

# Reliability Society Newsletter

Editors: Gary Kushner and Mark Snyder  
Vol. 32, No. 1, January 1986 (USPS 460-200)

## Chapter Awards 1984-1985

The Reliability Society AdCom held its Annual Chapter Awards Banquet at the Crystal Gateway Marriott, Arlington, Virginia on Thursday evening, September 27, 1985. Bob Jaques, Chairman of the Chapter Awards Committee, reported that seven (7) of our 16 chapters had completed awards questionnaires:

- Central New England
- Chicago
- Cleveland
- Denver
- Florida West Coast
- Philadelphia
- Washington/Northern Virginia.

Their responses included information on chapter activities, technical publications, and membership growth. Bob applauded the efforts of each participating chapter and the thoroughness and completeness of their responses.

The winning chapters and their chairmen are shown below. The AdCom congratulates you and your officers for outstanding efforts on behalf of our members.

<b>First Place</b>	<b>Washington/Northern Virginia</b> Certificate and \$500 for Chapter expenses <i>Chairman:</i> Ruth Smith
<b>Second Place</b>	<b>Philadelphia</b> Certificate and \$150 for Chapter expenses <i>Chairman:</i> Fulvio E. Oliveto
<b>Third Place</b>	<b>Central New England Council</b> Certificate and \$100 for Chapter expenses <i>Chairman:</i> Gary Kushner

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## RS Newsletter Inputs

All RS Newsletter inputs should be sent to one of the associate editors, **Gary Kushner**, 499 Brigham St., Marlboro, MA 01752, or **Mark Snyder**, Digital Equipment Corp., 14 Walkup Drive (YWO/G13), Westboro, MA 01581, per the following schedule:

For April Newsletter: by Jan 15  
 For July Newsletter: by Apr 15  
 For October Newsletter: by July 15  
 For January Newsletter: by Oct 15

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## Letter to the Editor

TO: The Editor

RE: Article by:  
 Philip Eisenberg  
 Chairman  
 Advanced Techniques Committee  
 Newsletter Vol. 31, No. 3, July 1985

The area that SMT will impact the most is PC board test. The increasingly popular and highly effective use of In Circuit testers is seriously hampered by the close spacing of the new packages.

Test fixturing for PC boards populated with SMT on both sides of the board has not yet reached maturity and doesn't look as if it will for some time. Worse yet is that some available fixturing for double sided SMT PC boards actually masks some forms of manufacturing defects.

Obviously the use of SMT will increase where appropriate. But your readers would be best served if they were informed as to all potential problems with this technology before making their specific decision.

Your discussion of Surface Mount Technology (SMT) may be timely and informative but, regrettably, it is misleading in its evaluation on the ramifications of its use.

I take no issue with your views that the manufacture of PC boards with SMT may have many benefits. However, manufacturing these PC boards presents a very serious problem, far beyond those to which you casually refer.

**Jerry Frohlich, P.E.**  
 TECHNICON Instruments Corporation

## IEEE Fellow Nominations

It is time to consider any members of the Reliability Society who have earned the honor of being advanced to Fellow grade. The IEEE Bylaws define the Fellow grade as one of unusual distinction in the profession, to be conferred only by invitation of the Board of Directors upon a person of outstanding and extraordinary qualifications and experience in IEEE designated fields, who has made important individual contributions to one or more of these fields. A nominee must be a Senior Member of the Institute, and have been a member in any grade for at least five years prior to January 1 of the year of election.

The Fellow Committee, appointed by the Board of Directors, has the responsibility of making recommendations to the Board of Directors for nominees to be conferred the grade of Fellow. The Fellow Committee depends primarily upon information furnished by a nominator to point out the qualifications and unique contributions of a candidate. This information is supplemented by an evaluation by the appropriate society and comments from Fellow grade references who can attest to the candidate's achievements.

Any person who is sufficiently knowledgeable of a candidate's achievements can serve as a nominator. If you are

aware of a deserving candidate and would like to pursue a nomination, please contact the Reliability Society Awards and Nominations Chairman for assistance:

Naomi J. McAfee  
Westinghouse Electric Corp.  
P.O. Box 746, MS 246  
Baltimore, MD 21203  
(301) 765-3400

You may also obtain a nomination kit by request to:

Staff Secretary.  
IEEE Fellow Committee  
345 East 47th Street  
New York, NY 10017  
Telephone: (212) 705-7750

Included in this Newsletter is a listing of all Fellow grade members of the Reliability Society who may be used as references for a proposed candidate.

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## Chapter Activities

### PHILADELPHIA

The Philadelphia Chapter has had three successful meetings during the last four months. They are:

September 19, 1985

- Artificial Intelligence  
Dr. Eric Braude — University of Pennsylvania
- World Class Reliability/Quality  
Harvey E. Schock, Jr. — University of Pennsylvania

October 22, 1985

- Cellular Technology  
John R. Galanti — University of Pennsylvania
- The Oversampling Technique for Converting Signals Between Analog and Digital Formats  
James C. Candy — University of Pennsylvania

November 26, 1985

- Artificial Intelligence and Its Applications  
Dr. B. Butz — University of Pennsylvania

We are looking forward to the second half of the season with anticipation.

**Fulvio Oliveto**  
Chairman, Philadelphia Chapter

### CENTRAL NEW ENGLAND

The 1985-1986 season is in full swing. The first monthly meeting proved to be a tremendous success with approximately 100 reservations received. This was the largest number of reservations received for a monthly meeting.

The second monthly meeting held during December was also very well attended.

The January monthly meeting scheduled for the 22nd will continue the theme of R/M/A in other parts of the world. Mr. John Chapin of Data General will talk on "Industrial Reliability Standards."

The Fall Lecture Series on the Practical Aspects of Reliability consisted of a series of five sessions ably presented by Mr. Avery Hevesh. The five sessions covered the following five topics:

- Key definitions of failure rate, mean-time-between-failures, wearout, random versus predictable events, elements of probability and the likelihood of survival, distribution of times-to-failure, origin of the bathtub curve, stress versus strength relationships, notions concerning derating, simple reliability functions.
- Sources of failure data, MIL-HDBK-217D, etc., reliability prediction and allocation from information on parts, the modeling of circuits and systems, treatment of redundancy, maintainability concepts and maintenance doctrines. Examples of practical applications for commercial and military products.
- Measures of availability, operational readiness and system effectiveness, combining reliability and maintainability into a single measure, modeling more complex equipments, redundancy with repair, inherent versus operational capability of systems. Examples which illustrate these principles.
- The ideas of inference, characterizing systems from data on parts or assemblies, meaning of statistical confidence, binomial trials for one-shot systems, life tests and demonstrations, MIL-STD-781C, etc., O-C curves applied to reliability growth.
- What military customers look for, MIL-STD-785, what commercial customers look for, warranty contracts, organizing for reliability assurance, auditing the reliability program, writing reliability program plans and customer documentation management reports, preparing reliability proposals and implementing the plan after contract award.

The 24th Annual Spring Seminar is moving along. A call for papers has been issued and can be found in this issue of the *RS Newsletter*. Several abstracts have been received so far. However, we are still looking for several more. Anyone wishing to participate can submit an abstract to:

Ms. Vivian Thorsen, MET 5-1-210  
EDL/Raytheon Company  
Bldg 2/Metropolitan Corporation Center  
Glenn Street  
Marlboro, MA 01752

**Sid Gorman**  
Chairman (1985-1986)

## TECHNICAL OPERATIONS

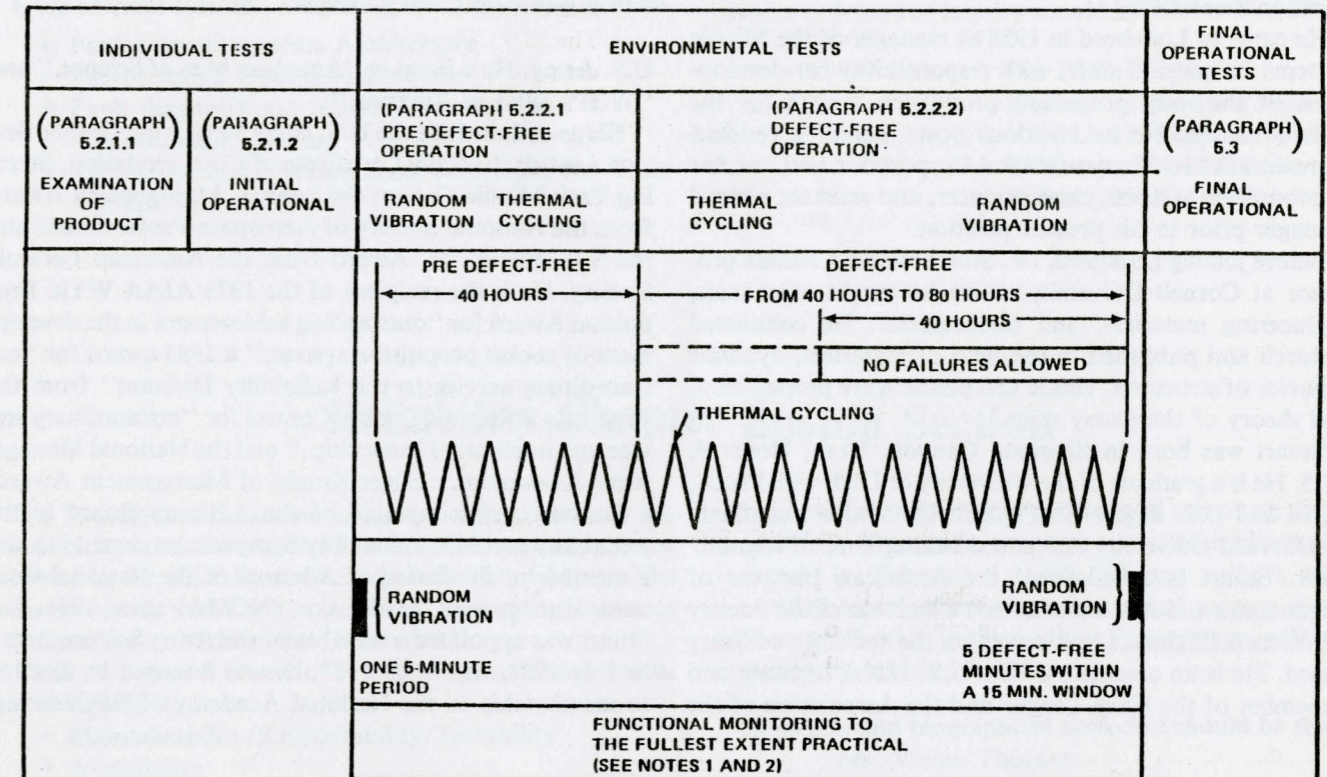
### Stress Screening Report

During the last year, the Naval Electronic Systems Command has developed and coordinated a military standard titled Environmental Stress Screening Process for Electronic Equipment. Primarily intended for Electronics Command use, MIL-STD-2164(EC) (available in April, 1985) develops an accept/reject criteria around random vibration and temperature cycling screens. The familiar power spectral density given in both MIL-STD-781C Fig. 2 and NAVMAT P-9492 is used.\* Temperature cycling is similar to that utilized in Electronic Command Contracts for the last five years with one exception. The cycle is now initiated with the hot portion in lieu of the original cold swing at initiation. Data analysis has shown this to reveal more defects earlier.

The attached figure clearly indicates the strategy of the standard. Failure free time in larger windows of test time are used to determine product acceptance. The standard is intended for 100 percent screening, however appendix A addresses a sampling plan which may be invoked in specifications.

Generally, the standard is straightforward and represents current policy within the Naval Material Command. The Standard is undergoing revision prior to formal release.

\* Tailoring is accomplished by the notching at resonance frequencies. Reduction of the entire level of bandwidth is not permitted.



**NOTE:** 1 - During the last four (4) thermal cycles and throughout the random vibration portion of the defect-free period, 100% repetitive functional monitoring must be accomplished.

2 - Where sufficient parameters are monitored (with contractor concurrence) during environmental tests, the final operational test will not be considered as part of the defect-free requirement. However, if, in the contractor's opinion, the monitoring of functions is inadequate then the final operational test shall be part of the defect-free period and any disclosed defect will require a rerun of the entire defect-free test (subject to the window limitations).

R84-0748-001PP

Fig. 1. Environmental stress screening test constituents.

## Annual IEEE Reliability Society Award

The Annual IEEE Reliability Society Award is presented each year to an individual who has made significant contributions in the field of reliability. These contributions can be in the areas of scientific development, professional achievement, or management. Selection of the award winner is based on the overall impact of his or her contribution on the advancement of reliability theory, education, engineering, or its management.

The award is presented at the Reliability Society awards function in January each year.

The recipient of the 1985 Annual Award is Dr. Derald A. Stuart of Lockheed Missiles and Space Company. Dr. Stuart has been cited for his outstanding management support of the reliability discipline.

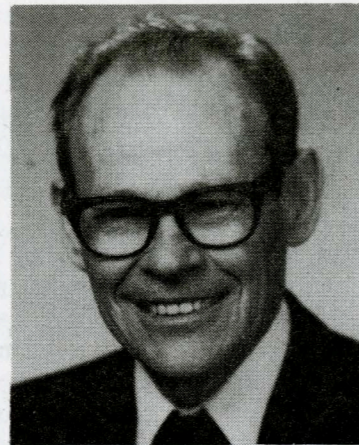
Dr. Derald A. Stuart has been vice president and general manager of Lockheed Missiles & Space Company's Missile Systems Division and a vice president of the Lockheed Corporation since 1970.

He came to Lockheed in 1958 as manager of the Missile Systems Propulsion staff, with responsibility for development of the solid propellant propulsion system for the Polaris missile. He held various posts including resident representative to Aerojet-General Corporation and director of propulsion systems, chief engineer, and assistant general manager prior to his present position.

Before joining Lockheed, Dr. Stuart was an associate professor at Cornell University where he taught mechanics, engineering materials, and mathematics. He conducted research and published in the field of materials, dynamic behavior of structures, elastic and plastic wave propagation, and theory of the glassy state.

Stuart was born in Bingham Canyon, Utah, Nover 9, 1925. He is a graduate of the University of Utah with Ph.D., M.S., and B.S. degrees in Physics. He is also a graduate of Harvard University Advanced Management Program.

Dr. Stuart is a fellow of the American Institute of Aeronautics and Astronautics and a member of the Society of Women Engineers and serves on the society's advisory board. He is an associate of the U.S. Naval Institute and a member of the Navy League and the Association of the



Derald A. Stuart

U.S. Army. He is listed in "American Men of Science," and "Who's Who in America."

His awards include the U.S. Navy Meritorious Public Service Award; the Navy Certificate of Commendation, Steering Task Missile Group; the John J. Montgomery Award from the National Society of Aerospace Professionals and the S.B. Meyer, Jr. Award from the American Ceramic Society. He is the recipient of the 1979 AIAA WYld Propulsion Award for "outstanding achievement in the development of rocket propulsion system;" a 1983 award for "extraordinary service to the Reliability Division" from the American Society of Quality Control for "extraordinary service and intellectual leadership," and the National Management Association's Silver Knight of Management Award.

He has been a member of the Advisory Board to the Reliability and Maintainability Symposia since 1975 and a member of the Board of Advisors of the National Contract Management Association (NCMA) since 1981. Dr. Stuart was appointed a member of the Army Science Board in July 1982. In March 1983, he was honored by election to membership in the National Academy of Engineering.

## Call for Papers

### IEEE Transactions on Reliability

#### Special Issue Devoted to Fault-Tolerant Computing Techniques and Systems

The Editorial Board of the IEEE Transactions on Reliability is planning a special issue of papers devoted to fault-tolerant computing techniques and systems. The basic objective is to provide a literary forum for the exchange of information among hardware/software computer specialists, design engineers, system analysts, computer reliability and maintainability specialists, and other computer engineering professionals.

Invitation is extended to authors of previously unpublished papers dealing with specifics of the following representative areas of fault-tolerant computing techniques and systems.

- Fault-tolerant-systems Architecture
- Fault-tolerant Design Techniques
- Fault diagnosis and recovery
- Fault-tolerant software
- Reliability and performance evaluation of fault-tolerant systems

- Applications of artificial intelligence to fault tolerance
- Fault-tolerant-systems applications

Papers are solicited dealing with particulars rather than generalities of suggested topical areas. Preference will be given to practical papers over theoretical papers.

In order to assist the Board in planning the special issue, cooperation of prospective authors is solicited with the following target dates:

- Author's letter of commitment — 1 Feb 1986
- Submission of manuscripts (4 copies) — 1 May 1986
- Submission of revised manuscript — 1 Sept 1986

Letters of commitment containing brief description of paper essence or letters of inquiry should be sent to Guest Editor:

Dr. J. V. Bukowski  
Electrical Engineering Department  
Villanova University  
Villanova, PA 19085  
Phone (215) 645-4979

### Reliability Chapter Boston Section

The Twenty-fourth Annual Spring Reliability Seminary has been scheduled for April 17, 1986. The seminar will be hosted by the IEEE Boston Section Reliability Chapter. The theme of this year's seminar will be, "Product Assurance Technologies: Making the Difference."

A call for papers is issued in the following broad topic areas:

- Reliability
- Maintainability/Supportability/Testability
- Availability
- System Safety
- Integrated Logistics Support
- Life Cycle Cost/Design-to-Cost
- Reliability Improvement Warranties
- Software Reliability/Quality Assurance
- Human Factors
- Reliability Growth

Interested authors should prepare and submit an abstract of 300 to 500 words, accompanied with a biographical sketch, by February 1, 1986. Selected authors will be notified shortly thereafter. Completed papers, suitable for reproduction in the seminar Proceedings, will be required by March 15, 1986.

Abstracts and biographical sketches should be sent to:

Ms. Vivian Thorsen  
Technical Program Chairman  
Raytheon Company  
EDL-N9  
528 Boston Post Road  
Sudbury, MA 01776

Questions concerning the seminar may be directed to Mr. Mark Snyder, Seminar Chairman, at (617) 870-2018.

# 1986 International Reliability Physics Symposium

March 31 - April 4, 1986 • Anaheim Marriott Hotel • Anaheim, California

The twenty-fourth Annual Symposium, co-sponsored by the IEEE Reliability and Electron Devices Societies, emphasizes device reliability as the dominating influence in the development of new VLSI technologies and circuit designs. With the awareness that today high reliability is the norm for VLSI, the 1986 Symposium will emphasize the role of design, processing, packaging and testing for building-in high reliability.

Papers will deal with work on:

- Physics of Failure Mechanisms — Quantitative models and mechanisms of component failure.
  - Hot Electrons      Contact Degradation
  - Electromigration      Metallization Fatigue
  - Oxide Breakdown      Soft Errors
- Failure Analysis Techniques — Advanced or simplified, as they are applied to specific problems
- Accelerated Testing and Screening — Emphasizing the physical mechanisms which validate testing and screening techniques.
  - Burn-in      Wafer Level Testing
  - Smart Oven Testing      Correlation with Observed Reliability in the Field
- Design and Process Control For Reliability - Relating specific design concepts and process controls to part reliability
  - Latent Defects      Starting Material and Processing Material Controls
  - Particle Control      Margin Testing and DRAM Repair Criteria
  - Computer Aided Manufacturing      Oxide and Metal Process Monitor and Reliability Testing
  - Statistical Process Control      Design Rules for Improved Reliability

In the following or related areas:

- VLSI (Microprocessors, Memory, PLA, DRAM, Redundancy, and Repair, etc.) - MOS, Bipolar, CMOS, I<sup>2</sup>L, SOS
- Semiconductor/Insulator Interfaces, Contacts and Metallization
- Packaging, Bonding, Die Attach, Coatings and Encapsulation
- Hybrids (Materials, Processes and Components)
- Displays, Sensors, and Solar Cells
- Microwave, Optoelectronic, and SAW Devices
- GaAs Devices and Interface Effects on III-V Devices
- New Devices and Technologies
- Passive Components
- Attachment of Leadless Ceramic Chip Carriers and other Surface Mount Technologies

- Medical Electronics
- Automotive Electronics
- Low Temperature Operation

For general conference information contact:

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White Plains, N.Y. 10601  
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## Positions

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# An Invitation to Membership in the Reliability Society

There is no better time than now to join the IEEE Reliability Society. Membership gives you ready access to meetings and conferences in your areas of interest, and to the prime movers in engineering, science, and business. This Transactions and the Newsletter — both included in your Reliability Society Fee — keep you abreast of the latest developments in your field. You also receive automatically a free copy each of the Proceedings of the:

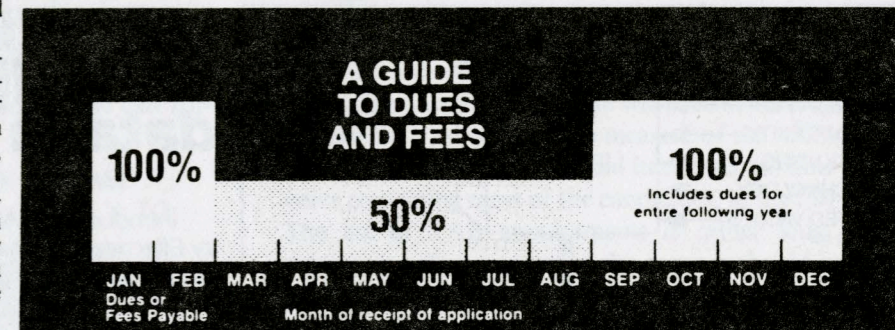
- Annual Reliability and Maintainability Symposium
- International Reliability Physics Symposium.

As an IEEE member, you can choose from a wide offering of standards, products, and services (books, conference records, employment surveys, short courses, and other helpful aids) — all at reduced member rates.

Active local Reliability Society chapters in many locations throughout the United States offer opportunities for your personal professional participation and growth. Association with other Reliability Society members helps you to exchange information and experiences on current technical problems and to learn how others are solving them.

Your membership entitles you to reduced registration fees for activities sponsored or cosponsored by the IEEE or Reliability Society. This could save you more than the cost of annual membership, if you are very active.

Don't wait. Fill out the membership application below and mail in today. If you are already a member of the Reliability Society, show this application form to a colleague - sign up another member. The cost/benefit ratio is terrific.



## MEMBERSHIP APPLICATION



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Please check appropriate box(es) below:

Society fee (see chart)  
 100%    50%    \$\_\_\_\_\_

IEEE entrance fee (for non-IEEE members only): Remit \$15.00 regardless of month of application.  
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Please mail to:  
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I am applying for the following as indicated:

I am an IEEE member. Please enroll me in the above Society.  
 IEEE member No.

IEEE membership plus Society membership.  
 IEEE membership only.

Full signature \_\_\_\_\_ Date \_\_\_\_\_

First name (print) \_\_\_\_\_ Middle initial(s) \_\_\_\_\_ Last name \_\_\_\_\_

Street address \_\_\_\_\_

City \_\_\_\_\_ State/Country \_\_\_\_\_ Postal Code \_\_\_\_\_

**APPLICANTS FOR IEEE MEMBERSHIP PLEASE COMPLETE THE FOLLOWING INFORMATION:**

Date of birth \_\_\_\_\_  
Month Day Year       Male    Female

Were you ever a member of IEEE?    Yes    No  
 If Yes, please furnish (if known):  
 Grade \_\_\_\_\_ Membership No. \_\_\_\_\_

EDUCATION (Highest level completed) \_\_\_\_\_

Name of educational institution \_\_\_\_\_

Course \_\_\_\_\_ Degree received \_\_\_\_\_ Date \_\_\_\_\_

ENDORSEMENT (Signature of one IEEE member, who knows you professionally) \_\_\_\_\_

ENDORSEMENT (Signature of one) \_\_\_\_\_

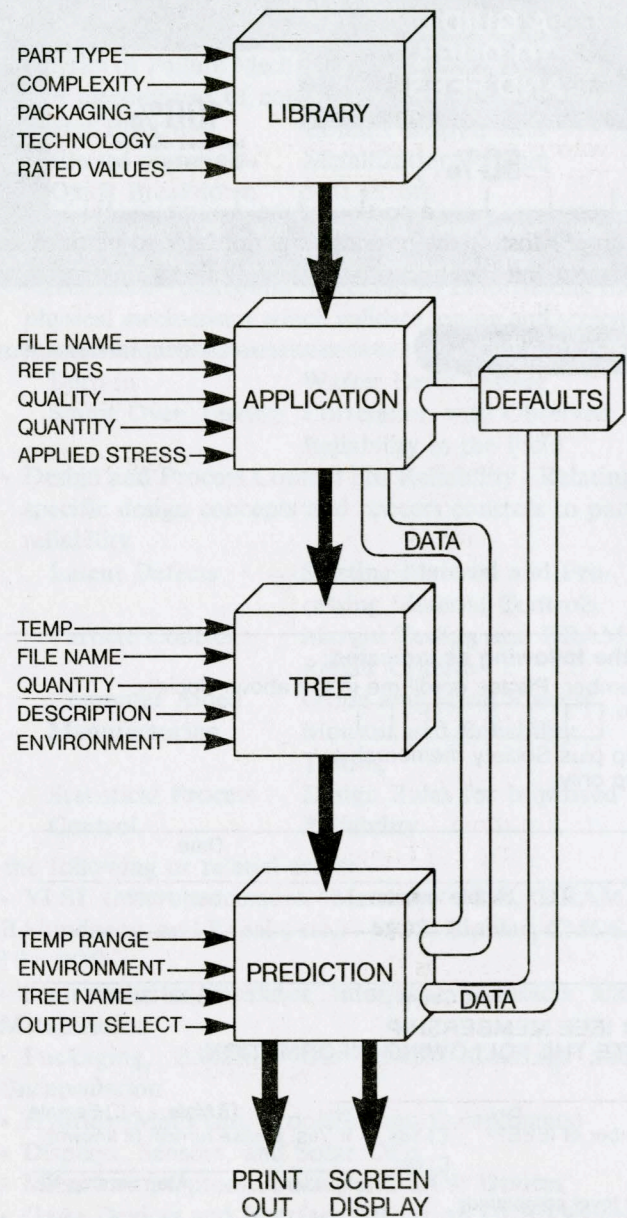
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## Volunteers Needed

The Reliability Society is searching for a number of professionals to fill volunteer positions related to AdCom functions or associated with other IEEE activities. For instance, two volunteers are needed for the RS Chapter Awards Committee. Interested persons can contact R. (Bob) Jaquess at (303) 977-5608. Requests from other IEEE entities frequently reach the Reliability Society. The following letter represents just one. Individuals interested in following up on TAB should contact Al Plait, RS President, so that he can forward the appropriate information.

TECHNICAL ACTIVITIES BOARD PLEASE  
 TAB SEARCH COMMITTEE REPLY TO:

Dr. F. H. Dill, Jr.  
 IBM, Z/5F1, B/321  
 Route 52  
 Hopewell Jct., NY  
 12533  
 (914) 894-7471

September 10, 1985

TO: Members of the Tab Search Committee  
 Division Directors  
 SGC Presidents

Gentlemen:

As the newly appointed Chairman of the TAB Search Committee, I would like to get things moving quickly. The job of Search Committee is really one of executive resources. It is my understanding that the Search Committee has been relatively inactive, and it is late in the year, so we have a job cut out for us.

The TAB Search Committee is a resource available to the TAB officers and Division Directors to provide them with a pool of names of suitable candidates for different positions and committees for which appointments may be required. The TAB Search Committee is not a nominating committee, but a resource committee which has available names of individuals which have been recommended to the committee by other IEEE members, because of their personal interests and qualifications. The Committee solicits nominations through its Divisional Representatives for suitable candidates to any office or committee within the Institute. When these candidates are most suitable outside of the Technical Activities area, they are properly referred to the Nominations and Appointments Committee, as stipulated in the Bylaws.

The major interactions of the Committee are with the newly elected Vice President for Technical Activities. He has to make a large number of appointments in a very short period of time after election, and the Committee provides resources from which to draw for some of those appointments.

The first part of the job is building an active file of IEEE members who might serve. There are a number of sources

for building this file. One is from the list of candidates who fail to be elected for Division Director.

All of these have indicated a strong willingness to serve IEEE. Another is from past society presidents, committee chairmen who are being replaced, and others who have served IEEE in the past, but are not currently heavily involved. The last is from personal knowledge of people who are qualified and willing to serve.

For each person on the list, we will need some biographical information, as well as some measure of the willingness to serve, and what areas they are interested in. This will involve contacting most of the candidates, at least by phone. The list of TAB appointments is rather long, and it represents only a portion of the area we should be covering. Most of the positions will not have to be filled each year, but for those that are, we should be prepared with two or three recommended names. As we progress, I will be getting a much better picture of what positions we need to find candidates for this year.

A fairly comprehensive list of current TAB appointments follows:

Development Committees Administration  
 Dr. Harlow Frietag

Tab Awards & Recognition  
 Mr. Bernard P. Gollomp

Tab Search Committee  
 Dr. Frederick Dill

Translational Relations Committee  
 Dr. Matt Kuhn

RAB/TAB Study Task Force  
 Hal Sorenson

Operations Committees Administration  
 Dr. Eli Fromm

Tab Finance Committee  
 Mr. George Bobart

Tab Meetings Committee  
 Professor William S. Levine

Tab Periodicals Committee  
 Professor Abraham Haddad

Technology Committees Administration  
 Dr. Emerson Pugh

Committee on Communications and Information Policy  
 Dr. Lynn Ellis

Committee on Man and Radiation  
 Dr. Richard Phillips

Energy Committee  
 Mr. William Lang

Environmental Quality Committee  
 Mr. John Casazza

Health Care Engineering Policy Committee  
Mr. William Jarzembki

R&D Committees  
Aerospace R&D  
Mr. Theodore Simpson  
Defense R&D  
Dr. Arvid Larson  
Engineering R&D  
Dr. Eli Fromm

U.S. Technology Policy Committee  
Mr. Jack Doyle

IEEE Technology Transfer Committee  
Inter-societal Representatives  
Journal of Lightwave Technology  
American Association for the Advancement  
of Science

Beyond this, we should have done a thorough enough job, so that we can support the Division Directors in the appointments they have to make. In order to do this, each member of the Committee must do a reasonably comprehensive search job within his Division. That support should include recommendations for our own eventual recommendation for replacement on this Committee.

Experience in IEEE is a prerequisite for most of these jobs. We need to find ways to promote our own good volunteers within the Institute.

Our first task is to build a working list of people who might serve. This probably should be done initially without regard to the positions to be filled. If we are to do a comprehensive job, I think that each committee member should come up with about ten names of people from their divisions. This should be done in concert with the Division Director and society officers.

I will be contacting each member of the Committee by phone during September to get things started. I would

prefer that the Society Presidents and Division work through their committee representatives, although I will take input from anywhere I can get it. We should have a first pass working list by early October, which will be sent out to all members. When we can cull it out and get the biographical and interest data together, so that we can build a list of recommendations for the Fall. By then, we should have a better view of what specific positions we need to make recommendations for.

I expect to hold a meeting of the committee some time in the November time-frame. My current plan is to have it in New York at IEEE Headquarters, although it may be better to schedule it right before the Fall TAB meeting in Florida. I will try to set that meeting date as soon as possible. At that time, we will finalize our recommendations for the 1986 appointments, and plan our activities for the coming year.

The job we are undertaking should be a considerable help to the Vice President for Technical Activities. It gives us all a unique opportunity to help strengthen the Technical Activities side of the Institute, and to see that our Divisions and Societies are well represented. I look forward to working with all of you.

P.S. I will look to you for input (or a representative) for Divisions VI & X.

Yours truly,

Frederick H. Dill, Jr.  
Office Phone: (914) 894-7471  
Home Phone: (914) 763-5205

cc: Harlow Freitag  
Eric Herz  
Stephen Kahne  
Irving Engelson  
Esmi Bidstrup

## ADCOM — Chapter Chairman Meeting

Thursday Evenings, September 21, 1985 approximately twenty ADCOM members and Chapter Chairmen met for dinner in Crystal City, outside of Washington D.C. These were all hardy souls — remember Hurricane Gladys was threatening to tear up the East Coast at that time. In fact, several people had to cancel.

Chapter representation was from Baltimore (Neal Hall), Denver (Sam Keene), Philadelphia (Fulvio Oliveto), Tri Cities (Alan Backus), Washington D.C./Northern Virginia (Represented by Bill Hanby), Mohawk Valley (Represented by Tony Coppolo).

This meeting was a joint opportunity for the local chapters to share progress and concerns among themselves and with the ADCOM. What better way than to meet your peers? Relevant issues were discussed such as programs conducted,

training of replacement officers, practical papers, and cooperation with the Society of Quality Control Engineers. These issues are not unique to any individual chapter.

There is good news and disappointing news. The good news is that the Twin Cities Chapter (Minneapolis/St. Paul) has been reactivated and that the Northern New Jersey Chapter has been revitalized. Ray Sears has taken over the leadership of New Jersey. Ray Sandborgh has taken over the leadership of Twin Cities — Welcome Aboard. The disappointing news is that the Connecticut Chapter has been dissolved. There was not enough interest by the local Reliability Engineers to maintain a chapter. Yes it is disappointing.

A reminder — Please encourage your chapter chairman for the '86-'87 Season to attend the meeting next Fall.

## Conference Calender

DATE	CONFERENCE	PLACE	CONTACT
1986 Jan. 13 - 16	Fifth Symposium on Reliability in Distributed Software and Data Base Systems Data Base Systems	Los Angeles, CA	5SRDSDS IEEE Computer Society P.O. Box 639 Silver Springs, MD 20901 (301) 589-8142 TWX: 7108250437 IEEECOMPSO
Jan. 28 - 30	Annual Reliability and Maintainability Symposium	Las Vegas, NV	Norman Kutner Westinghouse Electric Corporation 401 East Hendy Ave. P.O. Box 499 (MS 21-9) Sunnyvale, CA 94088 (408) 735-2261
April 1 - 3	1986 Reliability Physics Symposium	Anaheim, CA	H. C. Jones H. C. Jones Westinghouse Corp. P.O. Box 1521 MS 3664 Baltimore, MD 21203 (301) 765-7387
April 17	24th Annual Spring Reliability Seminar	Framingham, MA	Ms. Vivian Thorsen Technical Program Chairman Raytheon Company EDL-N9 528 Boston Post Road Sudbury, MA 01776
June 2 - 5	Inter-Ram	Syracuse, NY	Paul Wilde Niagara Mohawk Power Corporation Quality Assurance/F-2 300 Erie Boulevard W. Syracuse, NY 13202
June 22 - 25	International Conference on Communications '86	Toronto, Canada	Rob Paterson QAMC ICC '86 chairman Bell-Northern Research Box 3511, Station C Ottawa, Ontario Canada, KLY 4H7 (613) 726-5377



July 1-3

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