IEEE

RELIABILITY GROUP NEWSLETTER

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Bethesda, Md. 20014

MATERIAL FOR THE APRIL ISSUE MUST BE IN THE EDITOR'S HANDS BY FEBRUARY 27

contents

EDITOR'S NOTES

After a long drought, your editor has received three genuine "Letters to the ....." along with the normal deluge of press releases and trickle of publishable news items. Two of these, from a Chapter Chairman, concerned a complaint about the handling of his Chapter's report and don't seem suitable for publication. The third, however, is along the technical lines sought as an alternate to the "Hints and Kinks" column; at the author's request, it is not formally labeled as a contribution to that column.

The author is in fact Ralph Evans, the Transactions Editor (his biography as an AdCom member appears in this issue by coincidence). Ralph welcomes, and hopes to stimulate, controversy; his contribution appears in the Newsletter in an effort to avoid any unfair advantage he might seem to have as Editor in his own publication. Responses of all kinds -- from sustained dialogue to nitpicking -- are solicited.

CHAPTER NEWS

Baltimore

The Baltimore Chapter schedule for the 1969-70 season calls for meetings on October 20, November 17, January 19, March 16, and May 18. All meetings are at the Coachman on Maryland Route 2, halfway between Baltimore and Annapolis at Earleigh Heights, with cocktails at 6:30, dinner at 7:00, and speaker at 8:00.

The November meeting involved group discussion and dynamics for subjects of general Reliability interest, under the leadership of J.E. Victor, Jr., of Westinghouse Aerospace. Subjects and speakers for the balance of the season are to be announced; for information, contact T.A. Kurzmiller, Arrangements Chairman.

Current officers are:

Chairman	James H. King, Jr. Westinghouse Electric Corp. Aerospace Division, MS 525 P.O. Box 746 Baltimore, Maryland 21203 765-3521
Vice Chairman	(Vacant due to resignation)
Secretary/Treasurer	Raymond H. Seidl Westinghouse Electric Corp. Underseas Division, MS 1339 P.O. Box 1797 Baltimore, Maryland 21203 765-7517
Program Chairman	Charles H. Karr Westinghouse/Aerospace MS 454 765-2206
Publicity Chairman	Arch L. Bushey Westinghouse/Aerospace MS 454 765-3641
Arrangements Chairman	Tom A. Kurzmiller Westinghouse Electric Corp. Surface Division, MS 808 P.O. Box 1897 Baltimore, Maryland 21203 765-6329

The Reliability Group Newsletter is published quarterly by the Reliability Group of the Institute of Electrical and Electronics Engineers, Inc. Headquarters address: 345 East 47th St., New York, N.Y. 10017. Sent automatically and without additional cost to each member of the Reliability Group.

Second-class postage is paid at New York, N.Y.

Binghamton

The 1968-69 season concluded with the May 19 meeting, at which H.D. Hulme of Westinghouse spoke on "Data Analysis and Reporting".

The new season began with the annual one-day conference co-sponsored by the Chapter and the Binghamton Section of the ASQC. Held at Harpur College, the conference -- NEW HORIZONS IN QUALITY AND RELIABILITY -- drew an audience of 200 to technical sessions featuring 11 speakers.

Familiar faces from the national as well as the local scene abounded, as evidenced by the accompanying photos:

M.A. Young, IBM Owego, speaker; H.D. Hulme, Westinghouse, moderator; D.B. Christian, Xerox, speaker.

Richard M. Jacobs, Consultant Services Institute, presenting the luncheon address.

Continued

CHAPTER NEWS

Boston

The activities of the Boston Chapter last spring under the leadership of Chairman Bill Gray included three technical meetings and a highly successful All Day Seminar. The technical meetings featured Dr. N.D. Singpurwalla and Dr. Ray Schafer of Hughes Aircraft, who spoke on accelerated life testing and sequential Bayes procedures for Reliability demonstration testing respectively, and Major E.F. Fisher of the Air Force Systems Command who spoke on Air Force procurement practices. The All-Day Seminar, under the able direction of John Pollock, attracted 110 attendees to sessions featuring 8 speakers on subjects ranging from parts and microelectronics reliability to systems effectiveness analysis. The keynote address was delivered by Mr. Mike W. Fossier, Vice President and Assistant General Manager of Raytheon's Missile Systems Division, and Major General Joseph Cody, Jr., Commander of the Air Force Electronic Systems Division was guest speaker.

The schedule for the current season, which was announced in the October Newsletter and began successfully on September 11 with a presentation by P. Bosinoff of Honeywell EDP on "How One Procurement Man Views Quality and Reliability", has been amended with respect to the February 12 meeting. That meeting will be held at the Honeywell Radiation Center, Lexington, at 6:00 p.m. and will be addressed by a speaker from the Trial Lawyers Association on "Consequences of Product Failure".

The All Day Seminar, previously announced as scheduled for April 16, will be held April 14.

Current officers are:

Chairman	Avery H. Hevesh AVCO Corporation 201 Lowell Street Wilmington, Mass. 01887 657-2387
Vice Chairman/ Publicity Chairman	Roland F. Emero Raytheon Company Hartwell Road Bedford, Mass. 01730 274-7100, Ext. 867
Treasurer/Seminar Program	John J. Pollock Honeywell Radiation Center 2 Forbes Road Lexington, Mass. 02173 862-6222
Secretary/Membership Chairman	Donald L. Dawes Sanders Associates, Inc. Bedford Division Crosby Road Bedford, Mass. 01730 275-0200, Ext. 358
Education Chairman	Irving Bosinoff Mitre Corporation P.O. Box 208 Bedford, Mass. 271-3829
Meeting Program Chairman	Julian Edelman Sylvania Electronic Systems 77 A Street Needham, Mass. 02194 449-2000, Ext. 414
Arrangements Chairman	Norman Martel RCA Routes 3 and 62 Burlington, Mass. 272-4000, Ext. 3197

Canaveral-Daytona Beach

Recent cutbacks in the space program have resulted in the loss of nearly the entire slate of elected Chapter officers. A survivor -- the elected Vice Chairman -- has taken over as Chairman and a new slate has been selected, with the following results:

Chairman	Lee R. Webster Radiation, Inc. Systems Division P.O. Box 37 Melbourne, Florida 32901 727-5013
Vice Chairman	Earle Barber 727-5051
Secretary/Treasurer	Jerrell Hollaway 727-5053
Program Chairman	Jack Freeman 727-5119

Despite the upheavals, a Chapter meeting was scheduled for December 10 with Otto Fedor speaking on "Impact of Space Shuttle on Qualification Testing"

Mohawk Valley

The season's program was initiated with a meeting on September 30, at which J.S. Smith of RADC spoke on "Radiation vs. Reliability: Impacts and Trade-offs". On October 7, a joint meeting of the G-R and G-PMP chapters was addressed by D.L. Behrendt of TRW Systems on "Modular Packaging of Spacecraft Integration Electronics".

Montreal

Chapter technical meetings have been scheduled for January 21 and April 15 and are to be held from 7:00 to 9:30 at the Hydro-Quebec Building, 75 Dorchester W; subjects and speakers were not finalized as of the Newsletter's closing date.

The Chapter is sponsoring an intensive course in Reliability Engineering over a 5-week period in February and March. Lectures will be held at the Hydro-Quebec Building, 7:00 to 9:30 p.m.; fees are $30 for IEEE and ASQC members, $35 for non-members.

February 4	Basic Concepts of Reliability
February 11	Reliability Prediction
February 18	System Reliability
February 25	Reliability Testing
March 4	Establishing a Reliability Program

For further information contact Dave Kiang, Canadian Marconi, 2442 Trenton, Montreal 301; phone 343-3411, local 129.

CHAPTER NEWS

Philadelphia

The Philadelphia Chapter, seeking to continue an outstanding record, is instituting some innovations while maintaining its practice of holding frequent technical meetings and the annual Failure Analysis Seminar. The innovations include the formation of an Advisory Board comprised of senior reliability people in the area, a local student paper competition funded by the proceeds of the Group Chapter Award won last year, and an award for a highly successful member of the telephone publicity squad.

Current officers are:

Chairman	James H. Goodman RCA Building 16-4 Camden, New Jersey 08102 (609) 963-8000, Ext. PC5141
Vice Chairman	Tom Fagan General Electric Co. CCF5-5026 P. O. Box 8661 Philadelphia, Pa. 19101 (215) 962-3491
Secretary/Treasurer	Joe Chalupa General Electric Co. CCF2-2335 (215) 962-7365
Program Committee Chairman	E. J. Westcott RCA Building 127-303 Moorestown, New Jersey 08057 (609) 963-8000, Ext. PM3069

Also Advisory Board Chairman M. M. Tall, RCA; Arrangements Committee Chairman I. Hyams, Fischer & Porter; Publicity Committee Chairman G. Hunt, RCA; Seminar Management Committee Chairman H. S. Dodge, General Electric; Awards Committee Chairman N. Kutner, General Electric; and Membership Committee Chairman J. J. Davaro, RCA.

San Francisco

The 1968-69 season was completed with meetings in April, May, and June. On April 14, a panel meeting on product liability included Mr. Chateau of Underwriters Laboratories, Dick Rysavy of the General Electric Appliance Center, and Ken Kelly of Philco-Ford. The May 15 meeting was addressed by F. Tatar of Philco-Ford who spoke on "Computer-Aided Design Analysis". At the June 19 meeting, G. W. Young of American Microsystem spoke on "Failure Mechanisms of Integrated Circuits" and F. Tatar of Philco-Ford on "Lancer Highlights".

Twin Cities

The 1969-70 season schedule of the Twin Cities Chapter has been announced as follows:

November 13	"System Effectiveness Modeling"	J. Pukite Honeywell Systems & Research Division
January 28	"Maintainability Test Performed on a Computer System" (Time and Place to be announced)	D. W. Lowry Control Data Corp. Contact: Ron Gjertson (612) 631-0531, Ext. 2123
February 17	Joint Meeting with G-AES (Subject, Time and Place to be announced)	Speaker to be announced Contact: Ron Gjertson
April 22	Election of Officers (Time and Place to be announced)	

Current officers are:

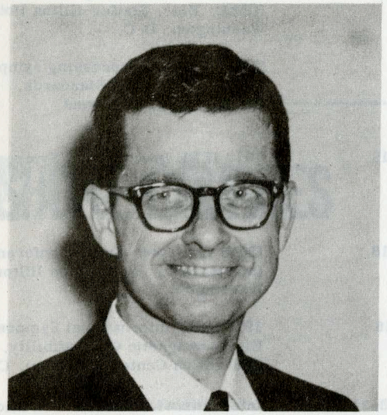
Chairman	Daniel W. Lowry Control Data Corporation Space & Defense Systems Div. 888-5555, Ext. 4474
Vice Chairman/ Program Committee Chairman	Gordon L. Seller Honeywell, Inc. Aero Division 2700 Ridgway Road Minneapolis, Minn. 55413 (612) 331-4141, Ext. 4586
Secretary/Membership Committee Chairman	V. Mike Jordal Honeywell, Inc. Ordnance Division 600 North 2nd Street Hopkins, Minn. 55343 (612) 935-5133, Ext. 1726
Publicity and Arrangements Committee Chairman	Ronald D. Gjertson Control Data Corporation Arden Hills Operations 631-0531, Ext. 2123

Washington

At the Chapter meeting held October 29, Jacob Sacks and Richard Dangel, both of the Naval Ship Systems Command, spoke on "Integrated Logistic Support in the Naval Ship Systems Command". At the meeting, it was announced that the Chapter's Bylaws requirement for a 25-percent vote for Bylaws amendment had been removed by a 29 to 13 ballot. A substitute requirement prohibits the distribution of ballots between November 15 and January 15.

The November 18 meeting was unusual in being a four-way joint meeting involving G-R, ASQC, SAVE, and the American Association of Cost Engineers. Richard E. Biedenbender, Director of Value Engineering in the Office of the Secretary of Defense, addressed the audience on "Value Engineering Developments". Of particular interest to G-R members was the speaker's contention that the implementation of value engineering has tended to increase Reliability.

MEET YOUR ADCOM



Ralph Evans is the present Editor of the Transactions on Reliability. He has been a senior physicist with the Research Triangle Institute (near Raleigh-Durham, North Carolina) since 1961 and is a major participant in the Reliability activities of the Institute. Ralph came to the Institute from a position as Director of the Link-Belt Research Laboratory in Indianapolis where he had been for seven years.

Ralph received a B.S. in Engineering Physics from Lehigh University in 1944 and a Ph.D. in Physics from the University of California at Berkeley in 1954. He is a senior member of the American Society for Quality Control and the IEEE, and has been a member of the Reliability Group for about eight years. He is Treasurer of the Electronics Division of ASQC and maintains membership in the American Physical Society, the American Association of Physics Teachers, American Society for Metals, and American Society for Testing and Materials. Ralph has been active on the Management Committee of the Annual Symposium on Reliability for about five years and is a Registered Professional Electrical Engineer (grandfather clause) in California. He is a native of East Orange, New Jersey.

Thaddeus L. Regulinski is Associate Editor of the IEEE Transactions on Reliability (and was the Guest Editor of the special issue mentioned elsewhere in this Newsletter). He is Associate Professor of Electrical Engineering on the faculty of the Air Force Institute of Technology. A BEE graduate of Manhattan College in 1950, he received the MSEE degree from Newark College of Engineering in 1953 and, in 1967, was the recipient of a National Science Foundation grant to study Modern Control Theory at the University of Southern California.

Ted propounded the AFIT graduate curriculum in Systems Reliability Engineering. In addition to teaching Reliability and Maintainability Courses in that program, he also teaches a sequence of courses in Information Theory and Systems Modeling. A Research Scientist with the Signal Corps Research and Development Laboratories before joining AFIT, Ted also served in a consulting capacity on space communications for the Air Force, missile systems reliability for the Navy, and solid state device reliability for the Air Force Materials Laboratory. He currently conducts research in telemetric transmission of cardiac and respiratory measurements.

A senior member of IEEE and a member of Pi Epsilon Gamma and Eta Kappa Nu, Ted is listed in the current edition of American Men of Science and was the recipient of the Omega Psi Phi 1968 Citizen of the Year Award. He is the author of the 1965 NAFI text Reliability Engineering.

CONFERENCES

February 3-5	1970 ANNUAL SYMPOSIUM ON RELIABILITY (G-R, ASQC, IES, ASNT), BILTMORE HOTEL, LOS ANGELES, CALIFORNIA
February 18-20	1970 IEEE International Solid-State Circuits Conference, Sheraton Hotel and University of Pennsylvania, Philadelphia, Pennsylvania
March 23-26	1970 IEEE International Convention, New York Hilton and New York Coliseum
April 7-9	1970 IEEE RELIABILITY PHYSICS SYMPOSIUM (G-R, G-ED), STARDUST HOTEL AND COUNTRY CLUB, LAS VEGAS, NEVADA
April 12-16	16th Annual Meeting of the Institute of Environmental Sciences, Sheraton-Boston Hotel
April 14-16	1970 Computer Graphics Annual Symposium (IEEE, IEE, IERE), Brunel University, Uxbridge, Middlesex, England
April 14-16	1970 Joint Conference on Automatic Test Systems (IERE with IME, IEE, IEEE, The Royal Aeronautical Society, The Institution of Production Engineers), University of Birmingham, Birmingham, Warwickshire, England.
April 14-17	1970 IEEE International Geoscience Electronics Symposium, Washington, D.C.
May 4-8	5th International Research Symposium on Electric Contact Phenomena (Verband Deutscher Elektrotechniker), Munich, Germany
May 5-6	1970 Annual Appliance Technical Conference, Leland Motor Hotel, Mansfield, Ohio
May 5-7	1970 Spring Joint Computer Conference (AFIPS), Convention Hall, Atlantic City, New Jersey
May 13-15	1970 Electronic Components Conference (IEEE, EIA), Statler-Hilton Hotel, Washington, D.C.
June 2-3	Silicon Device Processing Symposium, National Bureau of Standards, Gaithersburg, Maryland
June 15-19	1970 IEEE International Symposium on Information Theory (IEEE, Union Radio Scientifique Internationale), Hotel Huis ter Duin, Noordwijk, The Netherlands
June 16-18	IEEE Computer Group Conference -- International, Washington Hilton Hotel, Washington, D.C.
July 14-16	1970 IEEE International Symposium on Electromagnetic Compatibility, Convention Center, Anaheim, California
August 18-21	International Conference on Microelectronics, Circuits and System Theory (IEEE, The University of New South Wales, IREE Australia, IEE), Sydney, Australia (Synopses March 23, Papers May 22)
September 21-24	1970 IEEE International Conference on Engineering in the Ocean Environment (IEEE Oceanography Coordinating Committee and Panama City Section, with participation by U.S. Naval Ship Research and Development Laboratory, Florida State University, Louisiana State University), Panama City, Florida (Abstracts and Summaries March 3, late news items until June 8)
July 20-24	1970 Conference on Dielectric Materials, Measurements and Applications (IEEE, IEE), University of Lancaster, London, England
July 21-23	1970 IEEE Annual Conference on Nuclear and Space Radiation Effects (G-NS and the University of California at San Diego), (Summaries February 16)

FELLOW AWARDS

Among the 122 IEEE members advanced to Fellow grade as of January 1 are the following G-R members:

Virgilio Floriani, North Italy, "For contribution to the development of radio links and related technology."

G. Raymond Knight, Annapolis Subsection, "For contributions to increased reliability and effectiveness in electronic and electromechanical systems." (Ray's biography as an AdCom member appeared in the October Newsletter.)

C. Gunnar Svala, North Central Ohio, "For research in system theory fundamental electronic switching and saturation signaling."

SHORT COURSES

Newsletter policy with respect to short-course announcements, as established by the AdCom, is to provide publication for information only. No endorsement is implied, and no check on course content or instructor qualifications has been accomplished.

University of Arizona

2nd Annual Systems Engineering Institute: February 9-13. Five days, $250. Write: Director of Conferences and Institutes, Division of Continuing Education, The University of Arizona, Tuscon, Arizona 85721

University of California at Los Angeles

Integrated Logistic Support: February 9-13. Five days, $295. Write: P.O. Box 24902, Engineering and Physical Sciences Extension, University Extension, UCLA, Los Angeles, California 90024

Safe Life Design Practices: Practical Applications of Fracture Mechanics: March 16-20. Five days, $285.

Cost Effectiveness - The Economic Evaluation of Engineered Systems: March 23-27. Five days, $285.

Electronic Circuit Analysis by Computers: March 23-27. Five days, $285.

Statistics and the Time-Shared Computer: March 23-28. Six days, $345.

SPECIAL ISSUE OF TRANSACTIONS

The September issue of the Transactions, delayed -- along with many other IEEE journals -- by a printers' strike, should by now be in the hands of all G-R members and subscribers. The subject of this special issue, Information Theoretic Approach to Reliability, is sufficiently avant garde that the issue may become a classic and a collector's item -- hang on to your copy.

PUBLICATIONS

Available from AFIPS Press, 210 Summit Avenue, Montvale, New Jersey 07645 (American Federation of Information Processing Societies):

All proceedings from the Spring and Fall Joint Computer Conferences (Spring 1951 through Fall 1969). In microfilm, Vols. 1-20, 21-30, 31-35, $50 for each subset, $150 for the complete set. In microfiche, Vols. 31-35 only, $10 per volume.

From the National Bureau of Standards, available through the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402; the Clearinghouse for Federal Scientific and Technical Information; and local U.S. Department of Commerce Field Offices:

NBS Technical Note 379, "Standard Time and Frequency: Its Generation, Control, and Dissemination from the National Bureau of Standards Time and Frequency Division", August 1969; 27 pages, 35 cents.

NBS Technical Note 497, "The Effects of Extended High-Temperature Storage on the Performance Characteristics of Several Strain Gage Pressure Transducers", October 1969; 22 pages, 30 cents.

From IEEE:

The 1970 Directory is, of course, available on the usual basis at $7.00 for members, $30.00 for non-members. Additional copies may be purchased for official Group activities at the member price -- via the Group Chairman (Harry Reese) or Group Secretary (Stan Zwerling).

A new program entitled "Cassette Colloquia" has been inaugurated. The continuing series will stress tape recordings of special seminars, workshops, and other IEEE-conducted sessions with apparent immediate value to a wide audience. The first offering is a recording of a workshop entitled "Industrial Programming Languages" and features electronic speech compression -- speed-up of delivery without change of pitch. The result: 2 1/2 hours' worth of material in 75 minutes of cassette, at $6.00 per copy for members, $10.00 for non-members, from the Cash Receipts department of IEEE.

STUDENT-ORGANIZED CONTINUING EDUCATION

A Student Branch of the IEEE has scored a significant first in a field of major interest to all engineers today -- continuing education for practicing engineers. The students, all of whom are enrolled at the University of Waterloo, Ontario, Canada, have organized an eight-week course for all members of the technical community, to present "The Principles, Operation and Applications of Semiconductor Devices".

A team of consulting experts has been recruited from the University of Waterloo, McMaster University, and the Canadian Westinghouse Company's Integrated Circuits Laboratories in Hamilton. They will coordinate and teach the course, for which a registration fee is charged to cover expenses and lecture materials.

Over one hundred registrants have taken advantage of the opportunity to expand, update, refresh or just consolidate their knowledge of semiconductors. A Certificate of Completion is issued to registrants attending at least six of the eight lectures available.

LETTER TO THE EDITOR

The LogNormal Distribution is not a Wearout Distribution

The phrase "wearout" distribution is often used in the literature to describe a particular kind of behaviour for failure. But often this concept is not clearly defined and even misunderstood by the author. The analogy by which this distribution is named is the correspondence to mechanical wear such as that due to friction: the material abrades away until there is too little left. The distribution most often used to describe the times to failure for mechanical wear is the Normal (Guassian) distribution. The hazard rate (conditional failure rate) of the Normal distribution is always increasing (at very long lives, the increase in hazard rate is proportional to the increase in time). It is reasonable to define a wearout process as one in which the hazard rate is continually increasing.

The exponential distribution, with its constant hazard rate is then not a wearout distribution. The Weibull distribution is wearout only if the shape factor is greater than one; if the shape factor is less than one, the hazard rate continually decreases. An increasing hazard rate means that the survivors are more likely to fail, in the next interval of time, than they were when they were younger. The decreasing hazard rate situation might be named Ponce de Leon since the survivors have apparently found the fountain of youth: The longer they live, the less likely they are to die.

Some distributions have a hazard rate which contains a single maximum or minimum. The most familiar example is the bathtub curve, so often raised as an example of system behaviour; it has a single minimum. Others, such as the logNormal, have a single maximum. Therefore, the wearout and Ponce de Leon definitions can be modified: If there is some value of time, beyond which the hazard rate is always increasing or always decreasing, then the distribution is wearout or Ponce de Leon respectively.

The logNormal distribution is used to describe the lives of bearings, the fatigue life of metal parts, or the life of semiconductors. Is it wearout or not? First, the logNormal is a very skewed distribution. It of course begins at $t = 0$ and goes to $t \to +\infty$. Its mode (highest point) occurs before the median (50% failed); the median occurs before the mean (arithmetic average of the life, MTTF). The distances between these three points are a measure of skewness. The hazard rate for the logNormal begins at zero, reaches a maximum, then decreases forever -- no matter what the skewness. For a very skewed distribution $\sigma > \sqrt{2/\pi}$ (σ is the standard deviation of log t), the hazard rate vs. time curve peaks between the median and mode; then it decreases continually. This happens even before half the population dies. If the skewness is much less ($\sigma < \sqrt{2/\pi}$), there is still a maximum, but it occurs beyond the median life, and even beyond the mean life. For very small values of skewness ($\sigma < 0.2$) most of the population is dead before the Ponce de Leon point is reached. Nevertheless, if one waits long enough, the logNormal distribution always has a decreasing hazard rate and thus can not ever be termed a wearout distribution.

Ralph A. Evans
Research Triangle Institute
P.O. Box 12194
Research Triangle Park, North Carolina 27709
November 17, 1969

CADAD

Computer Aided Design and Application of Devices (CADAD)

The newly formed CADAD Committee of the IEEE Electron Devices Group held its first meeting on October 29, 1969, in Washington, D.C. with 21 in attendance. The subject of the meeting was device modeling in computer programs for circuit analysis. The morning session was devoted to capsule summaries of current efforts in this field, and included reports by P.E. Love of the U.K. Atomic Energy Authority, R.R. Puttcamp of the Harry Diamond Laboratories, J.M. Anderson of the Air Force Weapons Lab, R.H. Dickhaut of Dynetics, N.O. Sokal of Design Automation, H.K. Gummel of Bell Telephone Labs, and J.J. Kalinowski of Battelle Memorial Institute. During the afternoon, two task forces headed by F.A. Lindholm of the University of Florida and R.B. Schilling of RCA pondered questions related to the feasibility of standards on terminology, measurement techniques, and model configurations for bipolar transistors, and to the economics and possible sites of a data bank to disseminate model parameter information.

Tentative conclusions reached include the following:

1. Progress is being hindered by the lack of standards in model terminology and measurement procedures. There was less agreement on the advisability of standardizing on an existing large signal model for fear of preventing the acceptance of improved future models. It may be preferable to store measured data on devices in a data bank rather than model parameter data because the computation of the latter from the former is irreversible and not subject to improvement should better models become available. The need for a special issue of an appropriate IEEE publication to crystallize current thinking on these subjects was recognized. Ideas from those who would be willing to submit a paper for such an issue are solicited.

2. The value of all existing, publicly available model parameter data is open to serious question because of the lack of backup information on measurement procedures used, range of validity, methods of extracting model parameters from measured data, etc. If standard procedures are defined and are then required by government agencies supporting data acquisition, future data would be much more widely useful (that is, it would lead to fewer unforeseeable problems and inaccuracies). Therefore, it may be unwise to attempt the formation of a data bank until a procedure is available to critically evaluate submitted data. It was proposed that a "closed" data bank be set up within the committee to permit this critical evaluation prior to releasing the data to the "open" data bank.

3. To be of maximum usefulness, the data bank should be backed by a source of competent professional consultation which is available to the user (for an additional charge) when needed. The availability of data for a nominal charge to cover distribution costs would be of little value if this backup were not available. No government or non-profit organization willing and able to supply this competence was suggested. Cooperation of the government and IEEE in encouraging an appropriate private company to administer such a data bank would require careful delineation of ground rules, but might be the best way to solve the problem.

The next meeting of the CADAD Committee is planned for February 17, 1970, in Philadelphia in connection with the International Solid State Circuits Conference.

W.E. Newell, CADAD Chairman
Westinghouse Research Labs
Pittsburgh; Pennsylvania 15235

IEEE TECHNICAL PLANNING COMMITTEE

During 1969, the Technical Activities Board appointed a Technical Planning Committee, which was given responsibility for new technologies, i.e. those which properly belong within IEEE, but might be overlooked by our present 31 specific technical Groups. The new Committee, under TAB's Vice Chairman, Edward W. Herold, includes John R. Whinnery, Hubert Heffner, David M. Hodgin, Ralph E. Armington, and William O. Fleckenstein. Two meetings have now been held, with objectives (a) to identify the most important new technologies, (b) to act on those in which delay is inadvisable, and (c) to propose a permanent and effective mechanism by which IEEE will exercise continuous leadership in new subject matter. The word "new" in this context is intended to include both the scientifically new, and that which is new to IEEE, but might have a substantial past history.

Among the topics considered were the following:

Computer Aided Design
Cable TV
Electric Printing
Holography and Electro-Optical Systems
Plasmas and MHD
Oceanography
Acoustic Waves and Filtering
Manufacturing Technology
Cryogenics
Applied Mathematics
History of Electrical Engineering
Social Systems (transportation, education, pollution, crime detection, data networks, urban planning, hospital systems)

In several of these, activity was already underway before the Committee was formed. For Cable TV and for Electric Printing, two Ad Hoc Committees were formed to undertake specific publication and conference actions and to recommend a permanent home for the technology in the IEEE structure.

The most important action of the Technical Planning Committee was to cooperate with TAB to see that the future technical organization of the IEEE would be flexible enough, alert enough, and resourceful enough to absorb new technologies. Language has been put in the general principles of organization of the Group structure, and detailed responsibility is to be developed, whereby it becomes possible for IEEE to remain the leading professional society in electrical and electronic fields. Whether it actually does will depend on the enthusiasm and participation of present members in adapting to change.

In many cases, responsibility for action ultimately lies within the Group. IEEE Groups are expected to energetically and actively alter and/or enlarge their technical sphere of influence as conditions change. However, it is quite common in talking to Group administrators about a new field to get a reaction such as "we're watching this new field with interest", or "we're already saturated with more material than we can handle--let's not expand even more", or "this belongs in IEEE but not with us", or "we're actively pursuing the subject" (when, in fact, little or no activity exists). These reactions are hardly conducive to attracting new members who work in a new field, and show far too much love of the status quo. In summary, the Technical Planning Committee urges Group members to take a broad view of their technology and, when appropriate, to stretch or change their definitions of scope so that IEEE can best serve the engineer and his future welfare.

G-R members are urged to make their views known to the AdCom.

RELIABILITY GROUP

MEMBERSHIP APPLICATION

IEEE Headquarters: 345 East 47th Street, New York, N.Y. 10017

Name _____ IEEE Membership No. _____

Company _____

Mailing Address _____

City _____ State or Country _____ Zip Code _____

Field of Interest _____

/__/ I am a _____ member of IEEE and hereby apply for membership in the Reliability Group. I enclose a check for the Group fee* (made payable to IEEE).

/__/ I am not now a member of IEEE but would like to join. Please send information.

/__/ I am interested in becoming a Reliability Group Affiliate. Please send information.

*Group Fee: $5.00 for IEEE members of all grades except Student. Student Fee is $2.00.

Full rate on payments received October 1 through March 31. (Payments received October 1 through December applied through December 31 the following year). One half rate on payments received April 1 through September 30.