ITEA NEWSLETTER

INTERNATIONAL TEST & EVALUATION ASSOCIATION

APRIL 1981 VOL. III, NO. 2

CONGRATULATIONS COLUMBIA CREW AND RDT&E

Corrected to VOL II in following newsletter

EDITORIAL

Events within ITEA are moving at an increased rate and are expected to continue at an increased rate. The present ITEA management arrangements are effective with the President/Treasurer volunteering essenially full-time services including some members with the support of the Vice President and Secretary as well as with contract or purchased services for secretarial, mailing lists, word processing, publications layout, editorial, accounting, and tax returns. The Headquarter functions performed also include membership roster and records, administration, writing and editing, daily financial records, coordination of plans and committees, and arrangements for Executive Committee meetings, standing committee reports, Board of Director meetings, publication of Newsletter and investigation of candidate publisher for a future technical journal. Additional Headquarter's functions that occur and often involve extensive data and time include such items as formal approval of ITEA by the IRS as a non-profit corporation (now approved) and approval of ITEA by the U.S. Postal Service for non-profit mailing privilege (pending). These functions are conveniently conducted in Lexington Park at costs less than those of larger cities including many informal cooperative services by local organizations.

Success, however, brings new requirements and increased workload. I as the organizer/founder, elected President/Treasurer, Chief Operating Officer (per the By-laws) solicit membership assistance for ITEA and its Membership Committee Chairman, Dave Herrelko to increase membership as the basic means of growth. Additional sources of revenue are needed and will result from advertising, corporate memberships, symposia, technical meetings, educational courses and educational publications. These additional sources of revenue will permit financial support to new chapters and establishment of a part-time formal administrative Headquarters office for ITEA that should be operated under a contract to avoid ITEA responsibilities for workmen's unemployment insurance, social security, and other increased overhead costs. ITEA IS A RECOGNIZED AND GOING PROFESSIONAL SOCIETY.

The ITEA Newsletter is published by the Headquarters of ITEA, P. O. Box 603, Lexington Park, Maryland 20653. The Newsletter is mailed first class to U. S. members if requested at $6 per year additional and bulk mail to the mailing list including members pending receipt of non-profit mailing privileges. The Newsletter is an official ITEA publication. Submissions for publication should be mailed to Dr. A. R. Matthews, Editor, at the above address. Annual membership is $25 (active duty military $15) includes Newsletter. Non U. S. members require first class mailing at $12 per year additional. Libraries and organizational subscriptions are $35 per year in the U. S. and $45 foreign.

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Fig 0-1 ITEA MANAGEMENT

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1. PRESIDENT'S REPORT

Good news for all ITEA members. Membership is now growing exponentially along with financial assets and organizational structure. Two ITEA Chapters have been dedicated: Southern Maryland Chapter and George Washington Chapter (Washington, D.C.). More later about these events and two other chapters in process of organizing. We have over 135 members and several technical meetings scheduled.

IRS has given formal approal as a non-profit corporation and the Postal Service is performing final review on non-profit mailing privilege (note mailing permit hereon as of printing time). When approved, ITEA will be refunded excess postage fees from the bulk mailing charges previously incurred.

The Executive Committee meets periodically by telephone and in person to conduct daily business as required. The Board of Directors have held meetings on 5 December 1979, 18 May 1980, 15 December 1980 and 6 March 1981 and has expanded to 9 members from the original 3.

A group of Standing Committees has been created to take advantage of the members' skills and to distribute the workload for broad base recommendations.

The Chapters have created operating organizations with officers and committees in accordance with ITEA By-Laws and are scheduling luncheon speakers as well as one and two day symposia.

ITEA Headquarters has initiated a major international symposium to be held in Washington, D. C. with the George Washington Chapter as host. We are behind schedule for this symposia due to last minute location changes but have two additional requests to host the 1982 symposium. These will be reveiwed by the BOD and a 5 year plan for international symposia created.

ITEA has been invited to co-sponsor an AIAA T&E symposium in November 1981 which was approved by the Executive Committee.

The George Washington and Southern Maryland Chapters are founded and are scheduling ITEA technical meetings.

Over 100 professional journals have been offered a news release about ITEA. Many printed copies of the actual publication release have been reviewed. This publicity has resulted in numerous requests for Newsletters and membership application forms - some foreign.

This is the third Newsletter which is limited in frequency of publication by the direct cost of approximately $1000-per edition and the preparation time involved by the current limited staff.

Several organizations have been contacted in regard to publishing an official technical journal. A publisher will be selected as soon as practical, subject to BOD review.

We plan on paid advertisements in both the ITEA Newsletter and the journal. See Newsletter advertising sheet herein.

ITEA has been invited to brief at other professional society meetings and will explore joining the Association of Engineering Societies as well as co-sponsoring meetings and symposia.

During the organization meeting of the GW Chapter, I was asked if ITEA was a form of an "umbrella" society. After a little fumbling around needed to elaborate on the true meaning of the phrase "umbrella society", I finally received help but let me explain again more concisely. An "umbrella society" is like the Association of Engineering Societies that has some twenty member societies in order to achieve greater recognition and the general goals of member societies. This is in contrast to a society that seeks as an "umbrella society" to absorb or consolidate related societies. In the first sense ITEA can be a member of an umbrella society like AAES whereas in the second sense ITEA covers the broad field of T&E but is not involved in being an umbrella for the other specialized T&E societies. In contrast, ITEA desires to help expand specialized T&E societies or professional T&E groups of major societies while addressing the total T&E technology for which no professional society currently exists. ITEA is dedicated to education for T&E by the exchange of knowledge and by conducting its technical/educational activities with the highest moral and ethical standards.

The rapid growth of ITEA is due to the need for a general purpose T&E professional society that covers all types of products from conception, R&D, through manufacturing to customer application. The January 1981 Newsletter listed many specialties of members as well as their academic background, employment, and positions. ITEA is truly a multi-disciplinary professional society that covers both technologies and management unique to T&E.

Integration of the broad ITEA membership team is essential to achieve enhanced T&E technology, reduced costs, increased productivity and benefits to national objectives. For example, the integration of RDT&E into single line items of the Budget of the United States except for the Defense Director of T&E budget is an evolution from prior to 1971 when all T&E was integrated with R&D and allocated there-from (a). In addition, defense T&E industrial funding procedures and allocations for overhead items led defense T&E activities into a new financial accountability scheme with emphasis on productivity within government organizations similar to that of industrial activities. The concept of T&E organizations conducting R&D for enhancing T&E capabilities is slowly evolving as a recognized function of T&E.

ITEA is proud to address management and technological issues that serve the national interests. A key issue today is the conduct of T&E by third party contractors. There are many factors to consider both pro and con. For example: (1) this varies with the concerned T&E phase, (2) availability of skilled T&E personnel, (3) duplication of expensive test facilities, (4) Government Owned Contractor Operated (GOCO) versus Government Owned Government Operated (GOGO) facilities and Contractor Owned Contractor Operated (COCO) facilities, (5) government security and industrial proprietary equipment or software, and (6) many others. Prior to 1940 government R&D was performed by government but today there is distribution to industry in varying amounts depending upon the category of R&D. In the current national situation, there is a government trend to involve third party contractors to not only operate T&E facilities, but to perform or assist in the conduct of T&E. This trend may well occur in industrial and consumer products. We need to study this subject and hope to motivate a paper on the trend and optimization factors.

(a) See Reports Review section on the Budget of the U. S. Government.

2. SPECIAL BOD MEETING

On 6 March 1981 the subject meeting was held at the Arlington Hall Officers' Club, Arlington, Virginia following the organizational meeting of the George Washington Chapter of ITEA.

Seven members of the BOD were present including: (1) Dr. A. R. Matthews, President; (2) Carleton R. Cooper, Vice President; (3) William L. Spurgeon, Secretary; (4) Richard G. Cross, Jr., Chairman of the Senior Advisory Board; (5) Dr. David A. Herrelko, Chairman of the Membership Committee; (6) Dr. E. Weber Ivy, Chairman of the Professional Groups Committee; and (7) Floyd A. McLaurin who was later appointed Chairman of the Nominating Committee. Subsequently, Walter Finkelstein and Edward D. Connor were elected to the BOD.

The Southern Maryland Chapter was officially recognized as a chapter in good standing based upon the petition submitted in accordance with the By-Laws. The officers are Allen M. Ebeltoft, President; William L. Spurgeon, Vice President; Francis G. Healy, Secretary; and Thomas Ramey, Treasurer. The organizer was our own Bill Spurgeon who held the organizational meeting on 4 March 1981 with 15 members. See story inside.

The George Washington Chapter was officially recognized as a Chapter in good standing based upon the petition submitted in accordance with the By-Laws. The officers are Edward D. Connor, President; Franklyn P. Smith, Vice President; William J. Smith, Secretary; and Ron Keyes, Treasurer. The organizer was again our own Ed Connor who held the organizational meeting on 6 March 1981 with 24 members and additional guests. See story inside.

Routine business conducted included reports by the President, Vice President, Secretary and Treasurer as well as by Committee Chairmen. Some items of particular interest to members were discussed and highlighted below:

a. Viewgraph briefing on ITEA was presented by the President to the George Washington Chapter and the BOD who were all present.
b. Proposed advertising rates for the Newsletter were presented for review.
c. Executive Committee report of 26 February 1981 reported by Carl Cooper, Vice President.
d. Robert A. Klimek, Jr. had previously submitted his resignation from the BOD which was accepted due to his many commitments with the understanding that Bob would continue as legal council for ITEA and is welcome at all BOD meetings.
e. The membership Committee Chairman, Dave Herrelko, enthusiastically reported the growth of new members and the wide response from ITEA announcements placed in a large number of professional journals.
f. The Technical Committee Chairman, Web Ivy, reported on a proposed structure of technical committees consolidated into three major groups: (1) T&E Management/Policy Committee, (2) T&E Technology/Methodology Committee, and (3) T&E Ranges/Facilities Committee.
g. The Chairman of the Senior Advisory Board, Richard G. Cross, Jr., presented an outline of the purposes and functions of the SAB and has since mailed a written proposal to all BOD members for their comments.
h. The planned International Technical Symposium was reviewed in detail and Franklyn P. Smith, VP-GW Chapter, volunteered to be Associate Symposium Chairman and was unanimously accepted. A Symposium Committee is being organized and some key members have been identified and accepted.

i. The honorary members were approved and Carl Cooper was appointed to survey additional candidates and report at the next BOD meeting.
j. The Membership Committee was requested to review and make recommendations for group and/or corporate memberships.
k. Newsletter contents were discussed and hopefully reflected in this Newsletter.
l. Seven candidate committees were discussed and assigned to the Chairman of the By-Laws Committee, Bill Spurgeon, for recommendations.
m. A Publications Committee was approved with the Chairman to be the incumbent Editor of the ITEA Newsletter.
n. Floyd A. McLaurin volunteered and was unanimously accepted as the Chairman of the Nominating Committee for 1981. He is to recommend procedures for staggered terms and candidates for members of the BOD. The committee includes Ed Connor and Web Ivy.
o. The BOD established that all committees will have an odd number of members and consist of not less than 3 members.

The meeting came to order at 2015 and adjourned at 0015. The detailed minutes will have to be approved at the next BOD meeting in May 1981.

The BOD Chairman, "Matt" Matthews, and member Floyd McLaurin at the Board Meeting.

FIG 2-1

3. ITEA SOUTHERN MARYLAND CHAPTER FORMED

A Naval Public Affairs official news release number 89-81 of March 11, 1981 resulted in the following publication in the TESTER, Patuxent River, Maryland, Friday, March 13, 1981 page 5 under the caption "ITEA New T&E Organization Forms Here" and again in the local newspaper THE ENTERPRISE, Lexington Park, Maryaland, Wednesday, March 18, 1981 on page A-16 under the caption "Evaluation and Test Group Formed Here". Both articles are quoted below:

Page A-16, THE ENTERPRISE, Lex. Pk., Md., Wednesday, March 18, 1981

Evaluation and Test Group Formed Here

The Southern Maryland Chapter of the International Test and Evaluation Association (ITEA) was officially formed on March 6.

The ITEA Board of Directors voted unanimously to recognize the Southern Maryland Chapter as its first field organization.

A petition for acceptance was signed by 16 prospective members, including RAdm. John G. Wissler, Naval Air Test Center commander, at an organizational meeting aboard Patuxent River Naval Air Station on March 4.

In addition to signing the petition for acceptance, the charter members accepted international bylaws, adopted their name and held an election of officers.

Elected to serve inaugural terms are Al Ebeltoft, president; Bill Spurgeon, vice president; Frank Healy, secretary; and Tom Ramey, treasurer.

Spurgeon said the new chapter is planning a test and evaluation technical symposium early this summer and intends to enter the professional development area as well, offering formal classroom training in specific aspects of test and evaluation.

The purpose of ITEA is "...to gain recognition for test and evaluation as a unique professional career field, including special educational requirements and the exhibiting of creativity by practitioners."

The Southern Maryland Chapter's motto is "First in ITEA, First in the Nation."

Southern Maryland Chapter, formal recognition at BOD Meeting
Bill Spurgeon, Organizer and Vice President shown right,
receives congratulations from Board Chairman.

FIG 3-1 and 3-2

4. GEORGE WASHINGTON CHAPTER FORMED

The Greater Washington, D. C. ITEAns met on Friday, 6 March 1981, at Arlington Hall Station, Virginia, forming the George Washington Chapter of ITEA. Twenty-eight members met for a social hour, the formation meeting, and dinner, and elected the following officers:

o Mr. Ed Connor	President
o Mr. Frank Smith	Vice President
o Lt. Col. Bill Smith, USAF	Secretary
o Maj. Ron Keyes, USAF	Treasurer

Special guest Dr. "Matt" Matthews spoke to the Chapter on the history of ITEA, and our objective. Dr. Matthews spoke of the need for "a bond to unite the practicioners of T&E, and to provide a common ground to advance the art and science of T&E technology and management". The newly-formed Chapter then approved the national By-Laws and the name for the new Chapter as the "George Washington Chapter".

The Chapter members of the first regional Chapter of ITEA include:

Edward D. Connor	Guy Cordier	John A. Stangl
Franklyn P. Smith	Leo R. St. Jean	Richard F. Fisher
William J. Smith	Floyd A. McLaurin	Richard G. Cross
Ron Keyes	David A. Herrelko	N.E. Holben
Simon B. Lake	Richard C. Adams	E. Weber Ivy
Max R. Claiborne	Jerry L. Stahl	Robert Klenertz
Carleton R. Cooper	Bill Banks	J. W. Eips
Fred K. McCoy	Larry Bogemann	Walt Fisher
		Kemper W. Baker

Best Wishes to the George Washington Chapter!

George Washington Chapter is formally recognized by the BOD. Edward Connor, the Organizer and President accepted the congratulation from the Board Chairman.

FIG 4-1

5. NORFOLK AREA CHAPTER PREPARES TO ORGANIZE

DAY: Friday
DATE: 27 March 1981

SUNRISE: 0559
SUNSET: 1823

PLAN OF THE DAY

DEPARTMENT OF THE NAVY
OPERATIONAL TEST AND EVALUATION FORCE
NORFOLK, VIRGINIA 23511

DIRECTIVES APPEARING IN THIS PLAN OF THE DAY HAVE THE FULL FORCE OF ORDERS ISSUED BY COMOPTEVFOR.

BUILDING ON A PROUD TRADITION

MISSION OF OPERATIONAL TEST AND EVALUATION FORCE

To operationally test and evaluate specific weapon systems, ships, aircraft and equipments, including procedures and tactics, where required; and, when directed by CNO, assist development agencies in the accomplishment of necessary Development Test and Evaluation.

13. INTERNATIONAL TEST AND EVALUATION ASSOCIATION. The International Test and Evaluation Association (ITEA) is a Professional society of members dedicated to gain recognition for T&E as a unique career field. This will be accomplished through newsletters, journals, lectures, and meetings with fellow members for the exchange of ideas. As we all know from our associations with other professional societies, there are several existing societies and government agencies that either address specialized aspects of T&E or have subcommittees on T&E. ITEA is the only professional society devoted entirely to the broad as well as the specialized subjects of T&E. The Norfolk area probably has the highest concentration of true T&E professionals in the United States. At least for Navy programs, this cadre of professionals resides within COMOPTEVFOR. The current Norfolk ITEA members anticipate formalizing the Norfolk Chapter and hosting luncheons, meetings etc. in early June this year. Now is the ideal time for you, if you are a T&E professional and desire to expand your field of expertise, to join ITEA. ITEA is currently recruiting members and is now offering for a limited time an attractive opportunity for active duty military T&E persons. Regular membership dues for one year are $15 (vice regular fee of $25) and includes a subscription to our Newsletter. The membership field is open to both military and civilian personnel (however the $15 annual membership is available to military only). Further information concerning ITEA may be obtained from:

CDR T. MYRON (Code 55) 4-5084
MR. DEL PRIORE (Code 02B) 4-5177
LT. L. SCHANDER (Code 612) 4-5021
MR. Lou HILL (Code 63) 4-5021

A flyer will be circulated within the next few days. Watch for it!

6. ITEA TECHNICAL/EDUCATIONAL MEETINGS SCHEDULED

(1) 21 May 1981: The George Washington Chapter of ITEA is holding a technical meeting at the Arlington Hall Station Officers' Club, Arlington, Virginia immediately following a convenience luncheon. The meeting will be open to all ITEA members and interested parties. The luncheon will start at 1200 with the presentation at 1230 PM by Mr. W. Joseph Riegger of NAVELEX who will address unique NAVELEX T&E subjects. Luncheon is $6.00. Contact Mr. Ron Keyes at (202) 695-0905 for reservations. The George Washington Chapter Exective Board will hold a special meeting immediatley following the technical presentation. See special announcement being mailed for further details. Mr. Riegger is an outstanding speaker on RDT&E.

(2) 24-25 June 1981: The Southern Maryland Chapter of ITEA will hold its 1981 Technical Symposium at the Cedar Point Officer's Club (Crows Nest), NAS Patuxent River, Maryland. This two-day technical/education meeting will feature three (3) keynote speakers from industry and government and three (3) half-day sessions on the following subjects: (1) Advanced R&D Technologies, (2) Program Analysis and Evaluation, and (3) Advanced T&E Technologies including Facilities. Registration fee for the two-day program is $55, luncheons included. Pre-registration is required. A detailed flyer containing a registration form will be distributed to all ITEA members and within the general areas of Washington, D. C. and Norfolk, Virginia. All checks should be made payable to: Southern Maryland Chapter, ITEA and mailed to P. O. Box 203, Patuxent River, Maryland 20670. Contact is Mr. Bill Spurgeon (301) 863-4594 who will also send announcements to others so requesting by telephone or letter to the above post office box.

(3) September 1981 (exact date to be announced): The Southern Maryland Chapter of ITEA will hold a technical briefing following lunch on the T&E Process, Technology and Management Covering Exploratory, Developmental, Operational and Production Acceptance Test and Evaluation. Details will be announced in a flyer to be distributed to ITEA members. Non-members are invited to take advantage of this technical/educational meeting.

(4) November 1981 (exact date to be announced): The George Washington Chapter of ITEA will hold a one-day T&E Educational Workshop at Fort Belvoir, Virginia at the Defense Systems Management College. Topics to be covered are: (1) Overview of T&E Master Plan, (2) T&E and the Acquisition Process, and (3) T&E relative to DOD Directives 5000.1, 5000.2 and 5000.3. Detailed announcements will be sent to all ITEA members. Non-members are invited to attend, registration fees to be announced.

(5) 11-13 November 1981: ITEA has been invited to co-sponsor an AIAA Flight Testing Conference to be held at the Sahara Hotel, Las Vegas, Nevada near Nellis AFB with the theme of "The Universality of Flight Testing". ITEA accepted this invitation since we agree with the statement by the AIAA. "The AIAA considers that co-sponsorship of this conference with ITEA would be beneficial in achieving the basic objective of the conference which is to promote the interchange of flight test technology." ITEA will be a co-sponsor and publish the Call for Papers, mail conference announcements to the ITEA membership and possibly provide co-chairpersons and speakers. AIAA is the primary operator with responsibility for all arrangements and financial aspects of the conference. ITEA members will be able to register at a lower fee. Other co-sponsors are SAE, SFTE and SETP. Bill Cutler of Grumman Aerospace Corporation (see Meeting Call for Papers, herein) is the Technical Program

Chairman and a member of ITEA. Although the "Call for Papers" deadline is 1 May 1981, consideration will be given to special papers and/or speakers after that date. The advance program of session subjects is excellent and of interest to many ITEA members. The final and registration package program will be distributed to ITEA members. Contact the General Chairman, Mr. Luther J. Boyer, Vought Corporation, 2-59100, P.O. Box 225907, Dallas, Texas 75265 for special information.

(6) Spring 1982: The Annual ITEA Technical/Educational Symposium will be held in the Washington, D. C. area. The 1981 Symposium was rescheduled for Spring 1982 due to meeting schedule conflicts and to provide longer lead-time. The Symposium Committee is working on arrangement details and the program of speakers. Members interested in serving on the Symposium Committee are invited to contact Franklyn P. Smith at (703) 281-6561 and offer your specialized services for the subcommittees listed below.

The ITEA Board of Directors elected Franklyn P. Smith, Vice President of the Washington, D. C. ITEA Chapter, to assume the duties of Associate Chairman for the National Symposium. He will be responsible for the direction and development of the three-day event. The initial steps in forming the essential subcommittees are underway. The subcommittee chairpersons will form an operating committee which will recommend the theme for the Symposium to the National Association's Board of Directors. Many questions will be resolved over the next few months by the operating committee as to the exact location, dates, program outline, registration, publicity, principal guests and speakers, classification of technical presentations, accommodations, etc.

The subcommittees currently being formed are:

o Registration	o Program	o Publicity
o Finance	o Reception	o Security
o Secretariat	o Entertainment	o Exposition

This is our first national symposium and it will be held at the seat of the national government. The officials in government, other associations and their membership, and our friends from other countries will be watching on how well we do. Our future rests on our professional approach. If you are interested in helping on the subcommittee, please contact Frank Smith at 366 Park Street, N.E., Vienna, Virginia 22180 or call (703) 281-6561.

EDITOR'S NOTE: It is anticpated, due to member's requests, that the two additional chapters being formed will also schedule Technical/Educational meetings on a monthly and/or quarterly basis. Announcements will be made nationally and internationally by this Newsletter. Chapters need to keep the Editor fully informed of details preferably 3 to 6 months in advance for inclusion in the ITEA Newsletter. Special technical papers from meetings will be published herein as ITEA develops a Professional Journal which is now under active negotiations. A 5-year plan for scheduled Annual ITEA Technical/Educational Symposia is under development. Educational workshops as in November 1981 will be continued at various locations such as Government and public educational institutions.

7. TEST AND EVALUATION FOR SMALLER NATIONS

Patrick W. Powers
President, T&E International, Inc.
Bel Air, Maryland 21014

My company has become involved over the past two years in a number of potential T&E projects for smaller nations - poor, rich, emerging, and underdeveloped. This has taken the form of test facilities, instrumentation and ranges as well as operational tests for the introduction of new weapons systems. The geographical areas include the Far East, Middle East, Europe, Africa and South America.

Why should these countries be interested in such technology? It seems that they are becoming increasingly involved with the production of relatively simple, exportable items of equipment and with determining which sophisticated material they should purchase from the international market. If they can develop an adequate capability for both requirements, their economies and national defense and production capabilities would be enhanced; they would also be establishing some of the initial ingredients of a national technology base. The Western world would certainly benefit from a stronger economic, trade and defense posture of such nations; and, the U.S. needs more allies from the smaller nations who would not be so dependent on the larger, industrialied countries.

The question now is: how can U.S. industry and the Government assist in this effort? Specifically, how can our T&E technology be organized to help them? Perhaps I should list some of the items I would place in such a program. Here are a few examples:

- Test Standards, Specifications and Procedures.
- Test Facilities, Equipment and Instrumentation Design.
- National Metrology System.
- Operations Research and Systems Analysis Capabilities.
- Education and Training Programs.

This would be a large order for the smaller nations to address, but these nations can handle some elements of each; furthermore, they realize the need to establish a technological capability to support production and defense objectives.

How can ITEA help in all of this? It seems to me that ITEA, with U.S. Govenment concurrence, could create a T&E package aimed at establishing the guidelines for a real capability for material development standards, production specifications and technical evalution/systems analysis. This ITEA program could be introduced into the smaller countries by U.S. industry engaged in other contractual work there and be amplified and extrapolated to meet specific requirements, often of an environmental nature. I would suggest that the identity with ITEA be stressed and that U.S. companies carry this T&E seed to be planted as they conduct their international business. An effective T&E process is an inherent factor for economic progress and our Association can be a catalyst in such a worthwhile international program.

8. BUDGETING FOR TEST AND EVALUATION

Mr. Henry Mendenhall
Electronics Engineer
Naval Air Systems Command
Washington, D. C. 20361

Introduction

The role of Test and Evaluation (T&E) within the Department of Defense (DOD) has become increasingly important as the weapon systems and equipment procured by DOD has increased in complexity. The importance of T&E was emphasized in the early 1970's with the issuance of DOD Directives 5000.1, 5000.2 and 5000.3. DOD Directives 5000.1 and .2 established milestone procurement concepts by separating the acquisition process into discrete decision milestones (DSARC reviews). At each of the four major milestones, the progress of a given program is reviewed, and based on this review, a decision is made on whether or not to continue the program or modify its direction. DODD 5000.1 stipulates that T&E is to have a major input to the decision process at each major milestone. DODD 5000.3 links T&E to this milestone process, identifies the phases of T&E, and emphasizes the need for T&E "to assist in progressively reducing acquisition risks and to evaluate the operational effectiveness and operational suitability of the system being developed."

Due to the importance of T&E in todays acquisition environment and the attention which it is receiving at the Secretary of Defense and Congressional levels, the program manager must place special emphasis on the planning and budgeting of an effective T&E program. The development of a program office budget for T&E is the subject of this paper.

T&E Planning

Before proper budgeting and control can be implemented in a T&E program, planning must be accomplished to define the what, where, how, who, and when of the test program. This planning effort is facilitated by the preparation of the Test and Evaluation Master Plan (TEMP) required by DODD 5000.3. The TEMP is the controlling management plan which defines the T&E program and as such contains the integrated testing requirements, schedules and resources required to accomplish the test program.

Proper T&E planning and preparation of the TEMP begins early in the program acquisition cycle and forms the basis for the initial test program cost estimate. The question of what is to be tested can best be answered by careful review of the work breakdown structure (WBS) of the system. Since a test program usually involves testing of component parts of a system as well as the total system, use of the WBS is a necessary function to accomplish proper planning.

Once the test items have been identified, how will they be tested? How the system is tested will vary greatly dependent upon the type of equipment involved. T&E is usually tailored at this point to concentrate on the risks inherent in the program. An objective is to plan for unknowns and provide reasonable cost and schedule slack to minimize later impacts on schedule and the planned program budget.

Mr. Mendenhall has a BSEE from Drexal Institute of Technology and submitted this paper dated 18 April 1981 to ITEA on 23 March 1981 at the request of the ITEA Newsletter Editor. The paper (less figures) was published in the Winter 1981, Volume 4, Number 1 (pgs. 52-55) of Concepts (The Journal of Defense Systems Acquisition Management) published by the Defense Systems Management College, Fort Belvoir, Virginia 22060. The paper was originally prepared as a student submission to the 6 month DSMC Program Management Course, Class 80-1.

Defining who will conduct the tests and where they will be conducted is also important for the development of a test plan and budget. Costs of testing will vary greatly depending upon the choices of test personnel, sites, and facilities.

Proper planning of a test program must be coordinated with a number of organizations and individuals to assure adequate coverage of all aspects of the T&E program. These organizations include the contractor, field activities and test range organizations, functional and T&E groups within the service, the user organizations, the operational T&E group which will be conducting the operational tests, and related OSD offices.

The final question to be answered for the planning phase is when will the tests be conducted? A detailed test schedule must be developed which identifies all test program milestones. During the development of these schedules it must be kept in mind that the main purpose of testing is to identify problem areas. As much slack time as is reasonably possible should be allocated for proper correction of these identified problems and other unknowns. This is extremely important because the test schedules must be firmed up several years in advance to permit budgeting for the effort. Any slip in this planned schedule can seriously impact the entire program schedule and costs.

Figure I identifies the three major T&E categories as they relate to the four program phases and DSARC milestones. DODD 5000.3 defines the three major T&E categores; Development Test and Evaluation (DT&E), Operational Test and Evaulation (OT&E), and Production Acceptance Test and Evaluation (PAT&E). All in-house and contractor testing during the development and production of a system can be categorized within these three types of testing. An important thing to note is the time relationship between the testing and the four program phases. This will become important later as we finalize the T&E budget by identifying appropriation categories.

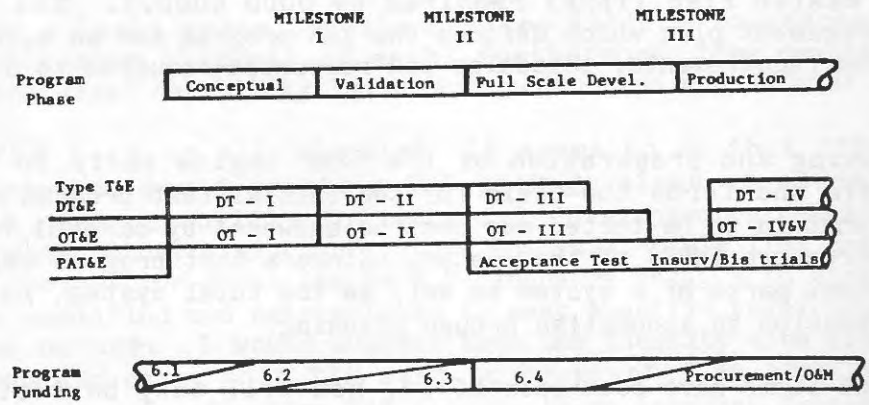

FIGURE I: T & E Phases

A well prepared and coordinated TEMP is the end result of this early planning phase of the T&E program and it is this plan which should form the basis for the T&E program cost estimates.

T&E Cost Estimating

After a detailed test plan has been defined, the next step in developing the program T&E budget is defining what elements of the T&E program are the responsibility of the program office to fund and to estimate the time phased costs to accomplish the tests. OPNAVINST 3960.10 states:

> "The Developing Activity (DA) will plan, program, budget, and fund the costs of all resources identified in the approved TEMP"..."for all T&E through DT-IV and OT-IV except fleet travel and operating cost for fleet RDT&E Support, OPTEVFOR travel..."

specifically,

> "(1) All DT&E costs"
> "(2) All OT&E costs for OT-I through OT-IV"...
> "(3) All PAT&E costs" with exceptions noted above

Using this as a guide, the program office in coordination with related test activities can identify the T&E funding responsbilities.

The next step is to prepare estimates of the identified T&E elements. This process is just like any other estimating process where the type of estimate will depend upon the amount of information available on similar types of testing. Regardless of what type of estimating method is used (e.g., parameterics, engineering) all elements of the test program must be considered; personnel, test facilities, test equipment, instrumentation, test beds, simulators, data reduction, documentation, spares, fuel costs, test units, expendables (e.g., target drones), and test range facilities as examples. Proper coordination with the test facilities and the contractor are again important at this point to obtain cost estimates which are as accurate as possible. Management reserve is an important consideration. In recent years for example the unforeseen increases in cost of fuel have increased operating costs of test vehicles and aircraft substantially. This single item alone has caused serious budget problems for a number of programs.

Once the cost estimates and time phased funding profiles have been developed, the final phase in preparing a T&E budget can begin.

T&E Budget Preparation

Final development of a T&E budget involves allocating the time phased cost estimates to proper budget appropriation categories.

As its name implies, Research, Development, Test and Evaluation (RDT&E) funds are used for T&E purposes. However, not all T&E activities use RDT&E funds. Referring back to Figure I it can be seen that some test activities extend beyond what is normally considered the R&D realm into the production phase. The allocation of T&E costs to the various appropriation categories is best defned in DOD Manual 7110-1-M, "DOD Budget Guidance Manual". Figure II summarizes some of the more important criteria for classifying T&E costs. The figure is intended as a guide and is by no means all inclusive of special exceptions and criteria which apply to the cost classification process. For more detailed definitions and policies refer to the DOD manual. An important point to remember is that the T&E program will not be

funded entirely from RDT&E appropriations but will also under certain circumstances utilize Procurement and Operation and Maintenance (O&M) funds.

T&E Cost Element	Appropriation DT&E	IOT&E	OT&E
Hardware/Software	RDT&E	RDT&E	Procurement
Special Test Equipment	RDT&E	RDT&E	Procurement
Incidental Military Force Support	O&M	O&M	O&M
Direct Test Support	RDT&E	RDT&E	Procurement/O&M
Hardware Production Facilities	RDT&E	RDT&E	Procurement
Off-the-shelf Commercial Items	Procurement		
Acceptance Testing (PAT&E)	RDT&E/Procurement/O&M		
Testing of Production Facilities	Procurement		

FIGURE II: Appropriation Categories for T&E

Once the estimated T&E costs are identified with associated appropriations, the result is a T&E budget which shows by fiscal year the amount and appropriations required for the T&E program.

Summary

Preparation of a T&E budget requires detailed planning, scheduling and cost estimating to be effective. This activity must occur early enough in the program (by Milestone I, if possible) to permit entry into the budget cycle in a timely manner. This early planning requires projection of a test program several years into the future with very little insight into the problems which may be encountered during the tests which will tend to lengthen schedules and increase costs. The situation is further compounded by the fact that RDT&E budget estimates must be prepared on an incrementally programmed basis. This means that only those funds required for work in a given fiscal year are to be included in the budget request for that fiscal year. There is some flexibility in this regard due to the fact that funds authorized for RDT&E have a two year term of availability. This however, is closely controlled within the services. The Navy works with a self imposed 15 month obligation period and the other services 12 months. Extensions to the obligation period require approval at higher levels within each service and the Program Manager runs the risk of losing the funds.

References

1. DOD Directive 5000.1, "Major System Acquisitions," January 18, 1977
2. DOD Directive 5000.2, "Major System Acquisition Process," January 18, 1977
3. DOD Directive 5000.3, "Test and Evaluation," April 11, 1978
4. OPNAVINST 3960.10, "Test and Evaluation," October 22, 1975
5. DOD 7110-1-M "DOD Budget Guidance Manual," August 12, 1977
6. Navy Department "Planning and Management Systems Course," Notes, NMC Acquisition/Logistics Management Training Center, Washington, D. C.

9. IMPROVED COST-EFFECTIVE T&E BY EARLY DATA PROCESSING ANALYSIS

Albert A. Mullin
506 Seaborn Drive
Huntsville, AL 35806

It seems to me that a research area at the interface between mathematical statistics and computer science needs theoretical and practical development. This is the area of the statistical design of optimal data processing experiments. Applying advanced mathematical techniques from the theory of experimental design to the design of software and hardware experiments would help ensure maximal utilization of precious data processing testbed facilities presently under development and significantly reduce testing costs. Unless I am mistaken, even simple techniques from the analysis of variance would increase the sensitivity of certain data processing experiments to the point where even unanticipated experimental questions could be answered without the necessity of re-running the data processing experiment. Most likely, statistical design techniques for execution-time models as well as total-time models of data processing will be required. I would appreciate receiving information on appropriate mathematical techniques for the design of "good" data processing experiments.

EDITOR

This forum is intended to encourage readers to send letters to the Editor elaborating and offering references to questions raised. These subjects will also be considered as candidates for technical symposia and may indeed be the essence of entire sessions including the history, evolution, and current state-of-the art (SOA). Selected and informative letters will be printed in the newsletter.

Keep sending technical papers on selected T&E techniques, project/program management, facilities, cost-effective T&E examples, instrumentation, quality assurance, 'ilities, etc.

CHAPTER FORMATION
PROCEDURE

Advise ITEA Headquarters which will:

1. Send By-Law guidance (10 members, election of officers and Chapter name).
2. Provide FORM Chapter petition letter for convenience.

10. ITEA GROWING EXPONENTIALLY

ITEA memberships grew linearly during 1980 to 68 members but has become exponential in 1981 to 121 members in 3 months of 1981 as shown in Figure 10-1. Note that memberships approximately doubled in 3 months from 1 January 1981 (68) to 1 April 1981 (121). At printing 140 members with additional distribution.

ITEA MEMBERSHIP BY GEOGRAPHICAL DISTRIBUTION
[As of 1 Apr 1981 - 121 Members]

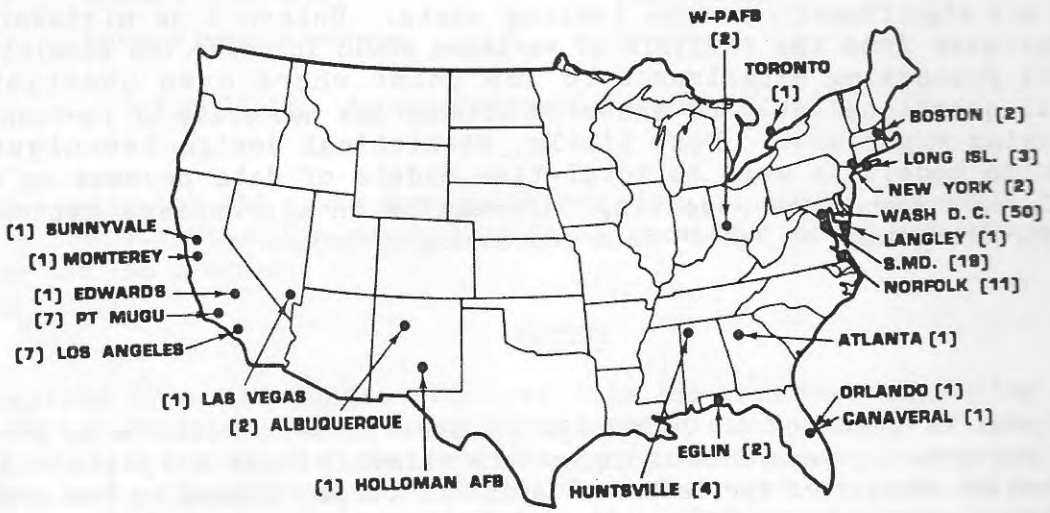

FIG 10-1 Geographical Distribution of Members

Memberships of 121 in 15 months with 2 chapters founded and 2 chapters in incubation is the "critical mass" needed to proceed with the objectives of improving all aspects of T&E. These chapters will no doubt bloom in memberships and not only provide increased members but additional leadership.

Figure 10-2 projects the future growth at: (1) maximum rate, based on each old and new member acquiring one new member per month; (2) minimum rate, each member acquiring 5 new members per year; or (3) founding two chapters per month. The following data shows the probable saturation membership for 12 related societies based upon our 20 years of operation (Almanac Data or Reported Data):

	Name	Founded	Members		Name	Founded	Members
(1)	IEEE	1884	202,000	(7)	ASTD	1944	15,000
(2)	ASCE	1852	76,000	(8)	AFCEA	1946	14,800
(3)	ASME	1880	75,000	(9)	AOC	1946	11,000
(4)	S MFG. E	1932	50,000	(10)	AHS	1943	3,500
(5)	ASTM	1898	28,500	(11)	SETP	1956	1,500
(6)	SAE	1925	26,000	(12)	SFTE	1968	600

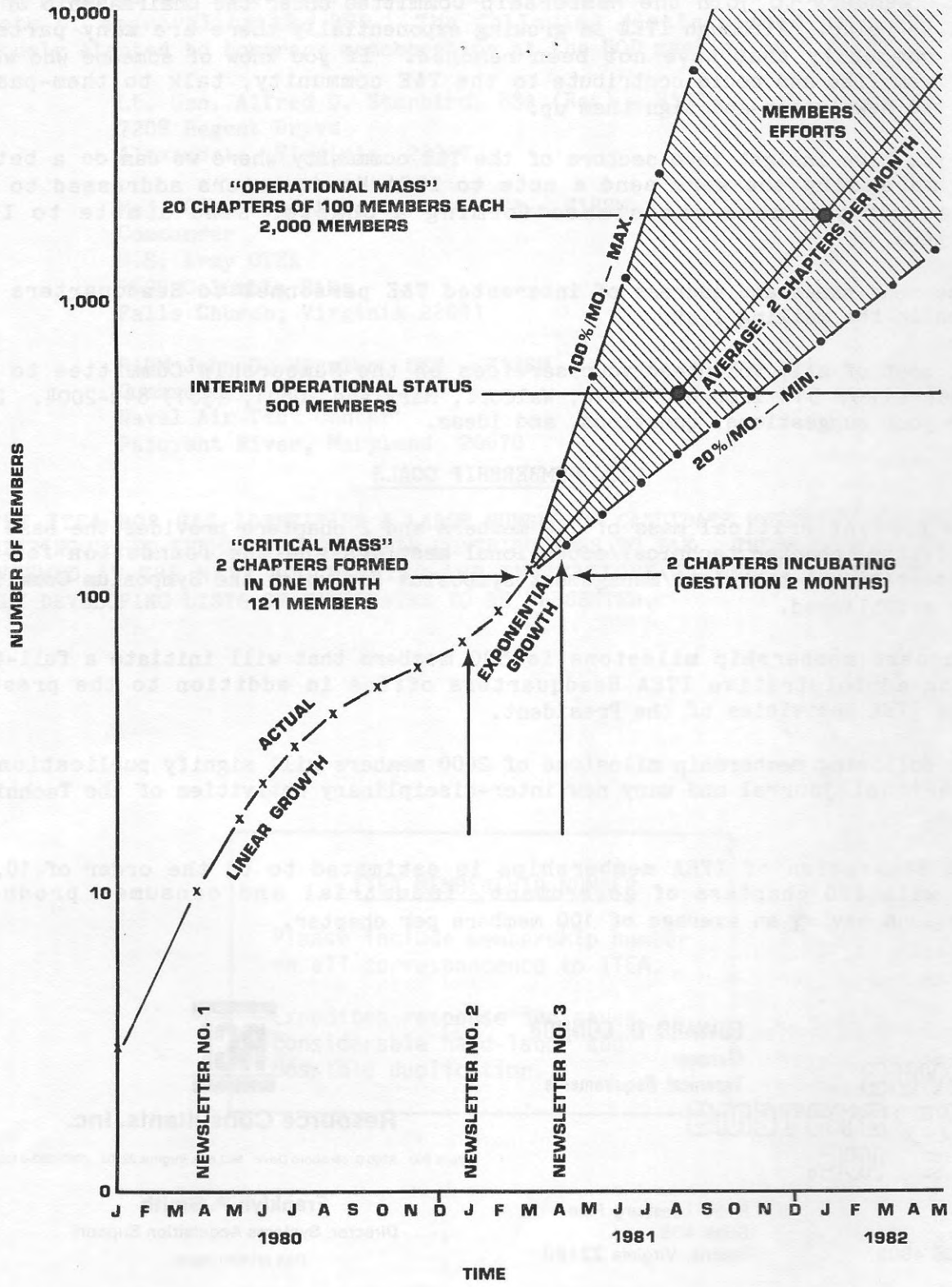

FIG 10-2 Projected Membership Growth

11. WANTED

ITEA members to join the Membership Committee under the Chairmanship of Dr. David A. Herrelko. Although ITEA is growing exponentially there are many parts of the T&E community that have not been reached. If you know of someone who would benefit from ITEA and could contribute to the T&E community, talk to them-pass a copy of the newsletter-and sign them up.

If you have insight into sectors of the T&E community where we can do a better job of spreading the work send a note to ITEA Headquarters addressed to Dr. Herrelko. If you need assistance forming a Chapter send a note to ITEA Headquarters.

Also send names and address of interested T&E personnel to Headquarters for inclusion in the mailing list.

But most of all, volunteer your services on the Membership Committee to Dr. David Herrelko; 514 Ironwood Drive, Waldorf, Maryland 20601, (301) 843-2004. Dave welcomes your suggestions, questions, and ideas.

12. MEMBERSHIP GOALS

The current critical mass of 140 members and 2 chapters provides the base for the newsletter, chapter technical/educational meetings and the foundation for the first international technical/management symposium for which the Symposium Committee has been established.

The next membership milestone is 500 members that will initiate a full-time operating administrative ITEA Headquarters office in addition to the present full-time ITEA activities of the President.

The following membership milestone of 2000 members will signify publication of a professional journal and many new inter-disciplinary activities of the Technical Committee.

The saturation of ITEA memberships is estimated to be the order of 10,000 members with 100 chapters of government, industrial and consumer products organizations having an average of 100 members per chapter.

CORVUS SYSTEMS INC.

EDWARD D. CONNOR
Manager
Technical Requirements

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RCI
Resource Consultants, Inc.
Suite 600 8200 Greensboro Drive McLean, Virginia 22102 (703) 893-6120

Franklyn P. Smith
Director, Systems Acquisition Support
(703) 281-6561 Home

13. HONORARY MEMBERS

In accordance with the By-Laws, honorary members are recommended by the membership due to the individual's outstanding contributions to T&E and require a 2/3 vote of approval by the BOD. The following distinguished personnel were unanimously elected to honorary memeberships at the BOD meeting on 6 March 1981:

Lt. Gen. Alfred D. Starbird, USA (Ret) - H13SM
7208 Regent Drive
Alexandria, Virginia 22307

Maj. Gen. Robert L. Kirwan, USA - H14SM
Commander
U.S. Army OTEA
5600 Columbia Pike
Falls Church, Virginia 22041

RADM John G. Wissler, USN - H12SM
Commander
Naval Air Test Center
Patuxent River, Maryland 20670

THE ITEA BOD HAS IDENTIFIED A LARGE NUMBER OF CANDIDATE HONORARY MEMBERS THAT HAVE DISTINGUISHED THEMSELVES BY THEIR CONTRIBUTIONS TO T&E. THESE CANDIDATES WILL BE REVIEWED AT THE NEXT BOD MEETING AND INVITATIONS EXTENDED. CARL COOPER IS ACTIVELY DEVELOPING LISTS OF CANDIDATES TO BE PRESENTED.

ITEA MEMBERSHIP NUMBER

Please include membership number on all correspondence to ITEA.

Expedites response and saves considerable hand-labor and possible duplication.

14. SPECIAL PERSONALITIES

We were proud to welcome the first female member to ITEA-Miss Virgina L. Dorsey (C163RM) of Martin Marietta, Orlando, Florida. Miss Dorsey is from Tulare, California and has a Bachelors Degree from California State University in physics and mathematics. She is a member of IEEE and specializes in the design and implementation of hardware and software for automatic test equipment as well as robotics, electro-optics and artifical intelligence while also working on a MSEE degree. Interested in local recruiting for ITEA and organizing a chapter.

We also proudly welcome Ms. Dinah L. DeMoss (C197RM) of NSWSES at Port Hueneme, California as the second female members. Ms. DeMoss has a A.B. Degree in mathematics from Indiana University and specializes in naval surface combat systems analysis/test design, EW, simulation, sensors, computer software, operations research and DT&E. She is from Vincennes, Indiana.

Mr. Wing Ngan Tseung (C203RM) was born in Hong Kong and has an MSEE degree from Georgia Institute of Technology. Mr. Tseung is with Healthdyne, Inc. in Marietta, Georgia and specializes in T&E of medical electronics equipment. He is also Assistant Manager in City Radio in Bacolod City, Philippines and interested in the ITEA International Committee.

Miss Virginia L. Dorsey

Ms. Dinah L. DeMoss

15. THE KEY TO THE FUTURE OF ITEA

Preliminary studies of T&E conducted from 1970 to 1979 showed the need to establish T&E as a professional career field in order to achieve the objectives of T&E as identified by the national society. This led to the need for formal academic recognition and training courses focussed on T&E along with even greater emphasis created by the public and government to improve the life cycle cost and performance of all types of products-defense, industrial and consumer. In fact world events impacted on consumer products and demanded increased productivity, performance and readiness on industrial and defense products all during a rapid expansion in technological developments of materials, computers, weapons and automobiles.

The need for rapid technological exchange along with improved T&E led to the need for a new professional society devoted exclusively to T&E-thus ITEA was founded on January 18, 1980.

The key to achieving the ITEA general objectives of enhanced performance of T&E is membership growth essential for the rapid exchange and dissemination of interdisciplinary scientific, engineering and management knowledge. ITEA will accomplish these objectives by publications, technical meetings, educational courses and others. The bottom line is to further expand ITEA memberships in order to achieve the objectives with financial stability.

This historical evaluation of ITEA is classic to all professional societies throughout history as was outlined in the april 1980 ITEA Newsletter. A recent example of this process was the need to better understand the introduction of biological bodies with electromagnetic waves. Thus the need created the Bioelectromagnetic Society (BEMS) in 1979 which as grown to over 225 members in 2 years. BEMS is now the center of this highly specialized field and publishes a very respected quarterly professional journal while working with all societal problems in government, industry ad consumer technological affairs.

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* * * * * * * * * * * * * * * *
*                               *
*   HOW CAN YOU HELP ITEA?      *
*                               *
* * * * * * * * * * * * * * * *
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16. "THANK YOU _____"

Thanks to the many professional societies that have recognized ITEA and featured ITEA's goals and progress in the pages of their Journals:

(1) Society of Logistic Engineers
(2) Computer Society of the IEEE
(3) Defense Systems Management College Journal of Concepts
(4) Tactical Weapon GACIAC Bulletin
(5) Radio Technical Commission for Aeronautics
(6) Asociation for Unmanned Vehicle Systems
(7) Industrial Research and Development
(8) Aerospace Canada
(9) Army Research, Development and Acquisition
(10) Army Logisticians
(11) Others

The following reprint is typical:

R/D NEWS IN BRIEF

"Professional Group Will Update Advances in Testing and Evaluation"

The first newsletter-detailing organizational matters-of the recently formed International Test & Evaluation Association (ITEA) has been published. ITEA seeks to foster communication among its members, advance the art, and secure recognition for the role of test and evaluation as a full partner in the work of industry, academia, and government. President of ITEA is Dr. Allen Matthews. Presently, organizing heads are trying to encourage the establishment of chapters of ITEA throughout the U.S. Other plans include developing standing committees, establishing professional working groups, and organizing technical meetings and international symposia on testing and evaluation. The newsletter will include members' ideas and advances so other members are aware of those advances. For more information on ITEA and its newsletter write to Membership Committee, Box 603, Lexington Park, MD, 20653.

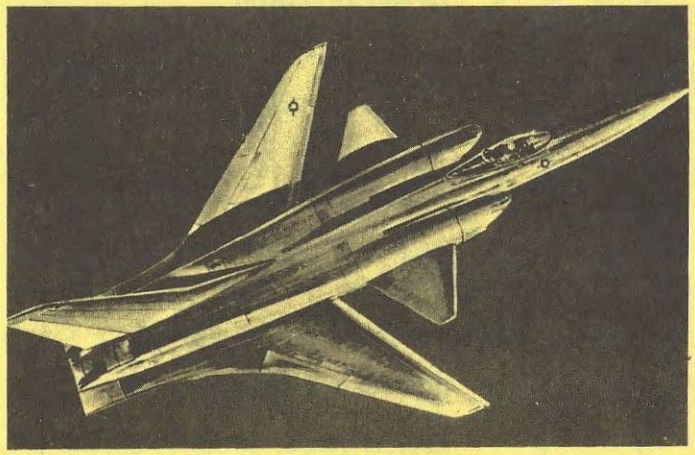
FROM: Industrial Research & Development-March 1981

The response by inquiries for copies of the Newsletter has been voluminous from the U.S. and foreign countries. Thanks again the Membership Chairman Dave Herrelko.

ITEA quickly distributes 2000 copies of the Newsletter and will soon be sending a Technical Journal as well as symposia proceedings.

JUNE 24-25, 1981

ADVANCED AIR SYSTEMS



THE IMPACT OF TECHNOLOGY ON

Test & Evaluation Operations Logistics Support

NAVAL AIR STATION

PATUXENT RIVER, MARYLAND

The Southern Maryland Chapter of the International Test and Evaluation Association (ITEA) is proud to present a major, two-day symposium exploring those technologies which will have significant impact on the next generation of military aircraft. Speakers representing the military services, Office of the Secretary of Defense, and major defense contractors will address topics of vital importance to personnel involved in the test and evaluation, operation, or logistics support of military aviation. Registration is limited to no more than 125 participants. Make plans now to attend this important educational event.

INDUSTRY KEYNOTE

"ADVANCED AIRCRAFT CONCEPTS"

DR. RENSO CAPORALI

Vice President, Development
Gruman Aerospace Corporation

GOVERNMENT KEYNOTE

"TECHNOLOGY IN NEW MILITARY AIRCRAFT"

CAPT. R. J. MILLER, USN

Asst. Commander for Research & Technology
Naval Air Systems Command

REGISTRATION FORM: ADVANCED AIR SYSTEMS

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Position: _____

Employer: _____

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Phone: WK ☐ HM ☐ ( ) _____ Ext: _____

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DD 1556 to Follow (Gov't and Military Only) ☐
Please send me additional information on the International Test & Evaluation Association ☐

REGISTRATION FEE $55

MAKE CHECKS PAYABLE TO I.T.E.A. AND MAIL TO:

SOUTHERN MD CHAPTER
INT'L T & E ASSOC.
P.O. BOX 203
PATUXENT RIVER, MD 20670

PROGRAM

WEDS., 24 JUNE 1981

0730 - 0900

REGISTRATION

—

0900 - 1115

WELCOME BY CHAIR
INDUSTRY/GOVERNMENT KEYNOTE

LUNCHEON TOPIC

TOTAL SIMULATION TRAINING
Captain Walt Estridge
Director – Flight Training
American Airlines, Inc.
Chairman, ATA Training Committee

1245: Trends in Flight Simulator Technology
Dr. Edward A. Stark
Singer Aerospace – Link Division

1330: Aircraft Fly-By-Light Systems
Mr. Joel Terry
U.S. Army Research & Technology Laboratory

1430: Very High Speed Integrated Circuits
Mr. Ralph Szygenda
Texas Instruments, Inc.

1515: Voice-Interactive Avionics
LCDR Steve Harris
Naval Air Development Center

1600: Adjournment

PROGRAM

THURS., 25 JUNE 1981

0800 - 1000 • 1015 - 1145

Technology and Military Readiness
Mr. Franklin C. Spinney
Office of the Secretary of Defense
(Program Analysis and Evaluation)
Tactical Air Division

LUNCHEON TOPIC

Aircraft Testing:

Old Art or New Technology

Rear Admiral J. G. Wissler, USN
Commander
Naval Air Test Center
Patuxent River, Maryland

1330: The Advanced Simulation Center (ASC)
Mr. Maurice Belrose
U.S. Army System Simulation & Development Lab

1430: Global T & E Technology
MAJ GEN Pat Powers, USA (Ret)
T & E International, Inc.

1515: RF Target Simulator System
Messrs. Schull and Buse
Boeing Aerospace Company

1600: Adjournment

REGISTRATION

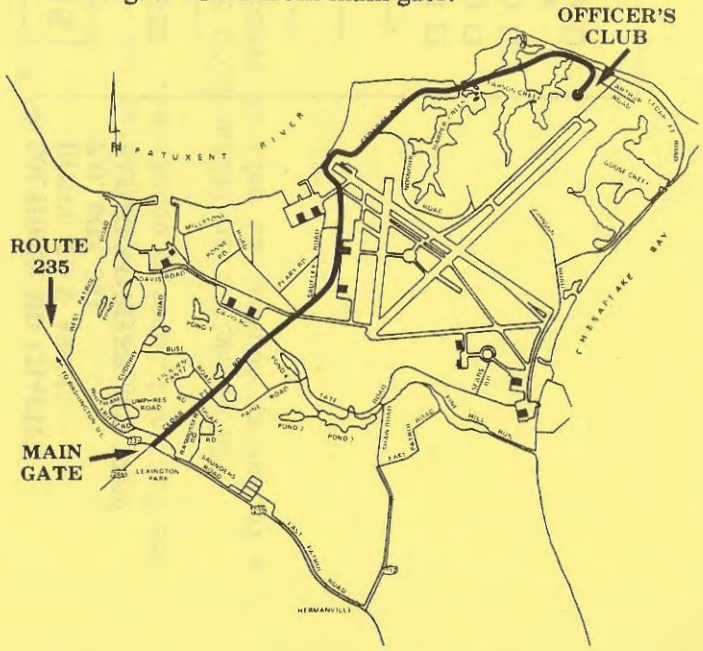
Preregistration is required for attendance. The registration fee of $55.00 includes all materials and two lunches. Cancellations for full refund must be made prior to 22 June. Substitutions anytime.

ACCOMMODATIONS

Military or professional civil service personnel with appropriate orders may stay at the NAS Bachelor Officers Quarters (A/V 356-3667). Others should arrange to stay at the Belvedere Motel in Lexington Park, MD (301-863-6666) or the Holiday Inn, Waldorf, MD (40 miles from NAS, 301-645-8200). All accommodations are limited and early reservation is advised.

DIRECTIONS TO PATUXENT RIVER

From the Washington, D.C. beltway follow MD Rt. 5 through Waldorf to MD Rt. 235. Continue straight on Rt. 235 to Lexington Park. The Naval Air Station is on the left. Visitor passes are available at the Security Bldg. ½ block from main gate.



MEMBERS: RESUBMIT WITH ANNUAL DUES/DONATION AND UPDATED INFORMATION ONLY.

NEW MEMBERS: COMPLETE IN ENTIRETY

(Print or Type) THIS FORM MAY BE REPRODUCED AS REQUIRED

INTERNATIONAL TEST AND EVALUATION ASSOCIATION (ITEA) MEMBERSHIP APPLICATION AND RECORD FORM

I. NAME: ______ Last ______ First ______ Middle Initial or Name

II. TITLE: Mr. Mrs. Miss Ms. Dr. (Circle One) Other ______

III. RESIDENCE ADDRESS

______ Street/Court/Place/Etc.

______ P.O. Box/Apt. No./Other

______ City/State/County/Zip

______ Area Code/Telephone Number

IV. OFFICE ADDRESS:

______ Title

______ Organization/Mail Stop or Code

______ City/State/County/Zip

______ Area Code/Telephone Number

V. PREFERRED ITEA MAILING ADDRESS: Residence ___ Office ___

VI. BRIEF BIOGRAPHY: (For ITEA Analyses of Membership Interests in Meetings and Publications)

Born: ______ Place ______ Date

Citizenship: ______

Academics: ______ Highest Degree ______ Institution ______ Major Fields

Technical Specialties: ______

T&E Specialties: ______

Other Specialties: ______ (i.e., 'ilities/operations/manufacturing/prog. development/management)

Special Awards: ______

Biographical Listings In: ______

Membership in Other Professional Societies: ______

VII. SPECIAL T&E INTERESTS: (discuss)

VIII. VOLUNTARY DONATION ($5 to $75): ______ Designate Amount

IX. SPONSOR(S): ______ (Not required for Charter Members (deadline, Last Day 1981 Annual Symposium)

X. ANNUAL DUES: $25 all membership classes except $15 for active duty military and $10 for students except active duty military

______ Signature ______ Date

NOTE A: Enclose check payable to ITEA for dues plus donation to cover dues for calendar year 1981 (Tax Deductible).

NOTE B: Mail to ITEA, P.O. Box 603, Lexington Park, Maryland 20653

(ITEA Purposes Only)

* *

ITEA Approved by: ______ ITEA Recorded by: ______

ITEA Record of Payment: ______

Membership Card Issued by: ______ Number: ______

Form 101 (Jan 81) **OVER** **MEMBERS: ENTER ASSIGNED MEMBERSHIP NUMBER**

PROGRAM

WEDS., 24 JUNE 1981

0730 - 0900

REGISTRATION

—

0900 - 1115

WELCOME BY CHAIR
INDUSTRY/GOVERNMENT KEYNOTE

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Mr. Ralph Szygenda
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1515: Voice-Interactive Avionics
LCDR Steve Harris
Naval Air Development Center

1600: Adjournment

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0800 - 1000 • 1015 - 1145

Technology and Military Readiness
Mr. Franklin C. Spinney
Office of the Secretary of Defense
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LUNCHEON TOPIC

Aircraft Testing:

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Rear Admiral J. G. Wissler, USN
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1330: The Advanced Simulation Center (ASC)
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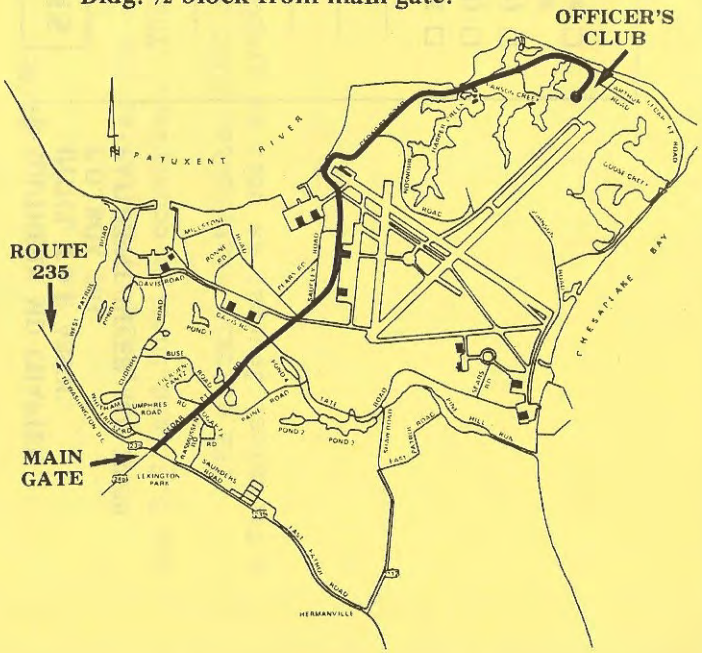
Military or professional civil service personnel with appropriate orders may stay at the NAS Bachelor Officers Quarters (A/V 356-3667). Others should arrange to stay at the Belvedere Motel in Lexington Park, MD (301-863-6666) or the Holiday Inn, Waldorf, MD (40 miles from NAS, 301-645-8200). All accommodations are limited and early reservation is advised.

DIRECTIONS TO PATUXENT RIVER

From the Washington, D.C. beltway follow MD Rt. 5 through Waldorf to MD Rt. 235. Continue straight on Rt. 235 to Lexington Park. The Naval Air Station is on the left. Visitor passes are available at the Security Bldg. ½ block from main gate.



MEMBERS: RESUBMIT WITH ANNUAL DUES/DONATION AND UPDATED INFORMATION ONLY.

NEW MEMBERS: COMPLETE IN ENTIRETY

(Print or Type) THIS FORM MAY BE REPRODUCED AS REQUIRED

INTERNATIONAL TEST AND EVALUATION ASSOCIATION (ITEA) MEMBERSHIP APPLICATION AND RECORD FORM

I. NAME: _____ (Last) _____ (First) _____ (Middle Initial or Name)

II. TITLE: Mr. Mrs. Miss Ms. Dr. (Circle One) Other _____

III. RESIDENCE ADDRESS

_____ Street/Court/Place/Etc.

_____ P.O. Box/Apt. No./Other

_____ City/State/County/Zip

_____ Area Code/Telephone Number

IV. OFFICE ADDRESS:

_____ Title

_____ Organization/Mail Stop or Code

_____ City/State/County/Zip

_____ Area Code/Telephone Number

V. PREFERRED ITEA MAILING ADDRESS: Residence ___ Office ___

VI. BRIEF BIOGRAPHY: (For ITEA Analyses of Membership Interests in Meetings and Publications)

Born: _____ (Place) _____ (Date)

Citizenship: _____

Academics: _____ (Highest Degree) _____ (Institution) _____ (Major Fields)

Technical Specialties: _____

T&E Specialties: _____

Other Specialties: _____ (i.e., 'ilities/operations/manufacturing/prog. development/management)

Special Awards: _____

Biographical Listings In: _____

Membership in Other Professional Societies: _____

VII. SPECIAL T&E INTERESTS: (discuss)

VIII. VOLUNTARY DONATION ($5 to $75): _____ Designate Amount

IX. SPONSOR(S): _____ (Not required for Charter Members (deadline, Last Day 1981 Annual Symposium)

X. ANNUAL DUES: $25 all membership classes except $15 for active duty military and $10 for students except active duty military

_____ Signature _____ Date

NOTE A: Enclose check payable to ITEA for dues plus donation to cover dues for calendar year 1981 (Tax Deductible).

NOTE B: Mail to ITEA, P.O. Box 603, Lexington Park, Maryland 20653

(ITEA Purposes Only)

* *

ITEA Approved by: _____ ITEA Recorded by: _____

ITEA Record of Payment: _____

Membership Card Issued by: _____ Number: _____

Form 101 (Jan 81) OVER MEMBERS: ENTER ASSIGNED MEMBERSHIP NUMBER

MEMBERSHIP SURVEY--PLEASE CHECK ALL BOXES THAT APPLY

I. TECHNICAL SPECIALTIES

( ) Engineering
- ( ) Electrical
- ( ) Electronic
- ( ) Mechanical
- ( ) Aeronautical
- ( ) Astronautical
- ( ) Propulsion
- ( ) Industrial
- ( ) Human Factors

( ) Computer Systems
- ( ) Hardware
- ( ) Software
- ( ) Systems
- ( ) IV&V

( ) Simulation
( ) Ops. Research/Systems Analysis
( ) Systems Design
( ) Flight Test Engineer
( ) Test Pilot
( ) Ships & Ship Systems
( ) Undersea Warfare
( ) Electronic Warfare
( ) Unmanned Vehicles
( ) Aviation
- ( ) Flight Ops.
- ( ) Vertical Flight
- ( ) Avionics

( ) Sensor Systems
( ) Medicine
( ) Mission Systems
( ) Test Facilities
( ) Measures of Effectiveness
( ) Signal Processing
( ) C-Cubed
( ) Physics
( ) Munitions
( ) Chem/Bio/Nuke Warfare
( ) Environmental
( ) Survivability
( ) Intelligence
( ) Logistics
( ) Depot Rework T&E
( ) At Sea Ops
( ) Production
- ( ) Commercial Mf'g
- ( ) Ship Building
- ( ) QA

( ) R/M/A
( ) Space Systems
( ) Safety
( ) Systems Safety
( ) Range Officer/Eng'r
( ) Instrumentation
( ) Data Reduction/Analysis
( ) ATE
( ) Sensors
( ) CT&E
( ) DT&E
( ) OT&E
( ) JT&E
( ) Cost Effectiveness
( ) LCC/DTC
( ) Many on Many T&E
( ) Integrated Systems T&E
( ) _____
( ) _____

II. OTHER SPECIALTIES

( ) Policy
( ) Procedures
( ) Planning
( ) Test Development
( ) Budget/Controllership
( ) Systems Acquisition
( ) Program Management
( ) Mgt. Info. Systems
( ) Manufacturing
( ) Marketing
( ) Data Base Management
( ) Organizational Development
( ) Education
( ) Consultant
( ) Training
( ) _____
( ) _____

III. I CAN HELP WITH:

( ) Symposium
( ) Publication Committee
( ) Publicity Committee
( ) Membership Committee
( ) International Committee
( ) Starting Local Chapter
( ) Contributing to Newsletter
( ) Speaking at a Meeting
( ) _____
( ) _____

Details _____
_____
_____
_____

IV. COMMENTS: _____
_____
_____
_____

V. HERE ARE SOME ITEA MEMBERSHIP PROSPECTS. PLEASE SEND THEM A NEWSLETTER AND A MEMBERSHIP APPLICATION FORM.

1. _____ 2. _____ 3. _____
_____ _____ _____
_____ _____ _____
_____ _____ _____

YOU MAY/MAY NOT (CIRCLE ONE) TELL THEM I RECOMMENDED THEM TO ITEA.

17. PLANNING COMMITTEE

In the course of events ITEA will need to establish a Planning Committee to address both the long range (5-15 years) and the short range plan out to 5 years. Interested members should contact the President by mail.

Basically, the LRP should provide guidance for short term decisions. Subjects to be addressed include:

(1) Contributions to the international and national economy, technology, professional recognition, productivity, defense and international relations through T&E on all types of products.

(2) Motivate and assist personnel and nations in the development of T&E skills and technology through education, training, scholarships and T&E methodology.

(3) Enhance high professional standards of conduct by providing exemplary conduct of ITEA affairs.

(4) Promote the general welfare and professional role of the T&E practioner.

(5) Develop essential facilities and staffing for ITEA to achieve its short and long term plans and objectives.

The SRP must with time-phased realism address: (1) goals, (2) membership, (3) technical committees, (4) financial plan, (5) technical meetings, (6) symposia, (7) publications, (8) organizational structure, (9) regions/chapters, (10) education, (11) interface with related professional societies, and (12) others.

ARE YOU A PLANNER? IF SO, OFFER YOUR SERVICES FOR A TEAM EFFORT.

FAI Finkelstein Associates, Inc.

Walter Finkelstein

15932B Shady Grove Road
Gaithersburg, MD 20760

(301) 258-5130

COMPUTER SCIENCES CORPORATION
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ALLEN M. EBELTOFT
SENIOR ENGINEER

APPLIED TECHNOLOGY DIVISION
(301) 863-7650 (PRIORITY NUMBER)
(301) 863-2022

White Scientific Consultants, Inc.

Edward A. White, Jr.
President

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Home
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(703) 979-2900

17 Shangri-La Drive, South
Lexington Park, Maryland 20653
(301) 863-9407

18. THE STORY OF THE JANUARY 1981 NEWSLETTER

The subject Newsletter is the product of several months half-time work by the Editor with the support of others such as Dave Herrelko, Membership Chairman; Bill Spurgeon, Secretary; Harry Botsford and Norry Darcey of White Scientific (services); Jerry Colvin, Jr. CPA (services); and Charlie Palmer (St. Mary's Press). Bill and I spent two days packaging and mailing 161 pounds of Newsletters by zip code, city, state and organization.

Over 2000 copies were printed with over 1100 shipped at bulk rate postage on 2 February 1981. The President/Editor was responsible for all drafts including composition, layout and acquisition of material including final errors such as the page one reference to Section 7 instead of 6, page 14 error of denoting Major General Powers as USAF instead of USA as correct on pages 17 and 29; page 32 Naval Air Logistics Command instead of Center; not marking yellow pages as tear-outs, and others such as address errors that are yet to be identified. Please advise of significant errors that need correction.

Instead of sending members' copies first class at 41 cents each it was decided to send 5 copies to each member at the third class bulk rate of 43 cents per pound. This is 2-3 days versus 2-7 days delivery time as quoted by the U.S. Postal Office. The non-profit mailing privilege is still pending at U.S. Postal Office Headquarters and may arrive for this issue. When received, the cost difference in mailing cost is refunded to ITEA. If any of the initial 75 members have not received their five copies, please advise for immediate shipment of at least one by first class mail.

A total of 560 single copies were shipped to individuals on the general mailing list to inform and encourage membership applications. In addition, over 200 copies have been mailed to requesters resulting from free advertising in professional journals and over 300 copies have been hand delivered to members or interested parties at briefings.

The computerized mailing list was limited in capacity so would not print out the total desired titles, membership numbers and dues paid date. This is being solved by expanding the software!

Rush your letters to the Editor for publication and also send News Flashes as well as the organization/facility information for the mailing page. Dave Herrelko has volunteered to be editor starting in June-the next issue.

The periodicity of Newsletter issues will now be quarterly instead of by-monthly as previously announced. This is necessary due to direct costs and limited staff.

The pictures show the team in action.

FIG 1, Pres. "Matt" Writes Newsletter

FIG 3, Sec. Bill Spurgeon Works Mailing Process

FIG 2, Mrs. Anne Matthews Does Heavy Work

FIG 4, "Matt" Helps Stuff Mailing Boxes

19. EVENTS

A. DICK CROSS ADDRESSED T&E PROFESSIONALS

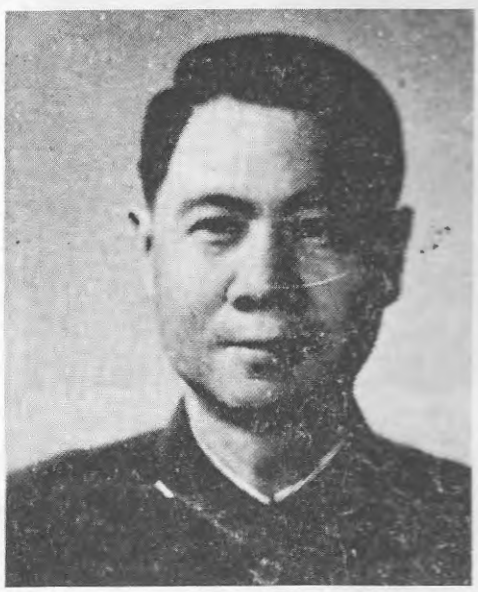
Dick Cross, Chairman of ITEA Senior Advisory Board (SAB), was guest speaker at the 19 January 1981 Professionalism Review to Improve and Develop Excellence (PRIDE) conducted by Naval Air Test Center, Patuxent River, Maryland. Over 400 engineers, pilots, aircrew members, management and support personnel were in attendance as Dick made the first formal presentation of ITEA to a large group of T&E professionals gathered for that purpose. Using the presentation material and audi-visual aids developed by Matt Matthews and Bill Spurgeon, the discussion included ITEA history, organization, and goals, as well as current plans for the 1981 technical symposium. Copies of the newsletter were distributed complete, of course, with applications for membership.

Dick Cross is a retired Major General USAF and currently Vice President of BDM in Washington, D.C. He is the former Commander of AFTEC at Kirtland AFB, Alberqueque, New Mexico. His speciality is building a strong and effective U.S. military capability and conducting T&E in all areas to ensure capabilities by improved and cost effective T&E. Dick provides key policy guidance and is a story supporter of ITEA. He is member C8SM and highly respected for his professional T&E expertise.

B. SOLE LUNCHEON MEETING

The Society of Logistics Engineers, Southern Maryland Chapter at Patuxent River, Maryland held a luncheon on 25 February 1981. The guest speaker was Naval Captain Feng Liesun, Assistant Defense Attache of the Peoples Republic of China. Capt. Feng discussed international relations with an attenance of over 200 at the NAS Patuxent River Officers' Club. Capt. Feng was a member of the China delegation to the United Nations Military Staff Committee as Naval Representative, 1976-1979 and was accredited to the DOD as Assistant Defense Attache on 13 June 1979. Capt. Feng was not only charming in his remarks but created an atmosphere of the spirit of friendship within the objectives of awareness of his nation's viewpoint. Dr. Matthews was provided an opportunity to present the status of ITEA to attendees and to discuss ITEA relative to China with Capt. Feng.

DICK CROSS



CAPT. FENG LIESUN

20. !! NEWS FLASHES!!

(1) AGM-65D: The Air Force has completed a successful first launch of its AGM-65D imaging infrared (IR) Maverick missile in a nighttime flight at Eglin AFB, FL. The missile, launched from an F-4 Phantom fighter aircraft, tracked a non-operating tank and impacted squarely on target. This launch kicks off a series of development, test and evaluation flights to verify compliance with engineering specifications and to test the system under realistic conditions.

Aeronautical System Division (ASD), headquartered at Wright-Patterson AFB, Ohio, is managaing the missile development program. Hughes Aircraft Company's Missile Systems Group, Canoga Beach, California is developing the missile under an ASD contract. Production of the IR Maverick is expected to begin in 1982.

The entire series of developmental and initial operational test will include some 30 launches; it is expected to run through next September. Ground-based studies and "captive" flight tests using helicopters and fixed-wing aircraft will contine to supplement actual firings. Future tests will include captive flights and launches against massed armor deployment to simulated the missile's performance in a target-rich combat environment.

(2) ADVANCED SOLID-PROPELLANT ROCKET: A solid-propellant rocket motor embodying a new concept has been test-fired at Arnold Engineering Development Center. This motor uses high-energy fuel and a highly expanded, large-diameter exhaust cone. The 7.124 pound, advanced-space-propellant demonstration motor was fired in a high-altitude test cell at a simulated altitude of 100,000 feet.

Technical management of the program was provided by AFSC's Air Force Rocket Propulsion Laboratory, Edwards AFB, California. The sucessful firing involved a proof-of-concept study that examined the baseline performance of the high-energy propellant.

(3) EDWARDS AVIONICS TESTING (ED.: SHADES OF ITEF!): Preparations of increased avionics testing at the Air Force Flight Test Center have taken a big step forward with the award of a $10.7 million contract to Tutor Saliba, Encino, California for construction of an integration facility for avionics systems testing (IFAST). Other preparations will include the acquisition of a simulation computer complex for the IFAST at an estimated cost of $14 million. AFFTC officials expect the computer system contract to be awarded by late summer.

Avionics-the electronic equipment and software aboard aircraft-have accounted for 35 to 75 percent of the total support costs for operational aircraft. Avionics software is being used to control an increasing number of aircraft functions. Thus avionics testing is expected to reach 60 percent of AFFTC's total testing effort within five to eight years. "In many cases here in the past," explains IFAST Program Manager Jim Underwood, "we have had very limited avionics support facilities." "Rather than building large support facilities for each program over and over again--and having to size each one for the maximum job it's going to do--it would be smart to put four programs under one roof and use a central computer system to provide support for all the programs."

IFAST, according to Underwood, will provide three things--a unique building, an automated engineering tool, and an integrated simulation facility to support both the Air Force and the contractors under the combined test-force concept.

The three-story building, will have four test bays-two on each of the top two floors. Administrative offices and the central computer system will occupy the first floor.

An example of IFAST's potential will be the ability to fly an aircraft's avionics without flying the aircraft. The facility will also permit engineers to simulate "black boxes" when the real units must be installed in aircraft for flight.

(4) LASER COMMUNICATION: Air Force Space Division (SD) has completed its two-year testing series on the space-based laser communications (LaserCom) system concept, with preliminary results matching expectations.

LaserCom, developed by SD, proved it can transmit data equal to the text of an encyclopedia set in just one second.

Final test involved a full-capability model mounted in an aircraft flying 30-mile-diameter circles at 35,000 feet over the White Sands, New Mexico test facility. Test teams transmitted live and pretaped television programs with sound to the ground station at the designed data rate of one billion bits per second. Lower-data-rate transmissions were also made between the aircraft and the ground, using LaserCom equipment.

A LaserCom experiment is scheduled to fly in space aboard a host satellite in the mid-1980's. The satellite is being furnished through SD's space test program.

(5) ABRAMS TANK (M-1): The army's new tank, developed by Chrysler Corporation, is currently undergoing test and evaluation at several locations. Development test and evaluation is underway at: (1) Aberdeen Proving Ground, Maryland (mobility, fire power, reliability); (2) White Sands Missile Range, New Mexico (electro magnetic radiation); (3) Eglin Air Force Base, Florida (cold chamber); (4) the Desert Test Center at Yuma Proving Ground, Arizona; and (5) the Cold Region Test Center at Ft. Greely, Arkansas. Operational test and evaluation is underway at two locations: (1) The Armor Board at Ft. Knox, Kentucky where 4 tanks are executing realistic missions to provide operational, reliability and maintainability data; and (1) at the TRADOC Combined Arms Test Activity at Ft. Hood, Texas, where 42 tanks are executing crew training, platoon firing, company maneuvers, and a battalion exercise, primarily for supportability data.

(6) FIRST HORNET ARRIVES: Fighter Attack Squadron 125 (VFA 125) received its first F/A-18 Hornet on 19 February at NAS Lemoore, California.

The Navy's newest STRIKE Fighter was flown to its home base by VFA 125's Commanding Officer, CDR James W. Partington.

Plans for the squadron's first aircraft center around "hands on" maintenance training for squadron personnel. Pilot training will begin with delivery of the first twin-seat trainer version of the Hornet.

VFA 125's first Hornet has been undergoing initial operational tests and evaluation for the past five months with Air Test and Evaluation Squadron Four (VX-4) at the Naval Air Test Center at Patuxent River, Maryland. It was subsequently flown to VX-4's home base at the Pacific Missile Test Center, Pt. Mugu, California where it was further evaluated for aircraft carrier suitability, computer software development and initial performance. The

aircraft was then transferred to VFA 125.

(7) ADVANCE GSE TESTING: Air Force has opened a new facility to test models of aircraft and ground support equipment with unconventional undercarriage designs that offer mobility in battle environments. Engineers in the Flight Dynamics Laboratory at Wright-Patterson AFB will use the new Mobility Development Laboratory for research on air cushion and ground effects takeoff and landing systems. Air cushion systems offer an alternative method of moving a vehicle--whether it's an aircraft or supply truck--across a ditch or obstacle that would not support or might break conventional landing gears and wheels. Air Force engineers plan to look at some schemes for landing aircraft with gross weights of more than one million pounds.

(8) ARMY ESTABLISHES COMBINED TEST EQUIPMENT OFFICE: The U.S. Army is forming a single Test, Measurement & Diagnostic Equipment Office to be a single manager of all electronic test equipment throughout the service.

The new centralized test equipment office will oversee the Army's vast test equipment resources-as well as work with Army program offices to develop test systems for new weapons.

(9) NBS USES MOON FOR CALIBRATION: The U.S. Department of Commerce has announced that the moon is a good source of microwave energy.

The moon, says the Commerce Department's National Bureau of Standards (NBS), can be used for calibrating certain satellite-communcations antennas. According to NBS, "the moon, as it happens, emits reasonably homogeneous amounts of electromagnetic radiation. Thus, by pointing the antennas directly at the moon and taking certain measurements, small ground-based antennas can be calibrated."

NBS has been working with the Army in developing a system of measuring newly constructed antennas to determine whether the low-noise specifications have been met.

(10) GOVERNMENT MAIL RESTRICTIONS: NAVSEA memorandum 996/WRS Ser 6 dated 19 February 1981 discontinues delivery of third class (bulk and non-profit) mail within NAVSEA due to the mail personnel manpower involved. Effective date 1 March 1981. Therefore NAVSEA mail from ITEA will be sent first class to offices or third class to residence as so requested. All NAVSEA members will have their routine ITEA mailing address changed to their residence address.

This procedure will simplify ITEA's computer mailing address labels and perhaps expedite delivery. ITEA members in all organizations are requested to consider this change for their convenience and to ensure prompt delivery with benefits to ITEA. Send your comments and/or instructions to the Editor.

NOTE: Items for this section of the NEWSLETTER are encouraged from members. Call or forward information Lt. Col. Bill Smith or Miss Kendra Haugen at Defense Systems Management College, Building 207, Fort Belvoir, Virginia 22060; Commercial (703) 664-3477 or Autovon 354-3477.

21. REPORT REVIEWS

(1) Testing Laboratory Performance; Evaluation and Accreditation - A National Conference was held at the National Bureau of Standards, Gaithersburg, Maryland on September 25-26, 1979. The proceedings are now available as NBS Publication 591 or for $5.50 from the Superintendent of Documents, U.S Government Printing Office, Washington, D.C. 20402 under stock number 003-003-022292-2. The library of Congress catalog card number is 80-600110. Published August 1980, 180 pages.

This report is a compilation of 29 papers (178 pages) which address various techniques for evaluating the performance of testing laboratories, quality control aspects of the testing function, existing and proposed accreditation programs and systems, and international coordination applicable to government and public testing laboratories.

Testing laboratories are being subjected to ever increasing numbers of examinations, audits, and inspections to ensure their testing capability. To date, over 60 programs, both public and private, have been identified which evaluate testing laboratories and bestow accreditation in one fashion or another for tests conducted.

This report is particularly interesting relative to the paper in this ITEA Newsletter by Patrick W. Powers on "Test and Evaluation for Smaller Nations".

(2) Proceedings of the Computer Performance Evaluation and User Groups: The 16th meeting of this group (CPEUG) was held 20-23 October 1980 in Orlando, Florida and was sponsored by the NBS Institute for computer sciences and technology. The Navy Data Automation Facility, at the Naval training Center in Orlando hosted the meeting. Over 20 papers are included in the 330 page Proceedings identified by NBS Special Publication 500-65. The document is available for $8.00 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 under stock number 003-003-02250-1.

Again, please note the relationships to the article by Albert A. Mullin "Improved Cost-Effective T&E by Early Data Processing analysis" contained in this Newsletter. The NBS papers address CPE trends in the '80's, as well as new applications and changes that may occur in the '80's.

(3) Nonionizing Electromagnetic Radiation Safety: This document by the U.S. Department of Commerce - National Telecommunication and Information Administration, is identified as NTVA-SP-80-7 prepared December 1979 and printed June 1980. The text describes a Program of Coordinated Federal Actiities Related to Biological Effects of Nonionizing Electromagnetic Radiation (0-300-GHz) and was prepared by the interagency task force on the Biological Effects of Nonionizing EM Radiation (BENER).

The report was initiated by the Office of Science and Technology Policy, Executive Office of the President on 14 March 1979 based upon a prior study documented in May 1978, and various congressional hearings. The report is interesting due to its broad coverage of the field with representation from:

Bureau of Radiological Health - (BFH)
Central Intelligence Agency - (CIA)
Department of Defense - (DOD)
Department of Energy - (DOE)

Department of Transportation - (DOT)
Environmental Protection Agency - (EPA)
Federal Communications Commission - (FCC)
Nationl Bureau of Standards - (NBS)
National Institute of Environmental Health Sciences - (NIEHS)
National Institute for Occupational Safety and Health - (NIOSH)
National Science Foundation - (NSF)
National Telecommunications and Information Administration - (NTIA)
Occupational Safety and Health Administration - (OSHA)
Office of Science and Technology Policy - (OSTP)
Veterans Administration - (VA)

This 75 page report outlines the scope of government activities and identifies numerous broad problem areas as well as a coordinated governmental approach. It cannot address all details of each subject but provides an excellent general guidance document for all government, industrial and academic organizations. A similar survey of T&E would be appropriate.

Available from the Superintendent of Documents, Washington, D.C. 20402 for $4.00 as document 003-000-00560-7 under subject title.

(4) Index of Publications on Biological Effects of Electromagnetic Radiation (0-100 GHz): This document complements the previous item and was edited by James B. Kinn, USEPA and Elliot Postow, National Naval Medical Center, Bethesda, Maryland. DR. Postow is also Editor of the Bioelectromagnetics Journal of the BEM Society and has lectured on this subject on 8 November 1978 at the Naval Air Test Center. He was a founder of BEMS.

The index includes 567 pages listing 3,627 references categorized by key word, author index and index publication citation number. Titles listed with publication references.

The document is identified as EPA-600/9-81-011 March 1981 under the above title and useful for research workers. Demonstrates the extensive work being done in this field. Available from Superintendent of Documents, Washington, D.C. 20402.

(5) Budget of the U.S. Government FY82 and Separate Appendix: These two annual documents are very informative particularly the appendix document. It is a challenge to find funds allocated for T&E which subject is not listed in the appendix of either document. However R&D is listed in both appendices and appear in the text as either R&D or RDT&E. The only exception noted is on page I-G44 which allocates T&E funds to the Director of Defense T&E with this introduction:

> "For expenses, not otherwise provided for, of independent activities of the Director of Defense T&E in the direction and supervision of test and evaluation; including IOT&E; and performance of joint testing and evaluation; and administrative expenses in connection therewith; ($42,000,000) $53,000,000, to remain available for obligation until September 30, (1982) 1983....."

This above budget is essential and the direct result of government studies starting in 1970. The question should be considered of additional line item funds identified for T&E. What are your comments?

22. RELATED TECHNICAL MEETINGS

(1) 37th Annual Forum and Technology Display: 17-20 May 1981 at New Orleans, Louisiana, Marriot Hotel, Rivergate Convention Center. Theme: "Turning Point". Program includes: (1) Aerodynamics, (2) Aircraft Design, (3) Avionics and Septures, (4) Civil Helicopter Technology, (5) Beyond the Helicopter (V/STOL), (6) Test and Evaluation, (7) Structures and Materials, (8) Propulsion, (9) Acoustics, (10) Manufacturing and Product Assurance, (11) Handling Qualities. Progam information AHS Headquarters (202) 659-9524. Registration and housing, Sharlene Tyler (703) 471-6180.

(2) SOLE (Society of Logistics Engineers) 16th Annual International Symposium: 24-29 August 1981; Seattle, Washington. theme: "Modern Logistics Technology" with technical papers on (1) Logistics Research, (2) Systems Management, (3) Logistics Education and Training, (4) System Design and Development, (5) Product Support, (6) Material, Operation, Distribution and (7) Program Life Cycle Cost. Includes workshops on the theme of: "Portrait of Logistics Education" covering the needs of business, industry and government with highlighted capabilities of college, university and the private sector. Write '81 SOLE Symposium, P.O. Box 58202, Seattle, Washington 98188.

(3) Electronic Test and Measurement Conference: 5-8 October 1981 at the Hyatt Regency, Chicago, Illinois. Conference and Exhibition devoted exclusively to test instrumentation and ATE technology. Papers will address these problems in test technology and management: (1) Evaluating ATE, (2) Using Test Instruments Effectively, (3) Tradeoffs in Component Test Technology and (4) Effective Management of Test Resources. Call (617) 232-5470.

(4) Tenth Biennial Guidance Test Symposium: 7-9 October 1981 at the Central Inertial Guidance Test Facility at Holloman AFB, New Mexico 88330. Provides a forum on Guidance and Control Systems to interchange the latest advances and to discuss future requirements for the Test and Evaluation (T&E) of such systems. Attendance is by invitation and will be extended to qualified personnel from industry, academia, and government organizations. May include foreign material scientists and engineers. Papers solicited. Contact Symposium Manager, Mr. G. Mozer, Holloman AFB, AV 349-2123 or (505) 679-2123 or (505) 479-6511 Ext. 5-2123.

(5) Eighteenth Annual DOD/AOC Electronic Warfare Technical Symposium: 13-15 October 1981 at Andrews AFB, Maryland with classified exhibits. Will include NATO countries and speakers. Theme is "Restoring the Balance of Power", SECRET. Contact AOC Convention, 2300 South 9th Street, #300-A, Arlington, Virginia 22204. Ken O'Neil is Chairman (703) 553-6340.

(6) AIAA First Flight Testing Conference: 11-13 November 1981 in the Sahara Hotel, Las Vegas. Unclassified session topics of: (1) Flight Test Program Overviews, (2) Management of Test Programs, (3) Test Range Status, (4) Flight Test Methods, (5) Instrumentation, (6) Subsystem Testing, (7) Data Systems, (8) Comparison with Ground Testing, and (9) Pre and Post Flight analysis. In conjunction with related T&E professional societies or committees of SETP, SFTE, SAE, and ITEA. See Call for Papers, page 35.

(7) Seventeenth Meeting of the Computer Performance Evaluation Users Group: 16-19 November 1981; San Antonio, Texas. Sponsored by NBS and U.S. Department of Commerce. Hosted by Headquarters, Air Training Command, Department of the Air Force. Purpose is to promote the economic and effective utilization and

procurement of Federal ADP resources. Abstracts and formal papers to Thomas Wyrick; Department of the Air Force; FEDSIM/NA; Washington, D.C. 20330; (703) 274-7910. Tutorials and case studies to Carol B. Wilson, Fiscal Associates, Inc.; 5911 Edsall Road, Suite 1213, Alexandria, Virginia 22304; (703) 370-6361. Papers solicited to the theme of "Increased Organizational Productivity: Increasing DP Service and Quality while Minimizing DP Cost".

CALL FOR PAPERS
AIAA/SETP/SFTE/SAE/ITEA 1st Flight Testing Conference
"THE UNIVERSALITY OF FLIGHT TESTING"
November 11-13 1981
Sahara Hotel, Las Vegas, Nevada
Abstract Deadline: May 1, 1981

This conference provides a unique opportunity for the interchange of ideas amongst the multi-disciplines involved in flight testing.

The program will cover the wide scope of research, development, acceptance, operational and diagnostic testing of manned aircraft, remotely piloted vehicles, helicopters, launch systems, ballistic/tactical cruise missiles, guided munitions, space shuttle/spacecraft, re-entry vehicles and marinecraft. All sessions will be unclassified.

The papers selected will be chosen on the basis of originality and creativity, as well as documentation of cost effectiveness. Selections will cover all segments of the aerospace industry. A panel of knowledgeable flight test managers will screen the papers against the following criteria: (1) innovation, (2) originality, (3) clarity of expression, (4) broad applicability, and (5) quantified support for claims of applicable effectiveness.

Abstracts should be submitted in accordance with the following specific rules:

(a) Abstracts of 500-1000 words should be sent in triplicate to the Technical Program Chairman:

Mr. William Cutler
Flight Test Advanced Aircraft Projects
Grumman Aerospace Corporation
MS A30-05
Bethpage, NY 11714
(516) 575-4879/5346

(b) The firm deadline* for submission of abstracts is a postmark of May 1, 1981. Early submission will allow more time for review and would be appreciated.

(c) The submission of a first draft of the paper, in addition to the abstract, is highly encouraged.

Authors will be notified of the action taken on their proposed papers by Juen 22, 1981. The 100-word abstract of accepted papers will be due on July 13, 1981 and final manuscripts for publication will be due on September 1, 1981. All manuscripts of presented papers will be available at the Conference in a bound Proceedings volume. Therefore, these dates must be strictly observed to ensure publication in the volume. An addendum will not be printed.

Papers are sought on flight test management, flight test program overviews, test center status and new ground instrumentation capabilities, flight test methods, pre-flight analysis, real time and post-flight analysis, subsystem testing, airborne instrumentation and data acquisition, data acquisition, handling and processing, special instrumentation and support equipment, and comparison of flight with ground test results.

* Editor Comments: Deadline has been extended.

23. ADDITIONS TO MEMBERSHIP ROSTER OF ITEA

(From 8 January 1981 to May 12, 1981)

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Full size logo provided for appropriate reproduction for official use by ITEA Chapters, Committees, etc. as required on stationery, Symposium Programs, etc.

Business cards included in this issue of the Newsletter illustrate advertising examples and were used to utilize space available in layout. See page 46 for future arrangements

24. CORPORATE MEMBERSHIP IN ITEA

Industrial corporations, non-profit institutions and governmental agencies are all striving for increased productivity and reduced costs - cost/effectiveness. The key is educational training and motivation of employees. The honor of presenting a technical paper to peers is considered a privilege and a career milestone for both government and private sector employees. This exchange of technical information is a keystone to the expanding technology transfer program that achieves objectives of productivity at decreased costs.

Keep key employees that have been trained or professionally developed by your corporation or government agency. Don't lose them to competitors even for a salary increase or promotion opportunity. The technical world has changed. Demonstrate your interest in employees for long term contributions. Let them know that you support their development in your field of expertise and encourage their national recognition.

ITEA nurtures expertise in scientists, engineers, technicians and management personnel. Support them with assurance that their honor of being selected by peers will be supported to not only present their original work but give credit to your organization and distinguish employees within your evaluation.

Significant educational programs cost $1000 per week or $5000 per year including salary, travel, tuition or registration cost at meetings or academic institutions. Encourage distinguished employees to take advantage of short term technology transfer meetings and courses to advance their career and contributions to you.

Demonstrate your corporate support by subscribing to a $300 per year corporate membership in ITEA that will enhance your RDT&E approval, quality assurance, and employee rewards. Complete the application form in the name of the corporation at a $300 annual membership fee and receive corporate recognition in all ITEA International Publications.

Corporate members will be given a 10% reduction in advertising.

Complete the ITEA membership application form in the corporate name and attach a corporate check immediately in order to submit camera ready advertising material by 15 June 1981 with a 10% reduction in advertising cost as listed on the following page.

25. ITEA NEWSLETTER ADVERTISING ARRANGEMENTS

Circulation: 2000-3000 copies printed; current computerized mailing list of approximately 1000. Over 130 members receive 5 copies each for distribution to key T&E associates. Published quarterly in 8 1/2" X 11" format. Distribution primarily domestic but some foreign-both expanding.

Policies: Limited advertising to 4 or 5 pages or 20% of total pages per issue. Technical data, products, services, employment and educational advertising perferred. Copy subject to publisher's approval. Advertising prices based upon restricted space available in publication and to cover ITEA costs. Advertising not mixed with editorial articles unless required.

Copy: Advertising material must be provided in black and white camera ready format approximately the size purchased to ensure satisfactory print and image sizes. Standard 8: X 10: BW photographs or original art layouts acceptable when advertiser assumes responsibility for satisfactory camera reduction to size specified.

Deadline: Receipt at least one month prior to first day of publication months of January, April, July and October.

Prices: $300 per full page per issue or $200 same but 3 issues.
$175 per 1/2 page per issue or $150 same but 3 issues.
$100 per 1/4 page per issue or $85 same but 3 issues.
$25 per 2" X 3 1/2" business card per issue or $20 3 issues.

Payment: Payment by check required at time of submission of material for publication in specified issues. Publisher reserves the right to refund or publish on first-come basis within (plus or minus) 1 issue of desired issue(s). Costs are based upon Newsletter publication and distribution costs to a non-profit corporation and help to support educational purposes of ITEA.

Exceptions: Publisher reserves the right to change prices and policies to meet unforeseen or changed market situations.

General: Increased T&E contracting requires additional exposure for capabiliites of contractors and sub-contractors. Your professional T&E technical/educational society (ITEA) can assist on a cost-of-publication basis. Newsletter costs cannot be fully supported by member's dues and donations.

Mail to: Editor, ITEA; P.O. Box 603, Lexington Park, Maryland 20653.

26. ABERDEEN PROVING GROUND

APG is the site of TECOM Headquarters, with an additional 450 military and civilian workers. APG hosts more than 40 other tenant acitities, including the Ballistics Research Laboratory, and the Army Materiel Systems Analysis Activity, for a total post population of 13,000.

As the mission of the original Proof Department expanded over the years, so did its capabilities. The "Department" evolved into a more multi-purpose operation and was redesignated the Materiel Test Directorate (MTD) in 1970. The bulk of its efforts, however, are directed toward vehicle and weapons testing. Weapons testing facilities include ranges to accommodate the smallest firearms to the largest caliber artillery. One APG test program, for instance, pitted arms from two NATO allies against similar weapons from several American companies to assemble data the Army could use in its search for a new squad automatic weapon. In a similar comparison program, tank guns from Germany, Great Britian and the United States were tested and evaluated to determine which would be most suitable for the XM1 tank (which was also undergoing tests at APG).

FACILITIES

Instrumentation supporting weapons test can record projectile pressures, noise levels, and ballistics characteristics as well as blast effects. Flash X-Rays examine in-bore behavior of projectiles and inner projectile movements. Environmental conditioning chambers, some large enough to accommodate full-sized combat vehicles, simulate a variety of climatic conditions under which the weapons might be expected to perform and, therefore, under which they are tested.

APG's automotive test facilities are the most extensive in the Department of Defense. The most well known, the Munson Test Course, covers 150 acres and provides 25 different conditions, from graded slopes to "washboard" roads to fording tanks. The Perryman Test Area offers a 3-mile straightaway for high speed runs and crash-barrier testing, and the cross-country area near the adjacent town of Churchville, challenges vehicles with a variety of cross-country conditions, including grades up to 30 percent and heavy mud conditions. Extensive shop and laboratory facilities support all the automotive programs.

The Electromagnetic Interference (EMI) enclosure, completed in 1975, is one of the features that makes APG a diverse testing facility. This EMI enclosure has enough volume and shielding to give the best results in electromagnetic interference and compatibility testing available in the Department of Defense. The chamber is large enough to accommodate entire vehicles and even some aircraft.

The pulse radiation facility offers yet another capability. Like EMI testing, nuclear survivability testing has taken on new importance in recent years. The pulse radiation facility addresses this test requirement by simulating neutron and gamma effects of nuclear weapons against missile, vehicle and aircraft systems.

MATERIEL TEST DIRECTORATE (MTD)

MTD plans and conducts design, engineering, production and surveillance tests. Testing for the Army, other services and civilian contractors, MTD has examined everything from armor to air conditioners, including ammunition, helmets, night vision devices, pumps, pyrotechnics, mobile bridges, mine detectors, clothing and food, to name just a few.

MTD's Military Support Division supplies the personnel having a wide spectrum of experience and job qualifications for "soldier testing"--the testing that determines how well the test materiel will perform for its ultimate user, the soldier. As soldiers operate, maintain, or otherwise use the materiel being tested, soldier testing evaluates the materiel's reliability, availability and maintainability (RAM) characteristics, human factors engineering (compatibility of man and machine), and safety. Soldier participation early in the development testing provides valuable input to assist in the evaluation and development of new materiel.

COL. WILLIAM E. WATTS
COMMANDING OFFICER

COL. CHARLES W. BINNEY
DIRECTOR, MTD

ABERDEEN PROVING GROUND, Maryland--Munson Test Course, which covers 150 acres here, provides 25 different conditions of terrain from graded slopes to "washboard roads" for testing Army automotive equipment. (US ARMY PHOTO)

Official tests began at Aberdeen Proving Ground, the Army's senior materiel testing facility, when the Proof Department fired a 3-inch gun in 1919. Today, APG controls some 80,000 acres of land and water on Maryland's northern Chesapeake Bay and is TECOM's most diverse facility in terms of materiel tested. APG also employs more than any other TECOM site--nearly 4,000 civilian and military--to carry out its test and test support mission. See previous page.

* *

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