Army Regulation 73–1

Test and Evaluation

Test and Evaluation Policy

UNCLASSIFIED

SUMMARY of CHANGE

AR 73–1
Test and Evaluation Policy

This administrative revision, dated 1 August 2006--

o Corrects sentence wording (para 2-23ac(1)).

o Clarifies a responsibility of the General, U.S. Army Test and Evaluation
  Command (para 2-23ac(1)).

This rapid action revision, dated 10 July 2006--

o Addresses 6 April 2006 Deputy Under Secretary of the Army decision that
  directed Test and Evaluation Restructuring which--

  --Disestablishes the Deputy Under Secretary of the Army (Operations Research)
  and establishes an Army Test and Evaluation Executive under the Deputy Under
  Secretary of the Army (chap 2).

  --Clarifies the test and evaluation responsibilities between the Army Test
  and Evaluation Executive and the Test and Evaluation Management Agency (chap
  2).

o Adds test and evaluation responsibilities for the U.S. Army Special
  Operations Command (chap 2).

o Clarifies Headquarters Department of the Army participation in test and
  evaluation working-level integrated process teams (chap 8).

o Requires test and evaluation working-level integrated process teams to
  minimize use of the term "to be determined" in Test and Evaluation Master
  Plans (chap 10).

o Clarifies project manager responsibilities and procedures regarding the
  staffing and approval of Test and Evaluation Master Plans (chap 10).

o Adds Program Executive Officer responsibilities and procedures regarding the
  staffing and approval of Test and Evaluation Master Plans (chap 10).

o Clarifies Test and Evaluation Management Agency responsibilities and
   procedures regarding the staffing and approval of Test and Evaluation Master
   Plans (chap 10).

This rapid action revision, dated 10 November 2004--

o Implements guidance from: Office of the Chief of Staff memorandum, Subject:
   Installation Management Agency Organization and Operations Review and Update
   of Army Publications, 11 May 2004; Assistant Chief of Staff for Installation
   Management memorandum, Subject: Installation Management Agency Organization
   and Operations Review and Update of Army Publications , 26 July 2004; and
   Department of the Army General Order 2002-03, 9 July 2002, which--

   --Adds the Installation Management Agency under current responsibilities for
   organizations involved in Test and Evaluation (chap 2).

   --Clarifies Deputy Under Secretary of the Army (Operations Research) (Army
   T&E Executive) responsibilities regarding approval of all test-related
   documentation (chap 2).

o Provides current policy guidance to reflect the cancellation of the Long-
   Range Army Materiel Requirements Plan as a plan (para 4-3c).

o Makes administrative changes throughout.

This revision, dated 7 January 2002--

o Implements guidance from Department of Defense Directive (DODD) 5000.1, DOD
   Instruction 5000.2, DOD Regulation 5000.2-R, and Executive Order 12861 that--

   --Incorporates software policy and procedures into the hardware acquisition
   documents by canceling DODD 8120.1, DOD Instruction 8120.2, DOD Instruction
   7920.4, and DOD Manual 7920.2-M and merging their content into the current
   versions of DODD 5000.1, DODI 5000.2, and DOD 5000.2-R. This new guidance also
   incorporates software policies and procedures into the normal acquisition
   regulation by establishing guiding principles for all defense acquisition.

   --Specifies mandatory polices and procedures for major acquisition and
   command, control, communications, computers, intelligence, and information
   technology (formerly automated information systems) in DOD 5000.2-R.

   --Institutionalizes Integrated Product Teams incorporated by the Federal
   Acquisition Streamlining Act of 1994.

o Provides current policy guidance to reflect--

   --The consolidation of the U.S. Army Test and Evaluation Command and the U.S.
   Army Operational Test and Evaluation Command into a single, consolidated U.S.
   Army Test and Evaluation Command;

   --Other organizational changes occurring since publication of the previous
   version of this regulation.

o Provides current responsibilities for organizations involved in Test and Evaluation (chap 2).

o Adds guidance concerning the Army Test Resources Master Plan that establishes the test and evaluation vision and goals needed to properly align Army Test and Evaluation investments in support of the Army Modernization Plan (para 11-10).Provides current Army test and evaluation policy for live fire test and evaluation, international testing, joint test and evaluation, clothing and individual equipment testing, software testing, and integrated testing.

o Consolidates and incorporates Army Regulation (AR) 15-38, Test Schedule and Review Committee, and AR 70-69, Major Range and Test Facility Base.

Test and Evaluation

Test and Evaluation Policy

By Order of the Secretary of the Army:

PETER J. SCHOOMAKER
General, United States Army
Chief of Staff

Official:

JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army

History. This publication is an administrative revision. The portions affected by this administrative revision are listed in the summary of change.

Summary. This regulation implements the policies and procedures contained in Department of Defense Directive 3200.11, Department of Defense Directive 5000.1, Department of Defense Instruction 5000. 2, and the Defense Acquisition Guidebook and specifically prescribes implementing policies for the Army's testing and evaluation program. It applies to all systems acquired under the auspices of the Army regulation 70–series, including command, control, communications, computers, and intelligence/information technology. This regulation implements the U.S. Army Test and Evaluation Command, cross-functional teams, and the evolutionary materiel development process. It redefines the test and evaluation role of the U.S. Army Space and Missile Defense Command and the heightened role of commercial products and practices and commercial and/or

nondevelopmental items. This regulation states implementing polices and responsibilities for conducting test and evaluation and authorizes the procedures in Department of the Army Pamphlet 73–1.

Applicability. This regulation applies to the Active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve, unless otherwise stated.

Proponent and exception authority. The proponent of this regulation is the Deputy Under Secretary of the Army. The Deputy Under Secretary of the Army has the authority to approve exceptions or waivers to this regulation that are consistent with controlling law and regulations. The Deputy Under Secretary of the Army may delegate this approval authority, in writing, to a division chief within the proponent agency or a direct reporting unit or field operating agency, in the grade of colonel or the civilian equivalent. Activities may request a waiver to this regulation by providing justification that includes a full analysis of the expected benefits and must include formal review by the activity's senior legal officer. All waiver requests will be endorsed by the commander or senior leader of the requesting activity and forwarded through higher headquarters to the policy proponent. Refer to AR 25-30 for specific guidance.

Army management control process. This regulation contains management control provisions but does not identify key management controls that must be evaluated.

Supplementation. Supplementation of

this regulation and establishment of command and local forms are prohibited without prior approval from the Deputy Under Secretary of the Army, 102 Army Pentagon, Washington, DC 20310–0102.

Suggested improvements. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Test and Evaluation Management Agency, Office of the Chief of Staff, Army (DACS–TE), 200 Army Pentagon, Washington, DC 20310–0200.

Committee Continuance Approval. The Department of the Army Committee Management Officer concurs in the continuance of the Test Schedule and Review Committee, which was established by Chief of Staff memorandum 72–15–221 on 16 October 1972 and incorporated into Army Regulation 15–38, dated 30 October 1985.

Distribution. This publication is available in electronic media only and is intended for command levels C, D, and E for the Active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve.

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Chapter 1
Introduction

1–1. Purpose

This regulation implements the policies and procedures of Department of Defense Directive (DODD) 5000.1, DODD 3200.11, and DOD Instruction (DODI) 5000.2, and the Defense Acquisition Guidebook and specifically prescribes implementing policies and assigns responsibilities for test and evaluation (T&E) activities during the systems acquisition processes. It applies to all systems (materiel and command, control, communications, and computers (C4), intelligence (I), and information technology (IT) (C4I/IT) developed, evolved, acquired, and managed under the auspices of Army Regulation (AR) 70–1 and the Defense Acquisition Guidebook. This regulation applies to Army participation in joint test and evaluation (JT&E) and multi-service operational test and evaluation (MOT&E). It also provides guidance and establishes procedures governing the Test Schedule and Review Committee (TSARC), a continuing intradepartmental Army committee.

1–2. References

Required and related publications and prescribed and referenced forms 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. Responsibilities

Responsibilities are listed in chapter 2.

1–5. Overview of test and evaluation management and planning

a. The senior Army official providing oversight on all Army T&E policy and procedural issues is the Army T&E Executive within the Office of the Deputy Under Secretary of the Army (ODUSA).

b. Planning for T&E begins at the earliest stages of the development of user needs, science and technology, system requirements, development, and acquisition processes. System evaluators participate in the integrated concept team (ICT) review of the initial requirements documents when a new system or new technology is being considered for development.

c. The materiel developer (MATDEV) will form a T&E working-level integrated product team (WIPT). The MATDEV, program executive officer (PEO), or acquisition authority, for all systems, to include C4I/IT, regardless of acquisition category (ACAT) level will charter the T&E WIPT as soon as the materiel need is identified. The T&E WIPT will assist the MATDEV in managing system T&E throughout the system life-cycle. The primary objectives of the T&E WIPT are to develop and document the T&E strategy in the Test and Evaluation Master Plan (TEMP).

d. The T&E WIPT is composed of representatives from all involved organizations listed in paragraph 8–2. The T&E WIPT is normally chaired by a MATDEV. The T&E WIPT is discussed in chapter 8.

e. All acquisition programs require a TEMP except certain programs indicated in paragraph 10–2*b*. All testing planned during system acquisition, including the live-fire T&E strategy, will be identified in the TEMP. There will be one TEMP per system. A capstone TEMP is required for a program consisting of a collection of individual programs (see the Defense Acquisition Guidebook). An Army approved TEMP is required before commitment of T&E resources.

f. The TEMP is the basic planning document for a system life-cycle T&E. The TEMP documents the T&E strategy and is developed and initially approved prior to program initiation. The TEMP is then updated prior to each subsequent milestone (MS) and full-rate production (FRP) decision review thereafter or for a major modification. It is the reference document used by the T&E community to generate detailed T&E plans and to ascertain schedule and resource requirements associated with a given system. The TEMP describes what testing is required, who will perform the testing, what resources will be needed, and what the requirements are for evaluation.

g. The MATDEV has the overall responsibility to develop the TEMP. However, all T&E WIPT members contribute to TEMP development and maintenance. Upon approval by the appropriate authority, the TEMP serves as a contract between the MATDEV and the T&E community for executing the T&E strategy. The TEMP provides key management controls for T&E in support of the acquisition process.

h. Another essential document for T&E planning is the System Evaluation Plan (SEP). The SEP documents the evaluation strategy and overall test/simulation execution strategy (T/SES) of a system for the entire acquisition cycle through fielding. The detailed information contained in the SEP supports concurrent development of the TEMP. The SEP is focused on evaluation of the system in the context of mission accomplishment, performance, safety, health hazard, and operational effectiveness, suitability, and survivability. The system evaluator, in coordination with the T&E WIPT, prepares the SEP.

i. The TSARC provides Army level centralized management of resources for operational tests (OT), force development test or experimentation (FDT/E), and resource support for developmental tests (DT) not otherwise available. This committee maximizes the use of limited resources and minimizes the impact on unit operational readiness. The TSARC, as a decision-making body for the Army, recommends OT and FDT/E priorities, coordinates troop support,

and reviews schedules and resources. The Commander, U.S. Army Test and Evaluation Command (USATEC) chairs the TSARC, with membership consisting of general officer (GO) or equivalent representatives (see chap 9). The TSARC recommends Headquarters Department of the Army (HQDA), Deputy Chief of Staff, G–3 (DCS, G–3), approval of the Five-Year Test Program (FYTP).

j. The Army FYTP is a compendium of prioritized outline test plans (OTPs), approved by HQDA DCS, G–3, for a 5-year period commencing with the current fiscal year. The FYTP is published every 6 months, normally in June and December. The OTPs in the approved FYTP become official Army tasking documents for those organizations providing resources for current and budget years while providing planning guidance for the out years.

k. The Army Test Resources Master Plan (ATRMP) establishes the T&E vision and goals needed to properly align Army T&E investments in support of the Army Modernization Plan (AMP). The ATRMP goals are directly linked to the AMP goals and are prioritized to shape the Army T&E infrastructure of the future and focus the investments therein. Consequently, the resulting Army T&E program directly supports the AMP and is synchronized with the Army Science and Technology Master Plan. Specifically, the ATRMP prescribes goals to be achieved in support of the current program year and the following portion of the Future Years Defense Program.

l. Ad hoc committees, process action teams, or working groups (such as the Army Test and Evaluation Managers Committee and T&E Regulatory Oversight Panel) are established as required to accomplish specific T&E objectives.

m. In addition to AR 70–1 acquisition programs, provisions of this regulation also apply to—

(1) T&E of all ancillary equipment and components, such as training devices (AR 350–38), ground support equipment, and field maintenance test sets.

(2) T&E of Army aircraft system, subsystems, and allied equipment. (See AR 70–62.)

(3) T&E of non-system training devices. (See AR 350–38.)

(4) T&E of all acquisition of medical materiel programs. (See AR 40–60.)

(5) T&E of all Special Access Programs. (See AR 380–381.)

n. Testing performed by the National Security Agency on communications security equipment will fulfill the requirements of this regulation.

o. Where critical environmental concerns have been identified, T&E will be performed to identify and quantify the emissions, effluents, wastes, and other environmental impacts of the acquisition system. (See AR 200–2.)

p. Joint test and evaluation generally involves two or more services together evaluating technical and operational concepts, to provide information on system requirements and improvements and to examine systems' interoperability. (See para 3–8.)

Chapter 2
Responsibilities

Section I
Headquarters, Department of the Army, Elements

2–1. The Deputy Under Secretary of the Army
By means of the Army Test and Evaluation Executive, the Deputy Under Secretary of the Army (DUSA) will—

a. Establish, review, supervise, and enforce Army T&E policy and procedures.

b. Provide oversight and policy for the management and operation of the HQDA Major Range and Test Facility Base (MRTFB) activities to support DOD tests and programs (see DODD 3200.11). The Army T&E Executive will provide oversight for the budget of facility institutional costs and maximize use of current capabilities without unnecessary acquisitions. The Army T&E Executive will ensure the implementation of a reimbursement system for user charges and represent the Army in intergovernmental management coordination processes.

c. Approve the ATRMP.

d. Support the Vice Chief of Staff Army (VCSA) by serving as a member of the Board of Directors (BOD) Executive Secretariat and by providing staff for the BOD during the 2-year period when the VCSA serves as the Chair of the BOD.

e. Oversee all Army T&E associated with the system research, development, and acquisition of all materiel and C4I/IT systems.

f. Approve test-related documentation for DA and forward same to the Office of the Secretary of Defense (OSD), if required.

g. Provide staff management of all test programs of interest to the Office of the Secretary of the Army.

h. Establish, review, and integrate environmental policies into Army T&E policy and procedures (AR 200–2). Ensure assessment of the environmental consequences of T&E support actions within and outside the U.S. (See DODD 6050.7.)

i. Represent the Army on OSD forums for coordinating T&E policy and resources.

j. Recommend candidate systems to DOD for live-fire T&E (LFT&E).

k. Serve as the Acquisition Workforce T&E Functional Chief for the acquisition workforce Career Field T (that is, T&E).

l. Serve as the Army representative to the Defense Test and Training Steering Group.

m. Serve as an advisor to the Army's voting representative to the JT&E Senior Advisory Council (SAC).

2–2. Assistant Secretary of the Army (Acquisition, Logistics, and Technology)

The Assistant Secretary of the Army (Acquisition, Logistics, and Technology (ASA(ALT) or Office of the Assistant Secretary of the Army (Acquisition, Logistics, and Technology) (OASA(ALT)) will—

a. Execute research, development, test, and evaluation (RDTE) and Army Procurement Appropriation (APA) funds for T&E.

b. Assist the Army T&E Executive and the Test and Evaluation Management Agency (TEMA) in developing T&E policy.

c. Provide a member to the TSARC. (See chap 9.)

d. In coordination with the Program Executive Office, Simulation, Training, and Instrumentation Command, and the Project Manager, Instrumentation, Targets and Threat Simulators (PM ITTS)—

(1) Serve as the Army's single manager and the proponent for major test ITTS and represent the U.S. Army on joint service programs.

(2) Plan, program, budget, defend, and oversee the execution of major test ITTS funding.

(3) Provide input to the ATRMP.

(4) Coordinate and consolidate customer technical and functional requirements for instrumentation, targets, and threat simulators.

(5) Monitor threat representative targets and threat simulators/simulations to ensure they are programmed for validation.

(6) Participate in the development of the CTEIP.

(7) In coordination with USATEC and PM ITTS, maintain a capability inventory of current Army test ITTS for assigned C4I/IT systems.

(8) Initiate the development, engineering, procurement, and modification of major ITTS programs and deliver them to user organizations for accountability, operation, and maintenance.

(9) Provide representation to Validation and Threat Accreditation Working Groups for targets and threat simulators.

(10) Coordinate, consolidate, and recommend development priorities for test ITTS requirements established by Army and DOD user agencies and document them in a long-range plan.

(11) Manage foreign test ITTS required to support T&E not managed by the USATEC Threat Support Activity (ATSA).

2–3. Director of Information Systems for Command, Control, Communications, and Computers

The Director of Information Systems for Command, Control, Communications, and Computers (CIO/G–6), in execution of duties as the Army Chief Information Officer, will—

a. Manage C4/IT activities in support of the Army Acquisition Executive (AAE), including T&E C4/IT life-cycle management.

b. Plan, program, and budget Operation and Maintenance, Army (OMA) funds for fixed and recurring costs for testing of C4/IT systems assigned to U.S. Army Communications and Electronics Command (USACECOM).

c. Review, coordinate, and approve critical operational issues and criteria (COIC) for non-tactical C4/IT programs.

d. Execute staff responsibilities for C4I/IT as the Chief Information Officer for the Army and provide technical oversight for C4I/IT.

e. Assist the Army T&E Executive and TEMA in developing C4I/IT related T&E policies.

f. Provide a member to the TSARC. (See para 9–3.)

2–4. Vice Chief of Staff, Army

The Vice Chief of Staff, Army (VCSA) will—

a. Serve as a member of the Tri-Service Test and Evaluation BOD Executive Agent (EA) exercising oversight of T&E infrastructure and investments.

b. Serve as the Chair of the T&E BOD EA for a 2-year rotational basis with other service Vice Chiefs and the OSD Director, Operational Test, and Evaluation (DOT&E).

2–5. Deputy Chief of Staff, G–1

The Deputy Chief of Staff, G–l (DCS, G–1) will—

a. Ensure that Manpower and Personnel Integration (MANPRINT) T&E concerns are addressed in appropriate T&E documents. (See AR 602–2.)

b. Provide a member to the TSARC. (See para 9–3.)

c. Review and provide the DCS, G–1 position during CBTDEV/TNGDEV (Training Developer) coordination and participate in the resolution of any issues leading to approval of COIC.

d. Perform MANPRINT assessments. (See AR 602–2.)

2–6. Deputy Chief of Staff, G–2
The Deputy Chief of Staff, G–2 (DCS, G–2) will—

a. Provide guidance on representation of threats in testing.

b. Establish threat policy and procedures, and provide DA approval of the threat and threat surrogates to be used for T&E for ACAT I (IC & ID) programs, ACAT IA (IAM & IAC) programs, ACAT II programs, and programs on the OSD T&E Oversight List. (See AR 381–11.)

c. Coordinate Defense Intelligence Agency validation for ACAT ID programs and programs on the OSD T&E Oversight List.

d. Review and provide the DCS, G–2 position during CBTDEV/TNGDEV coordination and participate in the resolution of any issues leading to approval of the System Threat Assessment Report (STAR).

e. Provide a member to the TSARC. (See para 9–3.)

f. Serve as a voting member of the Army Threat Validation Working Group.

2–7. Deputy Chief of Staff, G–3
The Deputy Chief of Staff, G–3 (DCS, G–3) will—

a. Review and coordinate COIC for all materiel and tactical C4I/IT programs.

b. Provide a member to the TSARC and approve the FYTP. (See chap 9 and para 10–9.)

c. Serve as a voting member on the Army Threat Validation Working Group for Modeling and Simulation (M&S) related validation efforts.

2–8. Deputy Chief of Staff, G-8
The Deputy Chief of Staff, G–8 (DCS, G–8) will—

a. Plan, program, and budget RDTE, APA, and OMA T&E funds.

b. Review, coordinate, and approve COIC for all materiel and tactical C4I/IT programs.

c. Assist the Army T&E Executive and TEMA in developing T&E policy.

d. Provide a member to the TSARC. (See para 9–3.)

e. Serve as HQDA point of contact and provide oversight for OSD chartered JT&E. Manage, solicit, and coordinate Army participation in JT&E. Provide Army members to the JT&E Planning Committee and JT&E Senior Advisory Council. Provide Army liaison to OSD on JT&E issues. Issue the annual call for Army JT&E nominations.

2–9. Deputy Chief of Staff, G–4
The Deputy Chief of Staff, G–4 (DCS, G–4) will—

a. Provide integrated logistics support (ILS) and related T&E policy to include input to program management documents (AR 750–1). (See AR 700–127.)

b. Review and provide the DCS, G–4 position during CBTDEV/TNGDEV coordination and participate in the resolution of any issues leading to approval of COIC.

c. Assist the Army T&E Executive and TEMA in developing T&E policy.

d. Provide a member to the TSARC. (See para 9–3.)

e. Using data provided by USATEC, the DCS, G–4 will—

(1) Perform the ILS program surveillance for Army materiel systems.

(2) Perform independent logistics supportability assessments.

(3) Evaluate the logistics supportability for all materiel acquisition programs and deployed systems, except for medical items for which the U.S. Army Medical Command (USAMEDCOM) is responsible.

(4) Oversee and evaluate the logistics aspects of materiel acquisition and modification programs and deployed systems to ensure supportability.

(5) Participate in program reviews, supportability WIPT, T&E WIPT, and other working and review groups. Participate in the development of requests for proposal, statements of work, and contract data requirements lists.

(6) Serve as the independent logistician for all systems, except for medical systems that USAMEDCOM is responsible for.

2–10. Chief of Engineers
The Chief of Engineers (COE) will—

a. Support MATDEV in development of materiel for operation in extreme climatic conditions in accordance with AR 70–38.

b. Provide policy, guidance, and support of T&E for environmental effects on Army materiel and operations.

c. Execute T&E of those commercial and/or nondevelopmental items (NDI) procured for use in engineer maintenance and supply activities.

d. Review digital terrain data for accurate representation in demonstrations and tests.

e. Act as the MATDEV for U.S. Army Corps of Engineers (USACE) acquisition programs.

f. Establish and maintain a Human Use Committee (HUC) in accordance with AR 70–25.

g. Provide a member to the TSARC. (See para 9–3.)

2–11. The Surgeon General
The Surgeon General will—

a. Support testers and evaluators concerning the Health Hazard Assessment (HHA) program. (See AR 40–10.)

b. Establish policies consistent with DODD 3216.2, Protection of Human Subjects in DOD Supported Research and AR 70–25, Use of Volunteers as Subjects of Research, respectively concerning the oversight and execution of policies addressing the use of humans as volunteers in research.

c. Establish and maintain the Human Subject Research Review Board. (See AR 40-7.)

d. Provide a member to the TSARC. (See para 9–3.)

2–12. Director, Test and Evaluation Management Agency
The Director, Test and Evaluation Management Agency, Office of the Chief of Staff, will—

a. Develop and monitor T&E policy.

b. Provide staff management of all test programs of interest to the Chief of Staff of the Army.

c. Coordinate all T&E policy and resource actions with the following: Office of the Secretary of Defense; Joint Staff, OASA(ALT) and other HQDA agencies; Chief of Naval Operations; Headquarters, U.S. Air Force; U.S. Army Materiel Command (USAMC); U.S. Army Training and Doctrine Command (USATRADOC); U.S. Army Space and Missile Defense Command (USASMDC); USAMEDCOM; U.S. Army Intelligence and Security Command (USAINSCOM); U.S. Army Test and Evaluation Command (USATEC); U.S. Army Communications and Electronics Command; U.S. Army Nuclear and Chemical Agency; and the U.S. Army Corps of Engineers.

d. Serve as HQDA coordination agent for all T&E policy, resource programming, and related programmatics.

e. Develop, coordinate, and execute the ATRMP.

f. Manage the HQDA staffing and approval process for TEMPs requiring HQDA approval and OSD approval.

g. Oversee the development, updating, and accreditation of T&E related models and simulations.

h. Coordinate and facilitate communication with OSD on T&E matters.

i. Develop and monitor Army MRTFB management funding policy.

j. Coordinate and oversee T&E investment funding for RDTE and APA accounts and OT support.

k. Oversee development of T&E personnel strategy plans for identifying and training individuals.

l. Oversee Army responsibilities in JT&E, Foreign Comparative Testing (FCT), and multi-service and multinational T&E acquisition programs.

m. Ensure that test planning and certification for joint interoperability for Army C4I/IT are conducted in accordance with DODD 4630.5.

n. Support the Army T&E Executive in his role as a member of the BOD(ES) by serving as the Army T&E representative on the BOD(ES) staff.

o. As the Army representative on the BOD(ES) staff, provide representation to the OSD Test Investment Coordinating Committee.

p. Provide HQDA oversight on the funding of the Army Threat Simulator Program, Army Targets Program, and Army Instrumentation Program and coordinate with the PM ITTS.

q. Ensure that threat representative targets and threat simulators are validated to support accreditation of each specific application.

r. Provide centralized T&E management by establishing and chairing T&E forums as required.

s. Administer the Army portion of the Central Test and Evaluation Investment Program (CTEIP) and Resource Enhancement Program.

t. Provide annual policy guidance and procedure updates to the T&E community for resource planning. Also provide a justification and explanation of the T&E resource needs to the Army, DOD, and congressional oversight via the ATRMP.

u. Serve as the T&E Functional Chief Representative (FCR) in support of the Army T&E Executive in his role as

acquisition workforce T&E Functional Chief. As the T&E FCR, furnish the T&E Acquisition Career Field representation to the Army Acquisition Career Program Board Functional Working Group and to the T&E education oversight committees.

v. Chair the Army Threat Validation Working Group.

w. Approve Army Threat Validation Reports for Targets and Threat Simulators/Simulations.

2–13. Director of Army Safety

The Director of Army Safety, assisted by the U.S. Army Safety Center (USASC), will exercise primary Army general staff responsibility for system safety (see AR 385–16). The USASC will ensure that system safety issues are monitored and evaluated and will provide an independent safety assessment before MS decisions.

2–14. Heads of other HQDA agencies

Heads of other HQDA agencies will monitor T&E programs that affect their areas of mission responsibilities.

Section II
Heads of Major Army Commands

2–15. Commanding General, U.S. Army Materiel Command

The Commanding General (CG), U.S. Army Materiel Command (USAMC) will provide technology, acquisition support, and logistics to the U.S. Army and will—

a. By means of the U.S. Army Research, Development, and Engineering Command and its major subordinate commands—

(1) Provide a member to the TSARC. (See para 9–3.)

(2) Appoint a T&E Manager at HQ, U.S. Army Research, Development, and Engineering Command (USARDECOM) and the USARDECOM major subordinate commands to provide centralized T&E management and representation to T&E forums as required.

(3) Provide input to the ATRMP.

b. By means of the CG, USACECOM—

(1) Manage and provide test efforts for C4I/IT and cryptographic equipment as assigned by CIO/G–6 or USAMC. Coordinate with USATEC through the T&E WIPT for the management of test efforts associated with assigned C4I/IT systems.

(2) Serve as advisor to OSD, CIO/G–6, and to USAMC for C4I/IT on engineering programs and phases to include DT during the engineering life-cycle, technical policy matters concerning transmission and communication systems, facilities, equipment standards and practices, RDTE, and activities within DOD concerning C4I/IT industry standards and practices.

(3) Use the USACECOM Army Participating Test Unit (APTU) to support joint interoperability testing of C4I/IT systems that require certification and recertification by the Defense Information Systems Agency (DISA). The USACECOM APTU, coordinating with DISA and the Joint Interoperability Test Command (JITC), will review C4I/IT test plans and procedures, make all necessary communication links, conduct the test, perform the analysis, and generate joint interoperability certification reports for all Army elements and systems.

(4) Provide a safety release before the start of pretest training for any test that uses soldiers as test players for C4I/IT systems assigned by CIO/G–6 or USAMC.

(5) Provide for M&S as it supports the test life-cycle, to include workload, capacity, network, and peak performance tests for C4I/IT systems assigned by CIO/G–6 or USAMC.

c. By means of the Director, Army Research Laboratory—

(1) Provide the Army's human factors and MANPRINT resources through the Human Research and Engineering Directorate (HRED).

(a) Conduct research that directly impacts the soldier by developing technologies that improve how humans interact with Army systems while mitigating adverse effects from threat systems. This valuable research is used to enhance the operational characteristics of Army systems that undergo the T&E process.

(b) Provide research to T&E organizations that optimize soldier performance and soldier/machine interfaces for maximum effectiveness. This includes extensive research in human perceptual, cognitive, and psychomotor performance that builds the framework for human factors and MANPRINT advances and helps improve the effectiveness of fielded and developmental systems.

(c) Provide information to T&E organizations on human performance measurement, intelligent decision aids, human control of automated systems, control/display/workstation design, simulation and human modeling, and MANPRINT design and integration.

(2) Using the Survivability/Lethality and Analysis Directorate, provide the Army's survivability, lethality, and vulnerability (SLV) analysis and evaluation support, adding value over the entire system life-cycle.

(a) Provide SLV analysis and evaluation support over the entire life-cycle of major Army systems and help acquire systems that will survive and/or be highly lethal in all environments against the full spectrum of battlefield threats.

(b) Provide advice/consultation on SLV issues to HQDA, PEOs/PMs, evaluators, combat developers, battle labs, intelligence activities, and other DA and DOD activities.

(c) Conduct investigations, experiments, simulations, and analyses to quantify SLV of Army and selected foreign weapon systems.

(d) Provide well-documented timely technical judgments on complex SLV issues.

(e) Perform special studies and make recommendations regarding tactics, techniques, or design modifications to reduce vulnerability and enhance survivability and lethality of Army materiel.

(f) Develop tools, techniques, and methodologies for improving SLV analysis.

(g) Manage and execute the Army's Live Fire Test mission for Army aircraft systems.

2–16. Commanding General, U.S. Army Intelligence and Security Command

The CG, USAINSCOM will—

a. Serve as the MATDEV, combat developer, doctrine developer, training developer, and trainer for assigned systems. (See sec IV, chap 2.)

b. Conduct T&E for assigned classified or secure systems.

c. Provide a member to the TSARC. (See para 9–3.)

2–17. Commanding General, U.S. Army Training and Doctrine Command

The CG, USATRADOC is the Army's principal combat developer, doctrine developer, training developer, and trainer for materiel systems and tactical C4I/IT systems. The CG, USATRADOC will—

a. Submit for approval Army requirements for doctrine, organization, training, materiel, leader development and education, personnel, and facilities (DOTMLPF).

b. Submit for approval all Army Initial Capabilities Documents (ICD), Capability Development Documents (CDD), and Capability Production Documents (CPD) for materiel and C41/IT systems (see AR 71–9).

c. As the combat developer, doctrine developer, training developer, and trainer—

(1) Guide the Army's requirements and COIC processes.

(2) Assist the Army T&E Executive and TEMA in developing T&E policy.

(3) Provide centralized T&E management by establishing a T&E manager and by providing representation to T&E forums as required.

(4) Participate in the Army's JT&E and FCT candidate nomination processes.

(5) Provide a member to the TSARC. (See para 9–3.)

(6) Develop the requirements for instrumentation to support training at Army training ranges.

(7) Program, budget, and execute USATRADOC's FDT/E program. Determine the need for FDT/E, whether for doctrine, organization, training, leader development and education, personnel, and facilities (DOTLPF) as a stand-alone product or in support of an acquisition program.

d. As a developer for system threat assessments—

(1) Develop, coordinate, and obtain approval and validation of the initial STAR for program initiation prior to MS B. (See AR 381–11.)

(2) Develop, coordinate, and approve (or obtain approval and validation of, as required), the threat test support package (TSP) for OT to the operational tester (AR 381–11). Conduct (or assist Deputy Chief of Staff, G–2 in conducting) an assessment of the operational tester's implementation of the Threat TSP and actual representation of the threat for OT. Participate in operational test readiness reviews (OTRRs) when necessary. (See AR 381–11)

e. As an operator of battlefield laboratories, coordinate with USATEC and integrate OT planning early in battle lab experimentation to permit data to be collected for system evaluation and reduce future OT where possible.

2–18. Commanding General, Military Surface Deployment and Distribution Command

The CG, U.S. Army Military Surface Deployment and Distribution Command will—

a. Execute the Army Transportability Agent mission.

b. Review and analyze the transportability and engineering aspects of test related documents.

c. Ensure that appropriate transportability testing is planned, conducted, and reported by the MATDEV.

d. Provide a transportability assessment to the MATDEV and to USATEC.

e. Provide transportability functional expertise in the planning and conduct of T&E, including M&S support.

f. Participate in the TSARC as required. (See para 9–3.)

2–19. Commanding General, U.S. Army Medical Command

The CG, USAMEDCOM will serve as the MATDEV, combat developer, doctrine developer, training developer, trainer, tester, and evaluator for assigned systems. (See sec IV, chap 2.) The CG, USAMEDCOM will—

a. Be responsible for medical support of OT, provide United States Army Medical Department (USAMEDD) consultants, subject matter experts, and test players to the test organizations to assist with test planning, execution, and reporting. (See AR 40–60.)

b. Conduct the HHA program. (See AR 40–10.)

c. Provide centralized T&E management by establishing a T&E Manager and by providing representation to T&E forums as required.

d. Participate in the TSARC as required. (See para 9–3.)

e. Perform system evaluation for assigned systems in accordance with USATEC policies and procedures.

f. Using the CG, U.S. Army Medical Research and Materiel Command (USAMRMC)—

(1) Perform the duties as MATDEV and developmental tester for medical systems as required. (See AR 40–60.)

(2) Provide system safety and health data, to include safety and health hazard assessments and releases, on medical materiel and system acquisition programs.

(3) Coordinate testing of all non-developmental medical systems, items, and medical assemblages. (See AR 40–60.)

(4) Establish and maintain a HUC according to AR 70–25.

(5) Perform the ILS program surveillance for Army medical materiel systems. (See AR 700–127.)

(6) Perform ILS assessments for Army medical materiel. (See AR 700–127.)

g. Using the CG, U.S. Army Medical Department Center and School—

(1) Serve as the combat, doctrine, and training developer for USAMEDD.

(2) Using the U.S. Army Medical Department Board, perform the duties of an operational tester for medical materiel systems, materiel systems having medical implications, and medical C4I/IT.

h. Using the CG, U.S. Army Center for Health Promotion and Preventative Medicine, conduct and provide HHA for acquisition programs. (See AR 40–10.)

2–20. Commanding General, U.S. Army Space and Missile Defense Command
The CG, USASMDC will—

a. Provide test facilities and technical expertise in support of strategic, national missile defense and, where requested, full envelope missile defense life-cycle developmental test activities.

b. Provide space surveillance missions in support of the Commander in Chief, Space Command, requirements.

c. Maintain and operate the U.S. Army Kwajalein Atoll (USAKA) and the U.S. Army Ronald Reagan Ballistic Missile Defense Test Site in accordance with DODD 3200.11.

d. Operate and maintain the High Energy Laser Systems Test Facility (HELSTF) for DOD to evaluate new laser concepts and technologies.

e. Provide centralized T&E management by establishing a T&E Manager and by providing representation to T&E forums as required.

f. Assist the Army T&E Executive and TEMA in developing T&E policy

g. Participate in the TSARC process as required. (See para 9–3.)

h. Ensure that all strategic missile defense testing complies with the Intermediate-Range Nuclear Forces Treaty and the Anti-Ballistic Missile Treaty.

i. Comply with the Compact of Free Association between the U.S. and the Republic of the Marshall Islands, which allows use of the USAKA.

j. Provide input to the ATRMP.

k. Develop the requirements for space and missile defense instrumentation that is specific to assigned programs and manage the acquisition of sustaining instrumentation.

l. Coordinate with USATEC and integrate OT planning early in Battle Lab experimentation to permit data to be collected for system evaluation and reduce future OT where possible.

m. Using a direct reporting PM—

(1) Exercise program management for assigned systems.

(2) Participate as a member of IPTs and T&E WIPTs on the acquisition of space and missile defense systems.

n. By means of a PM for Ballistic Missile Targets Joint Project Office—

(1) Serve as a manager and proponent for ballistic missile target systems and represent the Army on joint service programs.

(2) Plan, program, defend, and oversee the execution of the ballistic missile targets budget.

(3) Document technical specifications in appropriate requirements documents.

(4) Maintain an inventory of current ballistic missile targets.

(5) Serve on certification, validation, and threat accreditation working groups for ballistic missile targets and threat simulators.

2–21. Commanding General, U.S. Army Corps of Engineers
The CG, USACE will—

a. Serve as the combat developer, trainer, tester, and evaluator for assigned systems. (See sec IV, chap 2.)

b. Participate in the TSARC as required. (See para 9–3.)

c. Perform system evaluation for assigned systems in accordance with USATEC policies and procedures.

2–22. Commanding General, U.S. Army Special Operations Command
The CG, USASOC will—

a. Serve as the combat developer, doctrine developer, training developer, trainer and operational tester for assigned Special Operations (SO) Peculiar systems (see section IV, chap 2).

b. Provide a member to the TSARC (see para 9–3).

c. Conduct operational testing for assigned SO Peculiar systems.

d. When a SO Peculiar system's use is anticipated outside of USASOC, enter into agreements with USATEC that address operational testing responsibility.

e. Provide centralized T&E management by establishing a T&E Manager and by providing representation to T&E forums as required.

Section III
Heads of Other Army Elements

2–23. Commanding General, U.S. Army Test and Evaluation Command
The CG, USATEC will support the system acquisition, force development and experimentation processes through overall management of the Army's T&E programs. USATEC is the Army's independent operational test activity and reports directly to the Vice Chief of Staff, U.S. Army through the Director of the Army Staff. The CG, USATEC, will—

a. Conduct testing required in support of the acquisition process and for other customers.

b. Optimize the use of institutional resources for DT and OT to maximize the efficient use of test facilities and instrumentation.

c. Develop the requirements and supporting methodologies for DT and OT instrumentation. Manage the acquisition of sustaining instrumentation and non-major test instrumentation.

d. Ensure integration of M&S in T&E to the degree feasible and advance the application of M&S in T&E in accordance with DOD and Army policy.

e. Conduct and/or support the verification, validation, and accreditation (VV&A) of all M&S used in T&E and accredit the M&S that are used to support assigned system evaluation.

f. Provide support for and assist in the conduct of Advanced Technology Demonstrations (ATD), Advanced Concept Technology Demonstrations (ACTD), Advanced Warfighting Experiments (AWE), and Warfighting Rapid Acquisition Programs.

g. Provide centralized T&E management by establishing T&E Managers and by providing representation to T&E forums as required.

h. Provide representation to the T&E WIPT as required. Prepare part III/IV of the TEMP for systems assigned for T&E in coordination with the T&E WIPT.

i. Serve as the Army manager and resource coordinator for JT&E and participate in the nomination and selection of the Army joint test director or deputy test director for approval by HQDA Deputy Chief of Staff, G–8. (See para 3–8.)

j. Manage installations under USATEC command to support test activities and hosted activities and soldiers and civilians living, training, and working on the installations.

k. Ensure each assigned MRTFB activity commander complies with the policies and guidelines set forth in DODD 3200.11.

l. Establish and maintain a HUC according to AR 70–25.

m. Manage and fund the USATEC Threat Support Activity (ATSA).

n. Provide guidance and assistance to DT, OT, and system evaluation conducted by other Army activities.

o. Assist the Army T&E Executive and TEMA in developing T&E policy.

p. Maintain a long-range plan for T&E resource requirements and provide input to the ATRMP.

q. Manage a database of Army major test facilities, major instrumentation, and test equipment.

r. Chair and conduct the TSARC. (See chap 9.)

s. Program and budget funds to support OT and system evaluation of ACAT II and III systems. (See chap 11.)

t. Program and prioritize, for Director TEMA approval, the Army's Resource Enhancement Program.

u. Prepare Army input to the CTEIP and Resource Enhancement Program.

v. Ensure compliance of all tests with all treaties and agreements that may be applicable to the T&E community.

w. Conduct or support the VV&A of targets and threat simulators/simulations.

x. Develop the requirements for targets and threat simulators/simulations for testing.

y. Ensure that the development of a system LFT&E strategy is in compliance with statute and DOD policy.

z. Conduct and chair operational test readiness reviews (OTRRs) and combined DT and OT readiness reviews as appropriate.

aa. Serve as a voting member of the Army Threat Validation Working Group.

ab. Research, develop, and acquire test facilities and capabilities and improve, develop, and promulgate new DT and OT methodologies.

ac. By means of the U.S. Army Evaluation Center—

(1) Perform the duties of a system evaluator for all Army systems except for the systems assigned for evaluation to USAMEDCOM, USAINSCOM, and the commercial items assigned to USACE.

(2) Conduct continuous evaluation (CE) on all assigned systems.

(3) Develop and promulgate evaluation capabilities and methodologies.

(4) Coordinate system evaluation resources through the TSARC. (See chap 9.)

(5) Preview programmed system evaluation requirements for possible use of M&S to enhance evaluation and reduce costs.

(6) Perform MANPRINT assessments in coordination with Deputy Chief of Staff, G–1 (ARL–HRED).

(7) Perform the ILS program surveillance for Army systems. Perform independent logistics supportability assessments and report them to the Army Logistician and other interested members of the acquisition community. Oversee and evaluate the logistics aspects of system acquisition and modification programs and deployed systems to ensure supportability.

(8) Participate in program reviews, supportability WIPTs, T&E WIPTs, and other working and review groups and in the development of requests for proposal, statements of work, and contract data requirements lists.

ad. By means of the U.S. Army Developmental Test Command (USADTC)—

(1) Perform the duties of Government developmental tester for Army systems except systems assigned to USACECOM (by CIO/G–6), USAMEDCOM, USAINSCOM, USASMDC, and USACE for testing.

(2) Provide test facilities and testing expertise in support of the acquisition of Army and other defense systems, and for other customers on an as available basis. Tests are conducted on a cost reimbursable basis.

(3) Manage and execute the Army's live fire test (LFT) mission for assigned systems.

(4) Operate and maintain the Army's portion of the MRTFB (except for the USAKA and the HELSTF) in accordance with DODD 3200.11.

(5) Provide testers with a safety release for systems before the start of pretest training for tests that use soldiers as test participants. (See AR 385–16.)

(6) Provide safety confirmations for MS decision review and the materiel release decision.

(7) Manage the Army Test Incident Reporting System (ATIRS).

(8) Serve as a member of the Test Resource Advisory Group (TRAG) supporting the BOD(ES).

(9) Manage and implement the Virtual Proving Ground.

(10) Program and budget for operations and modernization of test facilities.

(11) Develop and submit OTPs for DT requiring resources outside USADTC to the TSARC. (See chap 9.)

ae. By means of the U.S. Army Operational Test Command—

(1) Perform the duties of operational tester for all Army systems except those assigned to USAMEDCOM, USAINSCOM, USASOC, and USACE for testing.

(2) Provide test facilities and testing expertise in support of the acquisition of Army and other defense systems, and for other customers on a cost reimbursable and as available basis.

(3) Perform the duties of operational tester for assigned multi-service tests and (on a customer service basis) for USATRADOC FDT/E.

(4) Program and budget the funds to support OT tests except out of cycle tests (which are usually paid for by the proponent).

(5) Develop and submit OT and FDT/E OTPs to the TSARC. (See chap 9.)

2–24. Director, U.S. Army Center for Army Analysis

The Director, U.S. Army Center for Army Analysis, will formulate test requirements to generate performance data for required analyses and will assist the testers and evaluator by using contractor studies and analyses and by developing models and simulations.

2–25. Installation Management Agency

The Installation Management Agency (IMA) will provide—

a. A member to the TSARC (see para 9–3).

b. Base support services in accordance with current DOD and Army policy.

2–26. Other Army commands and agency heads
Commanders and heads of other Army agencies will, as appropriate, monitor T&E programs that affect their areas of mission responsibility and will support FYTP requirements and tasks.

Section IV
Key Functional Responsibilities for Test and Evaluation

2–27. Combat developer
The combat developer will—

a. Develop and coordinate system operational requirements (that is, ICD, CDD, and CPD), COIC, and test support packages (doctrinal, organizational, and threat) for proponent systems, and approve proponent system COIC not approved by the CIO/G–6 (see para 2–3*c*) and HQDA (Deputy Chief of Staff, G–8) (see para 2–8*b*).

b. Serve as the user's representative during system acquisition and T&E processes. Integrates and coordinates the efforts of doctrine, training, leader developments, organization, materiel, and soldier (DTLOMS) product developers including supporting analyses and experiments.

c. Serve as a principal representative at the system T&E WIPT, RAM scoring conference, data authentication group, and all system T&E and acquisition teams and work groups requiring the user or user representative.

d. Ensure that the ICD, CDD, CPD, COIC, and operational concepts and considerations are properly portrayed in the TEMP and other T&E related documents.

e. Determine, in coordination with the materiel developer and system evaluator, the need, schedule, and resources for test, experimentation, modeling, and simulation to support development and verification of system DTLOMS products.

f. Use data from T&E to refine system operational requirements and organizational design and to aid in formulation of a position for decision events, and. analyze, determine, and implement necessary action to correct operational requirements and organizational shortfalls based on test incident reports (TIR) and final T&E reports.

2–28. Materiel developer
The MATDEV is a PM or other responsible person that works for the development and acquisition command or agency for the system under development or being acquired. The PM may be the program, project, or product manager. The MATDEV responsibilities are listed below. This list represents a compilation of the key T&E duties that are performed by the MATDEV. The MATDEV should select from this list of duties to design, plan, program, coordinate, and execute a viable T&E program. The MATDEV will—

a. Provide T&E support to design, plan, execute, assess, and report developmental T&E programs or portions of developmental T&E programs, in support of systems managed by MATDEVs.

b. Ensure effective and timely system integration during the life-cycle of the system to allow for T&E of the total system.

c. Provide adequate and efficient design reviews, audits, and quality assurance (QA) in support of the T&E program for the system being acquired.

d. Provide VV&A activities during software development.

e. At program initiation, develop system threat assessment reports in coordination with the threat community. (See AR 381–11.)

f. Develop and provide Threat TSP as required for DT of Army materiel systems. (See AR 381–11.)

g. Develop and provide System Support Package; spare and repair parts; technical literature; training package to include, as required, new equipment training (NET) support packages and coordination of instructor and key personnel training; and special tools and test measurement and diagnostic equipment; and unique software (AR 700-127, para 3-20).

h. Provide test support documentation for test items to the test organizations.

i. Obtain HHAs (see AR 40–10) for systems acquisition programs from the U.S. Army Center for Health Promotion and Preventive Medicine in accordance with AR 40–5.

j. Prepare environmental documentation, such as Environmental Assessments (EA) and Environmental Impact Statements, in accordance with AR 200–2. This covers environmental impacts during all planned development, testing, use, and disposal of developmental materiel and systems. This documentation will be provided to the testers before start of testing at Army, other MRTFB, or contractor facilities.

k. Participate as a member of in-process review, ICT, and other working groups as required.

l. Prepare, coordinate, distribute, and maintain the TEMP.

m. Establish and chair a T&E WIPT to develop the T&E strategy, to coordinate and solve routine problems. Substantive issues that cannot be resolved by the T&E WIPT will be elevated through the chains of command of the

participating T&E WIPT members for resolution. If resolution is not achieved, the issues will be elevated to the Army T&E Executive.

n. Provide the testers and evaluators the opportunity to participate in preparing the testing portion of the request for proposal (RFP) to ensure that T&E requirements are accurately reflected in contractual documents. Changes occurring during the contract negotiations that affect testing will be communicated to the T&E WIPT. The TEMP will be updated to reflect those changes.

o. Participate in test readiness reviews and certifies that the system (materiel, software, and logistics support) is ready for test. When a separate production qualification test (PQT) for materiel systems or software qualification test (SQT) for C4I/IT is conducted, a test readiness statement will be prepared, usually as part of the minutes of the readiness review meeting. For an initial operational test (IOT), a formal certification (via an OT readiness statement (OTRS)) is provided as required by the operational test readiness review (OTRR). Upon request from the tester, a formal certification is provided stating that the system, including brassboards in the development stage, is ready for use in any other OT or experiment. If the PQT and IOT are combined or integrated, formal certifications will be provided.

p. Develop and provide the Safety Assessment Report to the Army tester and ensures a safety release is provided by the appropriate command prior to commencement of testing/training using soldiers.

q. Ensure, in coordination with the T&E WIPT, that T&E of all systems is planned and conducted to sufficiently stress the system in representative environments, including testing in natural environments (or simulation of the environments where applicable).

r. Coordinate all testing with USATEC to maximize the value of the Army's capital investment in test facilities. This coordination begins before program initiation and facilitates the generation of the testing requirements as well as determining the extent and nature of contractor services, if required. If a MRTFB facility cannot conduct a PM required developmental test or if a cost benefit cannot be derived by the use of a MRTFB facility, the PM has the authority to use contractor support. The decision and rationale to use contractor support will be documented in the TEMP, as appropriate. Assessment of cost benefit must be based upon a documented analysis that includes range capability, availability, cost and the value major DOD ranges and ranges in the production industrial base provide to the Army. This does not exempt the PM from applicable cost study and reporting requirements as necessitated by statute or regulation, to include those set forth in Office of Management and Budget Circular A–76, where applicable.

s. Determine whether the program satisfies the requirements (see para 4–2) for a LFT&E program (see U.S. Code Title 10, section 2366 (10 USC 2366)).

t. Provide test items (system prototypes or system simulators as applicable) with required nonstandard logistics support for FDT/E, DT, and OT, and provide prototypes and system simulators for warfighting and other experiments supporting early system assessments and DOTLPF concepts or products within available funding.

u. Sponsor or encourage contractors to incorporate users and operational considerations into early test programs.

2–29. Program executive officer
The program executive officer will provide the overall management of the T&E activities of assigned systems.

2–30. Developmental tester
The developmental tester or other responsible party (such as system contractor or support contractor) will plan and conduct DT. The DT is conducted throughout the system life-cycle. The DT may be performed in contractor facilities, laboratories, and/or in Government test facilities. The developmental tester will provide test results to the MATDEV, system evaluator, and to decision authorities when requested. The developmental tester will participate in T&E WIPTs, LFT&E IPTs, and other working groups as required.

2–31. Operational tester
The operational tester conducts OT. The OT is conducted to provide data to determine a system's effectiveness, suitability, and survivability. Testers participate early in the development cycle and continue throughout the system life-cycle. The operational tester will provide test reports (TR) to the system evaluator, MATDEV, CBTDEV, and the decision review body that advises the Milestone Decision Authority. The operational tester will participate in T&E WIPT and other working groups as required and chairs the OTRR as appropriate.

2–32. System evaluator
The system evaluator is organizationally separate from the MATDEV and CBTDEV, thus characterized as independent. The purpose of this independence is to ensure that the decision authority is provided unbiased, completely objective advice and perspective about the status of the development of a system. In this capacity, the system evaluator must ensure the credibility of all data sources in support of the evaluation process. The system evaluator will—

a. Assess program effectiveness, suitability, and survivability (or progress towards achieving these) during each phase in the life-cycle. This is done by assisting in the engineering design and development and by determining the degree to which the critical technical parameters, COIC, and other system requirements have been achieved. Advises whether requirements are measurable and testable.

b. Plan, conduct, and report the system evaluation or assessment. The system evaluator will participate in ICTs and IPTs and ensure participation of the testers, when needed.

c. Optimize the use of data obtained from models, simulations, and testbeds, as well as prototypes. The system evaluator may monitor contractor system tests and other non-TEMP data sources in order to validate data. The system evaluator will provide evaluation reports to all interested members of the acquisition team and to MS decision review bodies. The system evaluator will continually assess all assigned systems throughout their life-cycle. The system evaluator will participate in T&E WIPTs, ICTs, system design reviews, supportability WIPTs, and other working groups as required.

2–33. Doctrine developer
The doctrine developer will develop the employment and support tactics, techniques, and procedures for the system and assist the combat and training developers with doctrinal aspects of their respective TSP and OT readiness statements/ reviews.

2–34. Functional proponent
The functional proponent will establish and document system requirements, COIC, and test support packages for non-tactical C4/IT and formulate the concepts explaining the intended use of the system.

2–35. Logistician
The logistician, in support of T&E, will conduct the logistic evaluation of systems being acquired and assures that logistics are adequately addressed in the TEMP and detailed test plans. The logistician participates in T&E WIPTs, ICTs, logistic assessment reviews, and other working groups as required.

2–36. Training developer and trainer
In support of T&E, the training developer and trainer will develop the training strategy, requirements, and package for individual, collective and unit training; conduct or oversee training for OT; and certify that the soldier players are ready for OT.

Chapter 3
Test and Evaluation in Support of Systems Acquisition and Development

3–1. Introduction
a. The primary purpose of T&E is to support systems development and acquisition. Army T&E provides information to—

(1) MATDEV for identifying and resolving technical and logistical issues.

(2) Decision-makers responsible for procuring effective, suitable, and survivable systems.

(3) All to make the best use of limited resources.

(4) Operational users (CBTDEV, trainers, and logisticians) for refining requirements and supporting development of effective doctrine, training, tactics, techniques, and procedures, and organization for the system.

b. T&E strategies will integrate all testing and M&S activities as an efficient continuum, as required by DOD and Army policies. With this goal in mind, the Army has consolidated its major T&E functions and resources. Both developmental and operational testers, in concert with the system evaluator, assist the MATDEV and CBTDEV in developing an integrated T&E strategy that optimizes the use of all testing, M&S, and other credible events as appropriate to the program.

c. Army T&E is conducted to demonstrate the feasibility of conceptual approaches, evaluate risks, identify alternatives, and compare and analyze tradeoffs toward an iterative process so as to verify the achievement of critical technical parameters and answer critical operational issues and criteria. The iterative process of testing changes emphasis as a system evolves toward design goals. As the system moves toward the FRP decision review, emphasis shifts to the attainment of documented thresholds and objectives by a production representative system when employed by typical user personnel under realistic field conditions. This iterative process is called the Simulation, Test, and Evaluation Process (STEP).

d. Using the STEP, DOD integrates M&S with T&E to improve the acquisition process and reduce acquisition cycle times. The STEP simulations provide predictions of system performance and effectiveness and use tests to provide empirical data to validate M&S. This is referred to as the model-test-model process. Tests also support assessment of system maturity and conformance with performance specifications and determine system effectiveness, suitability, and survivability. The goal of testing is to learn about the system. Evaluation is the means to understand system military utility.

e. The iterative use of system M&S and test supports the overall evolutionary design and development of a system. SMART (Simulation and Modeling for Acquisition, Requirements and Training) is the Army's implementation of

STEP. In the SMART context, testing helps to validate system models, which are then immersed into synthetic environments to support the decision-making process. System models that are tested should be the same as, or traceable to, the models used for concept development, analysis of alternatives, system design, and production. Synthetic test environments may also be reused for training, operations planning and rehearsal, and subsequent concept developments.

f. Continuous evaluation is a process that provides a steady flow of evaluation information to the combat and materiel developers on a proposed acquisition, even as the acquisition evolves from a laboratory or experiment to an identified and recognized program or project. Continuous evaluation, conducted by USATEC, will be employed on all acquisition programs. Continuous evaluation is a strategy that ensures responsible, timely, and effective assessments of the status of a system's performance throughout its acquisition process. Continuous evaluation can begin as early as the battlefield functional mission area analysis for materiel systems, and as early as the Information Management Plan (IMP) for C4I/IT systems, and continue through system post-deployment activities. The continuous evaluation process includes system evaluation and system assessment.

g. System evaluation focuses on issues of system technical and operational characteristics, performance, and safety as a part of system operational effectiveness, suitability, and survivability. The system evaluation report focuses on the capability of the system to accomplish its mission in its intended environment and is provided to the Milestone Decision Authority at MS B and C and the FRP decision review.

h. An integrated methodology using data from experimentation, demonstration, M&S, and T&E will be used to provide the maximum benefits from a complete, unified T&E program by efficiently using resources to minimize acquisition time. This integrated methodology will reduce the multiple and redundant products and processes that previously existed. This process, which is in concert with DOD guidance, encompasses the development of a single integrated system evaluation plan that includes a single integrated test/simulation execution strategy, leading to a single system evaluation report for the customer. This process will also explore increased use of contractor data to support system evaluation and expand the use of M&S with the goals of reducing T&E cost, increasing T&E efficiencies, and reducing program cycle times. The following processes will apply:

(1) Army T&E programs will be structured to integrate all T&E activities as an efficient continuum. M&S will be an integral part of T&E planning and will be used to reduce time, resources, and risks involved relative to the T&E programs. The integrated test and simulation strategy can include separate DT, OT, combined DT/OT, M&S, and other events that generate credible data.

(2) Verified, validated, and accredited M&S will be applied as appropriate through the system life-cycle to support efficient test planning and to supplement actual T&E.

(3) A system's TEMP will provide a roadmap for integrated simulation, T&E plans, schedules, and resource requirements necessary to accomplish the T&E program. All relevant information will be included in parts III/IV (or III and IV if integrated T&E is not possible) and V of the TEMP.

(4) System evaluators and testers will participate in warfighting experimentation and technology demonstration processes, as appropriate, to maximize the use of resulting data in system evaluations. The intent is to save the Army from procuring the same data twice, thus reducing overall data requirements.

i. Planning, programming, and budgeting for T&E must begin early in the system life-cycle management process. The TEMP will show T&E costs by appropriation, amount, and budget year of the planning, programming, budgeting, and execution system.

j. The development, approval, and execution of the system TEMP provides key management controls for T&E in support of the acquisition process. Major provisions in the TEMP become key management controls once TEMP execution is begun.

3–2. Relationship of test and evaluation to the life-cycle model

a. The phases, MSs, and descriptions of life-cycle activities for the acquisition life-cycle model (LCM) for all systems (materiel and C4I/IT) are contained in DODI 5000.2 and the Defense Acquisition Guidebook. Implementation of DODI 5000.2 requires the conduct of T&E as prescribed herein. System T&E will be tailored to accommodate the unique characteristics and schedule of each acquisition program. The T&E WIPT is the instrument to tailor T&E tools and strategy to maximize effectiveness and efficiency.

b. Evolutionary acquisition strategies define, develop, and produce/deploy an initial, military useful capability (Increment 1) based upon proven technology, time-phased requirements, projected threat assessments, and demonstrated manufacturing capabilities. Evolutionary acquisition provides for subsequent development and production/deployment of increments beyond the initial capability over time (Increments 2, 3, and beyond). Each of these increments is tested and evaluated to support design and development as well as go/no-go decision making. The TEMP will be part of program planning activities and will require update at the beginning of each increment. The T&E WIPT must determine which tests are required to support the system evaluations or assessments. Statutory T&E requirements and guidelines apply.

c. Appropriate DT will be conducted to assess achievement of critical technical parameters, identify technological and design risks, and determine readiness to proceed to the IOT.

d. Appropriate OT will be conducted to provide data for system evaluations and/or system assessments, with the IOT being conducted to determine operational effectiveness, suitability, and survivability of the system under realistic conditions.

e. The MATDEV will ensure that appropriate testing is planned, coordinated, and executed to provide the system evaluator the data necessary to develop a System Evaluation Report (SER) or a System Assessment (SA) to support the acquisition LCM.

f. The SER will document system effectiveness, suitability, and survivability based on the requirements stated in the CDD (or CPD) and COIC derived from the CDD (or CPD). This allows the Milestone Decision Authority to make an informed decision on system production. This applies to all systems regardless of ACAT level—to include C4I/IT, commercial and non-developmental items (NDIs), system production items (product improvements (PIs) or preplanned product improvements, engineering change proposals, and items intended for General Services Administration procurement if the system change causes a change to the baseline or has an operational impact.

3–3. Test and evaluation in support of system changes

a. Changes (modifications and upgrades) to an existing system must be adequately tested and evaluated. A modification is a change to a system that is still in production. An upgrade is a change to a system that is out of production. Such changes can be improvements to system capabilities or fixes to correct deficiencies after the FRP decision review. System modifications and upgrades include multi-system changes (that is, the application of horizontal technology integration, block changes, preplanned product improvements, Class I Engineering Change Proposals and system change packages). (See AR 70–1.)

b. The integrated T&E strategy developed for a given system change will depend on the operational impact of the change. When the change is a new or revised requirement, preplanned product improvement, or when the combat developer or functional proponent determines the change to have (or have significant potential for) operational impact, then the level of the integrated T&E will be determined by the T&E WIPT. (See chap 8.)

c. If a change does not have operational impact, the procuring command will determine the action necessary to support the decision to apply the change. In all cases, the level of the evaluation that is required to address the impact of the change will determine the necessary testing. In particular, for computer resources (software, hardware, or firmware), the proportion of change and the criticality of affected computer software units must be considered.

d. If a change compromises the baseline or causes an operational impact to the system, to include the user's operation or maintenance of the system, the system TEMP will be updated. (See para 10–2.)

3–4. Test and evaluation of commercial items and nondevelopmental items

All commercial items and NDI programs must establish a T&E WIPT and have an approved TEMP that will adhere to the policies and procedures for new acquisition T&E programs. The MATDEVs, combat developers, and system evaluators will make maximum use of prior test information (including information from commercial manufacturers, users, other services, agencies, or countries) supporting commercial items and/or NDI. The results of market investigations may be used to satisfy some evaluation requirements. Market investigations supporting commercial items and/or NDI acquisition (including reprocurements) may include testing and experimentation when determined necessary.

3–5. Test and evaluation in support of reprocurements

Reprocurement of an item is authorized when a continuing need has been identified and validated by the combat developer (or functional proponent). T&E requirements for reprocurements vary depending on whether the reprocurement is for a commercial item, NDI, a Government controlled technical data package (TDP), an item from a different contractor than the original item contractor, or an item with a significant break in production (more than 2 years). The following applies to systems procured under AR 70–1:

a. Reprocurements to a current military TDP require only the appropriate DT determined by the procuring agency to verify production compliance with the specifications. If either the MATDEV or combat developer introduces system modifications or upgrades relating to the current military TDP, the system modifications or upgrades will be treated as system changes and the T&E requirements, as described in paragraph 3–3, will apply. The T&E requirements for both the system changes and the reprocurement will be integrated.

b. Reprocurement of a commercial item (off-the-shelf or modified off-the-shelf) or NDI to a current performance specification from the original contractor (make and model) without significant break in production (more than 2 years), normally requires only the appropriate DT, determined by the procuring agency and the CBTDEV, to verify production compliance with the specifications.

c. Reprocurement of a commercial item (off-the-shelf or modified off-the-shelf) or NDI requires appropriate testing if—

(1) A current performance specification from a contractor is different than the original contractor's performance specification (different make).

(2) The original contractor intends to field a different model.

(3) A performance specification is modified or upgraded by the MATDEV or CBTDEV. This determination will be

made by the procuring agency, in coordination with the T&E WIPT principals (see chap 8), to ensure production compliance with the specification and to determine the need for additional DT or OT.

d. System evaluations are always required to support the Milestone Decision Authority in determining whether to authorize a reprocurement when there has been a significant break in production. If market investigations reveal that an item previously procured is no longer available, has significant configuration changes, or technology advances have occurred, then a new acquisition strategy and associated system evaluation are required.

3–6. Test and evaluation in support of science and technology development and transition
Technologies will transition only when they have matured, been thoroughly demonstrated, and been proven to have military utility. When a technology is transitioned to an acquisition program, T&E is required. Technological advances in the form of modifications or upgrades to existing systems will be tested and evaluated as discussed in paragraph 3–3. Life-cycle activities for new development of technologies are contained in the Defense Acquisition Guidebook.

3–7. Test and evaluation to support materiel release
Assessments or evaluations, conducted by the system evaluator (including the safety confirmation), will support materiel release actions for new procurement, reprocurements, and system changes. (See AR 700–142.)

3–8. Testing and evaluation in support of the joint test and evaluation program
a. The office of the Under Secretary of Defense (Acquisition, Technology, and Logistics) sponsors the JT&E Program to conduct tests and evaluations and provide information required by Congress, OSD, the Commanders in Chief, the Joint Staff, and DOD components relative to joint operations. The purpose of the JT&E Program is to bring two or more services or other Government agencies together to provide information on system requirements and improvements. Other purposes are to examine a system's joint interoperability, to develop and analyze testing methodologies, or to evaluate technical or operational performance under the realistic conditions of interrelated or interacting weapon systems.

b. The Assistant Deputy Chief of Staff, G–8 (Force Development) (ADCS, G–8–FD) coordinates all JT&E issues with the Army Staff and is responsible for Army's participation and execution of the JT&E Program. The ADCS, G–8–FD issues the call for Army nominations and conducts a representative Army board, that reviews, coordinates, approves, and prioritizes those that are forwarded to OSD for consideration. The Army T&E Executive is an advisor to ADCS, G–8–FD and makes recommendations on concepts and nominations to become JT&E. The TEMA has oversight authority on all JT&Es. The USATEC maintains and manages the Army's Table of Distribution and Allowances for JT&Es, ensures proper administration of Army JT&E personnel, and programs Army resources for all JT&Es.

c. The USATEC provides Army resources for the joint test Forces and coordinates resource requirements to support the conduct of JT&E, including chartered phases (see para 2–22). Participants in JT&E should notify USATEC and coordinate all resources early in the JT&E process. Commands and agencies with expertise in test planning, development, and execution must support USATEC as appropriate.

d. Army organizations or commands submitting JT&E nominations are required to provide an 06 level Joint Feasibility Study director, administrative support, and adequate facilities to house the Feasibility Study for 1 year should the nomination be selected. For Army-lead chartered JT&E, USATEC provides funding for administrative and facilities support.

3–9. Test and evaluation of multi-Service acquisition programs
a. T&E of multi-Service acquisition programs are conducted on systems being acquired by more than one DOD component. Army T&E planning, execution, and report writing are done by agreement among the participating services, including sources of funding and designation of the lead service. The lead service prepares and coordinates a single TEMP, a single test plan, and a single T&E report reflecting system technical performance and operational effectiveness, suitability, and survivability for each service component. Testing procedures follow those of the lead service, with variation as required, and are resolved through mutual agreements (see the Defense Acquisition Guidebook).

b. The Memorandum of Agreement (MOA) on multi-Service OT&E (MOT&E) in support of joint acquisition provides the basic framework and guidelines for planning, conducting, evaluating, funding, and reporting these programs. The USATEC is the Army proponent for this MOA. The MOA is reviewed and updated annually, and the lead is rotated among the services. See the MOA on MOT&E located at www.hqda.army.mil/tema.

3–10. Foreign comparative testing
a. Foreign comparative testing (FCT) involves the T&E of North Atlantic Treaty Organization (NATO) and non-NATO allies' defense equipment to determine whether such equipment meets valid existing DOD needs.

b. The FCT Program responds to a growing awareness of the value of using NDI items to accelerate the acquisition process and reduce rising development costs. The principal objective of the FCT program is to leverage NDI items of allied and friendly nations to satisfy DOD component requirements or correct mission area shortcomings. The FCT

program reduces duplication in research and development and can provide cost or performance advantages over traditional acquisition programs. The FCT process is dependent on a developed foreign item, user interest, a valid requirement, good procurement potential, and a successful evaluation. Section 2350a, title 10, U.S. Code, authorizes the FCT Program. Guidance can be found in DOD 5000.3–M–2, and the DOD Federal Acquisition Regulation (FAR) supplement, and the Defense Acquisition Guidebook). A Web site with downloadable templates, samples, and the FCT handbook is at http://www.acq.osd.mil/te/programs/fct/.

Chapter 4
Developmental Testing

Although DT and OT are discussed in separate chapters in this regulation, as discussed in paragraph 3–1*h*, T&E programs will be structured as an efficient, integrated continuum that obtains necessary, validated data from many sources. The efficient, integrated continuum constitutes a process that will be used to provide the maximum benefits from a complete, unified T&E program by efficiently using resources to shorten acquisition time. The process envisions the development of a single integrated test/simulation execution strategy, leading to a single system evaluation report.

4–1. Types of developmental tests

Developmental test is a generic term encompassing M&S and engineering type tests that are used to verify that design risks are minimized, that safety of the system is certified, that achievement of system technical performance is substantiated, and that readiness for OT&E is certified. The DT generally requires instrumentation and measurements and is normally accomplished by engineers and technicians. It is repeatable, may be environmentally controlled, and covers the complete spectrum of system capabilities. All types of DT are listed below. Tests should be selected from this listing with the objective of building an efficient and effective test and simulation strategy that integrates testing according to paragraph 1–4 of this regulation to support a given program. Software intensive systems may undergo specialized testing (that is, *a*(6), *a*(9), *a*(10), *b*(6), and *b*(7)) listed below.

a. Pre-FRP-Common to materiel and C4I/IT systems:

(1) Research effort or test.

(2) Technical feasibility test.

(3) Engineering development test.

(4) Production prove-out test (PPT).

(5) PQT.

(6) Software qualification test (to be used for grandfathered systems only).

(7) Live fire test (part of vulnerability & lethality).

(8) Logistics demonstration.

(9) C4I/IT interoperability certification test.

(10) Software development test (SDT).

b. Post-FRP-Common to materiel and C4I/IT systems:

(1) Production verification test (PVT).

(2) First article test.

(3) Comparison test.

(4) Live Fire Test, if required for product improvements of covered systems.

(5) Quality conformance (acceptance) inspection.

(6) Tests in support of post-deployment software support (PDSS).

(7) C4I/IT interoperability recertification test.

(8) Surveillance test.

(9) Reconditioning test.

4–2. Pre-full-rate production testing—common to materiel and C4I/IT systems

a. Pre-FRP testing ranges from mission needs determination to the FRP decision review (see DOD Financial Management Regulation, Volume 2B, Chapter 5, June 2004, for information on funding categories). The types of DT conducted prior to FRP are: research effort or test, technical feasibility test, engineering development test, PPT, PQT, live-fire test, logistics demonstration, C4I/IT interoperability certification test, and SDT.

b. Pre-FRP tests are defined in (1) through (9) below:

(1) *Research effort or test.* A research effort or test is conducted during pre-systems acquisition to determine early technical characteristics, to support the research of these items, and to provide fundamental knowledge for solutions of identified military problems.

(2) *Technical feasibility test.* A technical feasibility test is a developmental test typically conducted during concept

and technology development to provide data to assist in determining safety and health hazards and establishing system performance specifications and feasibility.

(3) *Engineering development test.* An engineering development test is a developmental test typically conducted during system development and demonstration to provide data on performance, safety, NBC survivability, the achievability of a system's critical technical parameters, refinement and ruggedization of hardware configurations, and determination of technical risks. The engineering development test includes the testing of compatibility and inter-operability with existing or planned equipment and systems and the system effects caused by natural and induced environmental conditions.

(4) *Production prove-out test.* A production prove-out test is a developmental test conducted during system acquisition (post-MS B and before production testing with prototype hardware) for the selected design alternative. The PPT is usually performed at the subsystem level and provides data on safety, NBC survivability, the achievability of critical technical parameters, refinement and ruggedization of hardware and software configurations, and determination of technical risks.

(5) *Production qualification test.* A production qualification test is a system-level DT conducted post-MS C that ensures design integrity over the specified operational and environmental range. It must be completed using low-rate initial production (LRIP) assets, when available, prior to the FRP decision review (see the Defense Acquisition Guidebook).

(a) The PQT normally uses prototype or pre-production hardware and software fabricated to the proposed production design specifications and drawings. Such tests include contractual reliability, availability, and maintainability (RAM) demonstration tests required before production release.

(b) The software PQT is essentially the same as the PQT for materiel systems and may have been designated as an SQT for C4I/IT systems in the past. It is a system-level DT conducted post-MS C that ensures design integrity over the specified operational and environmental range, and serves the same purpose. The objectives of the SQT are to obtain Government confirmation that the design will meet performance and operational requirements and to determine the adequacy and timeliness of any corrective action indicated by previous testing. System users participate in the technical and functional aspects of the test.

(c) The objectives of the PQT are to obtain Government confirmation that the design will meet the performance and user requirements and to assess the performance envelope. It is also used to determine the adequacy and timeliness of any corrective action indicated by previous tests and to validate the manufacturer's facilities, procedures, and processes.

(d) For C4I/IT, before OTs can begin, the developing agency must prepare an Independent Government DT Report that formally certifies that the system is ready for the next dedicated phase of OT&E to be conducted by USATEC. The developing agency will establish maturity criteria and performance exit criteria necessary for certification to proceed to OT. In support of this, risk management measures and indicators, with associated thresholds, that address performance and technical adequacy of both hardware and software, will be defined and used on each program. A mission impact analysis of criteria and thresholds that have not been met will be completed prior to certification for OT. Live-data files will be used, supplemented with user prepared data, and executed on target hardware. Conversion procedures and special training requirements are introduced as additional elements for verification and validation.

(e) The PQT may also include tests that are not included in the contract (such as, environmental extremes and test-to-failure) when such tests are necessary to obtain engineering data to verify corrective action and to support a materiel release to the field or other purposes. The PQT may be accomplished in phases.

(6) *Live Fire Testing and Evaluation.* Section 2366, title 10, U.S. Code, requires LFT&E (realistic survivability testing and/or lethality testing) of covered systems, major munitions programs, or missile programs, and product improvement of covered systems, major munitions programs, or missile programs before proceeding beyond LRIP. See DOD the Defense Acquisition Guidebook for a definition of covered systems and details of the statutory requirements. The following Army guidance implements DOD policy:

(a) Live Fire Testing is a series of vulnerability and lethality tests that generally start with component/subsystem level tests followed by full-up system level Live Fire Tests (see the Defense Acquisition Guidebook).

(b) Vulnerability testing must address crew, hardware, and system (crew, software, and hardware) vulnerability for threats and impact conditions likely to be encountered in combat. Lethality testing must address lethality against the threat systems by firing the munitions or missile at appropriate targets configured for combat or targets comparable with such targets.

(c) Vulnerability and lethality testing must be conducted sufficiently early in system development to allow significant design deficiencies demonstrated by the testing to be corrected in the design of the system, munitions, or missile before proceeding to full-rate production. The costs of all tests for vulnerability and lethality must be paid from funds for the system being tested.

(d) Prior to program initiation, the MATDEV notifies the Army T&E Executive through TEMA, if the program is a LFT&E program. If a PM has not been identified, the acquisition team provides this notification.

(e) Before testing begins, the TEMP (containing the LFT&E strategy), Event Design Plan (EDP), and a Detailed Test Plan (DTP) will be submitted through TEMA for the Army T&E Executive submission to DOT&E, as required. Within the Army, the EDP and DTP satisfy the requirement for the T&E plan.

1. The LFT&E strategy will include a Plans Matrix that will include all tests, test schedules, issues to be addressed, and the planning documents (for example, the EDP and DTP) proposed for submission to DOT&E. The Plans Matrix identifies which plans are provided to DOT&E for approval or for information and review only. The DOT&E approves the LFT&E strategy via the current TEMP approval process. For TEMPs that do not require OSD approval, the LFT&E strategy contained in the TEMP will be extracted and submitted through TEMA for the Army T&E Executive submission to DOT&E for approval (see the Defense Acquisition Guidebook).

2. The EDPs and DTPs for LFT&E are submitted through TEMA for the Army T&E Executive submission to DOT&E as required by the LFT&E plan matrix in the LFT&E strategy. The EDP must be provided to the Army T&E Executive 180 days prior to initiation of the full-up system level test and be received by the DOT&E at least 30 days before commencement of test. The DTP for the full-up system level Live Fire Test will be submitted to the Army T&E Executive 60 days and to the DOT&E 30 days prior to test. At a minimum, the EDP and DTP for the full up, system level LFT&E are submitted for DOT&E approval. For EDPs and DTPs not requiring DOT&E approval, documents are approved in accordance with policy contained in chapter 10.

(f) A covered system will not proceed to LRIP until LFT&E is completed and the report describing the results of the test is provided to the DOT&E for submission to the congressional defense committees.

(g) USATEC chairs the live fire subgroup of the T&E WIPT and schedules meetings to develop and coordinate the necessary T&E activities. USATEC is responsible for developing and coordinating the LFT&E strategy.

(h) The Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)), for ACAT ID programs, or the Army T&E Executive, for less than ACAT ID programs, may waive the requirement for full-up system level testing. However, before the system or program enters systems acquisition (that is, MS B), the USD(A-T&L) or Army T&E Executive, must certify to the Congress (through the DOT&E), that full-up system level LFT&E of such system or program would be unreasonably expensive and impractical. Certification to the Congress will include the DOT&E approved alternative LFT&E strategy (that is, how the Army plans to evaluate the vulnerability or lethality of the system). Such approval only waives the requirement for the full-up system level LFT&E. The requirement for LFT&E planning, coordination, and submittal/approval of documentation still apply, to include the inclusion of a LFT&E strategy in the TEMP.

(7) *Logistics demonstration.* A logistics demonstration (LD) evaluates the achievement of maintainability goals; the adequacy and sustainability of tools, test equipment, selected test programs sets, built-in test equipment, associated support items of equipment, technical publications, and maintenance instructions. It also evaluates the adequacy of trouble-shooting procedures, personnel skill requirements; the selection and allocation of spare parts, tools, test equipment, and tasks to appropriate maintenance levels; and the adequacy of maintenance time standards. A LD is required for all new acquisition systems or system changes which have an operational impact, including any new or improved support and test equipment intended for support of the system. Within available resources, a dedicated engineering prototype will be provided for the LD. The LD requires a test plan, to include the data to be recorded and the evaluation procedures, and a final report that documents the results, analysis of findings, and recommendations for corrective actions. The TEMP will contain and schedule the LD. (See AR 700–127.)

(8) *C4I/IT interoperability certification test.* The interoperability certification test is a test that applies to C4I/IT systems having interfaces or interoperability requirements with other systems. This test may consist of demonstrations using message analysis or parsing software with limited interface connectivity, or extend to full-scale scenario-driven exercises with all interfaces connected. The APTU will coordinate certification testing requirements for joint inter-operability with the DISA. (See the Defense Acquisition Guidebook and Chairman, Joint Chiefs of Staff, Instruction (CJCSI) 6212.01D)

(9) *Software development test.* The software development test (SDT) consists of program or module and cycle or system levels of testing. The software developer conducts the SDT, and the independent quality control element of the software development center also participates in the SDT. The proponent agency also participates and validates that the functional requirements are being met. The unit or module test is the initial testing level. Testing is executed on local testbed hardware, and benchmark test files are used. This testing provides data to assess the effectiveness of the instruction code and economy of subroutines and object components for efficient processing. It also ensures that input and output formats, data handling procedures, and outputs are produced correctly. The cycle or system test involves testing the combination of linkage of programs or modules into major processes. It is a formal test conducted by the software developer and the proponent agency to ensure that the technical and functional objectives of the system are met. It requires a formal test plan, test analysis report, and certification that the objectives were met and were satisfactory to all participants.

c. Pre-FRP test requirements will be incorporated into the TEMP in support of MS B or C.

4–3. Post-full-rate production testing—common to materiel and C4I/IT systems

a. Testing during production and deployment of the system life-cycle includes the testing necessary to verify that requirements specified in technical data packages and production contracts for hardware and software are met. Production testing also provides a baseline for post-production testing during operations and support. DT for C4I/IT systems generally supports PDSS. If a software baseline change of major proportions (such as, redesign) appears necessary, the development phase of the C4I/IT will be re-entered and testing will follow the same procedures as

discussed in paragraph 4–2. Minor software changes may also require testing (see para 4–2), but test objectives, functions and responsibilities are scaled down depending on the number, magnitude, and complexity of the modification being tested. Production and deployment testing includes the following DT: PVTs, comparison tests, quality conformance inspections, tests in support of PDSS, and C4I/IT interoperability recertification tests. Production and deployment tests are defined in (1) through (6) below.

(1) *Production Verification Test (PVT).* Production Verification Tests are system-level tests conducted to verify that the production item meets critical technical parameters and contract specifications, to determine the adequacy and timeliness of any corrective action indicated by previous (pre-FRP) tests, and to validate manufacturer's facilities, procedures, and processes. A PVT will also provide a baseline for the test requirements in the technical data package for post-production testing. The PVT is accomplished during the first limited production or full-scale production contract.

(a) The PVT may take the form of a first article test (FAT) (see (2) below) if such testing is required in the technical data package.

(b) The PVT may also include tests that are not included in the data package or contract (for example, environmental extremes and test-to-failure) when necessary to obtain engineering data for corrective action verification, to support a materiel release decision, or to meet another purpose.

(c) Follow-on PVTs may be conducted as necessary if the production process or design is significantly changed or to verify the adequacy and timeliness of corrective actions indicated by the PVT.

(2) *First article test.* The FAT may be required for quality assurance purposes to qualify a new manufacturer or procurements from a previous source out of production for an extended period (usually 2 years) and to produce assemblies, components, or repair parts conforming to requirements of the technical data package. Requirements for first-article testing may be invoked in production contracts by citing the applicable Federal Acquisition Regulation first article inspection and approval clause. When a first-article test is specified in a contract, it may not be waived or changed without prior approval of the head of the contracting activity. First article tests may be conducted at Government facilities or at contractor facilities when observed by the Government.

(3) *Comparison test.* Comparison tests are tests of a randomly drawn sample from production. A comparison test is conducted as a quality assurance measure to detect any manufacturing or quality deficiencies that may have developed during volume production which may have reduced effective operation of the item or resulted in item degradation. Comparison testing is conducted or supervised by an agent independent of the producer or Government onsite quality assurance personnel. A comparison test may be conducted at procuring agency facilities, Government testing installations, or contractor facilities.

(4) *Quality conformance (acceptance) inspection.* This inspection examines and verifies tests that are normally prescribed in the technical data package for performance by the contractor and that are subject to performance or witnessing by the onsite quality assurance representative on the items, lots of items, or services to be offered for acceptance under a contract or purchase order. These examinations and tests include, as necessary, in-process and final measurements or comparisons with technical quality characteristics required to verify that the materiel meets all the terms of the contract and should be accepted by the Government.

(5) *Tests in support of PDSS.* Developmental tests in support of PDSS for software intensive materiel systems parallel those described for pre-FRP, but are usually abbreviated based on the number, magnitude, and complexity of the modifications or maintenance.

(6) *C4I/IT interoperability recertification test.* The interoperability recertification test for C4I/IT systems is conducted if major hardware and software modifications to the C4I/IT system have been made that impact on previously established joint interface requirements. Recertification test schemes must be developed and must be commensurate with the level of changes involved in both the C4I/IT system and the systems it must interoperate with. The APTU will coordinate joint recertification testing requirements with the JITC.

b. Planning, programming, and budgeting for testing during the production and deployment phase will begin early in the life-cycle. In general, production items are procured with Army procurement authorization funds, while costs of procuring repair parts are OMA funded. Costs of conducting tests are similarly funded.

c. Production and deployment test requirements will be incorporated in the TEMP in support of the FRP decision review.

d. Criteria for production and deployment testing will be prescribed in the appropriate technical data package based on the performance demonstrated during development or on contract performance specifications for NDIs. The test, methods of analysis, and criteria will be described. The number of items to be tested and the duration of tests will be based on engineering practices taking into account costs, schedule, item complexity, known problem areas, statistical confidence, and other factors. Prior test data and analytically derived design data will be used when the test and sampling plan are developed.

e. The program manager will ensure that the total system is tested during the PVT. When individual components and subsystems are tested separately by other activities, such testing itself will not meet total system test requirements.

f. Materiel development and acquisition commands will establish procedures to ensure the timely planning, testing,

reporting, and resolution of deficiencies on newly produced materiel and to ensure that developmental test requirements are identified to allow appropriate flexibility regarding the test, such as—

(1) Tailoring sample sizes to meet specific contract requirements.

(2) Terminating during early testing if performance is so poor that re-testing will be required regardless of the results of the remaining portion of the tests.

(3) Reducing, eliminating, or terminating early certain tests when a low rate of failure or when process quality control provides sufficient confidence that the materiel meets the requirements.

g. Testing during operational support includes surveillance and reconditioning tests that are required to measure the ability of materiel in the field, in storage, and after maintenance actions (including repair, rebuild, retrofit, overhaul, and modification) to meet user requirements. It may also contain tests in support of PDSS as described in paragraph *a*(5).

(1) *Surveillance tests.* Surveillance tests include destructive and nondestructive tests of materiel in the field or in storage at field, depot, or extreme environmental sites. Surveillance tests are conducted to determine suitability of fielded or stored materiel for use, evaluate the effects of environments, measure deterioration, identify failure modes, and establish or predict service and storage life. Surveillance test programs may be at the component-through-system level. System-level programs may include dedicated hardware allocated for this purpose, fielded materiel, or supplies in storage. Storage sites may include depots, field storage, or extreme environmental locations. "Libraries" of component parts provide a baseline for subsequent surveillance test data comparisons and may be established at contractor or Government facilities. Criteria for surveillance testing will be prescribed in the appropriate technical bulletins (TBs), technical manuals (TMs), storage serviceability standards, and surveillance test program plans. Criteria for reconditioning testing, including pilot reconditioning tests, initial reconditioning tests, control tests, acceptance tests, total systems tests, and baseline evaluation tests at depot or contractor facilities, will be incorporated in depot maintenance work requirements, modification work orders, TMs, TBs, and contracts. Test criteria will be based on performance demonstrated during development and production. The number of items to be tested and the duration of tests will be based on sound engineering practices that consider schedules, costs, item complexity, known problem areas, statistical confidence, and other factors. Prior test data and analytically derived design data will be used when the test and sampling plan is developed. Existing test facilities will be used rather than building new Government or contractor facilities.

(2) *Reconditioning tests.* Reconditioning tests fall into the categories described in (*a*) through (*e*) below.

(a) Pilot reconditioning tests. Pilot reconditioning tests are conducted to demonstrate the adequacy of the documented technical requirements, processes, facilities, equipment, and materials that will be used during volume reconditioning activities. The pilot model will be reconditioned in strict accordance with depot maintenance work requirements, modification work orders, TMs, TBs, and contracts. Pilot reconditioning tests will be applied when depot maintenance work requirements, TMs, or TBs are used for the first time when major changes are made.

(b) Initial reconditioning tests. Initial reconditioning tests are conducted to demonstrate the quality of the materiel when reconditioned under volume (rate) procedures and practices. These tests relate to PVTs during production. Initial reconditioning tests will be conducted when an item is reconditioned for the first time by a Government or contractor facility, when changes in processes or facilities occur, or when there has been a significant break in reconditioning operations.

(c) Control tests. Control tests are conducted on randomly selected items from volume reconditioning operations to verify that the process is still producing satisfactory materiel. Criteria should be the same as for initial reconditioning tests. Control tests relate to comparison tests during production.

(d) Acceptance tests. Acceptance tests are conducted on in-process materiel and when reconditioning activities are completed. An accept or reject decision is based on an acceptance test.

(e) Baseline evaluation tests. Baseline evaluation tests are conducted simultaneously on reconditioned and new production materiel of the same configuration to compare performance and to determine the degree of reconditioning required. Baseline evaluation tests will be considered when the item is being reconditioned for the first time, when significant modifications affecting performance are incorporated, or when data are needed to decide on upgrading versus new procurement.

(3) *Planning, programming, and budgeting for testing during the operations and support.* This phase will begin early in the life-cycle. In general, this testing, including materiel and conduct of tests, will be OMA funded.

(4) *Operations and support test requirements.* These will be identified in the TEMP in support of the FRP decision review.

Chapter 5
Operational Testing

Although DT and OT are discussed in separate chapters in this regulation, as discussed in paragraph 3–1h, T&E programs will be structured as an efficient, integrated continuum that obtains necessary, validated data from many sources. The efficient, integrated continuum constitutes a process that will be used to provide the maximum benefits

from a complete, unified T&E program by efficiently using resources to shorten acquisition time. The process envisions the development of a single integrated test/simulation execution strategy, leading to a single system evaluation report.

5–1. Types of operational tests
The OT is a field test of a system or item under realistic operational conditions with users who represent those expected to operate and maintain the system when it is fielded or deployed. All OTs will be categorized as listed in *a* through *c*. Tests should be selected from this listing with the objective of building an efficient and effective OT strategy to support a given program.
   a. Pre-FRP-Common to materiel and C4I/IT systems.
   (1) Early User Test (EUT).
   (2) Limited User Test (LUT).
   (3) IOT.
   b. Post-FRP-Common to materiel and C4I/IT systems.
   (1) Follow-on Operational Test (FOT).
   (2) User Acceptance Test (UAT).
   c. As-required tests.
   (1) Customer Test (CT) is common to materiel and C4I/IT systems.
   (2) Supplemental Site Test (SST) is unique to C4I/IT systems.
   (3) Limited User Test.

5–2. Guidance applicable to all operational tests
All operational tests related to the acquisition of systems under AR 70–1 will be documented in Part IV (or combined Parts III/IV) of the TEMP, approved in the TSARC process, and included in the FYTP.
   a. Requirements for any added (out-of-cycle) testing must be generated by the T&E WIPT process, submitted as a change to the TEMP, and accepted by the TSARC unless a higher authority generates the requirements for added testing. Costs for unprogrammed testing must be borne by the activity that generates the requirement for conduct of the test.
   b. All tests that require the U.S. Army Forces Command (USAFORSCOM) and USATRADOC assets (such as user troops) must comply with USAFORSCOM and USATRADOC notification requirements. Optimally, USAFORSCOM requires 2-year notification for units and a minimum of 120-day notification for individual soldiers, civilians, and other assets to comply with FM 25–100 training schedule. The USATRADOC requires a minimum of 110-day notification for soldiers, civilians, and other assets. In the area of personnel support, USAFORSCOM provides test players (unit and soldiers) and USATRADOC provides subject matter experts for its assigned programs. Subject matter experts are not data collectors. Other major Army commands (MACOMs) (USASMDC, USAMEDCOM, USAINSCOM, and others) provide personnel and other assets supporting OTs and have similar notification requirements. All major Army commands referenced above will ensure that the impacted IMA garrison(s) are copy furnished as part of their respective notification process.
   c. The TSARC membership will resolve the details of test scheduling and out-of-cycle requirements. (See chap 9.)

5–3. Pre-full-rate production testing—common to materiel and C4I/IT systems
Operational testing for systems normally occurs from program initiation (MS B) to the FRP decision review. Pre-FRP test requirements will be incorporated into the TEMP in support of MS B or C. The types of OT conducted prior to FRP are EUT, LUT, and IOT and are defined below.
   a. Early User Test. The EUT, a generic term, encompasses all system tests employing representative user troops during concept and technology development or early in system development and demonstration. The EUT may test a materiel concept, support planning for training and logistics, identify interoperability problems, and/or identify future testing requirements. EUT provides data for the SER in support of MS B. FDT/E or Concept Experimentation Program (CEP) or both may comprise all or part of EUT. An EUT is conducted with RDTE funds. The EUTs use procedures that are described for IOT per paragraph *c,* below, and modified as necessary by maturity or availability of test systems and support packages. The EUTs seek answers to known issues that must be addressed in the SER.
   b. Limited User Test. The LUT is any type of RDTE funded OT normally conducted during system acquisition other than the IOT. The LUT normally addresses a limited number of evaluation issues. The LUT will not be used to circumvent requirements for an IOT before the FRP decision review as prescribed by statute, DOD directives, and this regulation. A LUT will not be used to segment an IOT through a series of limited operational tests. If conducted during production and deployment, a LUT will not be used in lieu of a FOT.
   (1) The LUT for materiel systems may be conducted to provide a data source for the system evaluation in support of the LRIP decision (MS C) and for reviews conducted before IOT. The LUT may be conducted to verify fixes to problems discovered in IOT that must be verified prior to the FRP decision review (that is, the fixes are of such importance that verification cannot be deferred to the FOT).

(2) The LUT for C4I/IT may be conducted to provide a data source for system assessments in support of acceptance of hardware and commercial off-the-shelf software for operational testbeds and interim blocks of software functionality prior to the IOT. Additional LUTs may be conducted to verify fixes to problems discovered in IOT or to support acceptance of blocks of functionality subsequent to the IOT but prior to acceptance of the objective system.

c. Initial Operational Test. Per the Defense Acquisition Guidebook, programs will be structured to determine the operational effectiveness, suitability, and survivability of a system operated by typical users under realistic conditions (such as combat and representative threat). Section 2399, title 10, U.S. Code, requires initial operational test and evaluation (IOT&E) before a major defense acquisition program proceeds beyond LRIP. Before an IOT for a major defense acquisition program can commence, the DOT&E approves the operational test plan for the program.

(1) For C4I/IT, the IOT uses a production database and is executed on target hardware. The C4I/IT IOT should include the conversion, training, and software verification and validation processes to ensure that the system meets the collective user and proponent needs, can be operated by users, and is ready for deployment.

(2) System evaluation based on data sources other than IOT may be appropriate when coordinated with the T&E WIPT.

5–4. Post-full-rate production testing—common to materiel and C4I/IT systems

Operational testing in post-FRP supports development and fielding subsequent to the IOT, and supports PDSS. Post-FRP testing requirements will be incorporated into the TEMP in support of the FRP decision review.

a. Follow-on Operational Test.

(1) Production and deployment testing for materiel systems normally consists of a Follow-on Operational Test (FOT). An FOT is an OT that may be necessary during or after production to refine the estimates made during IOT, provide data to evaluate changes, and verify that deficiencies in materiel, training, or concepts have been corrected. The FOT may also provide data to ensure that the system continues to meet operational needs and that it retains its effectiveness in a new environment or against a new threat.

(2) For software intensive systems, if OT is required to support PDSS, then the operational tester will conduct a FOT. Post-FRP test requirements will be incorporated into the TEMP in support of the FRP decision review. When the strategy is to develop and field additional blocks of functionality subsequent to the IOT, OT will be conducted on intermediate blocks and an FOT will be conducted prior to the acceptance of the objective system.

b. User Acceptance Test. If OT is required to support PDSS, then the operational tester will conduct a FOT. Otherwise the functional proponent will conduct an UAT. The combat developer will conduct an UAT for systems that are required to support PDSS. For systems that have both a functional proponent and a combat developer, the functional proponent will conduct the UAT. The UAT is limited in scope relative to an FOT. The UAT's primary purpose is to verify the functionality of the changes to the C4I/IT in the user environment.

5–5. As-required testing—common to materiel and C4I/IT systems

All as-required testing requirements that pertain to a specific system acquisition will be incorporated into the TEMP.

a. Customer Test. A CT is conducted for a requesting agency. The requesting agency coordinates support requirements and provides funds and guidance for the test. A CT is not directly responsive to a MS decision. If coordination is required to obtain USAFORSCOM or USATRADOC support for the test, the TSARC process is used. A CT will not be used to circumvent requirements for an IOT.

b. Supplemental Site Test. A SST may be necessary for C4I/IT that execute in multiple hardware and operating system environments if there are differences between user locations that could affect performance or suitability. The SST supplements the IOT and UAT.

5–6. Use of system contractors and developers in operational test and evaluation

10 USC 2399, as implemented by the Defense Acquisition Guidebook, prohibits system contractors from participating in the initial operational test and evaluation (IOT&E) for ACAT I and II programs. This policy applies to the IOT&E of all programs as described in *a* through *c* below and is meant to prevent system contractor manipulation or influence during the IOT&E or activities that provide input for consideration in the system evaluation.

a. During IOT&E or associated activities, system contractor personnel will not—

(1) Participate, except to the extent that they are involved in the operation, maintenance, and other support of the system when it is deployed in combat.

(2) Establish criteria for data collection, performance assessment, or evaluation activities for OT data.

(3) Participate in collecting, reducing, processing, authenticating, scoring, assessing, analyzing, or evaluating OT data.

(4) Attend or be directly involved as members or observers in data authentication group sessions or RAM scoring and assessment conferences that address data supporting evaluation and assessment of their systems.

b. Discussions with system contractor and developer personnel may be necessary to ensure full technical understanding of test incidents observed during IOT&E or activities. All such discussions will be held separately from any scoring

and assessment activities. The MATDEV should maintain a written record of the nature of these contractor and Government discussions.

c. Results of DT using contractor personnel or results of contractor in-house testing may be considered in evaluation and assessments along with OT data collected (see paras *a* and *b* above).

5–7. Equipment disposition after operational testing
Disposition of C4I/IT and ancillary test equipment after the completed test is decided on a case-by-case basis by the MATDEV and the test unit/evaluator. The testing unit may retain the C4I/IT after a LUT or an IOT is completed for use as a CE testbed or other use pending a formal fielding decision. The T&E WIPT will document the disposition of equipment in the TEMP to ensure feasibility, supportability, and funding. After completion of the test, a MOA will be signed by the MATDEV, system evaluator, and testing unit to confirm the use of the system. Any O&M supportability and funding issues will be included in the MOA.

Chapter 6
Evaluation

6–1. Independent evaluation and assessments
Independent system evaluation and assessment are designed to provide unbiased advice of system development to the Army or DOD decision-maker. The system evaluator, who is organizationally separated from the MATDEV and CBTDEV, provides such advice thereby ensuring a completely objective perspective. While in cooperation with the MATDEV, CBTDEV, and other T&E WIPT members, the evaluator must always maintain a professional and emotional detachment from the system so as to ensure complete objectivity.

6–2. Evaluation process
a. The evaluation process consists of early and frequent assessments of system status during development. Early involvement can significantly reduce test time and cost through comparative analysis, data sharing, and use of all credible data sources. The purpose of an evaluation is to ensure that only operationally effective, suitable, and survivable systems are delivered to the users.

b. The system evaluation integrates experimentation, demonstration, and M&S information with available test data to address the evaluation issues (that is, COIC and additional issues (for example, evaluation focus areas)). Through the SEP, the need for testing is determined and unnecessary testing eliminated. System assessment reports will occur at key points during the acquisition, before and after each milestone decision. As the system approaches a milestone or the FRP decision review, the system evaluator will produce a SER to advise the decision review principals and milestone decision authority concerning the adequacy of testing, the system's effectiveness, suitability, and survivability, as well as recommendations for future T&E and system improvements. The system evaluation in support of the FRP decision review will use data resulting from the IOT, when conducted, as a major data source integrated with other credible data sources as defined in the SEP. (See para 6–4.)

c. The products of continuous evaluation are the SER and the SA. (See para 10–15.)

6–3. Evaluation objectives
a. The primary objective of the independent system evaluation is to address the demonstrated effectiveness, suitability, and survivability of Army and multi-service systems for use by typical users in realistic operational environments. The primary objective of the independent system assessment is to address system potential effectiveness, suitability, and survivability. Other objectives are—

(1) Assist the materiel developer by providing information relating to technical parameters and contractor performance.

(2) Assist combat and materiel developers by providing information relative to operational performance, doctrine, tactics, techniques, procedures, logistics, MANPRINT, system safety, health hazard, technical publications, RAM, correction of hardware and software deficiencies, and refinement of requirements.

(3) Ensure that only operationally effective, suitable, and survivable systems are delivered to users.

(4) Ensure the effectiveness of the manufacturing process, equipment, and procedures through production qualification T&E.

(5) Confirm readiness for OT by ensuring that the system is stressed to at least the levels expected in the operating environment, demonstrate a level of achievement of system performance, safety, health hazards, survivability, human factors engineering, reliability, availability, and maintainability (RAM), and integrated logistics support. The primary purpose is to ensure that OT will be successfully and safely completed.

(6) Provide timely information to the decision authority about system performance capabilities, effectiveness, suitability, and survivability, and readiness to proceed to the next phase of acquisition as well as recommendations for future efforts.

b. The evaluation, and to a lesser degree the system assessment, will assess system capability in required climatic and realistic battlefield environments, including natural, induced, and countermeasure (including information assurance) environments.

c. The evaluation provides a judgment of how operationally effective, suitable, and survivable the system performed with respect to accomplishing its intended mission in its intended environment based on the requirements documented in the CDD/CPD. The evaluation provides a determination on the progress that has been made toward the required operational effectiveness, suitability, and survivability and on the adequacy of system progress in meeting the requirements at a given future point in system acquisition. The evaluation (or assessment) may assess system suitability benefits and burdens when compared with systems already fielded or deployed.

6–4. Data sources for independent evaluations and assessments

a. Developmental tests. See chapter 4.

b. Operational tests. See chapter 5.

c. Foreign comparative testing. See paragraph 3–10.

d. Models and simulations. Models and simulations (M&S) provide a set of analytical tools with applications in physics and engineering for components, subsystems, and systems; one-on-one system performance, few-on-few system, and force-on-force combat utility and effectiveness. Simulation capabilities include live, virtual, and constructive. Ownership and operation of these M&S depend on use application and include organizations responsible for requirements determination, technology research, system development, system and unit training, independent analysis as well as test and evaluation. The system evaluator will determine availability of and the need for M&S analyses during development of the SEP. Evaluators must ensure the M&S used are accredited before use. (See AR 5–5 and AR 5–11.)

e. Market investigation. The materiel developer plans and collects data and provides an assessment of the ability of commercial market place to fill operational requirements stated in the CDD/CPD for a system.

f. Other military services, other U.S. agencies, foreign governments, and data collected by private industry. When acquisition is being considered from these sources, then existing or currently programmed data and reports should be requested to support the evaluation. In the case of foreign government, agreements may be in place or needed to support the exchange of such data.

g. Warfighting experiments. Warfighting experiments are conducted by battle labs, Army proponents, and Joint Forces Commands to provide data and insights in support of the requirements determination process, the force development process, and the technology transition process. They examine the effectiveness and ability to achieve warfighting concepts, the military utility and burden of new or existing technology, and the contribution of new ideas in doctrine, training, leader developments, organizations, and soldier specialties. They are not elements, as such, of the acquisition process. While not designed as rigorous tests to support acquisition decision reviews, they may, and generally will, contribute data to system evaluations and should reduce requirements for testing, particularly in early acquisition phases. Warfighting experiments support the Chief of Staff, Army (CSA) approved Army Experimentation Campaign Plan and use representative soldiers in as realistic operational environment as possible via live, virtual, or constructive simulation. (See AR 71–9).

(1) *Advanced warfighting experiments.* The advanced warfighting experiments (AWEs) are culminating efforts in the process to evaluate major increases in warfighting capability. They cross DTLOMS domains and synergistically combine new force structure, doctrine, and materiel to counter a tactically competent opposing force. A single AWE normally includes several technologies, materiel concepts, and systems in various stages of acquisition. AWEs are sponsored by USATRADOC and approved and resourced by the CSA. (See AR 71–9.)

(2) *Concept Experimentation Program.* CEP is an annual program executed by USATRADOC for commanders who have requirements determination and force development missions for specific warfighting experiments. Experiments are discrete events investigating either a materiel concept or a warfighting idea.

h. Force development test/experimentation. The force development test/experimentation (FDT/E) is a USATRADOC test and experimentation program supporting its force development processes by examining the effectiveness of existing or proposed concepts or products of doctrine, training, leader developments, organization, and soldier developments (DOTLPF). FDT/E may be used for either stand-alone DOTLPF efforts or for DOTLPF efforts supporting a system acquisition program. In support of system acquisition programs, FDT/E may be stand-alone, related to, or combined with OT and should be identified in the TEMP. Before the LRIP decision (MS C), FDT/E will be used to assist in defining and refining concepts of employment, logistics, training, organization, and personnel. Data from these FDT/E should also assist in determining essential and desirable system capabilities or characteristics. Prior to the FRP decision review, FDTs are conducted for systems with significant DOTLPF impact (normally ACAT I programs) to assess the status of DOTLPF products prior to IOT. FDT may be used to verify correction of DOTLPF fixes at initial operational capability when DOTLPF are the only significant issues remaining after the FRP decision review.

i. Advanced concept technology demonstration. The advanced concept technology demonstration is an OSD sponsored, user-oriented and dominated demonstration. The ACTD provides a mechanism for intense involvement of the warfighter while incorporation of technology into a warfighting system is still at the informal stage. A successful

ACTD will allow accelerated entry into the acquisition life-cycle (such as B or C). OSD partially funds the selected ACTDs. (See DA Pam 70–3.)

j. Advanced technology demonstration. An advanced technology demonstration is a pre-acquisition mechanism for the warfighter to explore military utility, affordability, and potential of technologies to support warfighting concepts. A successful ATD may allow accelerated entry into the acquisition life-cycle. (See DA Pam 70–3.)

6–5. General considerations for system evaluation and assessments

Evaluations and assessments are prepared to support MS or other types of decisions. In addition, the system evaluator periodically updates the evaluation or assessment of the system. These products are provided to—

a. Assist combat and materiel developers and functional proponents by providing information relative to operational performance, doctrine, tactics, logistics support, MANPRINT, system safety, technical publications, RAM, software, correction of deficiencies, and refinement of requirements.

b. Provide an assessment of readiness to proceed to the next phase of acquisition.

c. Baseline a system. Evaluation of a combat system incorporates a comparison of the system to a baseline. The baseline represents the capability of the replaced system, the capability of a similar system, the capability of a force without the new system, or the capability of the original system (for system changes). The evaluator, based on input from the combat developer, defines the baseline for the given system. Part IV of the TEMP describes the baseline concept and evaluation approach. A combination of data from studies, field exercises, models and simulations, side-by-side testing, or other OT, compares performance of the system with the baseline. To the maximum extent possible, existing baseline data will be used in lieu of baseline testing for system evaluations.

6–6. Critical operational issues and criteria

a. Critical Operational Issues and Criteria (COIC) are the key decision maker operational concerns (issues) with standards of performance (criteria) that must be answered by the system evaluation to determine if the system is ready to enter full-rate production. The COIC are the critical operational issues with associated scope, criteria, and rationale.

b. The COIC continually focus on and reflect maturity expectations for the FRP decision review. The COIC are focused on mission accomplishment and reflect a just good enough system in the areas of trained readiness, deployability, sustainability, and critical mission performance including survivability.

c. A breach of a criterion is reason to delay entry into full-rate production unless other evidence of acceptable system operational effectiveness and suitability is provided. The criteria must relate to the CDD/CPD and the Analysis of Alternatives (AOA). Each CDD/CPD Key Performance Parameter (KPP) will be a criterion. COIC will not be broken out into a set of categories such as suitability and survivability. COIC by their very nature are overarching and will span such categories in a single issue or criterion. As appropriate, COIC will address the system-of-systems.

d. The COIC are initially developed and approved for the initial TEMP in support of MS B and are updated and approved for the Milestone C TEMP. Subsequent revisions occur for each incremental block under evolutionary acquisition and changes responding to revised operational requirements. The approved COIC are included in the TEMP and are the basis for planning the evaluation of the system.

Chapter 7
Other Test and Evaluation Considerations

7–1. Waivers of approved testing

Testing specified in the approved TEMP must be conducted unless a written request for waiver is submitted to and approved by the TEMP approval authority. Waivers of testing set forth in the approved TEMP will depend on the availability and acceptability of relevant data and information from other sources and will not negate the requirement for independent system evaluation.

a. Any command or agency may submit a request to waive approved testing (or portions thereof). Requests will provide sufficient justification and documentation to warrant approval and will be coordinated with the T&E WIPT members.

(1) For DT, the MATDEV prepares a recommendation for approval or disapproval, coordinates the recommendation with T&E WIPT members, and forwards it to the appropriate TEMP approval authority for decision. In addition, for live-fire testing, the request is submitted before program initiation (MS B) through the Army T&E Executive to the AAE for approval. If approved, the Army T&E Executive submits the waiver to OSD per the Defense Acquisition Guidebook. For C4I/IT joint interoperability testing, the waiver is submitted by the MATDEV through USAMC (USACECOM) Army Participating Test Unit (APTU) to the DISA. For the logistics demonstration, the waiver is submitted by the MATDEV to HQDA (DALO-SMR–C) per AR 700–127.

(2) For OT, a request for waiver is coordinated with the T&E WIPT members and submitted to USATEC. USATEC recommends approval or disapproval and forwards it to the TEMP approval authority for decision.

b. Requests to waive approved testing contained in the TEMP for—

(1) ACAT I (IC & ID), ACAT IA (IAM & IAC), ACAT II, and other programs on the OSD T&E Oversight List are forwarded to Director of Army Staff (DACS–TE), 200 Army Pentagon, Washington, DC 20310–0200, for appropriate coordination at HQDA and OSD.

(2) Other programs are forwarded to Director of Army Staff (DACS–TE), 200 Army Pentagon, Washington, DC 20310–0200, for coordination and Army T&E Executive resolution only if the T&E WIPT and the T&E WIPT members' chains of command are unable to agree on waiver approval.

(3) Written approval or disapproval of the waiver will be provided to all T&E WIPT members.

(4) For those tests for which waivers have been granted for reasons other than availability of data from other sources, production testing or FOT will be expanded to address those aspects not previously tested.

c. For LFT&E waivers see paragraph 4–2*b*(6)(*h*).

7–2. Delay, suspension, or termination of testing

Start of testing will be delayed when a problem is identified that would affect the validity of the data being collected to address the evaluation issues. Start of testing will also be delayed when it is apparent that the system has little chance of successfully attaining critical technical parameters or satisfying critical operational criteria, and deficiencies cannot be resolved before the start of the test. Testing will be suspended when a problem is identified during the test that cannot be resolved within the test schedule. Testing is terminated when test resources are released and the test must be rescheduled.

a. Testers may delay or suspend testing when necessary, such as when critical or catastrophic safety or health hazards to personnel or equipment are discovered.

b. The MATDEV may delay or suspend developmental testing. Any T&E WIPT member may recommend delay or suspension of testing to the materiel developer. (See chap 8.)

c. The CG, USATEC or commander of the command conducting the test may delay or suspend testing. Any T&E WIPT member may recommend delay or suspension of testing to the testing commander.

d. When a test is delayed or suspended, the MATDEV convenes a program review to consider future actions. Once the MATDEV has solved the problem, the T&E WIPT will be convened to determine necessary additional tests to validate the solutions. Before testing is restarted, appropriate test readiness reviews will be conducted.

e. The MATDEV notifies the Milestone Decision Authority when there are cost and schedule implications.

f. The MATDEV recommends termination of DT to the Milestone Decision Authority when circumstances warrant. The CG, USATEC, or commanders of other assigned OT activities, recommend termination of OT to the VCSA when circumstances warrant.

7–3. HQDA major range and test facility base

a. The DOD MRTFB is a national asset consisting of a broad base of T&E activities managed and operated under uniform guidelines to provide T&E support to DOD Components responsible for developing and operating military systems (DODD 3200.11). The Army's portion of the MRTFB consists of the following facilities:

(1) Under the management of USATEC - White Sands Missile Range, NM, including the Electronic Proving Ground at Fort Huachuca, AZ; Yuma Proving Ground, AZ; Dugway Proving Ground, UT; and Aberdeen Test Center at Aberdeen Proving Ground, MD.

(2) Under the management of the USASMDC - USAKA in the Marshall Islands and the HELSTF at White Sands Missile Range, NM.

b. Scheduling of test resources will be according to DODD 3200.11.

c. While the MRTFB is maintained primarily for DOD T&E support missions, other U.S. Government agencies (Federal, State, and local), allied foreign governments, and defense contractors, as well as private organizations and commercial enterprises may be permitted to use MRTFB facilities. Without compromising primary responsibility to DOD customers, MRTFB commanders will assure equitable consideration for commercial customers and non-DOD users at their facilities according to DODD 3200.11.

d. Funding of MRTFB activities will be in a uniform manner and all costs incurred in support of T&E will be billed according to DOD 7000.14–R, volume 11A.

7–4. Testing for commercial entities

a. There are two statutes that allow Army test facilities to conduct business with U.S. commercial concerns. Their applicability is dependent on whether or not the test facility is designated as an element of the MRTFB.

(1) *MRTFB facilities.* Section 2681 of title 10, U.S. Code, allows the MRTFB activity to enter into contracts with U.S. commercial entities desiring to conduct commercial T&E activities at the MRTFB. To ensure that government users outside of DOD are not charged more than commercial users, OSD's implementing guidance (see DODD 3200.11) expands the policy to cover such use by other Government users (including State and local entities). The MRTFB activity is reimbursed for all direct costs associated with the T&E activities conducted under the contract as well as any additional costs related to the use of the facility as deemed appropriate by the MRTFB commander.

Charges to commercial customers will be at least as large as the marginal (additive) cost of providing the service. A DOD contractor is charged at the same rate as any other commercial customer unless the contractor has appropriate contractual language with the DOD contract sponsor that provides the use of test support from the MRTFB as Government-furnished services.

(2) *Non-MRTFB facilities.* Section 2539b of title 10, U.S. Code, provides the Army with the authority to provide cost reimbursable test services to commercial entities, when in the interest of national defense. This authority may not be used to supplant the authority granted under section 2681 of title 10, U.S. Code. The non-MRTFB test activity or laboratory is reimbursed for the total costs incurred as a result of performing the test activities defined in the contractual agreement. Less than total costs may be approved if there are compelling reasons to do so (see DOD 7000.14–R, volume 11A, chap 14).

b. Use of any Army test facility by a commercial enterprise is allowed only if it does not increase the cost to operate the facilities and after ensuring that the Army is not competing with U.S. commercial sector in providing such services.

Chapter 8
Test and Evaluation Working-level Integrated Product Team

8–1. Essential role

a. A T&E WIPT must be established for every program to ensure that test and evaluation integration is accomplished. The primary purpose of the T&E WIPT is to optimize the use of appropriate T&E expertise, instrumentation, facilities, simulations, and models to achieve test integration, thereby reducing costs to the Army and decreasing acquisition cycle time.

b. The T&E WIPT supports the integrated T&E strategy, resolves issues, and assists the MATDEV in developing and coordinating the TEMP. The primary objectives are to identify and resolve issues early, understand the issues and the rationale for the approach, and document a quality TEMP that is acceptable to all organizational levels as quickly and as efficiently as possible. All documents should be delivered in a timely manner to keep pace with T&E and acquisition schedules. The T&E WIPT will—

(1) Integrate T&E requirements, accelerate the TEMP approval process by producing a coordinated TEMP, resolve cost and scheduling problems, and determine test data confirmation requirements.

(2) Provide a forum to assist personnel responsible for T&E documentation and execution, and ensure that T&E planning, execution, and reporting are directed toward common goals. The T&E WIPT will be the forum through which T&E coordination among all members of the acquisition team is accomplished.

(3) Support the CE process by accomplishing early, more detailed, and continuing T&E documentation, planning, integration, and sharing of data.

(4) Within their area of expertise, assist in preparing the T&E portions of the acquisition strategy, the RFP, and related contractual documents, and assist in evaluating contractor or developer proposals when there are T&E implications.

(5) Operate under the spirit and principles of the Integrated Product Team (IPT) and integrated product and process management (IPPM) or integrated product and process development (IPPD). The T&E WIPT will adhere to principles in the Defense Acquisition Guidebook to include: open discussion, proactive participation, empowerment, and early identification and resolution of issues.

(6) Be established by the MATDEV after approval of a materiel need (for example, Mission Need Statement or DTLOMS Needs Analysis Report) to assist in finalizing the initial critical technical parameters, COIC, and TEMP for program initiation (MS B). To ensure an integrated effort, the T&E WIPT must coordinate with other functional groups.

(7) Be chaired by the MATDEV or designated representative.

(8) Coordinate on requests for waivers of testing in an approved TEMP.

(9) Immediately elevate disagreement on matters of substance through the Integrating IPT or command channels to the next higher level for decision. Problems not resolved at this point will be brought to the Army T&E Executive for decision.

c. Minutes of all T&E WIPT meetings will be prepared by the T&E WIPT chairperson and distributed within 10 working days.

8–2. Test and evaluation working-level integrated product team composition

a. The MATDEV will ensure that all commands, field agencies, human resource elements, and other organizations, as appropriate, that have a role or may have a potential role in a particular program's T&E are extended invitations to the initial T&E WIPT meeting. These organizations include but are not limited to the following:

(1) MATDEV (PEO, PM, or other as appropriate).

(2) Combat developer.

(3) System evaluator.

(4) Developmental tester.

(5) Operational tester.

(6) Threat integrator (DCS, G–2 or designated representative).

(7) Logistician (DCS, G–4 or designated representative).

(8) Training developer/trainer.

(9) For Army-level approvals, the following HQDA offices are included: Army T&E Executive, ASA(ALT), the DCS, G–1, DCS, G–2, DCS, G–3, DCS, G–6, and DCS, G–8. Failure to participate in the T&E WIPT process (or declare intent not to participate in the T&E WIPT) forfeits organizational inclusion in the coordination of the TEMP prior to HQDA approval.

(10) For OSD level approvals, representatives from DOT&E and the cognizant DT&E element.

(11) Any command or agency that has a role critical to the success of the program (such as, agencies that provide analysis, survivability, lethality, interoperability, NBC survivability, safety, health hazard, MANPRINT, transportability, IT, or other considerations).

b. At the conclusion of the initial T&E WIPT meeting, those organizations that are critical to the T&E WIPT body will be identified. A T&E WIPT charter must be developed that identifies representatives from these organizations as principal T&E WIPT members. Members of the T&E WIPT must be empowered by their respective organizations to provide command positions.

c. The T&E WIPT will establish, as necessary, a RAM subgroup, a threat subgroup, and a supportability T&E subgroup. These subgroups coordinate and jointly develop T&E strategies and identify corrective actions. Other subgroups may be chartered as appropriate.

Chapter 9
Test Schedule and Review Committee

9–1. Essential role
The purpose of the TSARC is to ensure that all tests are scheduled with the appropriate Army priority and executed in the most efficient and effective manner possible with respect to resources. The TSARC provides Army level centralized management of resources (including flying hours and ammunition) required for DT outside of the USADTC, and resources (including flying hours and ammunition) for OT, JT, and FDT/E. This chapter—

a. Provides guidance and establishes procedures governing the TSARC, a continuing Intradepartmental Army Committee.

b. Sets forth the mission, functions, composition, responsibilities, and concept of operation of the TSARC.

9–2. Mission
The mission of the TSARC is to provide high-level centralized management of Army resources to maximize the use of limited resources and to minimize the impact on unit operational readiness. The TSARC will—

a. Review and recommend coordinated OTPs for inclusion in the Five Year Test Program (FYTP). OTPs requiring a resource commitment (personnel, instrumentation, and equipment) from outside the tester's command or agency within 1 year of TSARC submission, will be processed as an out of cycle OTP. (See para 9–5*d.*)

b. Review and coordinate resources for support of AWE, JT, OT, FDT/E, and DTs that require operational assets.

c. Resolve conflicts between test support requirements and other missions. Resolve testing schedules to minimize the impact of test support on units providing Active Component, Reserve Component, and National Guard support.

d. Submit a recommended FYTP and associated test priorities to HQDA DCS, G–3 for approval. The FYTP is a compendium of TSARC reviewed and HQDA approved OTPs. The FYTP identifies validated requirements to support the Army's Test and Evaluation programs. It is developed within existing budget and program constraints in accordance with Army priorities. It is a HQDA tasking document for the current and budget years and provides test planning guidelines for the out-years.

9–3. Test Schedule and Review Committee composition
a. The CG, USATEC, chairs the GO TSARC and provides a chairperson for the Initial Working Group (IWG) and Mid-cycle Working Group (MWG) meetings.

b. The TSARC will comprise general officers (GOs) or equivalent representation. Membership will consist of representatives of the Army Secretariat, HQDA staff elements, and the MACOMs, as follows:

(1) Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASA(ALT)).

(2) Assistant Secretary of the Army for Financial Management and Comptroller.

(3) Director of Information Systems for Command, Control, Communications, and Computers (CIO/G–6).

(4) Office of the DCS, G–3.

(5) Office of the DCS, G–8.

(6) Office of the DCS, G–1.

(7) DCS, G–4.

(8) DCS, G–2.

(9) U.S. Army Training and Doctrine Command (USATRADOC).

(10) U.S. Army Forces Command (USAFORSCOM).

(11) U.S. Army Materiel Command (USAMC).

(12) U.S. Army Europe.

(13) U.S. Army Intelligence and Security Command (USAINSCOM).

(14) U.S. Army Pacific (USARPAC).

(15) U.S. Army Special Operations Command.

(16) National Guard Bureau, Army National Guard.

(17) Office of the Chief Army Reserve.

(18) Office of The Surgeon General through U.S Army Medical Command (USAMEDCOM)).

(19) Office of the Chief of Engineers.

(20) IMA.

(21) U.S. Army Special Operations Command (USASOC).

c. Representatives of other Army Staff agencies or commands may be invited to participate in the TSARC process, as necessary, and especially when test programs fall in their functional area of responsibility or involve their resources.

d. The chairperson may request other Army Staff agencies and Army commands to attend when tests fall within their functional area of responsibility or involve their resources.

9–4. TSARC working group

A working group (WG) will support the TSARC. Each Army element represented on the TSARC will appoint a working representative (grade of major or equivalent DA civilian) and alternate. In addition, the TSARC WG will include representatives from appropriate Army elements who can assist in identifying matters of interest to their respective agencies.

9–5. Direction, control, and administration

a. The TSARC is a semi-annual process, with fall and spring cycles. Each cycle consists of one general officer and two Working Group reviews:

(1) IWG meetings are held in February and August. All new and revised OTPs to be presented will be coordinated with the system program managers prior to submission. The working group members will—

(a) Review new OTPs and those revised since the previous FYTP.

(b) Identify potential resource conflicts for resolution prior to the MWG.

(c) Identify potential issues for the general officer TSARC.

(2) Mid Cycle Working Group (MWG) meetings are held in April and October. New and revised OTPs (since the IWG) to be presented will be coordinated with the system program managers prior to submission. The working group members will—

(a) Review OTPs that are new or revised since the IWG meeting.

(b) Review and resolve resource conflicts identified during the IWG meeting and the staffing of the draft FYTP.

(c) Review resource allocation priorities for tests having execution and budget year requirements.

(d) Review proposed test priorities.

(e) Identify potential issues for the general officer TSARC.

(f) Verify the need for the tests and satisfaction of a 2-year resource notification requirement.

(3) GO TSARC meets in June and December.

b. General officers will resolve test requirement conflicts, recommend test priorities, and recommend OTPs for inclusion in the FYTP. The FYTP will be published after HQDA DCS, G–3 approval and signature. A paper GO TSARC may occur when there are no issues requiring GO TSARC resolution. TSARC working group members will ensure that all potential GO level test requirement conflicts are resolved and that their GO TSARC representative concurs with the OTPs recommended for inclusion in the FYTP. The TSARC working group members will also ensure that their GO TSARC representative concurs with the recommended test priorities. The GO TSARC member concurrence will be provided to the GO TSARC chair.

c. The TSARC chair may also call special meetings to address critical problems that cannot wait for a regularly scheduled meeting.

d. Out-of-cycle TSARC staffing is required for new or significantly changed OTPs requiring resources within 1 year of date of submission to the TSARC. The following procedures apply:

(1) The OTP will be submitted via a memorandum signed by the requesting organization's commander for approval by the TSARC Chair. Copies of the OTP will also be provided to those elements providing resources or support. The letter will indicate the following:

(a) Why the submission cannot be delayed and rationale for OTP submission.

(b) Funding source other than USATEC.

(c) Response date for comments, not earlier than 60 days from receipt.

(2) The TSARC chairperson may call a special TSARC meeting or process the submission by correspondence. If all members concur, the chairperson may approve the OTP for inclusion in the FYTP. Non-concurrences will be forwarded to HQDA DCS, G–3 for resolution with the TSARC chairperson's recommended action.

(3) The WG chairperson will provide a copy of the out of cycle approved OTP to all principal TSARC members for inclusion in the FYTP.

e. The CG, USATEC, will provide the TSARC administrative support (clerical, space, and equipment), record and distribute minutes of the TSARC meetings, and after HQDA DCS, G–3 approval, publish and distribute the FYTP. The member organizations will provide funds for travel, per diem, and overtime for TSARC representative participation.

f. Correspondence to the TSARC will be addressed to CDR, U.S. Army Test and Evaluation Command, ATTN: CSTE–OP, Park Center IV, 4501 Ford Avenue, Alexandria, VA 22303–1458.

9–6. Test flying hour program

a. Flying hour requirements for tests identified in the approved FYTP will be the basis for USATEC sub-allocation of flying hours to support tests. Sub-allocation by USATEC will be contingent upon HQDA (DCS, G–3) allocation and identification of priorities.

b. Projections for the budget year flying hours will be reported by each MACOM to USATEC in mid-July. Projected requirements will be reviewed and analyzed by USATEC and forwarded to HQDA. The CG, USATEC, will provide instructions for the periodic forecast, allocation, and reporting of actual expenditure of test flying hours.

c. Additional guidance and procedures for funding a test are found in chapter 11.

Chapter 10
Test and Evaluation Review and Reporting Requirements

10–1. Introduction

a. This chapter addresses the principal program reviews and T&E documents developed during the system acquisition process. These documents describe how the T&E requirements will be satisfied throughout the acquisition process.

b. Technical documentation will contain a distribution statement that notes the conditions of its availability for distribution, release, and disclosure. (See AR 70–31.)

c. Submission of documentation to OSD, to include T&E plans, results, and reports will comply with the policies and procedures in the Defense Acquisition Guidebook.

10–2. Test and Evaluation Master Plan

a. Army TEMP policy and procedures will comply with the Defense Acquisition Guidebook. OSD has authorized the Army to modify the mandatory format to integrate TEMP Parts III and IV, when appropriate.

b. Every Army acquisition program will have a TEMP. Additional TEMP policy including exceptions is listed in (1) through (7) below.

(1) If system changes (modifications or upgrades) cause an operational impact to the system, the system TEMP must be updated (see para 3–3 and the Defense Acquisition Guidebook).

(2) Any reprocurement involving system modifications or upgrades relative to the current technical data package or performance specification that causes an operational impact to the system must have an updated system TEMP. (See para 3–5.)

(3) The TEMPs will be coordinated with the T&E WIPT and signatures documented on a T&E WIPT coordination sheet to be included in the TEMP.

(4) Within the Army, the approval authorities for TEMPs are as indicated in (*a*) and (*b*) below.

(a) The Army T&E Executive is the TEMP approval authority for the following programs: ACAT I (IC & ID), ACAT IA (IAM & IAC), ACAT II, any program on the OSD T&E Oversight List, and DOD-level C4I/IT Overarching Integrated Product Team (OIPT) programs.

(b) The MS decision authority is the TEMP approval authority for all programs not included in (*a*) above.

(5) All Army acquisition programs must have an Army approved TEMP before the TSARC can approve their OTPs for inclusion in the FYTP.

(6) The LFT&E strategy will be documented in part IV of the TEMP.

(7) United States Food and Drug Administration (FDA) regulations (21 CFR, Parts 50, 56, and 312) describe the use

of investigational drugs and biologicals (vaccines) in humans. The USAMRMC, or any other sponsor of an investigational drug or biological, must file an Investigational New Drug (IND) application with the FDA prior to the use of the product on human volunteers. Medical Devices may require the filing of an Investigational Device Exception (IDE) with the FDA (21 CFR, Part 812). Documentation of receipt of an IND (or IDE, if required) by the FDA, and an approval letter from the human use review committee for the individual study protocols, will be submitted with each OTP covering tests with investigational products. This documentation replaces the TEMP requirement and provides authority for testing investigational drugs, biologicals, and devices in human volunteers.

c. All TEMPs will contain a Requirements/Test Crosswalk Matrix as an attachment that links COIC, KPP, AOA, measures of effectiveness, measures of performance, critical technical parameters, and reference paragraphs of the CDD and/or CPD for a particular requirement with the actual test, or other data source, that will satisfy the CDD and/or CPD requirement.

d. The process of developing, reviewing, and approving TEMPs will produce a valuable document satisfying the needs of all key customers, and will ensure important program MSs are not overlooked.

(1) The process will be implemented in accordance with the concepts of the DOD IPPD philosophy.

(2) The process will utilize the T&E subgroup (T&E WIPT) of the Integrating IPT as a working entity consisting of key process participants. This subgroup is empowered to perform the work and make decisions that reflect the needs of all customers.

(3) The policy described in paragraph *b* above applies to all acquisition program TEMPs that require HQDA approval. Other programs will use the TEMP process to document their T&E strategy; however the TEMP format may be tailored.

(4) The T&E WIPT will develop the TEMP and will interact with the other subgroups of the Integrating IPT examining requirements and tradeoffs involving cost, schedule, and performance. In addition, in lieu of using "To Be Determined" (TBDs) in the TEMP, the T&E WIPT will state the issue or facts currently available and the planned resolution date (that is, when the current TBD will no longer be a TBD).

(5) It is recommended that the T&E WIPT meeting be convened for the purpose of final TEMP coordination. T&E WIPT members may convene after each member of the subgroup has been provided a final draft document with sufficient time for review by the member's leadership. This review will ensure that the member's position is sound and will not be overturned later. Coordination of the TEMP by the T&E WIPT at the final coordination meeting will be denoted by the signatures of the members who are their organizations' authorized signatories on the T&E WIPT Coordination Sheet of the TEMP. The PM shall attempt to resolve known issues prior to submitting the TEMP into the formal approval process. If unable to do so, the PM will highlight the issue and provide a recommendation to the appropriate decision maker prior to submitting the TEMP for approval.

(6) The PM signs the T&E WIPT-coordinated TEMP on the TEMP approval page. No more than 30 calendar days will elapse between the signing of the TEMP by the PM and the signature by the Army T&E Executive.

(7) Specific procedures will be developed by each PM to ensure that a T&E WIPT-coordinated TEMP, complete with all Army signatures on the TEMP approval page except for the Army T&E Executive, is delivered to TEMA for Army T&E Executive signature. Representatives of the Program Executive Officer (PEO), the combat developer or functional proponent, and the USATEC are empowered to sign the TEMP approval page. A recommended goal is for all signatures to be obtained during the final T&E WIPT TEMP coordination meeting. The PEO shall monitor the TEMP approval staffing and assist in the resolution of issues that may prohibit TEMP approval.

(8) Within 10 days of receipt, TEMA will coordinate and assist in resolving any issue prior to submitting the TEMP to the ARMY T&E Executive for HQDA approval.

10–3. System Evaluation Plan

a. The System Evaluation Plan (SEP) documents the integrated T&E strategy. This is the evaluation strategy and the test/simulation execution strategy that will be used throughout the system acquisition life-cycle. It addresses system COIC, critical technical parameters and additional evaluation focus areas, identifies data needs and sources, the approach to be used for the evaluation of the system, specifies the analytical plan, and identifies program constraints. The SEP details the evaluator's planned actions for the evaluation of the system, and is updated as needed.

b. The system evaluator prepares the SEP in coordination with the T&E WIPT. The SEP does not require T&E WIPT approval. It is approved by the command executing the evaluation, transmitted through the Army T&E Executive and forwarded to the DOT&E for information when the system is on the OSD T&E Oversight List.

c. The SEP provides guidance for development of EDPs.

10–4. Event Design Plan

a. An EDP documents the results of planning the test design methodology and the data collection, reduction and reporting processes required for the specific event or combination of events. For LFTs, see paragraph 10–14 for EDP requirements. It is developed to ensure that the event will produce the required data as outlined in the approved SEP.

b. The term *event* applies to any activity that produces data for evaluation purposes. It refers to any test, model, simulation, experiment, demonstration, and data collection during training exercises. (See para 6–4.)

c. An EDP may be developed by USATEC for a specific event or combination of events as appropriate. It provides a detailed overview of the test concept and design with factors, conditions, and treatments that govern the event requirements. Some examples are: independent variables, method of control, and constraints. The EDP will include any limitations that restrict the ability to obtain the required data. The content and degree of detail contained in the EDP must be sufficient to ensure the event is adequately planned, designed, prudently resourced, and will produce the required information.

d. Each EDP is jointly approved within the T&E activity or command conducting the event and the system evaluator. For those programs on the OSD T&E Oversight List, for OT and for LF, the EDP will be transmitted through TEMA for the Army T&E Executive submission to DOT&E for approval.

10–5. Test and evaluation briefings to the Office of the Secretary of Defense
For a system on the OSD T&E Oversight List, briefings relevant to T&E during the process leading to the Defense Acquisition Board review or C4I/IT OIPT will be conducted in accordance with the Defense Acquisition Guidebook.

10–6. Test and evaluation briefings to the Department of the Army
For any system that must be sent to HQDA for review, as a minimum, draft T&E reports, authenticated by the responsible agency, are required before Army Systems Acquisition Review Council (ASARC) reviews. If necessary, the PEO or MATDEV chairs a T&E review 30 days before the decision review. The purpose is to review the adequacy of past tests, test results and evaluations, planning for future testing (including critical issues and requirements), and modifications of the test strategy to accommodate the evolving acquisition strategy. Inconsistencies and problems not resolved in this forum will be brought to the attention of the Army T&E Executive. The Army T&E Executive may request a separate T&E review.

10–7. Detailed Test Plan
A formal DTP is not a DA requirement except for congressionally mandated, or otherwise directed, LFT&E (see para 10–14). However, detailed test planning is required by the test organization that performs the testing and is usually documented in the DTP.

10–8. Outline Test Plan
An OTP will be prepared for all tests that require Army or other service personnel or other resources (for example, training ranges, OT instrumentation, flying hours, standard ammunition, training devices, or other items).

a. An OTP is a formal resource planning and tasking document that is prepared for TSARC review (see chap 9). All programs must have an Army approved TEMP before they can compete in the TSARC process for resources and commitments to provide such resources. All new and revised OTPs will be coordinated with the system's MATDEV before being submitted to the TSARC.

b. An OTP identifies and schedules the required resources and provides administrative information necessary to support each test.

c. The OTPs are prepared by the T&E organization (for example, USATEC, USAMEDCOM) and submitted to the TSARC.

10–9. Five-Year Test Program
The Five-Year Test Program (FYTP) is a compendium of OTPs approved by HQDA DCS, G–3 for the Chief of Staff, Army (see chap 9). USATEC publishes and disseminates the FYTP. It includes all OTPs for tests scheduled for the next 5 years. The OTPs contained in the FYTP must be continuously updated in TSARC working group sessions as data becomes available. The OTPs for DTs that require user troops must be included in the FYTP. When the FYTP is approved, the OTPs for the first 2 years (current and budget) become Army-level taskers. The remaining 3 years of the FYTP are for out-year planning purposes. The FYTP is updated twice per year in conjunction with the GO TSARC.

10–10. Test Incident and Corrective Action Report
a. The MATDEVs, combat developers, evaluators, and other organizations participating in the acquisition process must be informed of system performance during tests in a timely manner so that corrective actions may be initiated and a system evaluation conducted.

b. A TIR describes the minimum essential data for test incidents as they occur, their respective corrective actions and status, and other test information. The TIR form and data stream formats will be used for reporting these data for all pre-FRP tests and for tests in production and deployment supporting a materiel release decision. The TIRs are required for all tests in the TEMP and are entered electronically into ATIRS (ATIRS@atc.army.mil).

c. Critical and major TIRs require the production of corrective action data. All other TIRs will be reviewed for possible corrective action. A CAR team (CART) will review all corrective action data to verify that all proposed corrective actions are appropriate and effective. The MATDEV, combat developer (or functional proponent), and system evaluator comprise the members on the CART. The testers serve as advisors.

d. Test incident corrective action data, with the exception of classified data, will be entered promptly by the

MATDEV by electronic means into the ATIRS to enable all members of the T&E community access to the data and information in a timely manner. The data will also be provided to others per agreements reached by the T&E WIPT.

10–11. Developmental Test Readiness Statement
The Developmental Test Readiness Statement is a written statement prepared by the chair of the DTR Review (DTRR) as part of the minutes. The statement documents that the materiel system is ready for the PQT or that the C4I/IT is ready for the SQT.

10–12. Operational Test Readiness Statement
Operational Test Readiness Statements, as specified in the OTP MS schedule, are provided by each of the following: combat developer, MATDEV, training developer/trainer, test unit commander, or functional proponent, before the start of OT. The OTRSs are presented during the OTRR to certify the readiness of the system for testing in each member's area of responsibility. An OTRS may also be required for some FDT/E and will be specified in the OTP if required.

10–13. Test reports
a. Developmental Test Report. The developmental TR is a formal document of record that reports the data and information obtained from DT and describes the conditions that actually prevailed during test execution and data collection. It may be an abbreviated or formal report or a test (firing) record. The developmental TR includes an audit trail of deviations from the planned testing. A DT event may be conducted and reported by the contractor. In these cases, a contractor test plan must be coordinated with and briefed to the T&E WIPT. The contractor test event must be observed by Government T&E personnel to validate the data for inclusion in the system evaluation.

b. Operational reporting.

(1) *Operational Test Report.* The operational TR provides the results of a test event conducted on a system or concept that includes findings-of-fact, based on the data collected. It consists of a detailed report of test conditions and test results to include, as appropriate, detailed displays of data from the tests, and testers' observations. The operational TR is completed to the level of the aggregation of data and supporting analyses as contained in the approved EDP.

(2) *Operational Test Data Report.* In addition to the TR, the operational Test Data Report (TDR) is provided for some systems selected by the T&E command. The TDR provides a detailed test description, test limitations, test team observations, and a level 3 (authenticated) test database.

10–14. Live fire test and evaluation documentation
a. A LFT&E Strategy will be developed for each program designated for LFT&E. The LFT&E Strategy is approved as an integral part of the TEMP via the TEMP approval process at DOT&E.

b. In the case of OSD LFT&E oversight programs that do not require the TEMP to be provided to HQDA and DOD for approval, the LFT&E strategy is forwarded separately through TEMA for the Army T&E Executive submission to DOT&E for approval (see para 4–2*b*(6)).

c. LFT&E EDP and DTP documents, as identified in the LFT&E plan matrix of the LFT&E strategy, satisfy the DOD requirement for a Detailed T&E Plan for LFT&E. They are prepared to provide the information required by the Defense Acquisition Guidebook.

d. Pre-shot predictions will be identified in the LFT&E Plan Matrix in the TEMP. Prior to the test, pre-shot predictions of expected LFT outcomes will be prepared (by USASMDC for strategic missiles and by U.S. Army Research Laboratory, Survivability Lethality Assessment Directorate for all other systems). The Pre-shot Prediction Reports are submitted for information only through TEMA for the Army T&E Executive submission to DOT&E.

e. The LFT results are contained in the final test report(s). The evaluation findings and recommendations are contained in the SER. Final Test Reports are provided through TEMA for the Army T&E Executive submission to DOT&E. If the DTP has been approved by the DOT&E, the final test report for that LFT phase will be approved by the Army T&E Executive. For other LFT phases, the testing agency approves the report. The SER is approved by the Commander USATEC or designee and is submitted through the Army T&E Executive to the DOT&E.

10–15. System Evaluation Report
a. System Evaluation Report. The System Evaluation Report (SER) documents independent evaluation findings and recommendations of system operational effectiveness, suitability, and survivability. It addresses and answers the critical operational issues and additional evaluation focus areas in the SEP based on all available credible data and the evaluator's analytic treatment of the data. An USATEC System Analysis Report (SAR) provides the detailed analyses that support a SER. A SAR accounts for all issues and measures contained in the System Evaluation Plan.

b. System assessments. System assessments provide input to non-MS decisions (such as decision reviews, interim progress reviews, materiel release, or upon request). The scope of issues to be addressed by the SA is flexible in that it may or may not cover all aspects of effectiveness, suitability, and survivability. The SA is not usually tied to a MS decision review, but is developed as required. A SAR is also prepared to support a SA when the analysis is too detailed or inappropriate for inclusion in the SA and addresses only those issues and measures contained in the SA.

c. MANPRINT Assessment. The MANPRINT assessment report is the formal overall assessment of the analyses

done in each of the seven MANPRINT domains of manpower, personnel, training, human factors engineering, soldier survivability, health hazards, and system safety.

10–16. Logistics demonstration documentation

a. Logistics Demonstration Plan. The PEO/PM/MATDEV develops a logistics demonstration plan in conjunction with the Supportability WIPT and the T&E WIPT. The plan describes the details of how troubleshooting and repair procedures will be demonstrated. The plan provides details on logistic support resources provided for the demonstration, identification of the faults to be inserted, detailed procedures for conducting the demonstration, plans for collecting and analyzing resulting data, and any constraints or limitations.

b. Logistics Demonstration Report. The PEO/PM/MATDEV develops a logistics demonstration report in coordination with the Supportability WIPT and the T&E WIPT. The report documents results of the logistics demonstration including specific task results, supporting analysis, and comments from demonstration players and data collectors. The logistics demonstration report is generally completed 45 days prior to the next decision review.

Chapter 11
Test and Evaluation Budget and Financial Considerations

11–1. Test funding

a. The policy prescribed in this chapter pertains to funding for T&E of systems and mission support equipment (including Army test ranges and facilities).

b. In general, the Army RDTE appropriation will fund testing accomplished for a specific system before the production decision. Army procurement authorization (APA) and/or OMA funds are used for testing done after the production decision. The MATDEV developing system changes will fund testing of those changes using the same appropriation that funds the development itself. The OMA will fund follow-on operational test and evaluation (FOT&E). Funding for C4I/IT will be from either OMA or RDTE, depending on whether the system is general purpose or developmental, respectively. The MATDEV will determine which appropriation to use. The FOT&E for C4I/IT will be funded with OMA.

c. Test and evaluation funding for modifications will be the same as the appropriation used to effect the modification.

d. Testing to support concept exploration and formulation for materiel is funded from RDTE appropriations, although testing to support doctrine, training organization, and materiel requirements generation is funded from OMA appropriations.

e. The MATDEV will plan, budget, and allocate appropriate levels of test funding for all DT and OT of ACAT I systems, as identified in the TEMP. The MATDEV will clearly identify funding associated with specific system T&E (including ITTS) in the initial system acquisition cost estimates, acquisition plans, and the TEMP. The USATEC will program and fund OT for ACAT II–IV systems. Each T&E WIPT will address such costs during periodic reviews and adjust them as needed to meet projected test requirements. The MATDEV will develop estimates of costs associated with replacement, repair, or refurbishment of tested equipment and other resources used during testing.

f. Test agencies will plan and budget funds for their non-system-specific mission support equipment (for example, threat simulators and instrumentation) used for general test conduct. These funds will include RDTE, OMA, or APA program elements as appropriate, including OSD capital investment funding.

g. Instrumentation required or consumed in a particular test or used solely to support testing of a particular item, will be considered test-specific and will be charged to the funds financing the conduct of the test. The MATDEV will identify costs associated with system-specific items of instrumentation (including interface devices to provide connectivity to generic instrumentation systems) in the initial system acquisition cost analysis and resource requirements addressed by the T&E WIPT when they develop TEMPs. Funding for such instrumentation will be carried in the system acquisition costs and provided to test organizations in advance of scheduled tests to ensure that instrumentation is available to support those tests.

h. Commercial instrumentation that is used in OT or FDT/E conducted at other than RDTE financed facilities may be financed with RDTE, APA, or OMA funds based on investment expense criteria if such items are not test-specific as discussed above. In general, if two or more tests can be conducted using the required instrumentation, simulators, or facilities, mission-support equipment funds should be used. APA and OMA funds may be used to procure standard or non-standard instrumentation or NDI special purpose equipment if no RDTE-funded engineering redesign, testing, or evaluation is required.

i. If clarification is required because of unique circumstances or because of a conflict of this regulation with other fiscal regulations, such as DFAS–IN Manual 37–100 and AR 70–6, the user should seek a ruling from the Director of Army Staff (DACS–TE), 200 Army Pentagon, Washington, DC 20310–0200. (DFAS–IN Manual 37–100 is published annually; use the current fiscal year version at Internet site http://www.asafm.army.mil/.)

11–2. Funding to conduct development tests

a. The MATDEV will program and budget funds required to conduct DT based on the requirements of the TEMP.

b. The MATDEV and other DOD users will reimburse the test activity for all direct costs and indirect ancillary costs that can be readily identified to a specific test program. Defense contractors will receive the same rates as DOD organizations if their developmental contract with a DOD activity authorizes the use of Government-furnished services for testing. This reimbursement policy applies to both MRTFB activities and non-MRTFB testing facilities (see DOD 7000.14–R, volume 11A, chap 12).

c. Other Government agencies and, when authorized, private organizations and commercial enterprises, will be charged according to guidance reflected in paragraphs 7–3 and 7–4 and DOD 7000.14–R, volume 11A, chapter 12.

d. Testing conducted under foreign military sales cases will be reimbursed according to DOD 7000.14–R, volume 15, chapter 7.

11–3. Funding to conduct operational test

a. The RDTE appropriation applies to pre-FRP decision review OTs of materiel and tactical C4I/IT systems during acquisition (see chap 5). It also applies to OTs of RDTE funded system changes, modifications, and upgrades to materiel and C4I/IT prior to the decision to start production or fielding.

b. The OMA appropriation applies to post-FRP decision review OTs during acquisition of materiel and C4I/IT and to OTs of non-RDTE funded system changes, modifications, and upgrades (for example, FOT).

c. The PM/PEO for ACAT I (IC & ID) and ACAT IA (IAM & IAC) systems will program and budget for OTs. The requesting agency will also fund any OT submitted to the TSARC for out of cycle approval, regardless of ACAT level and applicable appropriation.

d. Operational testers will program and budget funds for OT for ACAT II, IIA, III, and IV systems (for, example, EUT, LUT, and IOT). OMA funds are used for all FOT. Tests are funded according to Army budget priorities.

e. Costs of prototypes are normally funded with the RDTE appropriation by the MATDEV. The MATDEV can fund, by RDTE or APA funds, the costs of a limited number of test items originally purchased (or leased) for IOT purposes if the MATDEV also plans to field the items.

f. Standard items not available to the activity performing the test will be loaned from inventory for use in OT (see para 11–8). Test funds will finance the modification of standard items for test purposes. Test funds will also finance any refurbishment to return items leased or loaned from inventory back to their original condition for return to inventory or replacement of leased or loaned items that cannot be economically refurbished.

11–4. Funding to support system evaluation

The RDTE funds are used to support system evaluation. Evaluation of a specific event and CE throughout the life-cycle is funded by RDTE. Examples of items funded are analyses of test data, M&S efforts, MANPRINT, evaluation of embedded software, contractor technical services, and methodology studies.

11–5. Funding to support test and evaluation of commercial items, NDI, and FCT programs

The MATDEV will budget and provide, via RDTE appropriations, funds required to procure items for test and for the conduct of tests to support a market investigation of NDI candidate systems. Procurement of NDI and conduct of T&E for purposes of selecting which items will be type-classified standard or approved for service use, if exempt from type classification, will also be financed with RDTE funds. Funds required to procure NDI systems and perform a PVT will be from procurement appropriations. OSD will fund programs included in the FCT Program.

11–6. Funding to support system changes

Funding for testing of system changes is to be the same type of appropriation used for the funding of the changes.

11–7. Funding to support materiel required for testing

a. The MATDEV will requisition standard or adopted equipment that is not available to the tester from national inventory control point controlled stock through normal Military Standard Transaction Reporting and Accounting Procedures for a period not to exceed 2 years to support all types of tests. Test agencies will help coordinate such actions when required. All such loaned equipment will include designated basic issue. The MATDEV will use the appropriate direct-test funds to repair or refurbish economically repairable equipment before returning it to national inventory control point controlled stocks. The MATDEV will reimburse costs of loaned items that are consumed, destroyed, or damaged beyond economical repair to the lending agency using appropriate direct-test funds. The MATDEV will finance costs of transporting non-stock, fund-owned, standard or adopted materiel to and from the designated testing point with OMA (second destination transportation) funds. The MATDEV will use test funds to finance costs of transporting all loaned stock, fund-owned parts.

b. The MATDEV will provide funds to the responsible tester to procure non type-classified equipment and repair parts and non-standard consumables required in connection with the approved OT, FOT&E, and FDT/E. OT, FOT&E,

and FDT/E requirements will be documented in the OTP. All repair parts for non-standard investment items and all non-standard consumables will be procured with the funds financing the conduct of the test.

c. Costs of modifying test items and subsequent rehabilitation and return to stock, will be funded from the same source that funded the test.

d. The MATDEV will forecast the need for ammunition for OT, FOT&E, and FDT/E and include it in the OTP. Requirements for all testing ammunition will be submitted to the Committee for Ammunition Logistics Support and the Worldwide Ammunition Reporting System.

(1) Procurement appropriations will provide consumable rounds of standard ammunition and tactical missiles required in support of DT or OT. This will be done without reimbursement when authorized by the weapons program. However, ammunition or missiles that are in development are funded by the RDTE appropriation.

(2) Standard or non-standard pyrotechnics used for instrumentation support (such as, fire simulators and flash/bang) will be funded in the same way as instrumentation. (See para 11–1.) Ammunition or missile procurement funds will not be used to provide these types of devices.

e. The MATDEV plans, programs, and budgets targets and threat simulators to support specific system testing. Test agencies, PM ITTS institutional funding, or funding from OSD will provide the funding for general mission requirements.

11–8. Funding to support acquisition of test agencies, activities, or proving grounds mission support equipment

a. Test agencies/activities may acquire ITTS and facilities to provide general support test mission capabilities. These agencies/activities may use RDTE, APA, and/or OMA funds for this purpose. Test activities' multi-application instrumentation will be developed with RDTE funds. Either the test agency itself or PM ITTS will provide these funds. The agency may use APA funds to obtain separately procurable subsystems (for example, trucks) and modules (for example, NDI) that require no modifications before being integrated into an instrumentation system. Test agencies may use operating funds, either OMA or RDTE, to procure standard equipment, replacement components, and standard instrumentation in support of mission testing. They will normally use APA funds to procure standard and/or non-standard instrumentation that has been previously developed or is currently available from a commercial source, a foreign country, or another service. Test activities will then use instrumentation, threat simulator, or mission funds (for example, RDTE) to install the appropriate instrumentation on the APA-procured item. The dollar restriction on the use of funds to procure instrumentation should be based on the Army's expense/investment criteria.

b. Mission equipment developed and acquired under this paragraph will not be type-classified or funded under the purview of AR 70–1 and AR 71–9 for weapon system development and issue. In addition, this equipment is not considered part of the test article system and its accompanying test support for weapon system acquisition.

11–9. Equipment procurement and accounting

a. Test activities' RDTE and APA procured instrumentation is exempt from the procurement requirements of AR 750–43. Instrumentation calibration requirements will be according to AR 750–43. (See definition of test instrumentation in the glossary.)

b. This regulation authorizes property accountability (for example, property book), as described in AR 710–2, of RDTE and APA-funded test instrumentation.

c. Audio and video equipment is considered instrumentation when procured by RDTE and APA funds to support testing. Therefore, they are excluded from the special procurement requirements for public information, schools, and Adjutant General use at installations.

d. Automated data processing equipment, funded through test activities' RDTE or APA programs and classed as instrumentation, is exempt from AR 25–1. Rather, this classification of automatic data processing equipment falls under the auspices of scientific and engineering applications in support of materiel acquisition.

e. Equipment modifications to non-standard (non-type-classified) equipment obtained to support testing are excluded from the materiel change, configuration management, and modification of materiel guidance contained in AR 750–10. The activity using the item is responsible for changes or modifications to non-standard items. Modifications to standard (type-classified) equipment on activity tables of distribution and allowances, or borrowed, will be performed as prescribed in AR 750–10.

f. After obtaining verification from the test site host, test activities may support testing through lease or procurement of commercial-type equipment, including vehicles, when internal capabilities are exceeded or when required military-type equipment or vehicles are not available through normal channels (for example, general officer TSARC allocations). Leases may be by local contracting arrangements or through the General Services Administration. Test activities may also obtain equipment or vehicles from property disposal offices to satisfy RDTE test mission support. (See AR 71–32.)

11–10. Army Test Resources Master Plan

The Army Test Resources Master Plan (ATRMP) will be developed to include the vision, objectives, and investment

strategy required to support the acquisition and fielding of the Army's systems in concert with the Army Modernization Plan and Army Science and Technology Master Plan. Efficient resource planning will be included in the ATRMP in order to shape the Army's T&E infrastructure and to develop a strategy for investing in capabilities that support the Army of the future. This will produce accurate, reliable, and cost effective information for use by decision-makers at all levels. The ATRMP will be used to build, articulate, and defend the Army T&E budget as part of the overall Army Program Objective Memorandum process. The ATRMP is updated annually and can be accessed on the TEMA Web site at www.hqda.army.mil/tema.

Appendix A
References

Section I
Required Publications

The following publications are available on the APD Web site (www.apd.army.mil) unless otherwise stated. DOD publications are available at www.dtic.mil/whs/directives.

AR 70–1
Army Acquisition Policy. (Cited in paras 1–1, 1–4, 3–3, 3–5, 4–2, 5–2, and 11–8.)

AR 70–25
Use of Volunteers as Subjects of Research. (Cited in paras 2–10, 2–11, 2–19, and 2–22.)

DFAS–IN Manual 37–100
Financial Management–Army Management Structure (see current Fiscal Year). (Cited in para 11–1*i*.)(Available at www.asafm.army.mil/budget/di/di.asp.)

DOD Financial Management Regulation, Volume 2B, Chapter 5, June 2004
Uniform Budget and Fiscal Accounting Classification (cited in para 4–2*a*). (Available at www.asafm.army.mil/budget/di/di.asp.)

DOD 5000.3–M–2
Foreign Comparative Testing (FCT) Program Procedures Manual. (Cited in para 3–10.)

DOD 7000.14–R
Department of Defense Financial Management Regulations. (Cited in paras 7–3, 7–4, and 11–2.)

DODD 3200.11
Major Range and Test Facility Base. (Cited in paras 1–1, 2–1, 2–20, 2–22, 7–3, and 7–4.)

DODD 3216.2
Protection of Human Subjects and Adherence to Ethical Standards in DOD Supported Research. (Cited in para 2–11.)

DODD 4630.5
Interoperability and Supportability of Information Technology and National Security Systems. (Cited in para 2–12.)

DODD 5000.1
The Defense Acquisition System. (Cited in summary of change and para 1–1.)

DODD 6050.7
Environmental Effects Abroad of Major Department of Defense Actions. (Cited in para 2–1.)

DODI 5000.2
Operation of the Defense Acquisition System. (Cited in summary of change and paras 1–1 and 3–2.)

CJCSI 6212.01D
Interoperability and Supportability of Information Technology and National Security Systems. (Cited in para 4–2*b*(8).)(Available at www.dtic.mil/cjcs_directives/cjcs/instructions.htm.)

Defense Acquisition Guidebook.
(Cited in paras 1–1, 1–5, 3–2, 3–6, 3–9, 3–10, 4–2, 5–3, 5–6, 7–1, 8–1, 10–1, 10–2, 10–5, and 10–14.) (Available from http://akss.dau.mil/darc/darc.html.)

Section II
Related Publications

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

AR 5–5
Army Studies and Analysis.

AR 5–11
Management of Army Models and Simulations

AR 25–1
Army Knowledge Management and Information Technology Management

AR 40–5
Preventive Medicine

AR 40–7
Use of Investigational Drugs and Devices in Humans and the Use of Schedule I Controlled Substances

AR 40–10
Health Hazard Assessment Program in Support of the Army Materiel Acquisition Decision Process

AR 40–60
Policies and Procedures for the Acquisition of Medical Materiel

AR 70–6
Management of the Research, Development, Test, and Evaluation, Army Appropriation

AR 70–31
Standards for Technical Reporting

AR 70–38
Research, Development, Test, and Evaluation of Materiel for Extreme Climatic Conditions

AR 70–62
Airworthiness Qualification of U.S. Army Aircraft Systems

AR 71–9
Materiel Requirements

AR 71–32
Force Development and Documentation—Consolidated Policies

AR 200–2
Environmental Effects of Army Actions

AR 350–38
Training Device Policies and Management

AR 380–381
Special Access Programs (SAPs) and Sensitive Activities

AR 381–11
Production Requirements and Threat Intelligence Support to the U.S. Army

AR 385–16
System Safety Engineering and Management

AR 602–2
Manpower and Personnel Integration (MANPRINT) in the System Acquisition Process

AR 700–127
Integrated Logistic Support

AR 700–142
Materiel Release, Fielding, and Transfer

AR 710–2
Inventory Management Supply Policy Below the National Level

AR 750–1
Army Materiel Maintenance Policy

AR 750–10
Army Modification Program

AR 750–43
Army Test, Measurement, and Diagnostic Equipment Program

DA Pam 70–3
Army Acquisition Procedures

DA Pam 73–1
Test and Evaluation in Support of System Acquisition

FM 7–0
Training the Force

OMB Circular A–76
Performance of Commercial Activities. (Available from http://www.whitehouse.gov/omb/circulars.)

OMB Circular A–109
Major System Acquisitions. (Available at http://akss.dau.mil/docs/OMB%20circular%20a-109.doc.)

10 USC 2350a
Armed Forces: Cooperative Research and Development Projects: Allied Countries. (Available at www.gpoaccess.gov/uscode/index.html.)

10 USC 2366
Armed Forces: Major systems and munitions programs: survivability testing and lethality testing required before full-scale production. (Available at www.gpoaccess.gov/uscode/index.html.)

10 USC 2399
Armed Forces: Operational test and evaluation of defense acquisition programs. (Available at www.gpoaccess.gov/uscode/index.html.)

10 USC 2539
Armed Forces: Industrial mobilization: plants; lists. (Available at www.gpoaccess.gov/uscode/index.html.)

10 USC 2681
Armed Forces: Use of test and evaluation installations by commercial entities. (Available at www.gpoaccess.gov/uscode/index.html.)

21 CFR, Parts 50–56, 312, and 812
Food and Drug Administration, Department of Health and Human Services. (Available at www.gpoaccess.gov/ecfr.)

Section III
Prescribed Forms
This section contains no entries.

Section IV
Referenced Forms
This section contains no entries.

Glossary

Section I
Abbreviations

AAE
Army Acquisition Executive

AAE
Army Acquisition Executive

ACAT
acquisition category

ACTD
Advanced Concept Technology Demonstration

ADCS, G–8–FD
Assistant Deputy Chief of Staff, G–8–Force Development

AMP
Army Modernization Plan

AOA
Analysis of Alternatives

APA
Army procurement appropriation

APTU
Army Participating Test Unit

Army T&E Executive
Deputy Under Secretary of the Army (Operations Research)

ASA(ALT)
Assistant Secretary of the Army for Acquisition, Logistics, and Technology

ASARC
Army Systems Acquisition Review Council

ATD
Advanced Technology Demonstration

ATIRS
Army Test Incident Reporting System

ATRMP
Army Test Resources Master Plan

ATSA
ATEC Threat Support Activity

AWE
Advanced Warfighting Experiment

BOD
T&E Board of Directors

BOD(ES)
T&E Board of Directors, Executive Secretariat

CBTDEV
Combat Developer

CDD
capability development document

CE
continuous evaluation

CEP
concept experimentation program

C4
command, control, communications, and computers

C4I/IT
command, control, communications, computers, and Intelligence/information technology

CG
commanding general

CIO/G–6
Director of Information Systems for Command, Control, Communications, and Computers

COE
U.S. Army Chief of Engineers

COIC
critical operational issues and criteria

CPD
capability production document

CRD
capstone requirements document

CSA
Chief of Staff, U.S. Army

CT
customer test

CTEIP
Central Test and Evaluation Investment Program

DA
Department of the Army, Headquarters

DCS, G–2
Deputy Chief of Staff, G–2

DCS, G–3
Deputy Chief of Staff, G–3

DCS, G–4
Deputy Chief of Staff, G–4

DCS, G–6
Deputy Chief of Staff, G–6

DCS, G–8
Deputy Chief of Staff, G–8

DISA
Defense Information Systems Agency

DOD
Department of Defense

DODD
Department of Defense directive

DOT&E
Director, Operational Test and Evaluation

DOTLPF
doctrine, organization, training, leader development and education, personnel, and facilities

DOTMLPF
doctrine, organization, training, materiel, leader development and education, personnel, and facilities

DT
developmental test

DTP
detailed test plan

DTRR
developmental test readiness review

DUSA
Deputy Under Secretary of the Army

EA
Environmental Assessment/Executive Agent

EDP
Event Design Plan

EUT
early user test

FAR
Federal Acquisition Regulation

FAT
first article test

FCR
Functional Chief Representative

FCT
foreign comparative testing

FDA
Food and Drug Administration

FDT/E
force development test or experimentation

FOT
follow-on operational test

FRP
full-rate production

FYTP
Five Year Test Program

GO
general officer

GO TSARC
general officer TSARC

HHA
Health Hazard Assessment

HELSTF
High Energy Laser Systems Test Facility

HQDA
Headquarters, Department of the Army

HRED
Human Research and Engineering Directorate

HUC
Human Use Committee

IC
Integrated concept

ICD
initial capabilities document

ICT
Integrated concept team

IMP
Information Management Plan

IND
Investigational New Drug

IOT
initial operational test

IOT&E
Initial operational test and evaluation

IPPD
Integrated Product and Process Development

IPPM
Integrated Product and Process Management

IPT
Integrated Product Team

IT
information technology

IT OIPT
Information Technology Overarching Integrated Product Team

ITTS
instrumentation, targets, and threat simulators

IWG
Initial Working Group

JITC
Joint Interoperability Test Command

ILS
integrated logistics support

IMA
Installation Management Agency

JT&E
joint test and evaluation

KPP
key performance parameter

LCM
Life-cycle model

LD
logistics demonstration

LFT&E
live fire test and evaluation

LRIP
low-rate initial production

LUT
limited user test

MACOM
major Army command

M&S
modeling and simulation

MANPRINT
Manpower and Personnel Integration

MATDEV
Materiel Developer

MDA
milestone decision authority

MIL STD
military standard

MNS
Mission Need Statement

MOA
Memorandum of Agreement

MOT&E
Multi-Service Operational Test and Evaluation

MRTFB
major range and test facility base

MS
milestone

MWG
Mid-cycle Working Group

NATO
North Atlantic Treaty Organization

NDI
non-developmental item

OASA(ALT)
Office of the Assistant Secretary of the Army for Acquisition, Logistics, and Technology

OIPT
Overarching Integrated Product Team

OMA
Operation and Maintenance, Army

OSD
Office of the Secretary of Defense

OT
operational test

OTP
outline test plan

OTRR
operational test readiness review

OTRS
operational test readiness statement

PDSS
post-deployment software support

PEO
Program Executive Officer

PM
Program/Project/Product Manager

PM ITTS
Project Manager Instrumentation, Targets and Threat Simulators

PPT
production prove-out test

PQT
production qualification test

PVT
production verification test

QA
quality assurance

RAM
reliability, availability, and maintainability

RDTE
research, development, test, and evaluation

RFP
request for proposal

SA
System Assessment

SAR
Safety Assessment Report/System Analysis Report

SDT
software development test

SEP
System Evaluation Plan/Soldier Enhancement Program

SER
System Evaluation Report

SLV
survivability, lethality, and vulnerability

SMART
Simulation and Modeling for Acquisition Requirements and Training

SO
Special Operations

SQT
software qualification test

SST
supplemental site test

STAR
System Threat Assessment Report

STEP
Simulation Test and Evaluation Process

T&E
test and evaluation

TDP
technical data package

TDR
test data report

TEMA
Test and Evaluation Management Agency

TEMP
Test and Evaluation Master Plan

Threat TSP
Threat Test Support Package

TIR
test incident report

TNGDEV
training developer

TR
test report

TRAG
Test Resource Advisory Group

T/SES
Test and Simulation Execution Strategy

TSARC
Test Schedule and Review Committee

TSP
test support package

UAT
user acceptance test

USACE
U.S. Army Corps of Engineers

USACECOM
U.S. Army Communications and Electronics Command

USADTC
U.S. Army Developmental Test Command

USAFORSCOM
U.S. Army Forces Command

USAINSCOM
U.S. Army Intelligence and Security Command

USAKA
U.S. Army Kwajalein Atoll

USAMC
U.S. Army Materiel Command

USAMEDCOM
U.S. Army Medical Command

USAMEDD
U.S. Army Medical Department

USARDECOM
U.S. Army Research, Development, and Engineering Command

USASC
U.S. Army Safety Center

USASMDC
U.S. Army Space and Missile Defense Command

USASOC
U.S. Army Special Operations Command (Airborne)

USATEC
U.S. Army Test and Evaluation Command

USATRADOC
U.S. Army Training and Doctrine Command

USD(AT&L)
Under Secretary of Defense for Acquisition, Technology, and Logistics

VCSA
Vice Chief of Staff, Army

VV&A
verification validation and accreditation

WG
working group

WIPT
Working-Level Integrated Product Team

Section II
Terms

Acquisition category
Acquisition category (ACAT) I programs are those programs that are MDAPs or that are designated ACAT I by the MDA as a result of the MDA's special interest. In some cases, an ACAT IA program, as defined below, also meets the definition of a MDAP. The USD(AT&L) and the ASD(C3I)/DOD Chief Information Officer (CIO) shall decide who will be the MDA for such AIS programs. Regardless of who is the MDA, the statutory requirements that apply to MDAPs shall apply to such AIS programs. ACAT I programs have two sub-categories: ACAT ID, for which the MDA is USD(AT&L) (the "D" refers to the Defense Acquisition Board (DAB), which advises the USD(AT&L) at major decision points) or ACAT IC, for which the MDA is the DOD Component Head or, if delegated, the DOD Component Acquisition Executive (CAE) (the "C" refers to Component). ACAT IA programs are those programs that are MAISs or that are designated as ACAT IA by the MDA as a result of the MDA's special interest. ACAT IA programs have two sub-categories: ACAT IAM for which the MDA is the Chief Information Officer (CIO) of the Department of Defense (DOD), the ASD(C3I) (the "M" (in ACAT IAM) refers to Major Automated Information System (MAIS)) or ACAT IAC, for which the DOD CIO has delegated milestone decision authority to the CAE or Component CIO (the "C" (in ACAT IAC) refers to component). The ASD(C3I) designates programs as ACAT IAM or ACAT IAC.

Advanced Concept Technology Demonstration
A user-oriented and dominated demonstration and/or experiment, and evaluation. It provides a mechanism for intense involvement of the warfighter while incorporation of technology into a warfighting system is still at the informal stage. Technology demonstrations are selected based on recommendations to OSD that are nominated by CG, TRADOC, and

approved for transmittal to OSD by ASA(ALT) and DCS, G–3 for participation in the Advanced Concept Technology Demonstration (ACTD) program. There are three driving motivations: (1) gain understanding of military utility before committing to large-scale acquisition. (2) develop the corresponding concepts of operation and doctrine to make the best use of the new capabilities. (3) provide limited, initial residual capabilities to the forces for up to 2 years. OSD partially funds the selected ACTDs. (See DA Pam 70–3.)

Advanced Technology Demonstration

An Advanced Technology Demonstration (ATD) is a pre-acquisition mechanism for the warfighter to explore military utility and potential of technologies to support warfighting concepts. This is a pre-acquisition mechanism for the warfighter to explore the technical feasibility, affordability, and potential of technologies to support warfighting concepts. A successful ATD will allow accelerated entry into the acquisition life-cycle (such as at milestone B or C). ATDs are relatively large scale in resources and complexity, but typically focus on an individual system or subsystem. The user is involved throughout the process. Experimentation is with soldiers in a real or synthetic environment. It has a finite schedule of 5 years or less with exit criteria established by the MATDEV and TRADOC. (See DA Pam 70–3.)

Advanced Warfighting Experiment

Advanced Warfighting Experiments (AWEs) are culminating efforts in the process to evaluate major increases in warfighting capability. They cross DTLOMS domains and synergistically combine new force structure, doctrine, and materiel to counter a tactically competent opposing force. Moreover, they impact most, if not all, battlefield dynamics and battlefield operating systems. These experiments use progressive and iterative mixes of high-fidelity constructive, virtual, and live simulation to provide the Army leadership with future operational capability insights. AWEs are sponsored by the CG TRADOC and approved and resourced by the CSA.

U.S. Army Test and Evaluation Command Threat Support Activity (ATSA)

ATSA is an organizational subelement of the Army Test and Evaluation Command that assists and advises in the accomplishment of the assigned responsibility for Army Threat Simulator (ATS) Program actions. It operates and maintains selected high-fidelity air defense, helicopter, wheel/track vehicles, and electronic warfare replicas/simulations and actual threat systems. This ensures that realistic threat environments are replicated in support of free-play and force-on-force OT. It serves as a combat developer for procurement of threat simulators, actual systems, and surrogates for use in testing and training.

Battle labs

Organizations chartered by the CG TRADOC with the mission to plan, conduct, and report warfighting experiments supporting the requirements determination process. Battle labs provide linkage with the S&T and acquisition communities on ACTDs, ATDs, and Advanced Concepts in Technology Program II (ACT II) demonstrations and provide for participation in technology reviews (AR 71–9).

Board of Directors for T&E

The Board of Directors (BOD) is the Executive Agent for the oversight of the T&E infrastructure. The BOD has authority over the services relating to their T&E infrastructure investment, infrastructure consolidation, standards, and policy relating thereto. The BOD ensures that modernization investments are made at test facilities and ranges that are best suited to support required testing without regard to service ownership. The BOD also ensures that the services develop streamlining, consolidation, and downsizing initiatives for the T&E Infrastructure. The BOD is composed of the Vice-Chiefs of the three services, supported by the service T&E Principals (Army T&E Executive, N–091, and AF/TE). The Assistant Commandant Marine Corps is an advisory member. The Joint Staff participates as a member for advocacy of subjects of their interest (for example , training, and so forth). The BOD also establishes liaison and coordinates plans, as deemed necessary, with the Joint Chiefs of Staff, DOD Agencies, OSD, and cognizant Unified and Specified Commands.

BOD Executive Secretariat

The BOD Executive Secretariat (ES) will lead development of corporate guidance for T&E infrastructure management, standards and policy, configuration, and investments. The BOD(ES) will lead the implementation of T&E Reliance. The BOD(ES) is composed of the T&E Principals (Army T&E Executive, Air Force Test and Evaluation, Navy Test and Evaluation, and the DOT&E Rescues and Ranges). The BOD(ES) is chaired by the T&E Principal from the organization of the chair of the BOD, on the same 2-year rotational basis.

Brassboard configuration

An experimental device (or group of devices) used to determine feasibility and to develop technical and operational data. It will normally be a model sufficiently hardened for use outside of laboratory environments to demonstrate the

technical and operational principles of immediate interest. It may resemble the end-item but is not intended for use as the end-item.

Breadboard configuration
An experimental device (or group of devices) used to determine feasibility and to develop technical data. It will normally be configured only for laboratory use to demonstrate the technical principles of immediate interest. It may not resemble the end-item and is not intended for use as the projected end-item.

Combat developer
A command, agency, organization, or individual that commands, directs, manages, or accomplishes the combat developments work. Combat developments is the process of—(1) Analyzing, determining, documenting, and obtaining approval of warfighting concepts, future operational capabilities, organizational requirements and objectives, and materiel requirements. (2) Leading the Army community in determining solutions for needed future operational capabilities that foster development of requirements in all DTLOMS domains. (3) Providing user considerations to, and influence on, the Army's Science & Technology program. (4) Integrating the efforts and representing the user across the DTLOMS domain during the acquisition of materiel and development of organizational products to fill those requirements.

Combined Developmental Test and Operational Test (DT/OT)
A single event that produces data to answer developmental and operational system issues. A Combined DT/OT is usually conducted as a series of distinct DT and OT phases at a single location using the same test items. For the case where a single phase can be used to simultaneously meet developmental and operational issues, this testing will be referred to as Integrated DT/OT. Combined DT/OT and Integrated DT/OT are encouraged to achieve time, cost, and resource savings, However, they should not compromise DT and OT objectives in the Defense Acquisition Guidebook.

Command, Control, Communications, and Computer (C4) System
Integrated systems of doctrine, procedures, organizational structures, personnel, equipment, facilities, and communications designed to support a commander's exercise of command and control across the range of military operations.

Command, Control, Communications, Computers, and Intelligence (C4I) Interoperability Certification Test
A test that applies to Command, Control, Communications, Computers, and Intelligence (C4I) systems that has interfaces or interoperability requirements with other systems. This test may consist of simple demonstrations using message analysis or parsing software with limited interface connectivity, or extend to full-scale scenario-driven exercises with all interfaces connected.

Command, Control, Communication, and Intelligence (C4I) Interoperability Recertification Test
A test conducted for C4I systems if major hardware and software modifications to the C4I system have been made that impact on previously established joint interface requirements.

Concept Experimentation Program (CEP)
A separately funded TRADOC warfighting experimentation program supporting the DTLOMS operational requirements determination sponsors (TRADOC centers/schools, Army Medical Department Center and School (AMED-DC&S), and SMDC Combat Developers) and the ability to investigate military utility of and capitalize on technologies, materiel, and warfighting ideas. The CEP provides funding and other resources to conduct warfighting experimentation supporting the Army Experimentation Campaign Plan to provide insights to support refinement of warfighting concepts, determination of DTLOMS needs solution to approved Future Operational Capabilities (FOCs), development of materiel requirements, and support evaluation of organizations for fielding. The CEP is an annual program that provides commanders a quick experimentation response process.

Continuous evaluation (CE)
A process that provides a continuous flow of T&E information on system status and will be employed on all acquisition programs. It is a strategy that ensures responsible, timely, and effective assessments of the status of a system.

Critical operational Issues and criteria (COIC)
Key operational concerns (that is, the issues) of the decision maker, with bottom line standards of performance (that is, the criteria) that, if satisfied, signify the system is operationally ready to proceed beyond the FRP decision review. The COIC are not pass/fail absolutes but are "show stoppers" such that a system falling short of the criteria should not proceed beyond the FRP unless convincing evidence of its operational effectiveness, suitability, and survivability is

provided to the decision makers/authorities. COIC are few in number, reflecting total operational system concern and employing higher order measures.

Customer test (CT)

A test conducted by a test organization for a requesting agency external to the test organization. The requesting agency coordinates support requirements and provides funds and guidance for the test. It is not directly responsive to Army program objectives and is not scheduled or approved by the TSARC unless external operational sources are required for test support.

Detailed Test Plan (DTP)

A plan used to supplement the EDP with information required for day-to-day conduct of the test. It provides requirements for activities to be conducted to ensure proper execution of the test. The detailed test plan (DTP) is a document compiled by the activity responsible for test execution.

Developmental test (DT)

Any engineering-type test used to verify the status of technical progress, verify that design risks are minimized, substantiate achievement of contract technical performance, and certify readiness for IOT. DTs generally require instrumentation and measurements and are accomplished by engineers, technicians, or soldier user test personnel.

Developmental Tester

The command or agency that plans, conducts, and reports the results of Army DT. Associated contractors may perform technical testing on behalf of the command or agency.

Developmental test readiness review (DTRR)

A review conducted by the program manager to determine if the materiel system is ready for the PQT or the information technology is ready for the SQT.

Developmental test readiness statement (DTRS)

A written statement prepared by the chairman of the DTRR as part of the minutes. The statement documents that the materiel system is ready for the PQT or the information technology is ready for the SQT.

Doctrine and Organization Test Support Package (D&O TSP)

A set of documentation prepared or revised by the combat developer (or functional proponent) for each OT supporting a milestone decision. Major components of the D&O TSP are means of employment, organization, logistics concepts, operational mode summary/mission profile (OMS/MP), and test setting.

Doctrine developer

Command, agency, organization, or individual that commands, directs, manages, or accomplishes doctrine development work. Doctrine developments is the process of researching, conceptualizing, analyzing, integrating, determining, documenting, publishing, distributing, and articulating requirements for and products (for example, field manuals) of doctrine and TTP.

Electromagnetic environmental effects (E3)

Describes the impact of the electromagnetic environment on the operational capability of military forces, equipment, systems, and platforms. These effects encompass all electromagnetic disciplines, including electromagnetic compatibility; electromagnetic interference; electromagnetic vulnerability; electromagnetic pulse; electronic counter-countermeasures; hazards of electromagnetic radiation to personnel, ordnance, and volatile materials; and natural phenomena effects of lightning, electrostatic discharge, and p-static.

Engineering development test (EDT)

A DT conducted during system development and demonstration to provide data on performance, safety, NBC survivability, achievement of a system's critical technical parameters, refinement and ruggedization of hardware configurations, and determination of technical risks. An EDT is performed on components, subsystems, materiel improvement, commercial items and NDI, hardware-software integration, and related software. EDT includes the testing of compatibility and interoperability with existing or planned equipment and systems and the system effects caused by natural and induced environmental conditions during the development phases of the materiel acquisition process.

Evaluation

Evaluation is an independent process by the independent evaluators to determine if a system satisfies the approved requirements. This evaluation is independent of the MATDEVs evaluation to ensure objectivity. The evaluation will

assess data from all sources. Some data sources are simulation, modeling, and an engineering or operational analysis to evaluate the adequacy and capability of the system.

Evaluator
An individual in a command or agency, independent of the MATDEV and the user, that conducts overall evaluations of a system's operational effectiveness, suitability, and survivability.

Event design plan (EDP)
A plan containing detailed information on event design, methodology, scenarios, instrumentation, simulation and stimulation, data management, and all other requirements necessary to support the evaluation requirements stated in the SEP.

First article test
A test conducted for quality-assurance purposes to qualify a new manufacturer or procurements from previous source out of production for an extended period (usually 2 years) and to produce assemblies, components, or repair parts conforming to requirements of the technical data package. First article tests may be conducted at Government facilities or at contractor facilities when observed by the Government.

Five Year Test Program (FYTP)
A compendium of TSARC recommended and DA DCS, G–3 approved OTPs in the following 5 years. The FYTP identifies validated requirements to support the Army's user test programs. It is developed within the existing budget and program constraints in accordance with Army priorities. It is a tasking document for the current and budget years and provides test planning guidelines for the subsequent years.

Follow-on operational test (FOT)
A test conducted during and after the production phase to verify correction of deficiencies observed in earlier tests, to refine information obtained during IOT; to provide data to evaluate changes; or to provide data to reevaluate the system to ensure that it continues to meet operational needs.

Force Development Test or Experimentation (FDT/E)
A TRADOC-funded test and experimentation program supporting force development processes by examining the effectiveness of existing or proposed concepts or products of Doctrine, Organization, Training, Leader Development and Education, Personnel, and Facilities (DOTLPF). In addition to supporting stand-alone DOTLPF efforts, FDT/E may be conducted as needed during acquisition to support development and verification of system DOTLPF.

Foreign comparative testing (FCT)
The test and evaluation of NATO and non-NATO Allies' defense equipment to determine whether such equipment meets valid existing DOD needs. The Foreign Comparative Testing (FCT) Program's primary objective is to leverage NDI of allied and friendly nations to satisfy DOD requirements or correct mission area shortcomings.

Functional proponent
A command, Army staff element, or agency that accomplishes the function of combat developer, training developer, trainer, and doctrine developer for IT.

Information technology system
Any equipment or interconnected system or subsystem of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. Also includes computers, ancillary equipment, software, firmware, and similar procedures, services (including support services), and related resources.

Initial operational test (IOT)
The dedicated field test, under realistic combat conditions, of production or production-representative items of weapons, equipment, or munitions to determine operational effectiveness, suitability, and survivability for use by representative military or civilian users.

Integrated Concept Team (ICT)
Multidisciplinary teams used by TRADOC and other combat developers to develop and coordinate warfighting concepts, to determine and coordinate DTLOMS needs to fulfill future operational capabilities, and to develop and coordinate potential materiel requirements when applicable.

Integrated DT/OT

As a special case of a Combined DT/OT, a single phased event that generates data to address developmental and operational issues simultaneously under operational conditions. The execution strategy for this event is based on the requirements of the program.

Integrated Product and Process Management (IPPM)

An Army management process that integrates all activities from product concept through production and field support, using a multifunctional team, to simultaneously optimize the product and its manufacturing and sustainment processes to meet cost and performance objectives.

Integrated Product and Process Development (IPPD)

A technique that integrates all acquisition activities in order to optimize system development, production, and deployment. Key to the success of the IPPD concept are the Integrated Product Teams (IPTs), which are composed of qualified and empowered representatives from all appropriate functional disciplines who work together to identify and resolve issues. As such, IPTs are the foundation for organizing for risk management.

Integrated Product Team (IPT)

A team composed of representatives from all appropriate functional disciplines and levels of organization working together with a leader to build successful and balanced programs, identify and resolve issues, and make sound and timely decisions.

Integrated testing and evaluation

A T&E strategy that reduces the multiple and redundant products and processes, and encompasses the development of a single integrated system evaluation plan and a single integrated test/simulation strategy, leading to a single system evaluation report for the customer. The process also increases the use of contractor data for evaluation and expands the use of M&S with the goal of reducing T&E costs. Integrated T&E strategies may include combined DT/OT events where appropriate.

Lethality

The ability of a munition (or laser, high power microwave, and so forth) to cause damage that will cause the loss or degradation in the ability of a target system to complete its designated mission(s).

Limited user test (LUT)

Any type of RDTE funded user test conducted that does not address all of the effectiveness, suitability, and survivability issues and is therefore limited in comparison to an IOT that must address all effectiveness, suitability, and survivability issues. The Limited User Test (LUT) addresses a limited number of operational issues. The LUT may be conducted to provide a data source for system assessments in support of the LRIP decision (MS C) and for reviews conducted before IOT. The LUT may be conducted to verify fixes to problems discovered in IOT that must be verified prior to fielding when the fixes are of such importance that verification cannot be deferred to the FOT.

Logistic demonstration

A demonstration that evaluates the achievement of maintainability goals, the adequacy and sustainability of tools, test equipment, selected test programs sets, built-in test equipment, associated support items of equipment, technical publications, maintenance instructions, troubleshooting procedures, and personnel skill requirements. Also evaluated are the selection and allocation of spare parts, tools, test equipment, and tasks to appropriate maintenance levels, and the adequacy of maintenance time standards.

Logistician

An Army staff element that conducts or oversees the logistic evaluation of systems being acquired and assures that logistics is adequately addressed in the TEMP and detailed test plans.

MANPRINT

The entire process of integrating the full range of manpower, personnel, training, human factors, system safety, health hazards, and survivability throughout the materiel development and acquisition process.

Materiel developer (MATDEV)

The research, development, and acquisition command, agency, or office assigned responsibility for the system under development or being acquired. This position can refer to the PEO, program or project manager, or others assigned to this function by the developing agency.

Measure of effectiveness (MOE)
A quantifiable measure used in comparing systems or concepts or estimating the contribution of a system or concept to the effectiveness of a military force. The extent to which a combat system supports a military mission.

Measure of performance (MOP)
A quantifiable measure used in comparing systems or estimating the contribution of a system or concept to the effectiveness of a military force. The extent to which a combat system accomplishes a specific performance function.

New Equipment Training Test Support Package (NET TSP)
A package first prepared by the MATDEV to support training development for new materiel and information technology, including conduct of T&E of new equipment and software. Based on the NET program, the MATDEV prepares, as appropriate, a NET TSP. The NET TSP is provided to the training developers and testers. It is used to train player personnel for DT and to conduct training of instructor and key personnel who train player personnel for OT. The training developer uses the NET TSP to develop the Training TSP.

Operational effectiveness
The overall degree of mission accomplishment of a system when used by representative personnel in the expected (or planned) environment. Some examples of environment are: natural, electronic, threat, and so forth for operational employment of the system considering organization, doctrine, tactics, survivability, vulnerability, and threat (including countermeasures; initial nuclear weapons effects; nuclear, biological, and chemical contamination threats).

Operational suitability
The degree to which a system can be satisfactorily placed in field use with consideration given to availability, compatibility, transportability, interoperability, reliability, wartime usage rates, maintainability, safety, human factors, manpower supportability, logistic supportability, and training requirements.

Operational test (OT)
Any testing conducted with the production or production like system in realistic operational environments, with users that are representative of those expected to operate, maintain, and support the system when fielded or deployed.

Operational tester
A command or agency that plans, conducts, and reports the results of OT, such as USATEC, USASMDC, USAMED-DCOM, USAINSCOM, or COE. All Army operational testers use policies and procedures provided by USATEC.

Operational Test Readiness Review (OTRR)
A review conducted, as deemed necessary by the operational tester, before each operational test of a system. The purpose is to identify problems that may impact on starting or adequately executing the test.

Operational test readiness statement (OTRS)
A written statement prepared by the combat developer, MATDEV, training developer/trainer, and test unit commander before the start of IOTs (or FOTs) for use during the OTRR. The Operational Test Readiness Statement (OTRS) addresses or certifies the readiness of the system for testing in each member's area of responsibility. OTRSs may also be required for some FDT/E and should be specified in the OTP.

Overarching Integrated Product Team (OIPT)
A DOD (or component-led) team usually composed of the former Defense Acquisition Board (DAB) Committee Chairperson, the applicable PM and PEO, and component and OSD staff principals or their representatives. The OIPT is involved in the oversight and review of a particular Acquisition Category (ACAT) 1D program. The OIPT structures and tailors functionally oriented IPTs to support the MATDEV, as needed, and in the development of strategies for acquisition/contracts, cost estimates, evaluation of alternatives, logistics management, and similar management concerns. The OIPT meets immediately after learning that a program is intended to be initiated to determine: the extent of IPT support needed for the potential program, who should participate on the IPTs, the appropriate milestone for program initiation, and the documentation needed for the program initiation review. After submission of final documentation for a milestone review, the OIPT, together with the Component Acquisition Executive (CAE) will hold a formal meeting, chaired by the OIPT leader. This meeting will determine if any issues remain that have not been resolved earlier in the process, to assess the MATDEVs recommendations for future milestone reviews and documentation, and to determine if the program is ready to go forward for a decision. Former DAB and service-level committees are replaced by OIPTs.

Outline test plan (OTP)
A formal resource document prepared for TSARC review. It contains resource and administrative information necessary to support an OT or FDT/E. OTPs are also prepared for DT when Soldier participants or other operational resources are required. The OTP contains the critical test issues, test conditions, scope, tactical context (OT or FDT/E only), resource requirement suspense dates, test milestone dates, and cost estimates (for user T&E only). OTP preparation guidance is issued by the ATEC.

Partnering
A commitment between Government and industry to improve communications and avoid disputes. It constitutes a mutual commitment by the parties on how they will interact during the course of a contract, with the primary objective of facilitating improved contract performance through enhanced communications. It is accomplished through an informal process with the primary goal of providing American Soldiers with quality supplies and services, on time, and at a reasonable cost.

Pilot production item
An item produced from a limited production run on production tooling to demonstrate the capability to mass-produce the item.

Production prove-out test (PPT)
A DT conducted before production testing with prototype hardware for the selected design alternative. The PPT provides data on safety, NBC survivability, achievability of critical technical parameters, refinement and ruggedization of hardware and software configurations, and determination of technical risks. After type classification, production prove-out testing may also be conducted to provide data that could not be obtained before type classification, such as survivability or environmental.

Production qualification test (PQT)
A system-level DT conducted using LRIP assets, when available, prior to the FRP decision review that ensures design integrity over the specified operational and environmental range. This test usually uses prototype or preproduction hardware fabricated to the proposed production design specifications and drawings. Such tests include contractual reliability and maintainability demonstration tests required before production release.

Production Verification Test (PVT)
A system-level DT conducted post-FRP to verify that the production item meets critical technical parameters and contract specifications, to determine the adequacy and timeliness of any corrective actions indicated by previous tests, and to validate the manufacturer's facilities, procedures, and processes. This test may take the form of a FAT if such testing is required in the TDP. FAT is required for QA purposes to qualify a new manufacturer or procurements from a previous source out of production for an extended period and to produce assemblies, components, or repair parts satisfying the requirements of the TDP.

Program executive officer
The general officer or senior executive who provides the overall management of the T&E activities of assigned systems.

Program manager
A DA board selected manager (military or civilian) of a system or program. A program manager may be subordinate to the AAE, program executive officer, or a materiel command commander.

Prototype
An article in final form employing standard parts and representative of articles to be produced on a production line with production tooling.

Realistic test environment
The conditions under which a system is expected to be operated and maintained, including the natural weather and climatic conditions, terrain effects, battlefield disturbances, and enemy threat conditions.

Research effort or test
A technical effort or test conducted during pre-systems acquisition to determine early technical characteristics and to support the research of these items.

Safety Release
A formal document issued by the developmental tester to the OT organization indicating that the system is safe for use

and maintenance by typical user troops and describing the specific hazards of the system based on test results, inspections, and system safety analyses.

Software development test (SDT)
A form of DT conducted by the software developer and the proponent agency to ensure that the technical and functional objectives of the system are met. These tests consist of program or module and cycle or system levels of testing. The unit or module test is the initial testing level. Testing is executed on local testbed hardware, and benchmark test files are used. This testing provides data to assess the effectiveness of the instruction code and economy of subroutines for efficient processing. It also ensures that input and output formats, data handling procedures, and outputs are produced correctly. The cycle or system test involves testing the combination of linkage of programs or modules into major processes.

Software qualification test (SQT)
A system test conducted by the developmental tester using live-data files supplemented with user prepared data and executed on target hardware. The objectives of the software qualification test are to obtain Government confirmation that the design will meet performance and operational requirements, to determine the adequacy of any corrective action indicated by previous testing, and to determine the maturity and readiness for OT.

Special Operations (SO) Peculiar
Equipment, materiel, supplies and services required for SO activities for which there is no Service-common requirement. These are limited to items and services initially designed for or used by special operations forces (SOF) until adopted for Services-common use by other DOD forces; or modifications approved by the Commander U.S. Special Operations Command (USSOCOM) for application to standard items and services used by other DOD forces. This includes items and services approved by the Commander USSOCOM as critically urgent for the immediate accomplishment of an SO activity.

Supplemental site test
A test that may be necessary for an information technology system that executes in multiple hardware and operating system environments if there are differences between user locations that could affect performance or suitability. It supplements the IOT and UAT.

Surveillance tests
Destructive and nondestructive tests of materiel in the field or in storage at field, depot, or extreme environmental sites. Surveillance tests are conducted to determine suitability of fielded or stored materiel for use, evaluate the effects of environments, measure deterioration, identify failure modes, and establish or predict service and storage life. Surveillance test programs may be at the component-through-system level.

Survivability
The capability of a system and crew to avoid or withstand manmade hostile environments without suffering an abortive impairment of its ability to accomplish its designated mission.

Susceptibility
The degree to which a weapon system is open to effective attack due to one or more inherent weaknesses. Susceptibility is a function of operational tactics, countermeasures, probability of enemy fielding a threat, and so forth. Susceptibility is considered a subset of survivability.

Sustaining Base IT Systems
Systems used for efficiently managing Army resources, managing Army installations, and deploying and sustaining the fighting force.

System
An item or group of items that consists of materiel and/or software that, when put in the hands of users, will enable those users to accomplish assigned missions.

System Analysis Report (SAR)
Provides the detailed analyses that support a System Evaluation Report (SER). It accounts for all issues and measures contained in the System Evaluation Plan. A SAR is also prepared to support a System Assessment (SA) when the analysis is too detailed or inappropriate for inclusion in the SA and addresses only those issues and measures contained in the SA.

System assessment (SA)
Provides an assessment of the progress toward achieving system requirements and resolution of issues. The scope of issues to be addressed by the SA is flexible in that it may or may not cover all aspects of operational effectiveness, suitability, and survivability. It may address technical aspects of a system. For example, it may provide a program manager with an assessment of a system's exit criteria (some level of demonstrated performance) or an indication that a system is progressing satisfactorily. The SA is typically produced as input to non-milestone decisions or inquiries and to support system evaluation.

System change
A modification or upgrade to an existing system. A modification is a change to a system that is still in production. An upgrade is a change to a system that is out of production. Such changes can be improvements to system capabilities or fixes to correct deficiencies after the FRP decision review. System modifications and upgrades include multisystem changes (that is, the application of a common technology across multiple systems), block changes, preplanned product improvements, Class I Engineering Changes, and system change package proposals.

SystemeEvaluation
A process that provides a continuous flow of T&E information on system status and will be employed on all acquisition programs. It ensures responsible, timely, and effective assessments of the status of a system. System evaluation can begin as early as the battlefield functional mission area analysis for materiel systems and as early as the Information Management Plan (IMP) process for information technology. It will continue through a system's post-deployment activities.

System Evaluation Plan (SEP)
Documents the evaluation strategy and overall Test/Simulation Execution Strategy (T/SES) effort of a system for the entire acquisition cycle through fielding. Integrated T&E planning is documented in a SEP. The detailed information contained in the SEP supports parallel development of the TEMP and is focused on evaluation of operational effectiveness, suitability, and survivability. While the documents are similar, the TEMP establishes "what" T&E will be accomplished and the SEP explains "how" the T&E will be performed (see chap 7).

System Evaluation Report (SER)
The System Evaluation Report (SER) provides an independent evaluation and a formal position of a system's operational effectiveness, suitability, and survivability to decision-makers at MDRS. It addresses and answers the critical operational issues and additional evaluation focus areas in the SEP based on all available credible data and the evaluator's analytic treatment of the data.

System Support Package (SSP)
The System Support Package (SSP) is a set of support elements that are used to determine the adequacy of the planned support capability. Some SSP examples are support equipment, manuals, expendable items, spares, repair parts, and tools. Test measurement and diagnostic equipment (TMDE) is also included if planned for a system in the operational (deployed) environment, provided before DT and OT, and tested and evaluated during DT and OT. The MATDEV provides the SSP. An SSP is required for all systems (materiel and information). (See AR 700–127.)

System tests
Tests that are conducted on complete hardware/software systems (including supporting elements for use in their intended environment).

Technical feasibility test
A DT conducted post milestone A to provide data to assist in determining safety, health hazards, and establishing system performance specifications and feasibility.

Technical note (TN)
Used to report and preserve lessons learned, analytical techniques, methodologies, or provide supplemental data and information on technology under T&E. The target audience of TNs is future testers and evaluators and other researchers, but may also be used for professional, academic and technical symposia and publications.

Test and Evaluation Executive Agent (T&E EA)
Provides for oversight of the T&E infrastructure of the services and Defense Agencies. The BOD is designated as the T&E EA.

Test and Evaluation Working-Level Integrated Product Team
A working group, chaired by the program manager or representative for a system, designed to optimize the use of T&E

expertise, instrumentation, facilities, simulations, and models to achieve test integration, thereby reducing costs to the Army. The T&E WIPT ensures that T&E planning, execution, and reporting are directed toward common goals.

Testbeds
A system representation consisting partially of actual hardware or software or both, and partially of computer models or prototype hardware or software or both.

Test data report (TDR)
One of two event reports that may be used to document test results from a USATEC conducted event. The purpose of the TDR is to provide the detailed test description, test limitations, test team observations, and the level III (authenticated) test database dictionary. The TDR is normally prepared for oversight systems.

Test instrumentation
Scientific or technical equipment used to measure, sense, record, transmit, and process text, or display data during materiel testing and examination. Test instrumentation is equipment that is used to create test environments representative of natural and battlefield conditions. It is also simulators or system stimulators used for measuring or depicting threat or training, teaching, and proficiency during testing; or targets used to simulate threat objects when destruction of real objects is not practical.

Test report
An event report used to document test results, whether DT or OT. For DT events, the TR is provided by the contractor or Government test agencies to the T&E Working-level Integrated Product Team (WIPT) members and the decision review body at the conclusion of the test. For OT events, the operational TR provides the results of a test event conducted on a system or concept that includes test conditions, findings, data displays, and detailed descriptions of the data collected during the test event.

Test resources
All elements necessary to plan, conduct, collect, or analyze data from a test event or program. Elements include test funding and support manpower (including travel costs), test assets (or units under test), test asset support equipment, flying hours, fuel and other expenditures. Also included are standard ammunition, technical data, simulation models, testbeds, threat simulators, surrogates and replicas, special instrumentation unique to a given test asset or test event, and targets. Also included are tracking and data acquisition instrumentation, and equipment for data reduction, communications, meteorology, utilities, photography, calibration, security, recovery, maintenance and repair, frequency management and control, and base or facility support services.

Test Resource Advisory Group
Implements the policies, decisions, and guidance of the T&E Executive Agent (EA), as directed by the BOD(ESS). Additionally, the TRAG provides recommendations to the BOD(ESS) on T&E infrastructure requirement identification and investment priorities.

Test Scheduling and Review Committee—general officer and working groups
The general officer (GO) TSARC, composed of members outlined in chapter 9, who resolves test requirement conflicts, reviews and recommends test priorities, and recommends outline test plans (OTPs) for inclusion in the FYTP. There are two working groups, initial and mid-cycle. The Initial Working Group meets in February and August and reviews new or revised OTPs for presentation to the GO TSARC for review and comment. The Mid-cycle Working Group does the same thing, meeting in April and October. Both working groups identify issues requiring GO TSARC resolution, and review resource allocation priorities for tests having execution and budget year requirements.

Theater and Tactical Information Systems
Systems that direct, coordinate, and support deployable combat, combat support, and combat service support forces in their projection of combat power. This projection of power is throughout the spectrum of combat service support forces throughout the spectrum of combat (peace, transition to and from conflict, and conflict). A theater and tactical information system is an item that a table of organization and equipment (TOE) unit requires to perform its mission and functions.

Threat Test Support Package (Threat TSP)
A document or set of documents that provides a description of the threat that the new system will be tested against. A Threat TSP is required for all materiel systems. (See AR 381–11.)

Trainer

The agency that trains personnel to operate and maintain systems, TRADOC is the trainer for most equipment.

Training developer

Determiner and documenter of training requirements as well as the conceptualizer, developer, and executor of solutions to training requirements identified through the combat development process. The solutions may include new or revised training programs, material, methods, media, and system and nonsystem training devices.

Training Test Support Package (Training TSP)

A package that consists of materials used by the training developer/trainer to train test players and by the evaluator in evaluating training on a new system. This includes training of doctrine and tactics for the system and maintenance on the system. It focuses on the performance of specific individual and collective tasks during OT of a new system. The Training TSP is prepared by the proponent training developer and trainer and represents the individual, collective, and unit training for the system when initially fielded.

Vulnerability

The characteristic of a system that causes it to suffer a definite degradation (loss or reduction of capability to perform its designated mission) as a result of having been subjected to a certain (defined) level of effects in an unnatural (man-made) hostile environment. Vulnerability is considered a subset of survivability.

Warfighting experimentation

A group of experiments with representative soldiers in as realistic an operational environment as possible via application of constructive, virtual, and live simulation to produce insights supporting requirements determination. They examine—(1) Whether the warfighting concepts are achievable and effective. (2) The military utility and burdens of new and existing technologies. (3) The utility and contribution of new ideas and approaches in doctrine, TTP, training, leader developments, organization design, and soldier specialties/abilities. Experimentation may be either a single discrete event or an iterative progressive mix of simulations as necessary to support development and/or refinement of warfighting concepts, future operational capabilities, DTLOMS needs determination analysis report, MNS, capstone requirements documents, ORD, and so forth. Experiments are conducted by or under the oversight or assistance of one or more Battle Labs or Army proponents with warfighting requirements determination missions. Examples of warfighting experiments include AWE, CEP, ACTD, and ATD Battle Lab demonstration events.

Warfighting Rapid Acquisition Program (WRAP)

A program directed at accelerating procurement of systems identified through warfighting experiments as compelling successes that satisfy an urgent need. WRAPs are implemented within the existing Army structure. WRAP is compatible with and supports FAR, DOD, and Army acquisition policy (DOD 5000 series and AR 70 series). AWEs, CEPs, ATDs, ACTDs, and similar experiments where ICT, supported by a battle lab, are directly involved may be used to identify WRAP candidates. The WRAP ASARC, chaired by the Military Deputy AAE, meets annually to consider the approval of candidates submitted by CG TRADOC for entry into WRAP. Congress appropriates dollars specifically to fund approved WRAP programs. Approved programs may be funded as a prototype for 2 years. Immediate funding is not guaranteed. Continued actions will be needed to obtain fully document system "Standard" type classification and full logistics support. (See AR 71–9.)

Working-level Integrated Product Team (WIPT)

Teams composed of headquarters and component functional personnel who support the MATDEV by focusing on a particular topic such as T&E, cost analysis, performance analysis, and similar activities. An Integrating IPT will coordinate all WIPT efforts and cover all topics not otherwise assigned to another WIPT. The MATDEV or his designee will usually chair WIPTs. WIPTs provide empowered functional knowledge and experience, recommendations for program success and communicate status and unresolved issues concerning their areas of responsibility.

Section III
Special Abbreviations and Terms
This section contains no entries.

PIN 070391–000

USAPD

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PIN: 070391–000
DATE: 08-10-06
TIME: 09:53:07
PAGES SET: 67

DATA FILE: C:\Wincomp\r73-1.fil
DOCUMENT: AR 73–1

SECURITY: UNCLASSIFIED
DOC STATUS: NEW PUBLICATION