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OPERATIONAL TESTING AND
EVALUATION OF MAJOR
SYSTEMS IN THE ARMY

An Executive Summary
of a
Study Report
by

William A. Moore
LTC USA

May 1974

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DEFENSE SYSTEMS MANAGEMENT SCHOOL

STUDY TITLE: OPERATIONAL TESTING AND EVALUATION OF MAJOR SYSTEMS IN THE ARMY

STUDY GOALS: To examine the role of the U. S. Army Operational Test and Evaluation Agency (OTEA) in implementing the guidance contained in DODD 5000.3 with respect to accomplishment of OT&E for major systems.

To determine the interface between OTEA and other agencies in accomplishing the OT&E mission.

STUDY REPORT ABSTRACT:

The Blue Ribbon Defense Panel Report in July 1970 recommended that the Services establish an agency independent of the developer to conduct OT&E for new materiel being developed and that this agency should report to the Chief of Service. This study examines the evolution of OT&E in the Army leading up to the establishment of OTEA as the Army's independent test agency. OTEA's role in the planning and conduct of OT&E for major systems was examined in the light of guidance provided by DODD 5000.3. This examination reveals that the Army has essentially complied with the guidance of DODD 5000.3 concerning planning and conduct of OT&E for major systems. In accomplishing its mission, OTEA actively interfaces with the materiel developer, Program Manager, user, combat developer, trainer, and the Army Staff.

KEY WORDS MATERIEL ACQUISITION PROJECT MANAGEMENT OPERATIONAL TESTING
BLUE RIBBON DEFENSE PANEL

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EXECUTIVE SUMMARY

This study is an examination of the role of the U. S. Army Operational Test and Evaluation Agency (OTEA) in accomplishing operational testing and evaluation of major systems in the Army as directed by DODD 5000.3, "Test and Evaluation," dated 19 January 1973.

The study traces the evolution of operational testing and evaluation for major systems in the Army beginning with the findings and recommendations of the Blue Ribbon Defense Panel Report in July 1970. Various OSD and DA memorandums provided the background for the events leading up to the establishment of an independent test agency in the Army for the conduct of operational testing and evaluation.

DODD 5000.3, "Test and Evaluation," and the DA "Letter of Instructions (LOI) for Implementing the New Materiel Acquisition Guidelines," dated 23 August 1972, provide the basis for OTEA's charter with respect to its responsibilities for the planning and conduct of operational testing and evaluation (OT&E). OTEA in the accomplishment of its OT&E mission interfaces with the materiel developer, Program Manager, user, combat developer, trainer, and the DA Staff. The results of its independent evaluation of operational test reports for major systems are provided directly to the Army Chief of Staff and subsequently to members of the ASARC and DSARC for use in the decision making process.

While OTEA has not been in existence long enough to effectively assess its value in improving the materiel acquisition process, it is safe to say that the Army has established the necessary framework and organization to objectively accomplish OT&E for major systems. Therefore,

with the establishment of OTEA as an independent test agency reporting directly to the Army Chief of Staff, the Army has essentially complied with DCD policy and guidance concerning conduct of OT&E for major systems.

Some conflict between the service use portion of development testing (DT) conducted by the U. S. Army Test and Evaluation Command and operational testing (OT) conducted by OTEA and the user exists. The service use portion of DT is operational in nature and should be eliminated from DT.

OPERATIONAL TESTING
AND EVALUATION OF MAJOR
SYSTEMS IN THE ARMY

STUDY REPORT

Presented to the Faculty
of the
Defense Systems Management School
in Partial Fulfillment of the
Program Management Course
Class 74-1

by

William A. Moore
LTC USA

May 1974

This study represents the views, conclusions, and recommendations of the author and does not necessarily reflect the official opinion of the Defense Systems Management School nor the Department of Defense.

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| 5. Major J. Johnson | OTEA Coordination Office,
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CHAPTER I

INTRODUCTION

General

Operational Test and Evaluation (OT&E) was, until submission of the Blue Ribbon Defense Panel Report, an area of the materiel acquisition process that received something less than adequate attention within the Department of Defense. Generally, operational units had little to do with a system until after it was in production. Thus, operational deficiencies discovered after a major system was in production required rather substantial resources to correct. In most cases, the results of OT&E were not generated early enough to impact on the important production decisions which had to be made.

Although the Army had recognized the need for earlier OT&E prior to receiving the Blue Ribbon Defense Panel Report, changes to the system were slow in being implemented.

At the time of submission of the Blue Ribbon Defense Panel Report in July 1970, OT&E for major Army systems was conducted by the U. S. Army Test and Evaluation Command (TECOM), a subordinate command of the U. S. Army Materiel Command, the developer. TECOM performed both Engineering Tests and Service Tests on Army materiel. The Engineering Tests were performed by TECOM at a number of proving grounds, while Service Tests were performed by one of the six Service Test Boards which were subordinate to TECOM. These Service Tests did include some operational testing. The Service Boards were collocated with the user and did attempt to represent the user point of view. However, the Blue Ribbon Defense Panel found

that for DT&E to be effective, it should be conducted by independent DT&E organizations which reported directly to the Chiefs of Service (6:9).

As a result of the Blue Ribbon Defense Panel Report and guidance provided by the Office of the Secretary of Defense, the Secretary of the Army on 22 September 1972 directed activation of the U. S. Army Operational Test and Evaluation Agency (OTEA). OTEA was established as a field operating agency under the Army staff supervision of the ACSFOR to act as the Army's independent operational test and evaluation agency. The decision to establish OTEA culminated a long exchange of memoranda between the Department of Defense and the Department of the Army (12:2).

Purpose of the Study

The purpose of this study is to examine the role of the U. S. Army Operational Test and Evaluation Agency (OTEA) in implementing the guidance contained in DOD Directive 5000.3, Test and Evaluation, with respect to DT&E for major systems in the Army. Additionally, the study attempts to examine the interface between OTEA, the user, the developer/Project Manager, and the Army Staff in accomplishing the operational test and evaluation mission.

Definitions

Development Test and Evaluation (DT&E). Technical requirements-oriented testing conducted throughout the development cycle to determine the degree to which a system meets performance specifications and to measure operability (including Reliability, Availability, Maintainability (RAM), compatibility, interoperability, man-machine interface, safety and logistical considerations) for a prospective user. Earlier testing assesses technical risks. Subsequent DT&E resolves or minimizes design risk problems and provides an estimation of the system's military utility (3:2).

Operational Test and Evaluation (OT&E). OT&E is testing and evaluation of a system to determine: its military utility, operational effectiveness, and operational suitability (including Reliability, Availability, Maintainability (RAM), compatibility, interoperability, logistic, and training requirements); the new system's desirability from the user's viewpoint considering available equipment and the new system's benefits or burdens; the need for any modifications; and the adequacy of organization, doctrine, operating techniques, and tactics for its employment and the system for its maintenance support (2:1).

Major System/Program. Major programs are those as designated by the Secretary of Defense/Deputy Secretary of Defense. This designation shall consider (1) dollar value (programs with an estimated RDT&E cost in excess of 50 million dollars, or an estimated production cost in excess of 200 million dollars); (2) national urgency; (3) recommendations of DOD component heads or OSD officials (5:1).

Methodology and Scope

The methodology used in this study included library research, interviews with personnel assigned to OT&E and the Army Staff, and informal discussions with students of P&C Class 74-1. In addition, visiting Program Managers were questioned about their relationships with OT&E.

Throughout the study emphasis is placed upon the Blue Ribbon Defense Panel Report, OSD Memorandums, DOD Directives, and various Army documents in tracing the steps leading up to the establishment of OT&E and its role and responsibilities in accomplishing the OT&E mission.

Organization of the Study

This study will basically follow a descriptive analysis approach. Since publication of the Blue Ribbon Defense Panel Study, OSD has placed continued emphasis upon the establishment of an independent operational test and evaluation agency within each of the Services and the conduct of timely and objective OT&E.

Chapter II is a historical review of the events leading up to the establishment of OTEA by the Army. In Chapter III discussion centers on OTEA and its responsibilities and roles for insuring adequate OT&E for major systems. Chapter IV addresses the time phased accomplishment of OT&E functions for major systems and some of the recommendations of the recent AMARC study. Chapter V presents a brief summary and conclusions of the study.

Due to the limited time available to conduct this study and the fact that OT&E within the Army is still in somewhat of a transition stage, no attempt was made to examine actual OT&E documentation on individual systems. Furthermore, no assessment was attempted regarding OTEA's performance in the actual conduct of OT&E for major systems and the adequacy of OT&E data provided to support ASARC/DSARC decisions.

CHAPTER II

HISTORICAL REVIEW OF EVENTS LEADING UP TO THE ARMY'S ESTABLISHMENT OF OTEA

Blue Ribbon Defense Panel

In its report to the President and the Secretary of Defense in July 1970, the Blue Ribbon Defense Panel stated that:

"Operational test and evaluation has been too infrequent, poorly designed and executed, and generally inadequate" (7:2).

The Blue Ribbon Defense Panel was appointed by Melvin R. Laird, Secretary of Defense, on 19 July 1969, to study the entire organization, structure, and operation of the Department of Defense. The panel's report was basically composed of a summary volume which contained 113 recommendations, a brief rationale for each, and 14 separately published appendices. Appendix F, to Blue Ribbon Panel Report was devoted specifically to operational test and evaluation (OT&E).

The Blue Ribbon Panel Report concluded that the results of OT&E being conducted at that time were not being used by, nor in many cases made available to those Department of Defense agencies which needed the information. The panel also found that OT&E was not adequately managed or supervised at the Office of the Secretary of Defense level. Further, the panel found that OT&E was best accomplished when it was done by an organization independent of both the developer and the user, reporting directly to the Chief of the Service (7:7).

Evolution of OT&E Since 1970 Within the Army

After reviewing the recommendations of the Blue Ribbon Defense Panel in July 1970, the Secretary of Defense expressed his concerns on OT&E

to the Secretaries of the three Services. In a joint reply to the Secretary of Defense on 22 September 1970, the Service Secretaries pledged their aid in revising the conduct of OT&E (9:1).

Little was changed within the Department of Army in 1970. The Army was in the process of a major reorganization and revisions for OT&E were merely part of the overall problems to be solved. The main problem with the Army system was that the developer tested and evaluated the operational suitability of the systems being developed.

On 11 February 1971, Mr. David Packard, Deputy Secretary of Defense, stated that the optimum method for conducting operational test and evaluation could best be performed by an agency which is separate and distinct from the developing command and which reports directly to the Chief of the Service. Further,

"... within the Service headquarters staff, there needs to be an office with clear OT&E identification to provide staff assistance directly to the Service Chief and to provide a headquarters focal point for the independent operational test and evaluation field agency (10:1)."

The Deputy Secretary of Defense memo coincided with and reinforced the overall findings of the Blue Ribbon Defense Panel Report. However, where the panel's report recommended, Mr. Packard's memo directed that appropriate action be taken. This memorandum also announced the establishment of a Deputy Director for Test and Evaluation within ODDR&E with across-the-board responsibilities for OSD in test and evaluation matters (10:1).

The Army as a part of its massive reorganization study of 1970 had initiated a detailed review of the total test and evaluation program. Implementation of a new organization and test philosophy was to be

initiated by a rewrite of AR 70-10, "Test and Evaluation During Development and Acquisition of Materiel."

Designation of USACDC as Army's OT&E Activity

Pending revision of AR 70-10, interim policies and instructions for operational test and evaluation in support of the materiel acquisition process were issued by DA letter dated 30 November 1971. The Assistant Chief of Staff for Force Development was designated as the Army Staff focal point for all OT&E matters and the U. S. Army Combat Developments Command (USACDC) was designated as the Army's OT&E activity, separate and distinct from the developer (1:1).

In its role as the Army's OT&E activity, USACDC was to be responsible for reviewing and approving the test plan for the Expanded Service Test (EST) to be conducted by TECOM. In addition, USACDC was to participate in the test and submit its independent evaluation of the system's operational effectiveness and suitability directly to HQ DA (ACSFOR). The results of EST would provide limited operational test data upon which to base a limited production decision to produce items for further operational testing. USACDC would then develop a plan for an Intensified Confirmatory Troop Test (ICTT) to be executed by CONARC (or other designated major command) with assistance from USACDC. This user field test was to be conducted in as realistic an operational environment as possible. USACDC would then submit the ICTT report, along with its independent evaluation of the system's operational effectiveness and suitability, to HQ DA (ACSFOR) for review prior to the OSD major production decision (DSARC III). This report, in turn, would be forwarded to OSD for its review prior to DSARC III (1:3).

While designation of USACDC as the Army's OT&E activity was a step in the right direction, it still failed to fully meet the guidance provided by OSD. Additionally, in 1972, the Army had embarked on another extensive internal reorganization study which envisioned abolishment of USACDC. Thus on 22 September 1972, the Secretary of the Army directed activation of the U. S. Army Operational Test and Evaluation Agency (OTEA) as the Army's independent agency responsible for OT&E (12:1).

CHAPTER III

U. S. ARMY OPERATIONAL TEST AND EVALUATION AGENCY (OTEA)

Activation of OTEA

OTEA was activated on 22 September 1972 at the direction of the Secretary of the Army. OTEA was established as a field operating agency under the Army Staff supervision of the ACSFOR and located at Fort Belvoir, Virginia. The agency is commanded by a Major General, who also currently serves as the Deputy ACSFOR for Test and Evaluation (12:1).

OTEA's initial authorized strength was 120. Currently the organization is authorized 124 officers, 24 EM, and 102 civilians for a total of 250 personnel (12:11).

OTEA Responsibilities

Since establishment of OTEA, AR 70-10, "Test and Evaluation During Development and Acquisition of Materiel," and related regulations have been under revision and have not been officially published. Therefore, OTEA derived much of its guidance and responsibilities from the HQ DA 23 August 1972, "Letter of Instructions (LOI) for Implementing the New Materiel Acquisition Guidelines." Although this LOI was published one month prior to the activation of OTEA, it nevertheless addressed the responsibilities of OTEA and stated that OTEA will be responsible for assuring that adequate operational testing (OT) is accomplished for all major systems (13:113).

The LOI stated that in the case of major systems OTEA will actively participate with the designated user in the planning for and conduct of operational testing, and will prepare an independent evaluation of the

adequacy of the testing and the validity of the results upon completion of each phase of OT. Involvement by the OTEA in OT of non-major systems may be directed by HQ DA on a case-by-case basis (13:113).

The LOI also states that OTEA is responsible for preparation of the OT portion of the Coordinated Test Program (CTP) for major systems. OTEA must coordinate with the developer and harmonize the OT portion of the CTP with the Development Test (DT) portion, using DT as the baseline. OTEA must determine when, where, how and by whom OT will be accomplished; coordinate with the user and determine what user support must be provided to accomplish OT; prepare the OT portion of the CTP and provide it to the materiel developer (13:F4).

The materiel developer (Program Manager if designated) determines what support must be provided to accomplish the entire test program; obtains input from the trainer, combat developer and logistician; prepares a CTP; coordinates it with OTEA, the user, the trainer, the combat developer, and the logistician; and subject to concurrence of OTEA, publishes and distributes the test program. If later events require any change to the OT portion of the CTP, OTEA takes the initiative in making the changes, again harmonizing them with DT, and provides them to the materiel developer/Program Manager for publication as an amendment to the CTP. The materiel developer/Program Manager obtains the concurrence of OTEA before making changes in the DT portion of the CTP which may impact on OT (13:F4).

DOD Directive 5000.3

Concurrent with the Army's preparation of its LOI previously referred to, DOD was preparing DOD Directive 5000.3, "Test and Evaluation."

This directive which was formally published on 19 January 1973, superseded the previously issued Deputy Secretary of Defense memos which had provided guidance concerning OT&E.

DOD Directive 5000.3 provides that:

... "In each DOD component there will be one major field agency separate and distinct from the developing/procuring command and from the using command which will be responsible for OT&E and which will:

A. Report the results of its independent test and evaluation directly to the Military Service Chief or Defense Agency Director.

B. Recommend directly to its Military Service Chief or Defense Agency Director the accomplishment of adequate OT&E.

C. Insure that the OT&E is effectively planned and conducted. In addition, each DOD Component will provide within its immediate headquarters staff a full-time, strong, focal point organization to assist the independent OT&E field agency and to keep its Military Service Chief or Defense Agency Director fully informed as to the needs and accomplishments (8:3)."

Thus at this time, OTEA's charter stems from the January 1973 DOD Directive on Test and Evaluation (5000.3) and the Army's "Letter of Instruction (LOI) for Implementing the New Materiel Guidelines" published on 23 August 1972.

OTEA Organization

In order to accomplish its testing responsibilities, OTEA is organized according to test functions as opposed to system functional areas such as artillery, armor or infantry. OTEA has five functional divisions which include a Test Design Division, Field Test Division, Evaluation Division, Operational Support Division and a Technical Support Division. As their titles imply, these divisions are responsible for test design, taking the test design to the field, putting on the test

in a selected environment, preparing an independent evaluation of the test results and throughout the process coordinating to insure that all support required for the test is available at the right time and place. The Technical Support Division provides statistical design and analysis support to the other divisions as required (12:10).

There is a coordinating staff which includes the Test Managers and the Plans and Operation Division. The Test Managers provide the detailed management of the OTEA program for the major systems. The Plans and Operations Division is responsible for the overall coordination of all OTEA programs. This division is responsible for Army user test policy, administration of the Test Schedule Review Committee/Five Year Test Program process, for programming and budgeting OCSA funds for OTEA's user tests and for providing the functional staff with threat data required for operational testing (12:11).

Located in the Pentagon there is an OTEA Coordination Office which provides an immediate point of contact for coordination with the Army Staff and OSD in OTEA activities.

Future Changes to Army Staff

Due to the planned abolishment of ACSFOR as a separate element on the Army Staff in the near future, OTEA will report directly to the Chief of Staff when ACSFOR is abolished. This change is programmed to occur on 20 May 1974. In many respects this should, in the opinion of the author, insure a more valid and objective evaluation of OT results.

CHAPTER IV
ACCOMPLISHMENT OF OT&E
FUNCTIONS FOR MAJOR ARMY SYSTEMS

Participation on Special Task Force

Upon DA approval of a Required Operational Capability (ROC) for a major system, a Special Task Force is formed by DA to develop a recommended approach to fulfill the system need described in the approved ROC. OTEA will provide working representatives to this task force. The OTEA representatives on the task force will participate in the preparation of Section 7 of the draft Development Concept Paper (DCP), which covers test and evaluation. This requires a summary of the plan for OT&E for the new system and will state the objectives of each test and the critical issues to be resolved by testing. The final report of the Task Force contains a plan for test and evaluation which provides the basis for the CTP.

During this phase OTEA will actively interface with the Project Manager Designee, the designated user, materiel developer, combat developer, trainer and the DA Staff (13:E2).

Preparation of the Development Plan

During preparation of the Development Plan, specifically the Coordinated Test Program (CTP), the same OTEA personnel who worked with the Task Force will participate. It is during preparation of the CTP that OTEA determines when, where, how, and by whom operational testing will be accomplished. The CTP includes comprehensive plans for accomplishing both development tests (DT) and operational tests (OT). The materiel developer/Program Manager is responsible for the DT portion

of the CTP and its overall coordination, and publication while OTEA is responsible for the OT portion of the CTP (13:F4).

During development of the OT portion of the CTP, OTEA coordinates with the materiel developer/PI and harmonizes the OT with the DT portion of the CTP. Coordination with the user is accomplished to determine user support required to accomplish OT. Any changes which occur in plans for DT or OT are closely coordinated between the materiel developer/Program Manager and OTEA. OTEA concurrence in the CTP for major systems is required before the CTP can be published (13:F4).

Conduct of OT&E

All OT&E conducted by OTEA is independent of DT. The identification of operational issues, the preparation of the data collection plan to answer operational issues, the preparation of the OT design plan, the test report and the independent evaluation are all accomplished by OTEA independent of the developer/Program Manager (12:17).

Whenever possible, OT is conducted separate from DT. However, in some cases, DT and OT are combined due to limitations on the number of prototypes available. The degree to which OT is combined with DT can vary from sharing the prototype with the developer to merely observing DT to obtain answers to limited operational issues. The combination of early DT and OT is acceptable provided OTEA actively participates in the tests and obtains the necessary OT information to make an independent evaluation of the test results (8:4).

Operational Testing (OT)

OT is conducted as necessary and as early as practicable in the development program, beginning with early prototypes and continuing through production.

"OT will be accomplished by user and support personnel of the type and qualifications of those expected to use and maintain the system when deployed (8:3)."

OT will normally be conducted in three phases, each keyed to the appropriate decision point. OTEA as the Army's independent test agency is responsible for assuring that adequate OT is conducted for all major systems. OTEA will actively participate with the designated user in planning for and conduct of OT, and will prepare an independent evaluation of the adequacy of the testing and the validity of the results of OT (13:II4).

OT I is conducted to provide early information as to system operational suitability in order to assist in determining whether the system should enter Full-Scale Development. OT I may also help identify or refine critical issues to be examined in subsequent operational testing. In selected cases DT I and OT I may be combined (13:II4).

OT II is conducted prior to the production decision. It provides an assessment of system operational effectiveness and suitability. During OT II, the system is subjected to as realistic an operational environment as possible using small troop units typical of those expected to eventually be equipped with the system. OT II corresponds to IOT&E phase specified in DOD Directive 5000.3 (13:II4).

OT III is accomplished using early production models and has the fundamental purpose of assuring that the system is operationally suitable; that all operationally critical issues have been resolved; and that all benefits and burdens of the system are identified. Earlier estimates are validated and organization and doctrine concepts are refined as well as training and logistic requirements (13:II4).

Figure 1 summarizes OTEA's participation in the OT process and indicates those agencies with which OTEA interfaces in accomplishing its mission.

The user may conduct other operational tests at any time during the materiel life cycle to reassess operational suitability or operational effectiveness of a system.

Test Directorate for OT

The designated user will normally provide the Test Director and test troops for conduct of OT and OTEA will provide the Deputy Test Director and a Test Cell. TRADOC will provide a Deputy Test Director for doctrine and training expertise. The Test Directorate will be filled out with personnel from the installation at which the test is being conducted. The OTEA Test Cell will train data collectors provided by the local commander at the test installation.

Following the test, the Test Directorate will assemble the data, prepare a test report and provide copies to OTEA, the user, and other participants in the materiel acquisition process. An independent evaluation, considering the test report and all available data will be prepared by OTEA's Evaluation Division, assisted by other divisions as necessary. In accordance with the guidance contained in previously mentioned Army LOI of 23 August 1972, this independent evaluation will not include an operational suitability statement, but will assess the military utility and operational effectiveness of the tested system. The independent evaluation will then be provided to the ASARC members and the ASARC will make the suitability determination (12:20).

OTEA PARTICIPATION IN OPERATIONAL TESTING

ASSIST TASK FORCE IN PREPARING
OVERALL OF PLAN FOR THE SYSTEM

PREPARE OF PORTION OF
COORDINATED TEST PROGRAM

SCHEDULE AND PROVIDE SUPPORT
THRU FIVE YEAR TEST PROGRAM

DESIGN THE TESTS

T PLAN
E CONDUCT
S REPORT
T

PREPARE INDEPENDENT EVALUATION

INTERFACE WITH

PM DESIGNER, USER, MATERIEL
DEVELOPER, COMBAT DEVELOPER,
TRAINER, AND DA STAFF

MATERIEL DEVELOPER/PM, USER, AND
DA STAFF

MATERIEL DEVELOPER/PM, USER,
COMBAT DEVELOPER AND DA STAFF

USER, COMBAT DEVELOPER

MATERIEL DEVELOPER/PM, USER, DA
STAFF

CSA, ASARC/DSARC

FIGURE 1.

Conflict between OT and DT

Due to failure of the Army to publish an updated AR 70-10, "Test and Evaluation During Development and Acquisition of Materiel," there continues to be some conflict between DT and OT. The conflict is centered around service-use phase of DT which is similar to OT. The recently published Report of the Army Materiel Acquisition Review Committee (AMARC) has recommended that the service-use phase of DT be discarded. The AMARC also recommended that DA affirm the concepts of DT and OT to emphasize the technical orientation of DT and the operational orientation of OT and publish this guidance as soon as possible (4:v-11).

CHAPTER V

SUMMARY AND CONCLUSIONS

Substantial changes have occurred in the Army's organization for the conduct of OT&E since the issuance of the Blue Ribbon Defense Panel Report.

The Army has established a strong centralized chain of command for OT&E that leads directly to the Chief of Staff of the Army. While ACSFOR is currently in this chain, upon its abolishment reporting will be direct to the Chief of Staff.

The U. S. Army Operational Test and Evaluation Agency (OTEA) has been established as an agency independent of the developer and the user to insure adequate OT&E is conducted for major systems. Extensive coordination between the developer/Program Manager, the user, the Army Staff and OTEA occurs in the development of the CTP for a major system and this coordination continues as changes to the CTP occur to insure that OT&E and DT&E are effectively planned and conducted.

OTEA, upon completion of each OT phase, reports the results of its independent test and evaluation to the Chief of Staff to assist the ASARC/DSARC in their decision making process.

The author concludes that the Army has established the necessary framework and organization to implement the policy and guidance of DOD Directive 5000.3 with respect to OT&E for major systems. It will take time for a true assessment of the effectiveness of OTEA's efforts with respect to improving the materiel acquisition process.

The Army should take immediate steps to publish AR 70-10, "Test and Evaluation During Development and Acquisition of Materiel," to

provide all Army agencies with policies and procedures for test and evaluation. The author realizes that publication may not be possible until after the planned reorganization of the Army Staff is complete; however, publication should occur as soon as possible thereafter. Hopefully, this regulation will resolve the current conflict regarding the service-use aspects of DT which involve operational type testing.

The author, based on the research for this study, would recommend as a possible future ISP topic, a study on the role of the U. S. Army Test and Evaluation Command in the test and evaluation of major systems.

ANNOTATED BIBLIOGRAPHY

1. Bowers, Vern L. (Major General, United States Army, The Adjutant General). "Conduct of Operational Test and Evaluation," 30 November 1971.

Provided interim Army policy and instructions on conduct of OT&E.

2. Department of the Army. AR 10-4. "Organization and Functions U. S. Army Operational Test and Evaluation Agency." Washington, D. C.: Department of the Army, 15 January 1974.

Sets forth mission and principal functions of OTEA.

3. Department of the Army. AR 70-10. "Test and Evaluation During Development and Acquisition of Materiel." (Draft). 7 November 1973.

Proposed revision of AR 70-10 still in coordination.

4. Department of the Army. Report of the Army Materiel Acquisition Review Committee. Wendel B. Sell, Chairman. Washington, D. C.: Department of Army, 1974.

Provides a broad review of the entire materiel acquisition process within the Army.

5. Department of Defense. Acquisition of Major Defense Systems. Directive No. 5000.1. Washington, D. C.: Department of Defense, 13 July 1971.

Establishes policy for major defense systems acquisition.

6. Department of Defense. Report to the President and Secretary of Defense by the Blue Ribbon Defense Panel. "Appendix F. Staff Report on Operational Test and Evaluation." Gilbert W. Fitzhugh, Chairman. Washington, D. C.: Department of Defense, 1970.

A detailed study of operational testing and evaluation in the Department of Defense.

7. Department of Defense. Report to the President and the Secretary of Defense by the Blue Ribbon Defense Panel. Gilbert W. Fitzhugh, Chairman. Washington, D. C.: Department of Defense, 1970.

A comprehensive study of the entire organization, structure, and operation of the Department of Defense.

8. Department of Defense. Test and Evaluation. Directive No. 5000.3.
Washington, D. C.: Department of Defense, 19 January 1973.

Establishes policy for conduct of test and evaluation
by Military Departments.

9. Joint Memorandum by the Service Secretaries to the Secretary of
Defense. "Conduct of Operational Test and Evaluation."
24 September 1970.

Pledges aid of Service Secretaries in revising the
conduct of OT&E.

10. Packard, David. Deputy Secretary of Defense. Memorandum for Service
Secretaries and Others. "Conduct of Operational Test and
Evaluation." 11 February 1971.

Provides guidance to the Services on the conduct of
operational test and evaluation.

11. Packard, David. Deputy Secretary of Defense. Memorandum for Service
Secretaries and Others. "Test and Evaluation in System
Acquisition Process." 3 August 1971.

Provides additional guidance to Services concerning
accomplishment of OT&E.

12. "U. S. Operational Test and Evaluation Agency" Command Briefing,
presented by Major M. W. Gilmartin, Plans and Operations
Division, OTEA, Fort Belvoir, VA. 12 March 1974.

Briefing on organization and responsibilities of OTEA.

13. Williams, Robert R. (Lieutenant General, United States Army, AGSFOR).
"Letter of Instructions (LOI) for Implementing the New
Material Acquisition Guidelines." 23 August 1973.

Provides guidance and policies for implementing new
materiel acquisition guidelines including the role and
responsibilities of OTEA for OT&E.