiel design or development concepts may impose on the Army (Active, USAR, ARNG, DA Civilian and Contractor).

(11) Confirming the effectiveness of MANPRINT by evaluating the soldier-materiel systems and unit performance.

(12) Applying, as appropriate, MANPRINT methodologies to development items, nondevelopment items, and materiel change management systems throughout each phase of the acquisition cycle.

(13) Integration of personnel assignment policies to ensure that specifically trained soldiers are assigned to units and positions for which trained.

(14) Providing MANPRINT assessments for the milestone decision reviews.

(15) Establishing at the service school or proponent level, MANPRINT Joint Working Groups (MJWG) to develop the SMMP and coordinate the MANPRINT program.

(16) Conduct analyses assessing the sensitivity of the system's design, cost and performance to assumptions, estimates, and variations in human dimensions of the system.

d. The objectives of the MANPRINT program are to—

(1) Increase the Army's warfighting capability by enhancing the operational effectiveness of the total system.

(2) Influence soldier-materiel system design for optimum total system performance by considering human performance and reliability issues related to human factors engineering, manpower, personnel, training, system safety, and health hazards before finalizing the functional allocation of tasks among people, hardware, and software.

(3) Ensure that Army materiel systems and concepts for their employment do not exceed the capabilities and limitations of the fully equipped soldier to operate, maintain, supply, and transport the materiel in its operational environment consistent with tactical requirements and logistical capabilities.

(4) Assist the Army trainer in determining training requirements as well as designing, developing, and conducting both Army and joint service training necessary to meet the system training requirements.

(5) Improve control of total life-cycle costs of soldier-materiel systems by ensuring consideration of the costs of personnel resources and training for alternative systems during the conceptual stages and for the selected system during subsequent stages of acquisition.

(6) Ensure through human factors engineering studies, soldier-machine interface analyses and basic and applied research (experimental and physiological psychology, physical anthropology, toxicology) that equipment designs and operational concepts are compatible with the limits of operators and maintainers defined in the target audience description.

(7) Develop a unified, integrated MANPRINT data base to define ranges of human performance. Compare these ranges against system performance and provide for the timely development of trained personnel.

(8) Provide MANPRINT data to support the development of technical, training, and field manuals and other training media and technical publications. Ensure the use of these publications does not require aptitudes, education, or training which exceed the capabilities of the target audience.

(9) Apply MANPRINT concepts and current educational technology to analysis, design, and development of training devices.

(10) Influence the manpower, personnel, and training (MPT) related objectives of the ILS process.

7. ADD (See chg
IDJ, 13 MAY 1994)

See chg
FDJ

(11) Integrate combat development and technology base information systems with personnel long-range planning.

(12) Ensure that personnel trained for specific force modernization systems (by MOS and ASI) are assigned to units and positions for which trained and that they are assigned in sufficient quantity to support fielding and sustainment.

e. The MANPRINT program thrust does not replace individual domain activities, responsibilities, or reporting channels. Existing regulations control the individual domains.

1-5. Policies

a. MANPRINT will be used to integrate combat, training, and materiel development with personnel resources, capabilities, and constraints during all phases of the life-cycle of materiel systems (to include developmental, nondevelopmental, and materiel change) as well as nonstandard commercial equipment procurement by major Army commands (MACOMs). MANPRINT will be applied through the design process to the principal item of equipment, associated support items of equipment, other support equipment, and training devices (embedded or stand alone). MANPRINT will be accorded equal priority with all other system characteristics to ensure effective man-materiel interface.

b. The combat developer will retain responsibility for the System MANPRINT Management Plan (SMMP) and will update it throughout the acquisition process.

c. The format of the SMMP and abbreviated SMMP, at appendixes C and D respectively, will be the standard for all combat, training, and materiel developers. The SMMP will be used to provide an audit trail of previous phases as well as to identify current and anticipated issues and task assignments to resolve these issues. The combat developer or training developer will prepare a target audience description as a part of the SMMP.

d. MANPRINT will be a separate major area of the same visibility as technical management and cost and will be evaluated throughout all aspects of design, development, integrated logistic support (ILS), and program management.

e. Human factors engineering, biomedical, system safety, or behavioral research will be conducted in a timely manner to address gaps that exist in human performance data. (See AR 602-1.)

f. The combat and materiel developers will establish detailed plans and procedures for supporting and evaluating the six domains of MANPRINT.

g. In accordance with policy and procedure established by this regulation, combat developers, in conjunction with the materiel developer, will develop as lead agency prior to Milestone 0 an SMMP for each developmental, nondevelopmental, or materiel change management system. The MJWG has primary responsibility for the development of the SMMP (see para i below).

h. At Milestone 1 and beyond, the MJWG will be co-chaired by the combat developer and materiel developer to further refine SMMP development.

i. The combat developer at the proponent school or center will initiate a MJWG to assist in writing the SMMP and carrying out the MANPRINT process throughout the acquisition. MJWG membership may be tailored by the proponent combat developer based on the program and the nature of the acquisition. However, as a minimum, a MJWG should have an expert from each MANPRINT domain and representatives of the materiel developer; (for example, program sponsor, HQ AMC). Other invitees to the MJWG should include individuals from the proponenty office, the directorate of evaluation and standardization (DOE), Army Research Institute (ARI) field office, reserve components, supporting schools, and integrating centers. Where possible, an MJWG should be formed with school or center resources.

j. In order to properly implement the applicable provisions of DOD Directive 5000.53 and AR 70-1, it is necessary to conduct MANPRINT reviews and assessments. Responsibility for the conduct of the MANPRINT review rests with the applicable program sponsor. The objective of the MANPRINT review is to determine the status and adequacy of MANPRINT efforts in the materiel acquisition program. The results of the MANPRINT review should

be documented in appropriate program decision documents (system concept paper, decision coordinating paper) and briefed at the milestone decision review. (See appendix B for an overview of MANPRINT reviews and assessments required by this regulation.)

k. ODCSPER will be responsible for the preparation of the MANPRINT assessment on all major and Level I nonmajor defense as well as Army designated acquisition programs. MANPRINT assessments will be conducted prior to milestone decision reviews on all acquisition programs, including materiel change and nondevelopmental items. The objective of the MANPRINT assessment is to determine the status and adequacy of MANPRINT efforts in the materiel acquisition program and to present any unresolved MANPRINT issues or concerns to decision makers at the appropriate decision points. Individual domain assessments (HFE, system safety, health hazards, manpower, personnel, and training) as well as other pertinent information will be used to formulate the overall MANPRINT assessment. HQ AMC, TRADOC, and applicable MACOMs will be responsible for preparing the MANPRINT assessment on all nonmajor acquisition programs.

1-6. Communication with Industry

a. MANPRINT data and concerns will be made available to industry as MANPRINT related documents are generated or updated at each acquisition milestone from program initiation through milestone V of the acquisition process. Industry will have access to this information through the Army Materiel Command (AMC) Technical Information Liaison Office (TILO). The same policy will apply for tailored development programs such as the Army Streamlined Acquisition Program (ASAP).

b. Combat and materiel developers, in coordination with ODCSPER (DAPE-MR), shall provide mechanisms for making MANPRINT data available to industry under Executive Order (E.O.) 12591.

c. Program MANPRINT requirements will be communicated to industry through the request for proposal (RFP) process. Section L (Instructions and Notices to Offerors) and Section M (Factors-for-Award Criteria) of the RFP will be used to inform industry of MANPRINT requirements. Specifically, Section L will delineate statement-of-work (SOW) specification paragraphs which have MANPRINT implications and instruct industry to identify in their MANPRINT Management Plan the management procedures and methods to be used to ensure integration of the MANPRINT domains within the systems engineering/design process. Section M will inform industry how Section L paragraphs and management information are related to Section M factors-for-award criteria to be used during source selection deliberations.

1-7. Filing and records keeping

A MANPRINT case file by system (MARKS No. 602-2b) will be established by all organizations involved in MANPRINT activities. (See AR 25-400-2.) A central MANPRINT data base will be established and managed by AMC.

Chapter 2 Responsibilities

Section I Program Executive Officers and Project/Product Managers

2-1. Program Executive Officers

The Program Executive Officer (PEO) will—

a. Include in Project and Product Manager (PM) charters the responsibility for executing the MANPRINT program.

b. Monitor PM and contractor execution of MANPRINT program requirements.

c. Rate assigned PM execution of MANPRINT responsibilities and consider rating in PM performance appraisals.

d. Develop policy and procedures to ensure PMs obtain MANPRINT domain assessments and make them available to requesting headquarters.

e. Ensure that TRADOC Systems Manager (TSM) or the PM brief MANPRINT status and issues during each system review; for example, two-star pre-ASARC; ASARC. (See AR 15-14.)

2-2. Project/Product Managers

The Project/Product Manager (PM) will—

a. Ensure MANPRINT program implementation on all systems including nondevelopmental items (NDI) and separately managed Materiel Change Management efforts.

b. Provide adequate support for effective MANPRINT effort implementation and maintenance.

c. Provide a MANPRINT manager.

d. Provide technical, logistic support analysis (LSA), and reliability, availability, and maintainability (RAM) input to support the MANPRINT data base located at Materiel Readiness Support Activity (MRSA).

e. Initiate requests for the conduct and preparation of MANPRINT domain assessments and provide results to ODCSPER and other headquarters when requested.

f. Conduct MANPRINT reviews to determine the status and adequacy of MANPRINT efforts. Input may be obtained from all applicable sources including the MJWG.

g. Annotate the status and adequacy of MANPRINT efforts in program documents and brief at milestone decision reviews (MDR).

h. Include MANPRINT requirements in solicitation packages in sufficient detail to permit a determination of effort required.

i. Establish MANPRINT as a separate major area in the source selection process in accordance with Army Acquisition Executive (app F).

j. Conduct Source Selection Evaluation Boards in accordance with app F.

k. Incorporate MANPRINT provisions in materiel systems contracts.

l. Resolve MANPRINT issues and concerns, a prerequisite for type classification (TC), before materiel production.

m. Include MANPRINT issues and resolutions in the technical test (TT) and operational test (OT) programs and other tests and evaluations.

n. Monitor materiel system prime and subcontractors accomplishment of MANPRINT objectives and requirements as specified in the statement-of-work. Use this information in the development of system specifications and applicable military standards.

Section II HQDA Elements

2-3. Assistant Secretary of the Army (Manpower and Reserve Affairs) (ASA(MRA))

The ASA(MRA) will—

a. Exercise primary Secretariat responsibility for the MANPRINT program.

b. Coordinate with DCSOPS and DCSPER to ensure that the manpower, personnel, and training requirements to support systems are integrated into the Army long-range planning processes, including the Total Army Analysis, to assure that systems, when fielded, will be adequately manned and supported.

c. Coordinate with DCSPER to assure that all initiatives to integrate MANPRINT throughout the acquisition process receive appropriate support from the Secretariat.

d. Maintain close and continuous liaison with the MANPRINT Policy Office within ODCSPER to assure that issues regarding the MANPRINT program receive early and effective attention.

e. Serve as a regular member of the Army Systems Acquisition Review Council.

f. Review the Manpower Estimate Report (MER), required by Section 2434, Title 10, US Code, and the Manpower Billpayer

Plan, both of which are provided by ODCSOPS. Transmit the approved MER to the Office of the Assistant Secretary of Defense (Force Management and Personnel).

g. Review the Army Soldier Oriented Research and Development Program, human performance Research, Development, Test, and Evaluation (RDTE) efforts, including research and development (R&D) programs conducted by U.S. Army Human Engineering Laboratory (USAHEL) and the Army Research Institute (ARI), relating to education and training, training simulation, personnel systems, manpower systems management, human factors engineering, and human performance.

2-4. Assistant Secretary of the Army (Research, Development, and Acquisition) (ASA(RDA))

The ASA(RDA) will—

a. Include RDTE funds for MANPRINT in the annual submission for the Program 6 (Research, Development, Test, and Evaluation) budget.

b. Establish Army policy and guidance for integrating MANPRINT within the research and development and acquisition community.

c. Ensure that PEO/PMs have had MANPRINT training.

d. Fund contracted MANPRINT studies and methodologies and ensure that MANPRINT methodologies have been applied to appropriate systems.

e. Ensure that manpower, personnel, training, and safety (MPTS) descriptions (encompassing manpower, personnel, training, and safety, as well as health hazards and human factors engineering) are considered, assessed, refined, documented and reported to ASD(FM&P) at each phase of the acquisition process in accordance with DOD Directive 5000.53.

f. To the extent feasible, ensure that complete, production representative systems and components (hardware and software; manuals; training programs; tables of organization and equipment; and doctrine, tactics, and operational procedures) are provided to test organizations and test units before system-specific pretest training begins for initial operational test and evaluation (IOT&E).

2-5. Director of Information Systems for Command, Control, Communications, and Computers (DISC4)

The DISC4 will—

a. Establish policy and guidance to integrate MANPRINT considerations into requirements documents for the development and acquisition of information management systems.

b. Identify and incorporate criteria in the spectrum management process to guard against the effects of electromagnetic radiation hazards, as identified by The Surgeon General, for Army personnel operating radio and radar systems.

c. Ensure application of MANPRINT methodologies to hardware and software development, modification, and acquisition programs that come under the responsibility of the Information Mission Area (IMA).

d. Ensure, in coordination with ODCSPER the resolution of MANPRINT issues and concerns during the life cycle of information systems.

e. Ensure that IMA PEOs and PMs have had MANPRINT training.

2-6. Deputy Chief of Staff for Personnel (DCSPER)

The DCSPER will—

a. Exercise primary DA staff responsibility for the MANPRINT program.

b. Develop, coordinate, and disseminate MANPRINT program policy and guidance to all Army commands and agencies.

c. For major and Level I nonmajor programs, review and monitor materiel objectives, requirements documents, Systems MANPRINT Management Plans, acquisition strategy documents, and other pertinent acquisition related documents in materiel development or improvement to ensure that MANPRINT is addressed early and continuously in the development of total system performance requirements.

d. Provide behavioral sciences and human factors engineering research support; (for example, processing research, development, test, and evaluation (RDTE) funding requirements). The DCSPER research program is executed through the following agencies:

(1) The U.S. Army Research Institute (ARI) for the Behavioral and Social Sciences, a field operating agency of DCSPER. (See AR 70-8.) ARI focuses on MPT-related research.

(2) The Human Engineering Laboratory (HEL), the Army's lead laboratory for human factors engineering, and an agency of the U.S. Army Laboratory Command (LABCOM). (See AR 602-1.)

e. Provide for professional coordination and collaboration among human factors engineering, system safety, biomedical, manpower, personnel, and training specialists.

f. Monitor, in coordination with TRADOC, the content and quality of MANPRINT training courses.

g. Approve and verify data contained in qualitative and quantitative personnel requirements information (QQPRI) submissions. (See AR 71-2.)

h. Approve DA policy, guidance, and formats for all MANPRINT related documents; for example, SMMP, target audience descriptions (TAD).

i. Appoint the DA personnel systems staff officer (PERSSO) for Major Defense Acquisition Programs (MDAP), Army Designated Acquisition Programs (ADAP), and selected Level I, II, and III nonmajor programs.

j. Ensure that MANPRINT is integrated into materiel system requirements, development, acquisition, and materiel change programs.

k. Serve as a regular member of the Army System Acquisition Review Council (ASARC) in accordance with AR 15-14 and prepare MANPRINT assessments in preparation for milestone decision reviews with a copy furnished Deputy Chief of Staff for Logistics.

l. Ensure that personnel assignment policies are established that provide for assignment of specially trained personnel to units and positions for which trained in time to support fielding and sustainment.

m. Establish policy in coordination with ODCSLOG on how MANPRINT and ILS programs will interface (see 6b above).

n. Ensure, in coordination with ASA(RDA), that MANPRINT considerations are properly integrated into materiel RDA and materiel change programs.

o. Approve policy, guidance and formats for all MANPRINT related documents; for example, SMMP, TAD.

P. ADD See Change 201

2-7. Deputy Chief of Staff for Logistics (DCSLOG)

The DCSLOG will—

a. Ensure interface of MANPRINT with the Army ILS program for all developmental, nondevelopmental, and materiel change management systems and for logistics research and development.

b. Establish Army policy, in coordination with DCSPER, on how the ILS and MANPRINT processes will interface. (See AR 700-127.)

c. Monitor the MANPRINT efforts, in coordination with other Army staff agencies, to ensure effective policy implementation.

d. Provide DCSPER with a copy of the ILS assessment for all major systems.

e. Provide AMC with a copy of the ILS assessment for all nonmajor systems.

2-8. Deputy Chief of Staff for Operations and Plans (DCSOPS)

The DCSOPS will—

a. Ensure MANPRINT requirements are considered and included, as appropriate, during the preparation of materiel and training requirements documents.

b. Identify and resolve training issues.

c. Ensure the inclusion of relevant MANPRINT data in establishing requirements for training devices for new equipment; institutional, unit, and joint service training; and in developing table of organization and equipment and table of distribution and allowances.

d. Ensure the inclusion of MANPRINT issues in operational testing (OT), user testing (UT), and evaluations.

e. Ensure MANPRINT is addressed by all Special Task Forces (STF) in accordance with AR 71-9.

f. Develop and disseminate training guidance and constraints for materiel acquisition to include training devices, hardware, and software.

g. Establish Army policy and guidance for integrating MANPRINT in the Army training program in coordination with ODCSPER.

h. Ensure that MANPRINT is considered in basis of issue plan (BOIP) and quantitative and qualitative personnel requirements information (QQPRI) policy. (See AR 71-2.)

i. Prepare, in conjunction with the combat and materiel developers, a Manpower Estimate Report (MER) and attendant Manpower Billpayer Plan for Major systems acquisitions and submit to ASA(MRA).

2-9. Deputy Chief of Staff for Intelligence (DCSINT)

The DCSINT will—

a. Establish threat policy in support of combat, training, and materiel development activities. (See AR 381-11.)

b. Establish policy and guidance to integrate MANPRINT considerations into the development and acquisition of intelligence and security materiel systems.

C. ADD See ch 9 IOW

2-10. The Surgeon General (TSG)

TSG will—

a. Provide consultation and advice to the Army staff and developing agencies on medical aspects of MANPRINT, including health hazard assessments, psychological-biological considerations, lessons learned, constraints, and guidelines. (See AR 40-10.)

b. Establish and issue all medical policies, health standards, exposure limits, or other policies that relate exposure of personnel to actual or potential health hazards throughout the materiel development and acquisition cycle.

c. Develop the medical and health standards data bases needed to support MANPRINT assessments in Army systems.

d. Perform the appropriate medical RDTE tasks for nonmedical development and acquisition programs to include early identification and resolution of potential or unknown health hazards of emerging weapons and other materiel system technologies.

e. Coordinate with appropriate Army Medical Department (AMEDD) agencies and commands to accomplish health hazard assessments in response to requests for medical support. Serve as the approval authority for all health hazard assessment reports, which will be forwarded through command channels for inclusion in MANPRINT assessments.

f. Provide guidance on medical aspects prior to issue of safety releases for all testing including developmental, technical, operational, user and force development test and evaluation (FDTE).

Section III

Commanders of Major Army Commands

2-11. Commanding General, U.S. Army Training and Doctrine Command (CG, TRADOC)

The CG, TRADOC, will—

a. Ensure MANPRINT is considered and reported in the Concept Based Requirements System (CBRS) and in doctrinal, combat, and training developments.

b. Ensure that the proponent school or center combat developers initiate a MJWG 3 to 6 months prior to the start of the operational and organizational (O&O) plan.

c. Develop, as lead agency, an SMMP at proponent schools in conjunction with AMC for each development, nondevelopment, or materiel change management system.

See Change IOL, dtd 13 MAY 1994

d. Develop target audience descriptions (TAD) for use by combat, training, and materiel developers and contractors for developmental, nondevelopmental, and materiel change management systems. The TAD is a document which describes the future soldiers (Active and Reserve components), DOD civilian and contractor personnel who will operate, maintain, and support the new or improved item of equipment. The TAD is developed through a refinement of baseline MOS descriptions and will provide as a minimum the following information on each MOS identified:

(1) Projected force structure authorizations by grade and operating strength percentage and the standards of grade authorizations.

(2) MOS/civilian designation and description.

(3) Anthropometric data.

(4) Physical qualifications.

(5) Armed Forces Qualification Test (AFQT) quality distribution, and area aptitude scores.

(6) Biographical information or civilian education, percentage with English as a second language, and gender mix.

(7) Skills and knowledge trained during advanced individual training and noncommissioned officer (NCO) training.

(8) Task performance information (by skill level if available).

e. Coordinate and provide MANPRINT information to the materiel developer for execution in all materiel programs. This includes documenting in the SMMP the requirements for materiel developers' MANPRINT related efforts such as MPTS description, human factors engineering assessment (HFEA), health hazard assessment, and logistic support analysis

f. Prepare Manpower, Personnel and Training (MPT) input to MANPRINT assessments and reviews.

g. Ensure that requirements documents produced under AR 71-9, as well as specialized requirement documents used for computers or individual clothing and equipment, include adequate specification of MANPRINT requirements.

h. Prepare the System Training Plan (STRAP), which integrates the MANPRINT goals, constraints, and requirements as stated in the SMMP and defines the total system training strategy (see glossary). to include training devices and training aids.

i. Ensure the early preparation of task analyses (critical operation and maintenance tasks) which are derived from mission area deficiencies and combat and operational mission requirements.

j. Develop initial and progressive training standards leading to combat or operational proficiency criteria for critical individual and collective tasks for the operation and maintenance of materiel systems. As required, provide both training qualification standards and combat or operational proficiency criteria to permit the assessment of the training validity and performance validity programs during Initial Operational Test and Evaluation (IOT&E), and Follow-on Operational Test and Evaluation (FOT&E).

k. Recommend, when appropriate, to ODCSPER (DAPE-ZB), initiation of research and development projects in the field of education and training necessary to resolve issues involving unusual skills or learning processes.

l. Provide support to AMC in developing and maintaining the automated MANPRINT data base. This includes providing manpower, personnel, and training data to Commander, Materiel Readiness Support Activity (MRSA), ATTN: AMXMD-EI, Lexington, KY 40511-5101, for inclusion in the data base.

m. Provide analyses of manpower, personnel, and training implications for inclusion in the concept formulation package (CFP). The CFP must state explicit MANPRINT risks and estimated requirements for each alternative.

n. Conduct MANPRINT training for Army Staff agencies and MACOMs.

o. Ensure, in conjunction with all MANPRINT domains, MANPRINT issues and criteria are provided to testers and evaluators, that test results are collected and disseminated, and that post-fielding analysis is performed. (See AR 71-3.)

p. Ensure representation of individuals qualified by education, training, and experience in the six MANPRINT domains on all special study groups (SSGs) and special task forces (STFs).

q. Provide resources to proponent centers, schools, and subordinate commands to perform MANPRINT tasks within TRADOC.

r. Ensure MANPRINT data are collected during user testing for which TRADOC is responsible and is made available for use by other activities for continuous evaluation.

s. Ensure that employment and doctrinal decisions that influence engineering design are analyzed for resource and human performance implications.

t. Include MANPRINT responsibilities in TSM charters.

u. Provide assistance to AMC, in the preparation of MANPRINT assessments on nonmajor level II and III programs in preparation for all Milestone Decision Reviews with a copy furnished the logistician.

v. Collect and evaluate soldier performance data (time and accuracy) for all critical operation and maintenance tasks in major and designated acquisition program testing and evaluation.

w. Include soldier performance data on critical operation and maintenance tasks in any calculations of system effectiveness and availability presented to ASARC reviews.

x. Assess effectiveness of proposed training for critical operations and maintenance tasks.

y. Verify that soldiers used in testing are representative of the user population as defined in the target audience description.

z. Verify that the testing environment is representative of the operational environment in which the soldier and equipment will be deployed and used.

aa. Include MANPRINT issues in cost and operational effectiveness analysis (COEAs) and other studies and analyses which support the materiel acquisition process.

ab. Ensure that system safety engineers are assigned to support materiel development programs.

ac. Ensure TRADOC System Managers receive MANPRINT training.

ad. Develop for HQDA, DCSPER (DAPE-MR) approval policy, guidance, and formats for all MANPRINT related documents; for example, SMMP, TAD.

2-12. Commanding General, U.S. Army Materiel Command (CG, AMC)

The CG, AMC, will—

a. Integrate MANPRINT (including inputs from human factors engineering, manpower, personnel, training, safety, testing, and medical activities) into the materiel research, development, nondevelopment, materiel change (product improvement), and acquisition programs (from 6.2 exploratory development through production and deployment).

b. Establish and maintain the automated MRSA MANPRINT data base in coordination with DCSPER, DISC4, TSG, and CG, TRADOC.

c. Support TRADOC in the performance of early analyses, in developing and approving the SMMP and use it as guidance for formulating the MANPRINT assessment, Test and Evaluation Master Plan (TEMP), ILS Plan (ILSP), and Request for Proposal (RFP).

d. Ensure that the MANPRINT goals, constraints, and requirements stated in the SMMP and materiel requirements documents are reflected in MANPRINT assessments, Test and Evaluation Master Plan (TEMP), ILS Plan (ILSP) and Request for Proposal (RFP).

e. Develop, coordinate, and implement standards and procedures for all MANPRINT domains in all materiel and training device designs.

f. Ensure that MANPRINT training is provided to all project, program, and product managers (PM) as well as all scientists, engineers, and contract management personnel involved in the development process.

g. Perform appropriate basic and applied human factors engineering and system safety RDTE.

h. Ensure the inclusion of MANPRINT in the technical testing (TT), first article testing (FAT), production qualification testing (PQT), and production acceptance test and evaluation (PAT&E).

See change IRL, dtd MAY 1994

i. Ensure human factors engineering and system safety specialists are assigned to materiel development and nondevelopment programs.

j. Ensure coordination with Commanding General, TRADOC, and Commanding General, U.S. Army Operational Test and Evaluation Agency, to integrate all MANPRINT test and evaluation requirements, objectives, issues, and criteria into the TEMP.

k. Assure that HEL (LABCOM) in coordination with other commands prepare a human factors engineering assessments (HFEA) on all Major Defense Acquisition Programs (MDAP), Army Designated Acquisition Programs (ADAP), and nonmajor programs (including levels II and III). No waiver of HFEA is permitted. The HFEA will serve as the human factors domain input to the MANPRINT assessment (See AR 602-1.)

l. Provide systems safety assessment and management input to MANPRINT assessments throughout the life cycle of materiel system development and acquisition as well as ensure MANPRINT input is integrated into system safety program requirements in accordance with AR 385-16 and MIL-STD-882.

m. Prepare, in coordination with TSG, a written proposal for studies involving the use of volunteers in accordance with AR 70-25 (TSG has final approval authority for all studies using volunteers except research with nuclear or chemical warfare agents, which are approved by the Under Secretary of Defense for Research and Engineering).

n. Prepare, through PM for training devices (TRADE), a concept formulation package for all training devices and incorporate training assessments into the MANPRINT assessment.

o. Include MANPRINT as a separate major area in the source selection process. Request personnel qualified in specific MANPRINT domains from proponent and support agencies to participate as members of the Source Selection and Evaluation Board (SSEB).

p. Provide representation to all special task forces (STFs) and special study groups (SSGs) to ensure that MANPRINT is considered early and throughout the materiel acquisition process. (See AR 71-9.)

q. Provide the MANPRINT manager for all AMC-developed materiel systems.

r. Request a review of health hazard assessment by TSG during the concept exploration definition phase as well as subsequent phases where potential hazards are identified.

s. Ensure technical trade-off analyses include human performance and reliability considerations.

t. Prepare, in coordination with TRADOC, a MANPRINT assessment on nonmajor levels II and III programs for all post-Milestone I Decision Reviews with a copy furnished the logistician.

u. Develop (through HEL) human factors approaches, methodologies, and models to be used for the incorporation of HFE/MANPRINT into the acquisition process.

v. Provide (through HEL) HFE support to the combat and training developer during development of concepts, studies, analyses, system requirements, and user test and evaluations.

w. Fund contracted MANPRINT studies and methodologies and ensure that ODCSPER approved MANPRINT methodologies have been applied to appropriate systems.

x. Ensure the inclusion of MANPRINT in the Army Materiel Systems Analysis Agency (AMSAA) Evaluation Reports and the U.S. Army Test and Evaluation Command (TECOM) Assessment Reports.

2-13. Commanding General, U.S. Army Health Services Command (CG, HSC)

The CG, HSC will—

a. Through the U.S. Army Environmental Hygiene Agency (HSHB-MO-A), Aberdeen Proving Ground, Maryland 21010-5422, prepare system health hazard assessment reports for inclusion in the program sponsor's MANPRINT Review and in the MANPRINT Assessment. Forward to OTSG for approval.

b. Perform reviews of all requirements documents during concept exploration definition and subsequent phases to identify potential hazards.

c. Plan and execute as a combat developer, a MANPRINT program for medical (Class VIII) materiel development and acquisition.

d. Provide health hazard issues and data input as required to the automated MRSA MANPRINT data base.

**Section IV
Heads of Other Army Elements**

2-14. Commander, U.S. Army Operational Test and Evaluation Agency (CG, OTEA)

The CG, OTEA, will—

a. Analyze and evaluate the human factors of system performance in simulated combat, or the operational setting, during initial operational test and evaluation (IOT&E) and follow-on operational test and evaluation (FOT&E). Participate in MANPRINT and other system development activities to plan and prepare for this analysis.

b. Ensure that test plans address the collection of soldier performance measurements (time and accuracy) of individuals, teams, crews, squads, and units involved in the use, operation, maintenance, and support of the system. Find whether soldier performance of essential tasks is adequate under operational conditions. Evaluate the contribution of soldier performance to system effectiveness.

c. Estimate the workload or level of effort exerted by soldiers to meet system performance demands. Find whether soldier performance measurements are sensitive to hardware and software design features and operating characteristics; manpower, personnel, and training variables; and operational procedures.

d. Identify detrimental effects of system use, operation, maintenance, and support upon soldiers and soldier performance. Evaluate the contribution of soldier performance to system availability.

e. Identify soldier performance and other human factors problems which are amenable to correction by design changes to hardware and software.

f. Confirm that the personnel portions of applicable tables of organization and equipment (TOE) are consistent with the demands of system and task performances.

g. Identify individual soldier characteristics; (for example, biographical, physical, anthropometric, and aptitude variables) which are correlated with soldier and system performance data from training and testing. Verify that soldiers used in testing are representative of the user population as defined in the target audience description.

h. Confirm the performance validity of training programs; that is, the transfer of training to soldier performance in the operational setting. Identify necessary tasks in testing which were not trained or which were inadequately trained. Identify tasks which were trained, but not necessary in testing.

i. Ensure that all tests are conducted in accordance with Human Use Committee (HUC) recommendations and the provisions of the safety release. Assess the suitability of the Safety Release for training and for testing. Assess the operational effectiveness of the corrections made to previously identified high-severity hazards. Assess the effectiveness and realism of user-dependent or administrative hazard control measures under operational conditions. Identify actual or potential hazards to soldier safety and health which are revealed in operational tests.

j. Identify any soldier or system performance problems which are attributable to incorrect, awkward, or inadequate operational procedures or techniques.

2-15. Director of Army Safety (DASAF)

The DASAF will—

a. Ensure system safety issues and concerns are integrated into the materiel development, acquisition, or improvement process through the MANPRINT program.

b. Provide an overall system safety policy for developing, acquiring, or changing materiel systems (see AR 385-16).

c. Prepare system safety lessons learned for MANPRINT analyses and provide input as required to the automated MANPRINT

data base at the Materiel Readiness Support Activity (MRSA),
ATTN: AMXMD-EL, Lexington, KY, 40511-5101.

d. Delegate to AMC major subordinate commands (MSC) system safety assessment preparation responsibility for individual MANPRINT assessments.

2-16. Commander, U.S. Army Soldier Support Center

The Commander, U.S. Army Soldier Support Center, specifically the U.S. Army Personnel Integration Command, will—

a. Develop and institutionalize MANPRINT training within the Army and industry. As Army proponent for MANPRINT training, U.S. Army Personnel Integration Command will plan, update, coordinate, and conduct, as appropriate, training courses.

b. Provide Army proponentcy for manpower, personnel, and training (MPT) methodologies. Publish guidance, facilitate the conduct of analyses, and serve as a clearinghouse for emerging MPT analytic efforts.

c. Provide analytical capability to examine the impact of proposed and ongoing materiel acquisitions upon total Army manpower, personnel, and training considerations.

d. Perform independent MPT assessments on major systems for inclusion in the MANPRINT Assessment.

e. Establish guidance and procedures relative to the integration of MPT into the MANPRINT process.

2-17. Commander, U.S. Army Logistics Evaluation Agency (USALEA)

USALEA, as the logistician in the materiel acquisition process for other than medical equipment (AR 700-127), will

a. Review and recommend changes to requirements documents, System MANPRINT Management Plans, ILS Plans, materiel fielding documents, solicitation documents, and other program management and LSA documentation for MANPRINT and ILS considerations.

b. Participate in ILSMT activities and MANPRINT joint working groups.

c. Inform the materiel developer, combat developer, and other program participants of MANPRINT planning deficiencies in the ILS program. USALEA will identify potential problems and help resolve them.

2-18. CG, U.S. Army Information Systems Command; CG, U.S. Army Intelligence and Security Command; CG, U.S. Army Medical Research and Development Command; CG, U.S. Army Strategic Defense Command; and Chief of Engineers

The Commanding Generals indicated and the Chief of Engineers will—

a. Establish MANPRINT programs that incorporate the provisions of this regulation in their combat and training developments, materiel acquisition, and testing responsibilities.

b. Request a health hazard assessment review in accordance with AR 40-10 during the concept exploration definition phase as well as subsequent phases where potential hazards are identified.

c. Submit to TSG a written proposal for studies involving the use of volunteers in accordance with AR 70-25 (TSG has final approval authority for all studies using volunteers except research with nuclear or chemical warfare agents which are approved by the Under Secretary of Defense for Research and Engineering).

d. Provide safety assessments of their materiel acquisition systems for inclusion in the MANPRINT assessments for their respective programs.

e. Obtain MPT assessment data from the combat developer for integration into the MANPRINT and the ILS programs for the system under development.

f. Ensure that research findings relating to or affecting human performance and reliability are reported to DAPE-MR.

g. Request HEL (LABCOM) perform an HFEA as input to the MANPRINT Review/MANPRINT Assessment for their respective programs.

h. Execute MANPRINT Reviews for their respective programs.

See change IOL, dtd MAY 1994

Chapter 3

MANPRINT in Life Cycle System Management of Army Materiel

3-1. Introduction

a. MANPRINT is focused on influencing the design of materiel systems and associated support requirements so that developmental, nondevelopmental, and materiel change management systems can be operated, maintained, and supported efficiently and safely within the manpower structure, personnel aptitudes, and training resource constraints of the Army.

b. The engineering design philosophy of MANPRINT is focused on optimum system performance on the battlefield, which includes consideration of both soldier and equipment capability. MANPRINT is an option-oriented process as opposed to an objective-oriented process. The MANPRINT process will provide decision makers information upon which to make tradeoffs on areas such as quality and numbers of people, training, technology, conditions, standards, costs, and personnel assignment policy.

3-2. MANPRINT in tailored development programs (The Army Streamlined Acquisition Program)

The Army's policies for tailoring development programs are incorporated in the Army Streamlined Acquisition Program (ASAP). MANPRINT will be integrated throughout the ASAP in the same manner as the current Life Cycle System Management Model (LCSMM). The ASAP activities and approaches are included in parenthesis after LCSMM phases in paragraphs 3-3 through 3-6. (See AR 70-1.)

3-3. MANPRINT during preconcept activities (requirements formulation and technology base activities)

a. MANPRINT goals, constraints, and requirements stated in the SMMP will be considered and integrated during all phases of the life cycle (AR 70-1) for all materiel systems. The MANPRINT effort for a specific system is initiated when the decision is made to meet a battlefield or training materiel need by improving old or developing new equipment. MANPRINT will be integrated into program initiation documents such as the operational and organizational (O&O) plan, training device needs statement (TDNS), and the mission needs statement (MNS). MANPRINT domains will be considered and assessed during market investigations and be considered in the acquisition strategy.

b. MANPRINT in this phase will consider the human element in terms of manpower, capabilities, skills available or achievable, and forecasted training capabilities and training burden. The system definition is critical and must be identified in order to do a preliminary comparative analysis. Health hazard, system safety, and human performance data on the predecessor system, if one exists, should be identified and plans made for conducting a human factors engineering assessment.

c. Exploration of available technologies and methodologies begins during this phase. Research required to support the training requirement will be conducted to resolve critical training issues. The need for this research will be documented as a separate research and development requirement under AR 70-8. Research to identify what human attributes correlate to successful performance on a given function or task will be undertaken.

d. The combat, materiel, and training developers should work closely to prepare an adequate and attainable training strategy (see glossary). When a system requires a training device, the combat developer has lead responsibility for MANPRINT, with the training developer assuming a support role. When a non-system training device is required, the training developer assumes responsibility and will manage all MANPRINT activities required rather than the combat developer. If simulators or other training devices are required, they should be designed to pose no safety or health hazards whatsoever. If hazards cannot be completely designed out, then hazardous exposure must be limited to lowest practicable levels consistent with cost and time constraints and required operational effectiveness. Hazards that cannot be designed

See Change 101, dated MAY 1994

out must have documented acceptance of the hazards by the proponent in accordance with AR 70-1. Health hazards, health criteria, and procedures to control risks to the user will be fully documented in all system, training, maintenance, and operational publications.

e. The combat or training developer, in conjunction with the materiel developer, will initiate a SMMP in this phase to include preparation of the initial target audience description. (See chap 4.) The combat developer (system) or training developer (nonsystem) will develop and update the training device SMMP throughout the life-cycle of the system.

f. The plan for trade studies and analyses must be carefully prepared. Missions and mission environments must be analyzed to determine design drivers. Trade studies must focus on human performance and reliability associated with each technology.

g. The total system (see glossary) into which the new item of equipment will be integrated must be carefully and thoroughly identified.

h. MANPRINT front-end analyses; for example, early comparability analysis, performed during this period will focus on predecessor systems and lessons learned.

3-4. MANPRINT in the concept exploration definition phase (proof of principle activities)

a. MANPRINT inputs will be included in the conceptual phase studies and analyses and the concept formulation package, including the trade-off analysis (TOA), and the cost and operational effectiveness analysis (COEA). MANPRINT analyses accomplished prior to program initiation provide a baseline to which technical approach alternatives and their resulting MANPRINT implications can be compared. MANPRINT requirements and constraints must be established for inclusion in requirements documents and solicitation documents.

b. The combat and training developers in conjunction with the materiel developer will integrate MANPRINT into appropriate technical and management plans. MANPRINT data will be developed to—

(1) Determine probable and projected MANPRINT requirements and include in the SMMP and required operational capability (ROC).

(2) Develop planning for personnel support and training programs (that is, development of the System Training Plan (STRAP) which outlines the initial training strategy) in accordance with AR 350-35 and identify critical issues for further study or testing and include in the SMMP.

(3) Support operational and organizational concepts and provide requisite MANPRINT input to the Program Management Documents (PMDs), especially the integrated logistics support plan (ILSP), the system engineering management plan (SEMP), the TEMP, and the SMMP.

c. Estimates of manpower and personnel costs, including training costs and projections of the cost of recruiting and retaining soldiers with the required aptitudes, will be explicitly considered in COEA and in selection of the best technical approach. Cost and training effectiveness analysis (CTEA) of training devices will be specifically addressed to determine savings resulting from decreased annual man-day requirements, annual instructor requirements, and training annual costs. (See AR 71-9.) The assumptions and methods used to measure the cost effectiveness of training devices will be reported in sufficient detail to permit other analysts to replicate the computations. Cost data will be updated during subsequent phases.

d. For materiel with a predominant human interface, it is critical to collect and evaluate human performance reliability data to determine whether the proposed system concept will deliver the expected performance using personnel with no greater aptitudes and no more training than planned. Where the conceptual system is a drastic departure from current materiel, and thus predecessor data may not be applicable, actions must be taken to highlight and

emphasize MANPRINT issues in subsequent phases. Health hazard, system safety and human performance issues will be considered as critical test issues for resolution. (See AR 40-10, AR 385-16, and AR 70-10.)

e. Application of various training methodologies and exploration of available training technologies continue during this phase.

f. A MANPRINT Review and a MANPRINT Assessment will be conducted.

g. The combat developer will update the SMMP, if required, in conjunction with the materiel developer through the MJWG process. The materiel developer will update the HFEA, SSA, and ILSP. The U.S. Army Health Services Command will update the HHA for input to the MANPRINT Review and Assessment. A review of the projected target audience identified in the TAD will be performed to ensure it is compatible with the system design. The SMMP will be jointly approved by the materiel developer and the proponent prior to the milestone decision review.

h. Joint (combat, training, and materiel developers) tailoring of military specifications, standards, and contract data requirements list will be accomplished. Industry must be given the opportunity to identify trade-off points and human tasks associated with the system.

i. Integrate MANPRINT requirements and activities into the procurement documents and process (RFP, SOW, SSEB).

j. MANPRINT domain representatives, including users, will monitor through the PM the contractor efforts to ensure compliance with contractual requirements.

k. MANPRINT issues and criteria will be included in tests and evaluations conducted during this phase of the acquisition cycle.

l. The MANPRINT portion of the requirements documents will provide soldier performance specifications which consider maximum and minimal personnel aptitudes and skills that will be required.

3-5. MANPRINT in the concept demonstration and validation phase (proof of principle/development proveout activities)

a. MANPRINT standards, measures, testing issues, and criteria will be provided to the test and evaluation community through coordination of the TEMP.

b. MANPRINT data to support the BOIP and QQPRI will be developed during this phase. (See AR 71-2.)

c. The requirement to conduct continuing training requirements analyses as a part of the concept demonstration and validation phase will be documented in the requirements document. The following will be completed by the end of this phase:

(1) A training strategy for the user, initially developed during concept exploration, will be expanded and documented in a new equipment training plan (NETP) in accordance with AR 350-35.

(2) Identification of training devices and aids and special training requirements. (See AR 350-38.)

d. A MANPRINT Review and a MANPRINT Assessment will be conducted or updated, as appropriate.

e. MANPRINT issues will be evaluated in technical testing and evaluation (TT&E) and user testing and evaluation (UT&E).

f. Integrate MANPRINT requirements and activities into the procurement documents and process (RFP, SOW, SSEB).

g. MANPRINT domain representatives, including users, will monitor the contractor efforts to ensure compliance with contractual requirements. MANPRINT will be an issue in all preliminary design reviews and critical design reviews.

h. MANPRINT issues and criteria will be included in tests and evaluations conducted during this phase of the acquisition cycle.

i. The combat developer, assisted by the materiel developer, will update the SMMP if required. The materiel developer will update the HFEA, system safety assessment (SSA), and ILSP. The U.S. Army Health and Services Command will update the health hazards assessment (HHA) for input to the MANPRINT review and MANPRINT assessment. A review of the projected target audience identified in the TAD should be performed to ensure it is compatible with the system design. The combat developer will conduct crosswalks among the SMMP, RFP, and ROC.

3-6. MANPRINT in the full scale development—low rate initial production (LRIP) phase (development proveout activities)

- a. MANPRINT issues will be evaluated in TT and (user testing) (UT), particularly those approved as critical in the independent evaluation plan (IEP).
- b. A MANPRINT Review and MANPRINT Assessment will be conducted and updated as appropriate.
- c. MANPRINT data will be developed as required during this phase and may support an amended BOIP and/or QQPRI.
- d. The combat developer, assisted by the materiel developer, will update the SMMP, if required, through the MJWG process. The materiel developer will update the HFEA, SSA, and ILSF and LSA strategy. The Medical Command will update the HHA for input to the MANPRINT Review and MANPRINT Assessment. A review of the projected target audience identified in the TAD should be performed to ensure it is compatible with the system design.
- e. Engineering change proposals will be reviewed for MANPRINT implications.
- f. Integrate MANPRINT requirements and activities into the procurement documents and process (RFP, SOW, SSEB).
- g. MANPRINT domain representatives, including users, will monitor the contractor efforts to ensure compliance with contractual requirements.
- h. MANPRINT issues and criteria will be included in tests and evaluations conducted during this phase of the acquisition cycle.

3-7. MANPRINT in the full rate production and initial deployment phase

- a. During this phase, the MJWG will assure that MANPRINT actions have been completed and the materiel is ready for fielding. New equipment training and institutional training must be ready to prepare soldiers to operate, maintain, and support the emerging materiel. Manpower spaces must be documented with sufficient lead time to ensure that soldiers with the requisite skills and abilities are available to fill these spaces. Personnel assignment policies must be established to support initial fielding and sustainment. Critical and major MANPRINT problems not resolved during materiel development must be addressed, resolved, or reconciled.
- b. Proponents, users, and providers will continually assess the fielded system for potential improvements that could enhance MANPRINT aspects of the system or the potential follow-on systems.

3-8. MANPRINT in the logistics readiness and support review (MS IV)

- a. The MANPRINT assessment during this phase will verify the degree to which MANPRINT requirements have been met. When a requirement has not been met, cost-effective corrective actions will be identified and implemented.
- b. Impacts on readiness and the MANPRINT domains will be evaluated when determining if an engineering change proposal (ECP) or materiel change (product improvement) is required. These issues will be documented and reported in the updated decision coordinating paper (DCP).

3-9. MANPRINT in the major upgrade/replacement (MS V)

- a. The MANPRINT Review and MANPRINT Assessment during this phase will evaluate MANPRINT lessons learned analyses and provide guidance for program improvements or new starts.
- b. The MANPRINT issues documented in the SMMP will serve as the basis for the initial SMMP of a new start. The MANPRINT issues will also be reported in the updated DCP.

3-10. MANPRINT in nondevelopmental items (NDI)

- a. MANPRINT influences nondevelopmental item (NDI) prior to program initiation. The SMMP prepared with the O&O Plan or TDNS will be a critical factor for the decision on whether or not

to pursue a NDI strategy. Further, MANPRINT concerns must be reflected in all requirement documents.

- b. Given a proposed NDI strategy, MANPRINT issues are inserted into the Independent Evaluation Plan (IEP) which form the basis for the market investigation. The market investigation (MI) team, to include specific MANPRINT domain representatives, will conduct the MI and produce an independent evaluation report (IER). Critical MANPRINT issues, questions, and concerns must be answered in the Independent Evaluation Report before a decision to continue an NDI program can be made.

- c. Market surveillance activities gather MANPRINT-relevant data for use in the preparation of solicitation documentation. MANPRINT issues and concerns will enter the source selection process as readily identifiable critical factors.

- d. Data pertaining to each NDI alternative, whether or not selected for procurement, will be incorporated into the automated MANPRINT data base for use in future procurements.

3-11. MANPRINT in materiel change (MC) management

- a. MANPRINT is critical to all materiel changes (both production and retrofit) to a system. The system will normally have been fielded long enough for empirical MANPRINT data to be available. Regardless of the specific materiel change proposal, MANPRINT lessons-learned data must be captured by incorporation into the automated MANPRINT data base and MANPRINT guidelines and constraints must be developed through MANPRINT lessons learned analysis.

- b. While great care will be taken to assure that defective hardware components are replaced and improved, equal care must be taken to assure soldier-machine interface problem components are also replaced or improved. This requires that MANPRINT field data be collected during the sample data collection (SDC) effort in accordance with AR 750-37.

- c. All validated data acquired through analysis or test will be incorporated into the automated MRSA MANPRINT database.

- d. MANPRINT issues are inserted into the IEP for the evaluation of the operational effectiveness and suitability of the materiel change. Critical MANPRINT issues, questions and concerns must be answered in the Independent Evaluation Report before a decision to continue a materiel change can be made.

- e. The System Improvement Plan (SIP) supporting documentation will contain a copy of the approved SMMP.

- f. Materiel change proposals will be evaluated for resulting MANPRINT impacts. For those changes with MANPRINT implications, the sponsor will coordinate with the combat developer to determine if a revised SMMP is required.

Chapter 4 System MANPRINT Management Plan

4-1. Introduction to the System MANPRINT Management Plan

- a. The SMMP is a living planning and management guide. The SMMP will be used by all activities involved in materiel development and acquisition to ensure MANPRINT issues are addressed throughout the system's life-cycle. The SMMP documents the data that is available or must be generated, how and when the data will be generated, and how it will be used to address MANPRINT issues and concerns. It provides the proponent with documentation that all available data have been examined and a plan or program established to address MANPRINT concerns throughout the materiel acquisition process (MAP).

- b. The SMMP provides an audit trail. The SMMP will document the data sources, analyses, trade-offs, and decisions made throughout the acquisition process. The plan serves as documentation of what was considered and why it was or was not used. The SMMP provides a source for continuity to lessen the impact of personnel changes on the MANPRINT effort. New personnel can review the SMMP and determine why and what tasks, actions, and analyses have or have not been scheduled and performed.

See Change J01, dtel MAY 1994
what action must be coordinated and scheduled, and who is involved in the effort.

4-2. Preparation of the System MANPRINT Management Plan

- a. The SMMP will contain the information in the format shown at appendix C.
- b. A SMMP will be prepared for each development, non-developmental, and materiel change (product improved) system.
- c. The SMMP will be jointly approved by both TRADOC and the materiel developer 60 days prior to the MDR. The SMMP will be coordinated with Secretary of the Army for Research Development and Acquisition (SARDA) for MDAP systems, the PEO for ADAP and nonmajor Level I systems, and with other appropriate organizations and agencies involved in the MANPRINT effort. A copy of the SMMP will be provided to HQDA (DAPE-MBI) WASH DC 20310-0300 for staffing and comment. The SMMP will be utilized as an audit trail for past decisions and a planning document to resolve current issues. The SMMP will govern analysis and integration of effort among domains.

4-3. Procedures

The SMMP is initiated prior to program initiation and development of the O&O plan by the combat or training developer when a deficiency requiring a materiel solution is identified. At this point in the acquisition process, the SMMP will be vague and, in some areas, blank. As the acquisition process progresses, the plan will become more specific and definitive. Initiation of the SMMP follows a logical progression.

- a. Identify all potential data sources and analyses requirements.
- b. Document program guidance that is available.
- c. Determine whether a predecessor system (or reference components) exists.
- d. Examine the list of data sources and determine those which are appropriate for the effort being initiated, those readily available, and those which must be generated; also determine the availability of resources to generate this data. As the program progresses, data sources may be added or eliminated depending on requirements and resources.
- e. Review the acquisition strategy (which may be extremely vague at this time) and set priorities for when data must be available.
- f. Date and number each SMMP and subsequent updated versions of the SMMP.

4-4. The abbreviated SMMP

- a. In some cases a fully developed SMMP may not be required. This section provides guidance to determine if a full SMMP is necessary to support the materiel acquisition process.
- b. The combat or training developer is responsible for initiating the abbreviated SMMP document and coordinating with representatives of the MJWG representing the six domains of the MANPRINT program.
- c. Appendix D shows the format and criteria necessary to determine whether a full or abbreviated SMMP is required.

Chapter 5 MANPRINT in the Source Selection Process for Major Systems and Designated Acquisition Programs

5-1. MANPRINT in the Source Selection Process for Major Systems and Designated Programs

This chapter provides policy and procedures for treatment of MANPRINT in source selection for major systems and designated acquisition programs.

5-2. Treatment of MANPRINT

- a. MANPRINT will be a separate major area of the same visibility as technical, management and cost and will be evaluated

throughout all aspects of design, development, integrated logistic support, and program management.

- b. Using this basic philosophy, treatment of MANPRINT will be tailored to suit the nature and priorities of the program and contract effort. An acceptable method of criteria weighting is shown in figure E-1. Because MANPRINT is evaluated separately and throughout, evaluators are cautioned to avoid double counting.

5-3. Procedures

- a. *The solicitation.*
 - (1) The statement of work and the specifications will contain appropriate MANPRINT requirements. In particular, the specification will describe how the system is to look and act to the user and how the requirements will be verified.
 - (2) Offerors will be instructed by the solicitation to address MANPRINT in every applicable portion of their offers and as a separate major area.
 - (3) Offerors will be informed in the evaluation and award factors section of the overall position of MANPRINT evaluation importance relative to other separate major areas.
 - (4) All RFPs will contain a requirement for a contractor MANPRINT Management Plan to be provided as part of the contractor proposal.
- b. *The evaluation criteria.* MANPRINT will be a separate major area of the same visibility as technical, management and cost and will be evaluated throughout all aspects of design, development, integrated logistic support, and program management.
- c. *Structure of the Source Selection Evaluation Board (SSEB).*
 - (1) The SSEB will be structured so as to establish and maintain MANPRINT considerations as a visible part of the process.
 - (2) There will be a MANPRINT entity at the area level and MANPRINT expertise applied throughout the remaining organization where appropriate.
- d. *Exceptions to policy.*
 - (1) Exceptions to this policy may be granted by the cognizant Program Executive Officer (PEO) in coordination with HQDA, MANPRINT Directorate, when it can be compellingly demonstrated that MANPRINT is not a major consideration in design or selection.
 - (2) A copy of approved waivers, including rationale and alternative treatment, will be sent to HQDA (DAPE-MR), WASH DC 20310-0300.

Appendix A References

Section I Required Publications

- AR 15-14**
Systems Acquisition Review Council Procedures. (Cited in paras 2-1 and 2-6.)
- AR 25-400-2**
The Modern Army Recordkeeping System (MARKS). (Cited in para 1-7.)
- AR 40-10**
Health Hazard Assessment Program in Support of the Army Materiel Acquisition Decision Process. (Cited in paras 2-10, 2-17 and 3-4.)
- AR 70-1**
Systems Acquisition Policy and Procedures. (Cited in paras 1-1, 1-5, 3-2 and 3-3.)
- AR 70-8**
Personnel Performance and Training Program (PPTP). (Cited in paras 2-6 and 3-3.)
- AR 70-10**
Test and Evaluation During Development and Acquisition of Materiel. (Cited in para 3-4.)
- AR 70-25**
Use of Volunteers as Subjects of Research. (Cited in paras 2-12 and 2-18.)
- AR 71-2**
Basis of Issue Plans (BOIP), Qualitative and Quantitative Personnel Requirements Information (QQPRI). (Cited in paras 2-6, 2-8, and 3-5.)
- AR 71-3**
User Testing. (Cited in para 2-11.)
- AR 71-9**
Materiel Objectives and Requirements. (Cited in paras 2-8, 2-11, 2-12 and 3-4.)
- AR 350-35**
Army Modernization Training. (Cited in paras 3-4 and 3-5.)
- AR 350-38**
Training Device Policies and Procedures. (Cited in para 3-5.)
- AR 381-11**
Threat Support to U.S. Army Force, Combat and Materiel Development (Cited in para 2-9.)
- AR 385-16**
Systems Safety Engineering and Management. (Cited in paras 2-12 and 2-15.)
- AR 602-1**
Human Factors Engineering Program. (Cited in paras 1-5, 2-6 and 2-12.)
- AR 700-86**
Life Cycle Management of Clothing and Individual Equipment (Cited in para 1-1b.)
- AR 700-127**
Integrated Logistics Support. (Cited in paras 2-7 and 2-17.)

AR 750-37
Sample Data Collection: The Army Maintenance Management System (Cited in para 3-11.)

DOD Directive 5000.53
Manpower, Personnel, Training and Safety (MPTS) in the Defense Acquisition Process (Cited in paras 1-5 and 2-4.)

Section II Related Publications

A related publication is merely a source of additional information. The user does not have to read it to understand this publication.

AR 70-15
Product Improvement of Materiel

AR 350-6
Army-Wide Small Arms Competitive Workmanship

AR 570-2
Organization and Equipment Authorization Tables Personnel

AR 570-5
Manpower Staffing Standards System

AR 700-129
Management and Execution of Integrated Logistics Support Program for Multi-Service Acquisitions

AR 702-3
Army Materiel Systems Reliability, Availability, and Maintainability (RAM)

AR 702-9
Production Testing of Army Materiel

AR 750-1
Army Materiel Maintenance Policy and Retail Maintenance Operations

DOD Directive 5000.1
Major and Nonmajor Defense Acquisition Programs

DOD-HDBK-743
Anthropometry of U.S. Military Personnel (Metric)

DOD-HDBK-761
Human Engineering Guidelines for Management Information Systems

DOD-HDBK-763
Human Engineering Procedures Guide

DOD Instruction 5000.2
Defense Acquisition Program Procedures

MIL-H-46855
Human Engineering Requirements for Military Systems Equipment and Facilities (Metric)

MIL-HDBK-759
Human Factors Engineering Design for Army Materiel

MIL-STD-882
System Safety Program Requirements

MIL-STD-970
Standards and Specifications, Order of Preference for the Selection of

See change IOL, Std. MAY 1994

MIL-STD-1388-1
DOD Requirements for a Logistic Support Analysis

MIL-STD-1388-2
Logistic Support Analysis Record

MIL-STD-1472
Human Engineering Design Criteria for Military Systems, Equip-
ment, and Facilities

MIL-STD-1472-1
Noise Limits for Army Materiel

Section III **Prescribed Forms**

DA Form 5859-R
Abbreviated System MANPRINT Management Plan (SMMP).
(Prescribed in app D.)

Appendix B **MANPRINT Review/Assessment and Suggestive** **Report Format**

B-1. MANPRINT review/assessment requirements

Figure B-1 provides an overview of the requirements for MANPRINT reviews and assessments in major and nonmajor system acquisitions.

B-2. Format

A suggested format for use in nonmajor program MANPRINT assessments follows:

- a. Cover Sheet: MANPRINT assessment of the (materiel name), (month), (year).
- b. Executive summary.
- c. Manpower and personnel issues.
- d. Training issues.
- e. System safety/health hazard issues.
- f. Human factors engineering issues.
- g. Recommendations and conclusions.

B-3. Description of paragraphs

a. *Executive summary.* The executive summary briefly identifies the system and the acquisition phase or milestone for which the MANPRINT assessment is being prepared. The major portion of the executive summary summarizes the MPTS issues and the recommendations under the headings of "Manpower and Personnel", "Training", "System Safety/Health Hazards", and "Human Factors Engineering". The executive summary rarely exceeds one page and never exceeds two pages.

b. *Critical issues and other concerns.* Critical issues and other concerns should be discussed in the appropriate domain paragraph listed above. Information can be obtained from domain assessments and other program documents.

c. *Conclusions and recommendations.* This paragraph addresses each major conclusion and provides a recommended solution.

MANPRINT REVIEWS AND ASSESSMENTS

MAJOR SYSTEMS & LEVEL I NONMAJOR NONMAJOR SYSTEMS LEVEL II & III

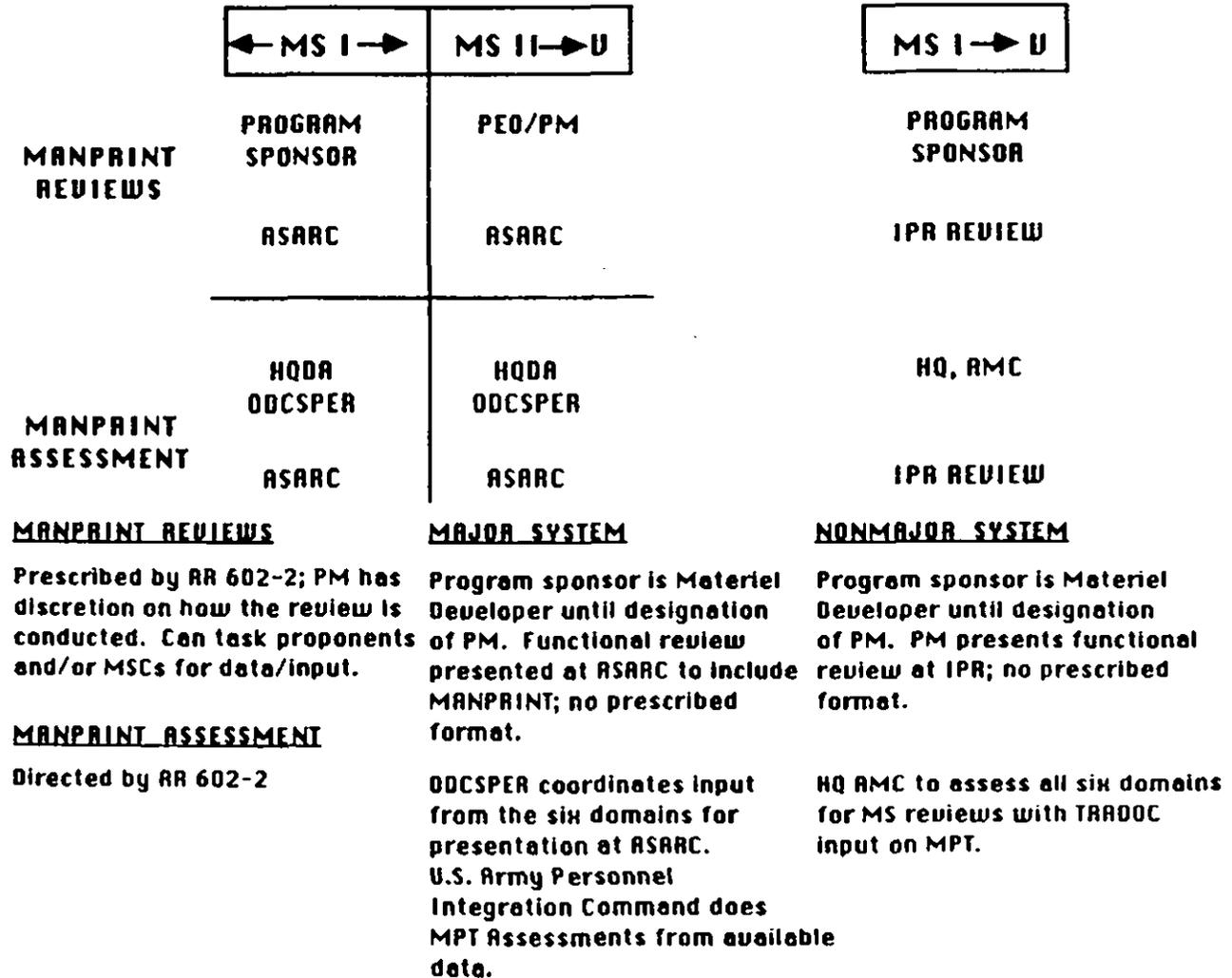


Figure B-1. MANPRINT review and assessment graphic

Appendix C

Suggested Format for the System MANPRINT Management Plan (SMMP)

C-1. Executive summary

Provides an overview of the MANPRINT strategy to be employed and the highlights of the SMMP.

C-2. System description

a. *Description of the proposed materiel system.* Provide an overview including, but not limited to, the materiel deficiency being addressed, missions, operational environments, design versions or alternatives, and essential total system (soldier-in-the-loop) performance characteristics.

b. *Acquisition strategy.* Briefly discuss the LCSMM strategy to be employed and how it will impact the MANPRINT effort.

c. *Agencies.* List the lead agency and all agencies expected to be involved in supporting the system acquisition.

d. *Guidance.*

(1) *Decisions.* List all decisions that will have a direct impact on the design and/or MANPRINT issues.

(2) *General DA and MACOM guidance.* List all available guidance provided for MANPRINT issues.

(3) *Assumptions.* List all assumptions, not provided in guidance, that will have a direct impact of the design and/or MANPRINT issues.

C-3. MANPRINT strategy

a. *Goals.* Identify the MANPRINT goals to be achieved during the acquisition process.

b. *Data sources and availability.*

(1) *Predecessor system.* Determine the predecessor or reference systems and components, if any. Consider predecessors for each component of the materiel system, training devices, and repair and support equipment.

(2) *Early availability of data and risk analysis.* Discuss the types and importance of data and when it is to be available for inclusion in analyses. Determine its impact on the MANPRINT strategy to be employed and the associated level of risk incurred. Provide the rationale and background employed in deciding how to address MANPRINT issues throughout the acquisition life-cycle.

(3) *Planned level of MANPRINT analysis effort.* Identify what and when analyses are to be conducted based on the availability of

See change FOI, dtd MAY 1994

data and resources. Include how they will affect the risk incurred by the MANPRINT strategy employed.

(4) *Baseline MOS description.* Describe the quantity, quality, and performance of soldiers and civilians who operate, maintain, and support the predecessor system. Indicate how these characteristics relate to performance of operational, maintenance, and support tasks associated with the predecessor system.

C-4. Critical issues

List and discuss the major risk areas that, if unresolved, will cause the program to be modified. Each challenge will have at least one associated MANPRINT concern (see Tab D).

C-5. Tabs

a. *TAB A—Data Sources.* List all potential data sources, the MANPRINT areas (manpower, personnel, training, human factors engineering, system safety, and health hazards) addressed and the data item's relative importance to the system's development. This will form the cornerstone for all analyses and planning.

b. *TAB B—System and MANPRINT milestone schedule.* Using a Gantt Chart format, display all significant program milestones (Milestone Decision Reviews, design reviews, etc.) and MANPRINT tasks to be accomplished from research and exploratory development through first unit equipped.

c. *TAB C—Task Description.* For each task to be performed, list the following information (necessary for Tab B preparation):

- (1) Task description (narrative).
- (2) Rationale (why is it necessary).
- (3) Resources (personnel and dollars).
- (4) Time to complete (optimistic, normal, pessimistic).
- (5) Responsible agency (lead agency).
- (6) Support agencies.
- (7) Dependencies (tasks that must be completed prior to this one or require data during the execution of this task).
- (8) Feeds (tasks that cannot start until this one has been completed or use data from this task while they are in process).

d. *TAB D—MANPRINT Major Issues/Concerns.* Use a separate sheet for each issue or concern. Record the background, planned solution, and current status of each issue, concern or tracking list item. Update each sheet periodically. When the issue or concern is resolved, update the sheet to show that the item is closed, and record the necessary entry in TAB F—Audit Trail.

e. *TAB E—Coordination.* List all commands, agencies, and activities with whom the SMMP must be coordinated.

f. *TAB F—Audit Trail.* Document significant MANPRINT related decisions made during the entire system's life.

g. *TAB G—Target Audience Description.* Identify likely characteristics of personnel for whom the new materiel or equipment is being developed or acquired. Describe the range of individual qualifications and relevant dimensions for the proposed operators and maintainers.

g. *TAB H—Lessons Learned and Deficiencies of Predecessor System.* Identify, by domain, major lessons learned and deficiencies which have been identified from all applicable predecessor systems.

D-2. Procedure

Combat developer enters the system title and description on DA Form 5859-R (Abbreviated System MANPRINT Management Plan (SMMP)). DA Form 5859-R will be locally reproduced on 8½- by 11½-inch paper. A copy for reproduction purposes is located at the back of this regulation. Using the decision criteria diagram guidance, MJWG completes a MANPRINT impact assessment and enters results. If an ASMMP is appropriate, MJWG authenticates DA Form 5859-R and forwards it to the proponent and the materiel developer for review and approval. Upon approval, DA Form 5859-R is placed with the program documents.

Appendix D Abbreviated System MANPRINT Management Plan (ASMMP)

D-1. Purpose

The decision matrix/criteria, as shown in figure D-1 (SMMP decision graphic), should be followed in making the initial assessment as to the level of MANPRINT effort required for the system under consideration and to determine whether or not an abbreviated SMMP or a full management plan is appropriate. The criteria were designed to give commanders basic information on the MANPRINT impact of the system from representatives of the six domains.

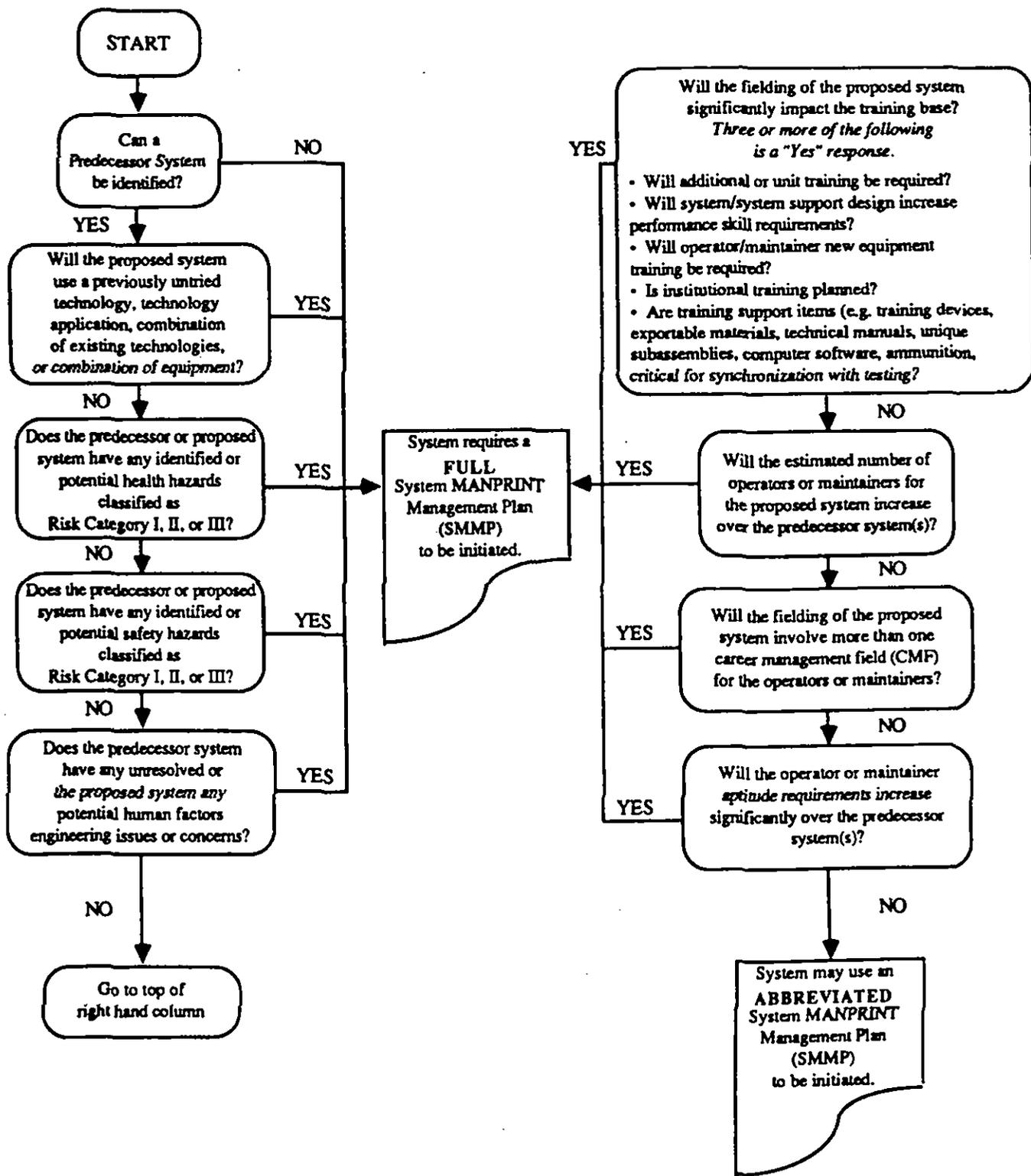


Figure D-1. SMMP decision graphic

Appendix E
Sample Source Selection MANPRINT Criteria
Weighting

Evaluation criteria. MANPRINT will be a separate major area of the same visibility as technical, management, and cost, and will be evaluated throughout all aspects of design, development, integrated logistics support and program management. Using this basic

philosophy, treatment of MANPRINT shall be tailored to suit the nature and priorities of the program/contract effort. An acceptable method of criteria weighting is shown in figure E-1. Because MANPRINT is evaluated separately and throughout, evaluators are cautioned to avoid double counting.

MANPRINT in Source Selection Evaluation

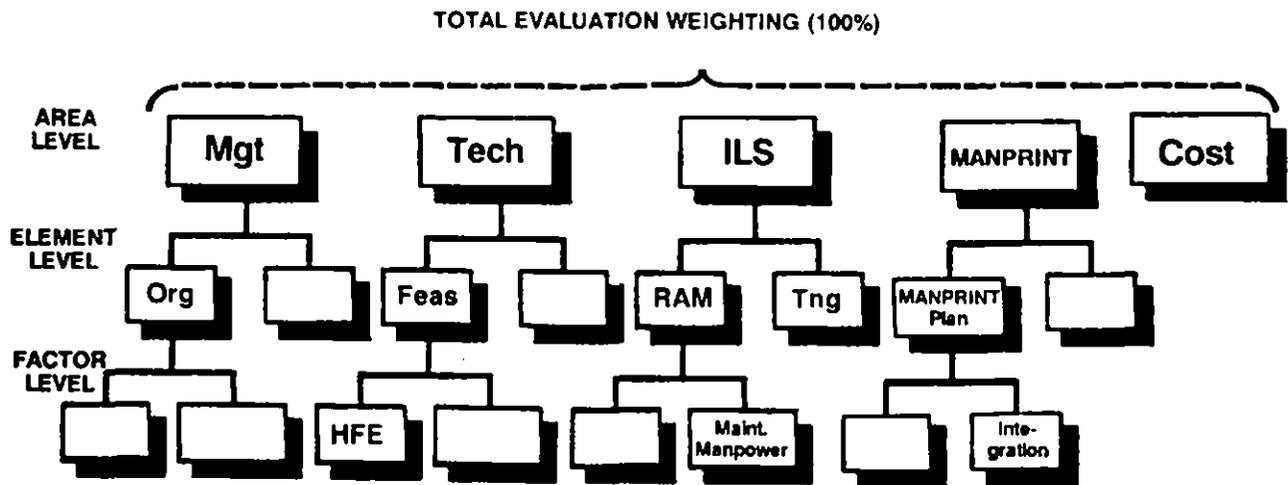


Figure E-1. Source selection evaluation graphic

**Appendix F
Army Acquisition Executive (AAE) Policy
Memorandum**

Extracted from the ARMY ACQUISITION EXECUTIVE
(AAE) POLICY MEMORANDUM #89-2

**ARMY ACQUISITION EXECUTIVE (AAE)
POLICY MEMORANDUM**

29 March 1989
Number 89-2

SUBJECT:
Treatment of MANPRINT in Solicitations and the Source Selection Process.

The purpose of this memorandum is to recap, amplify and re-emphasize Army policy and procedures for treatment of MANPRINT considerations in major systems acquisitions and designated acquisition programs, especially in identification and statement of MANPRINT requirements and their emphasis in Army solicitations and the source selection process.

a. The Solicitation:

(1) The statement of work and the specification shall contain appropriate MANPRINT requirements. In particular, the specification shall describe how the system is to look and act to the user (section 3.0, Requirements) and how the requirements will be verified (section 4.0, Quality Assurance Provisions). AMC-P 602-1, MANPRINT Handbook for Request for Proposal (RFP) Development, section 3.3.1, MANPRINT in the Statement of Work and section 3.3.2, MANPRINT Inputs to the System Specification should be used as a guide.

(2) Offerors will be instructed by the solicitation to address MANPRINT in every applicable portion of their offers and as a separate major area. AMC-P 602-1, section 3.3.4, MANPRINT Paragraph in the Instruction to Offerors should be used as a guide.

(3) Offerors will be informed in the evaluation and award factors section of the overall position of MANPRINT evaluation importance relative to other separate major areas.

b. The Evaluation Criteria:

MANPRINT shall be a separate major area of the same visibility as technical, management and cost and shall be evaluated throughout all aspects of design, development, Integrated Logistics Support and program management. Using this basic philosophy, treatment of MANPRINT shall be tailored to suit the nature and priorities of the program/contract effort. An acceptable method of criteria weighting is attached. Because MANPRINT is evaluated separately and throughout, evaluators are cautioned to avoid double counting.

c. Structure of the Source Selection Evaluation Board (SSEB):

The SSEB shall be structured so as to establish and maintain MANPRINT considerations as a visible part of the process. There shall be a MANPRINT entity at the area level and MANPRINT

expertise applied throughout the remaining organization where appropriate.

d. Exceptions to Policy:

Exceptions to this policy may be granted by the cognizant Program Executive Officer (PEO) in coordination with the HQDA, MANPRINT Directorate when it can be compellingly demonstrated that MANPRINT is not a major consideration in design or selection. A copy of approved waivers, including rationale and alternative treatment, will be sent to HQDA (DAPE-MR).

Enclosure

Signed by Michael P.W. Stone
Army Acquisition Executive

Glossary

Section I Abbreviations

ADAP

Army Designated Acquisition Program

AFQT

Armed Forces Qualification Test

AMC

U.S. Army Materiel Command

AMEDD

Army Medical Department

ARI

U.S. Army Research Institute for the Behavioral and Social Sciences

ASAP

Army Streamlined Acquisition Program

ASARC

Army Systems Acquisition Review Council

ASI

additional skill identifier

ASMMP

Abbreviated System MANPRINT Management Plan

BOIP

basis of issue plan

CFP

concept formulation package

CG

commanding general

COEA

cost and operational effectiveness analysis

CTEA

Cost and training effectiveness analysis

CTP

coordinated test program

DA

Department of the Army

DCP

decision coordinating paper

DCSINT

Deputy Chief of Staff for Intelligence

DCSLOG

Deputy Chief of Staff for Logistics

DCSOPS

Deputy Chief of Staff for Operations and Plans

20

DCSPER

Deputy Chief of Staff for Personnel

DISC4

Director of Information Systems for Command, Control, Communications, and Computers

DOD

Department of Defense

DT

development testing (technical testing)

DTP

detailed test plans

ECA

early comparability analysis

FAT

first article testing

FOT&E

Follow-on operational test and evaluation

HARDMAN

hardware versus manpower comparability methodology

HEL

U.S. Army Human Engineering Laboratory

HFE

human factors engineering

HFEA

human factors engineering assessment

HHA

health hazards assessment

HQ

headquarters

HQDA

Headquarters, Department of the Army

HSC

U.S. Army Health Services Command

IEP

independent evaluation plan

ILS

integrated logistics support

IISP

integrated logistics support plan

IMA

Information Mission Area

INSCOM

U.S. Army Intelligence and Security Command

IOT&E

Initial operational test and evaluation

IPT

initial production testing

LABCOM

U.S. Army Laboratory Command

LCSMM

Life Cycle System Management Model

LSA

logistic support analysis

MAA

mission area analysis

MACOM

major Army command

MANPRINT

manpower and personnel integration

MAP

materiel acquisition plan/process

MDAP

Major Defense Acquisition Program

MDR

milestone decision reviews

MER

Manpower Estimate Report

MIL STD

Military Standard

MJWG

MANPRINT Joint Working Group

MOS

military occupational specialty

MPT

manpower, personnel, and training

MRSA

Materiel Readiness Support Activity

NCO

noncommissioned officer

NDI

nondevelopmental item

NET

new equipment training

NETP

new equipment training plan

ODCSPER

Office of the DCSPER

O&O

operational and organizational plan

OT

operational testing (user testing)

See Change 101; dtd MAY 1994

OTEA
U.S. Army Operational Test and Evaluation Agency

PAT&E
production acceptance test and evaluation

PEO
program executive officer

PERSSO
personnel systems staff officer

PM
program/project/product manager

PMD
program management document

QQPRI
qualitative and quantitative personnel requirements information

RDTE
research, development, test, and evaluation

RFP
request for proposal

RFQ
request for quotation

ROC
required operational capability

SDC
sample data collection

SDC
U.S. Army Strategic Defense Command

SEMP
system engineering management plan

SIP
System Improvement Plan
SLAD (See chg)
SMMP
System MANPRINT Management Plan

SOW
statement of work

SQI
special qualification identifier

SSA
system safety assessment

SSEB
Source Selection Evaluation Board

SSG
special study group

SSI
special skill identifier

STF
special task force

STRAP
System Training Plan
SSV *Soldier Survivability*
TAD
target audience descriptions

TDNS
training device needs statement

TDP
test design plan/technical data package

TEMP
Test and Evaluation Master Plan

TRA
training requirements analysis

TRADE
training devices

TRADOC
U.S. Army Training and Doctrine Command

TSG
The Surgeon General

TSM
TRADOC systems manager

TT
technical test

USAISC
U.S. Army Information Systems Command

USASC
U.S. Army Safety Center

UT
user testing

Section II
Terms

Early comparability analysis
A "lessons learned" approach to identify manpower, personnel, and training resource intensive tasks (high drivers) on current materiel that must be resolved in new or product improved systems. By-products of the methodology are initial MPT constraints and input to target audience description.

Hardware versus manpower comparability methodology (HARDMAN)
The Army HARDMAN comparability methodology is a structured approach to the determination of the manpower, personnel, and training resource requirements for a conceptualized materiel system. Additionally, HARDMAN estimates the impact of these MPT requirements on system effectiveness and life-cycle costs. The objective of using HARDMAN is to provide Army decision makers with information on competing design proposals in order to intelligently assess the supportability of each from a

MPT standpoint. Although the methodology can be applied at later phases of the materiel acquisition process, it is most effective prior to Milestone I.

Health hazard assessment (HHA)
The HHA process is to identify potential health hazards, which may be associated with the development, acquisition, operation and maintenance of Army materiel systems. This identification will be done early in the system life cycle to preserve and protect the soldiers and other employees, enhance soldier performance and system effectiveness, reduce system retrofit needed to eliminate health hazards, reduce readiness deficiencies attributable to health hazards and reduce personnel compensation.

Human Factors Engineering Assessment (HFEA)
An HFEA is a review of the status of human factors engineering in an acquisition program to determine whether any critical or major HFE issues exist. The scope of the HFEA includes human performance and soldier-equipment interfaces, as they apply to the design of equipment, facilities, and procedures. An HFEA also includes an analysis of the impact of soldier performance on system reliability, effectiveness, operational availability, and maintainability, providing supporting data exist.

Logistician
The command or agency responsible for independent logistic surveillance and evaluation of materiel acquisition programs. For other than medical systems/equipment, the U.S. Army Logistics Evaluation Agency (USALEA) performs this function. For medical systems/equipment, the U.S. Army Medical Materiel Agency (USAMMA) accomplishes this function.

Manpower and personnel integration (MANPRINT)
The process of integrating the full range of human factors engineering, manpower, personnel, training health hazard assessment, and system safety to improve soldier performance and total system performance throughout the entire materiel development and acquisition process.

MANPRINT assessment
A MANPRINT assessment for a system integrates the results of all six domain assessments into a source document for input to the decision review process. MANPRINT assessments will be conducted prior to milestone decision reviews on all acquisition programs, including materiel change and nondevelopmental items. The objective of the MANPRINT assessment is to determine the status and adequacy of MANPRINT efforts in the materiel acquisition program and to present any unresolved MANPRINT issues or concerns to decision makers at the appropriate decision points.

See Change ID1, dtd MAY 1994

Individual domain assessments (HFE, system safety, health hazards, and manpower, personnel, and training) as well as other pertinent information will be used to formulate the overall MANPRINT assessment. ODCSPER will be responsible for the preparation of the MANPRINT assessment on all major defense as well as Army managed acquisition programs. HQ AMC, TRADOC, and applicable MACOMs will be responsible for preparing the MANPRINT assessment on all nonmajor acquisition programs.

MANPRINT review

The objective of the MANPRINT review is to determine the status and adequacy of MANPRINT efforts in the materiel acquisition program. The results of the MANPRINT review should be documented in the appropriate program decision documents (system concept paper, decision coordinating paper) and briefed at the milestone decision review. A MANPRINT review will be conducted in conjunction with Integrated Logistics Support Management Team (ILSMT) reviews on all acquisition programs (developmental, nondevelopmental, materiel change, major and nonmajor). Responsibility for the conduct of the MANPRINT review rests with the applicable program sponsor.

Program sponsor

Generic term for the actual manager of the program at its basic level; i.e. the program manager (PM) MDAP, ADAP, and level I nonmajor programs; the project officer or equivalent for levels II and III nonmajor programs.

System MANPRINT Management Plan (SMMP)

The SMMP serves as a planning and management guide and an audit trail to identify tasks, analyses, trade-offs, and decisions that must be made to address MANPRINT issues during the materiel development and acquisition process. The SMMP is initiated by the combat or training developer when the MAA identifies battlefield deficiency requiring development of new or improved materiel. The SMMP will be updated as needed throughout the MAP.

Target audience description (TAD)

The TAD delineates the quantity, quality, and performance of the soldiers or civilians who will most likely operate, maintain, and support an Army system. It is the key MANPRINT document which identifies the likely characteristics of personnel for whom new materiel or training is being developed or acquired. The TAD describes the range of individual qualifications on all relevant physical, mental, physiological, biographical, and motivational dimensions. The TAD relates these characteristics to the ability of the soldier or civilian to accomplish tasks associated with the operation, maintenance,

and support of the system. Early identification of these MANPRINT concerns increases the flexibility available to resolve the issues in terms of design, affordability, and supportability.

Total system

A system is a composite of skilled people, procedures, materials, tools, equipment, facilities, and software that provides an operational capability to perform a stated mission. A total system includes the manpower (the number of personnel allocations), personnel (operators, maintainers, and support), and training to ensure the needed skilled personnel, and the required support equipment (hardware and software; technical, field, and training manuals; training programs; tables of organization and equipment; and doctrine, tactics, and operational procedures) for the operation and support of a system to the degree that the system can be considered a self sufficient unit in its intended operational environment.

Training strategy

Training strategy is a term which includes—

- a. Who is to be trained (active component, reserve, civilian).
- b. What is to be trained (system specific tasks and combat critical tasks).
- c. When is the training to take place (basic training, advanced individual training, and NCO training).
- d. Where is the training to take place (institution or unit). The examples are not all inclusive. Training strategy is distinguished from training concept, which should answer the question as to "how" the training should be conducted; for example, on the actual equipment, embedded training, training devices, or simulators. Sustainment training to maintain readiness levels must be considered and requires data on anticipated skill decay rates and resource constraints (including time) at the unit level.
- e. What training concept (i.e., classroom training, OJT, devices and aids) will be used.

ADD

See Change 701

Index

This index is organized alphabetically by topic and by subtopic within a topic. Topic and subtopics are identified by paragraph number.

- AAE Policy Memo 89-2, 2-2
- Army Systems Acquisition Review Council
2-3, 2-6, 2-11
- Cost and operational effectiveness analysis
2-11, 3-4
- Cost and training effectiveness analysis, 3-4
- Engineer change proposal, 3-8
- Hazards, 3-3
- Health hazard assessments, 2-10, 2-11,
2-12, 2-13, 2-18, 3-6
- Human factors engineering assessments,
2-12, 3-3, 3-4, 3-6
- Integrated logistics support, 1-4, 1-5, 2-6,
2-7, 2-12, 2-17, 2-18, 3-6
- Industry MANPRINT Management Plan
1-6
- Life Cycle System Management:
MANPRINT, 3-1
Phases. See Table of Contents
Tailored development, 3-2
- MANPRINT:
 - Database, 2-2
 - Definition, 1-4
 - Domain assessments, 2-1, 2-2
 - Domain, 1-4, 2-12, 3-3
 - Inclusions 1-4
 - Project/Product manager, 2-2, 2-12
 - Objectives, 1-4
 - MANPRINT Program, 1-4, 2-3, 2-6,
2-13, 2-15, 2-18
 - The question, 1-4
 - Relationship to domains, 1-4
 - Status brief requirement, 2-1
 - Studies/methodologies, 2-4, 2-5, 2-12,
2-16, 3-3
- MANPRINT assessments:
 - AMC, 1-5, 2-12
 - Description, 1-5
 - DOD Directive 5000.53, 1-5
 - MACOM, 1-5
 - MPT, 2-11
 - Milestone decision reviews, 1-4, 1-5
 - Nonmajor programs, 1-5, 2-12
 - Objective, 1-5
 - ODCSPER, 1-5, 2-6
 - Preparation, 1-5, 2-12, 2-13, 2-15, 2-16,
2-18, 3-4, 3-5, 3-8, 3-9
 - Studies/methodologies, 2-12
 - TSG input, 2-10
 - TRADOC input, 1-5, 2-11
- MANPRINT data, 1-6, 2-11, 3-4, 3-5,
3-6
- MANPRINT database, 1-4, 2-2, 2-11,
2-12, 2-13, 2-15
- MANPRINT Joint Working Group:
 - Chairmanship, 1-5
 - Combat developer, 1-5
 - Establishment, 1-4, 1-5, 2-11
 - Membership, 1-5
 - System MANPRINT Management Plan,
1-5
- TRADOC, 2-11
- MANPRINT reviews:
 - DOD Directive 5000.53, 1-5
 - Description, 1-5
 - MPT, 2-11
 - Milestone decision review, 1-5
 - Preparation, 1-5, 2-13, 2-18, 3-4, 3-5,
3-9
 - Program sponsor, 1-5
 - PM, 2-2
 - Purpose, 2-2
 - Suggested format, appendix B
 - TRADOC input, 2-11
- MANPRINT training, 2-4, 2-5, 2-6, 2-11,
2-12, 2-16
- Manpower Estimate Report, 2-3, 2-8
- Materiel change management, 2-2, 2-6,
2-11, 3-11
- Milestone decision review, 2-1, 2-2, 2-6,
2-11, 2-12, 3-4
- MPTS descriptions, 2-4, 2-11
- NDI, 2-2, 2-11, 3-10
- PERSO, 2-6
- Responsibilities. See table of contents
- RFP, 1-6, 2-2, 2-6, 2-8, 2-12, 2-13, 3-4,
3-5, 3-6
- System MANPRINT Management Plan
 - AMC 2-12
 - Abbreviated, 4-4, appendix D
 - Approval, 3-4
 - Combat developer, 1-5, 3-4, 3-6
 - Development, 1-5, 2-6, 2-11, 3-9
 - Initiation, 3-3
 - Materiel change management, 1-5
 - Nondevelopmental item, 1-5
 - ODCSPER, 2-6
 - Policy, 4-2
 - Procedures, 4-3
 - Purpose, 4-1
 - Suggested format, appendix B
 - Training Developer, 1-5
 - TRADOC, 2-11
- Soldier Oriented Research and
Development, 2-3
- Source selection:
 - Evaluation Boards, 2-2, 3-4, 3-5, 3-6
 - Major area, 1-5, 2-2, 2-12
 - Policy/procedures 5-2, 5-3
 - Sample weighting criteria, appendix E
- STRAP, 2-11, 3-4
- System safety, 2-11, 2-12, 2-15, 2-18, 3-3,
3-4
- Target audience description, 1-5, 2-6,
2-11, 3-3
- Testing, 2-2, 2-4, 2-8, 2-11, 2-12, 2-14,
3-4, 3-5, 3-6

RESERVED

ABBREVIATED SYSTEM MANPRINT MANAGEMENT PLAN (SMMP) FOR

(Enter System Title)

For use of this form, see AR 602-2; the proponent agency is DCSPER

The purpose of the criteria listed below is to determine if a full SMMP is necessary. The criteria were designed to give commanders basic information on the MANPRINT impact of a system from representatives of the six domains.

System Description: (Enter system description before sending this form to MJWG members)

(Continue on Page 3 if required)

MJWG Member/ Domain Rep	MANPRINT Impact Assessment
Proponent DCD	<p>1. Does a predecessor system(s) exist?</p> <p style="padding-left: 40px;">No ...Stop here and develop a full SMMP.</p> <p style="padding-left: 40px;">Yes. List predecessor(s) and proceed to next item.</p>
Aligned AMC MSC	<p>2. Will the proposed system use a previously untried technology, technology application, combination of existing technologies, or combination of equipment?</p> <p style="padding-left: 40px;">Yes... Stop here and develop a full SMMP.</p> <p style="padding-left: 40px;">No. Proceed to next item.</p>
Supporting MEDDAC	<p>3. Does the predecessor, or proposed system, have one or more unresolved or potential health hazards with a Risk Assessment Code of I, II, or III (AR 40-10)?</p> <p style="padding-left: 40px;">Yes... Stop here and develop a full SMMP. Use the health hazard(s) identified in answering the question as the basis for MANPRINT health hazard issues.</p> <p style="padding-left: 40px;">No. Proceed to next item.</p>
System Safety Officer or POC	<p>4. Does the predecessor, or proposed system, have one or more unresolved or potential safety hazards with a Risk Assessment Code of I, II, or III (AR 385-10)?</p> <p style="padding-left: 40px;">Yes... Stop here and develop a full SMMP. Use the health hazard(s) identified in answering the question as the basis for MANPRINT system safety issues.</p> <p style="padding-left: 40px;">No. Proceed to next item.</p>
HEL	<p>5. Does the predecessor system have any unresolved or the proposed system any potential human factors engineering issues or concerns?</p> <p style="padding-left: 40px;">Yes... Stop here and develop a full SMMP.</p> <p style="padding-left: 40px;">No. Proceed to next item.</p>

Proponent DOTD	6. Will the fielding of the proposed system significantly impact the training base (Active and RC)? (A "yes" to three of the five following points equals a "yes" to the question) <ul style="list-style-type: none"> • Will additional or unit training be required? • Will system/system support design increase performance skill requirements? • Will operator/maintainer new equipment training be required? • Is institutional training planned? • Are training support items (e.g. training devices, exportable materials, technical manuals, unique subassemblies, computer software, ammunition), critical or synchronization with testing? <p style="margin-left: 40px;">Yes: Stop here and develop a full SMMP</p> <p style="margin-left: 40px;">No: Proceed to next item.</p>
Manpower Representative (Proponency Office)	7. If the answer to any of the following is "Yes", develop a full SMMP. <ul style="list-style-type: none"> • Will the estimated number of operators or maintainers for the proposed system increase over the predecessor system(s)? Yes No <p style="margin-left: 40px;">The MOS/ASIs involved: The impact on MOS/ASIs:</p>
Personnel Representative (Proponency Office)	<ul style="list-style-type: none"> • Will the field of the proposed system involve more than one career management field (CMF) for the operators or maintainers? Yes No <p style="margin-left: 40px;">Points to Consider:</p>
Personnel Representative (Proponency Office)	<p style="margin-left: 40px;">Proponents for CMF involved.</p> <ul style="list-style-type: none"> • Will the operator or maintainer aptitude requirements increase significantly over the predecessor system(s) Yes No <p style="margin-left: 40px;">Points to Consider: Did the predecessor require AFQT Category I or II soldiers to meet system performance requirements? Will the requirement continue?</p>

A. AUTHENTICATION

1. Manpower/Personnel Representative		
a. Typed Name/Organization	b. Signature	c. DATE
2. Human Factors Engineering Representative		
a. Typed Name/Organization	b. Signature	c. DATE
3. Health Hazard Representative		
a. Typed Name/Organization	b. Signature	c. DATE
4. Training Representative		
a. Typed Name/Organization	b. Signature	c. DATE
5. System Safety Representative		
a. Typed Name/Organization	b. Signature	c. DATE

The above review of the MANPRINT domains indicates the development of a full SMMP is not required at this time. The target audience description is attached, so that it will be readily available to the material developer and industry. This abbreviated SMMP will be reviewed and updated prior to the next milestone decision review.

ABBREVIATED SAMP FOR _____

B. APPROVAL

1. TRADOC Commandant	2. DATE	3. AMC MSC Commander	4. DATE
5. Signature		6. Signature	
7. Continuation/Comments:			

