

RELIABILITY SOCIETY

NEWSLETTER



Editor: Naomi J. McAfee

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Message from the Outgoing President



By constitutional requirement the "Changing of Guard" for the Reliability Society ADCOM officers comes every two years, and the time is upon us. It is opportune for the outgoing President to introduce to the general membership the incoming ADCOM officers. The President elect for the 1981 term of office, and the fourteenth president of the Society, is Mr. Carl Bird who is an experi-

enced hand at managing Society and Symposia affairs, a dedicated professional, respected peer and a valued colleague. Our very best wishes go out to Mr. Bird for what portends to be a highly effective term of office. The VP elect for Technical Operations is Ms. Naomi McAfee who has been a source of professional inspiration to all who have been privileged to work with her. Ms. McAfee's service to the Society as VP for Publications, Editor of Newsletter, and as ADCOM Secretary stands as a paradigm to emulate for her competence, professionalism and dedication. The VP elect for Meetings is Mr. A.O. Plait, a steady hand at the ADCOM wheel, a prime mover with limitless source of initiative and drive who has served the Society with exemplary effectiveness as VP for Technical Operations and VP for Publications. The VP elect for Publications is Mr. T. Coppola whose experience for the office comes from his tenure as Chairman of the Special Papers Board.

Mr. Coppola served with dedication as the Chairman of the Advanced Reliability Techniques Committee, and it was during this tenure that he produced the well received reports on the status of the reliability technology. The VP elect for Membership is Mr. Dave Troxel, another experienced hand in management of Society ADCOM affairs, a productive member of ADCOM with dedicated drive for special tasks assignments. Mr. Troxel has completed two very impressive in-depth studies of the Society membership, its dynamic changes, patterns, regional concentrations, and forces of attrition. The need and importance to continue an on-going membership analysis happily matches Mr. Troxel's interests and competence. To outgoing VP's Bernie Retterer and Jim Victor, I salute you and thank you for your dedicated service to the Society, for your loyal support and valuable counsel. To all standing and ad hoc committee chairmen, Henry Malec in particular, kudos of the first order. To the Treasurer, Mr. I. Feigenbaum, a very special acknowledgement for his competent lock on Society financial affairs and its strongbox.

In turning over the Society reins to the incoming officers, I feel gratified at the Society accomplishments over the past two years and confident that the future is in capable, enthusiastic and dedicated hands. The Society is in an enviable position, both technically and financially. Technical Operations has been expanded significantly with the establishment of three new committees on Mechanical Reliability, Solar Energy Device Reliability and Parts Screening; a new chapter was established in Denver and the first overseas chapter is in the process of being established in Denmark; our membership has exceeded the 3000 mark for the

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first time and our membership growth is steady; membership services are at a peak level with such benefits as five issues per member of each of our TRANSACTIONS and NEWSLETTER, member bonus copies of RAMS and IRPS PROCEEDINGS, chapter awards incentives program, symposia and workshop sponsorship, and increased chapter technical program activities. To guide the Society's future directions an ad hoc committee on long term plans has been established and a companion committee on financial resources. We have sponsored our first Congressional Fellow and completed two scientific personnel exchanges with the People's Republic of China. A home study course is in preparation and a propounded reliability standard for qualitative common cause failure analysis of engineered systems has received IEEE Standard Board project authorization.

The Society has every reason to bask in the rays of its accomplishments but in so doing I wish it to develop an urgent case of paroxysm of desire to examine and act upon problem areas which chronically plague most of the Societies within IEEE, ours no exception. Membership is one such area with member retention and growth rate of particular concern. Although our total membership exceeded the 3000 mark late last year, the rate of attrition exceeded our rate of

growth with the result that we again stand below the precedent setting mark. Our rate of growth stands steady at about 6%, but that is below the median of the Institute wide figures. Another chronic problem area is our inability to attract practical, non-academic type papers for publication in our TRANSACTIONS. Scores of practical papers are published in the pages of commercial reliability literature and in the PROCEEDINGS of RAMS and IRPS. If the authors of this type paper will not come to us, perhaps we need bold editorial changes and take steps to come to them. Lastly, I am concerned with the limited response to our efforts in getting the Society members more active in the technical activities of our chapters. Although the chapter technical activities increased over the past year, only a fourth of the total number of chapters account for the increase of these activities.

The problems cited, however, all present a fresh opportunity at creative solutions. I have full confidence in the competence, willingness and dogged determination of our incoming ADCOM officers to skillfully formulate the essence of solutions to these problems in the laboratory of their creative minds.

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Chapter News

Report from the Chapters Chairman - Henry Malec

Do you know which chapters have been given Chapter of the Year awards and when the award was received? In case you don't know they are:

CHAPTER OF THE YEAR

1971 - 72	Philadelphia
1972 - 73	Baltimore
1973 - 74	Boston
1974 - 75	Los Angeles
1975 - 76	Boston
1976 - 77	Santa Clara
1977 - 78	Mohawk Valley
1978 - 79	Washington/Northern Virginia

Cleveland Chapter

The Cleveland Chapter has formulated tentative plans for five good meetings this coming year:

Date	Topic	Lead Person
10/14/80	Solar Power Systems	Lalli
11/11/80	New Instrumentation	Peabody
3/18/81	Computer Medical Diagnosis	Thomas
4/14/81	Computer Quality Control	Yang
5/12/81	Energy Conservation	Cheng

Chapter Chairman V.R. Lalli, Manager, Reliability Programs NASA Lewis Research Center, Cleveland was the speaker of the Chapter Meeting on October 14, 1980 at the Cleveland Engineering Society. The subject was "Photo-Voltaic Power Systems Reliability Experience." The topic deals with a solar cell power system demonstration project in Tanqaye, Upper Volta, Africa. A similar system is in operation in Arizona, and a third is on order for a remote community in Portugal. The reliability

experience was explained. The Remote Power System has achieved a 0.82 availability with a mean repair time of 11 days.

Chapter Member Hou S. Cheng, Senior Project Leader, Reliability and Maintainability, Gould Ocean Systems Division, Cleveland, Ohio was appointed to the GIDEP (Government Industry Data Exchange Program) RMDB (Reliability Maintainability Data Bank) Program Improvement Committee Task Group #3, "Training and Indoctrination." GIDEP is a cooperative activity among participants in government and industry seeking to reduce or eliminate expenditure of manpower, time and money by making maximum use of existing knowledge. The program provides a means to automatically exchange certain types of technical data essential in the design, development, component selection production, reliability assessment, quality assessment, and operational portion of the life cycle of systems and equipment. The committee was established to encourage expanded utilization of the data bank and other services of GIDEP. "GIDEP" will be the topic selected for the Chapter Technical Meeting on April, 1981.

Denver Chapter

Thirty-four people were in attendance at the Fall Banquet and Charter Meeting of the new Denver Chapter of the Reliability Society. This was held at the Denver Sheraton, on Thursday, September 4, 1980, in conjunction with the National Advisory Committee Meeting in Denver the following day.

This new Chapter spans from Fort Collins in the North to Colorado Springs on the South, 130 miles along the Front Range of the Rockies. Highlight of the evening were remarks by Dr. Thad Regulinski, President of the IEEE Reliability Society.

This was a truly outstanding and memorable affair.

The officers of the new Chapter are:

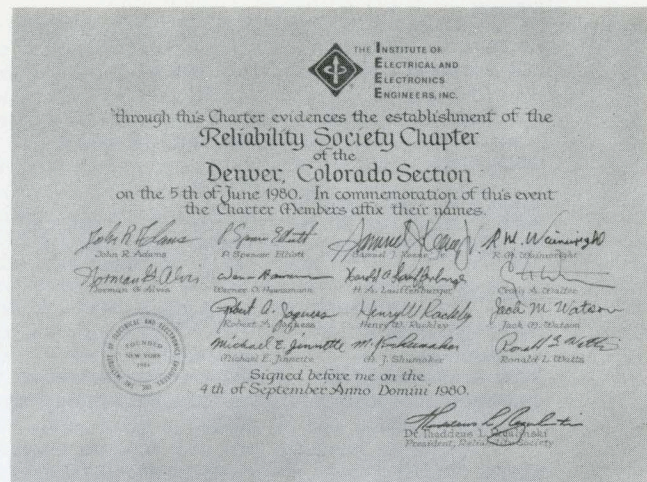
CHAIRMAN	Samuel J. Keene
VICE CHAIRMAN	Robert A. Jaquess
SECRETARY	Harold A. Lauffenburger
TREASURER	Maurice J. Shumaker
MEMBERSHIP CHAIRMAN	Henry W. Rackley



Charter members of Denver Chapter. Front Row (L-R): Norman Alvis, John Adams, Ray Wainwright, Robert Jaquess, and Samuel Keene. Back Row (L-R): Werner Haussman, Harold Lauffenburger, Henry Rackley, Jack Watson, Ron Watts, Mike Jinnette, Spencer Elliott, Maurice Shumaker.



Presentation of the Charter from Dr. Regulinski, President of the Reliability Society to Samuel Keene, Denver Chapter Chairman.



Charter.



Banquet. Seated at head table are Lauffenburgers, Keenes, Pres. Regulinski, and (not shown) Hank Malec, and the Jaquesses.

Washington/Northern Virginia Chapter

Judging by the attributes of topic, speaker qualification, attendance, audience interest and participation the first two meetings of the 1980-1981 season have been an outstanding success.

The first meeting was held at a luncheon in the Holiday Inn, Crystal City, VA on 17 September. There were 48 members and guests in attendance. Mr. Willis J. Willoughby, Jr., Deputy Chief of Naval Material for Reliability, Maintainability and Quality Assurance was the featured speaker. He described his initial conclusions resulting from a survey of the operational status of the fleet. Mr. Willoughby and his group determined that most major weapon systems failed to meet mission reliability requirements even though they had all passed the Navy's reliability demonstration tests. He described how the NASA approach for achieving reliability has been brought to the Navy as a 'New Look' philosophy.

Mr. Willoughby addressed three areas of major concern. He emphasized that reliability must be achieved in design and that reliability growth could be effectively realized through proper utilization of 'test-analyze-and-fix' (TAAF) techniques. Next he discussed his deep concern with achieving and maintaining product quality throughout the production process; stating that reliability obtained in design could easily be lost in the manufacturing area without proper quality assurance controls and motivation and training of production personnel. Finally he addressed the area of operational availability expressing concern that a very major contributor to mean downtime was unavailability of spares or repair parts. He indicated that logistics determinations were not a part of his office's function, but must be considered along with reliability and maintainability, if the fleet is to reach its operational readiness objectives.

Mr. Willoughby concluded his presentation, and then graciously fielded questions from the floor during the following hour. It is suspected that at least part of his response to questions from a chapter guest, who is on the editorial staff of Aviation Week & Space Technology, are reflected in one or more articles contained in the October 6 edition featuring reliability and performance of weapon systems.

The second meeting was held in the evening at Vitro Laboratories Division, Silver Spring, MD, on 15 October. There were 42 members and guests in attendance. The meeting topic was entitled "Concepts and Techniques associated with Risk Assessment of Engineered Systems," and was presented by Dr. Jerry B. Fussell of JBF Associates, Inc., Knoxville, TN.

Dr. Fussell's opening remarks addressed the qualitative interpretation of acceptable risks and the quantitative significance of these risks. He then discussed a structured approach to formulating and evaluating risks by employing fault-tree analytical techniques. Throughout his presentation, Dr. Fussell emphasized that the real value of risk analysis

is to be realized through the understanding of cause-effect relationships rather than in obtaining absolute quantitative solutions. He stressed that most source data employed in risk assessment was at least suspect, but that careful attention to the process under analysis could lead to reasonable conclusions based on relative quantitative merit. Dr. Fussell's presentation was both enlightening and entertaining. He fielded several questions from the floor, a number of which addressed human performance considerations. Based on his personal observations, Dr. Fussell indicated that significant improvement in the state-of-the-art and understanding of human performance parameters was needed before such factors reflected in risk analysis studies could be quoted with reasonable levels of confidence.

San Diego, California

You do not presently have an area Reliability Society Chapter even though you have a very significant number of members in the San Diego area. If any of you wish to join or form a chapter such as the Denver area did in 1980, please contact Hank Malec, Chapters Activities Chairman at the ITT - Advanced Technology Center, 1 Research Drive, Shelton, CT 06484 or call (203) 929-7341 Ext. 817.

WANTED IN TEXAS

Reliability Group members to join or form area chapters in the Dallas and Houston areas. You do not presently have an area Reliability Society chapter even though you have highly regarded reliability specialists in the area. If you would like to help form a chapter, please contact Ray Wilson in Dallas (214)247-9052.

Class of 1983 AdCom Members Elected

Following are the names and addresses of the newly elected members of the Reliability Society ADCOM to replace the outgoing class of 1980.

- | | |
|---|---|
| Mr. Carl Bird
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Evaluation Associates
Inc., GSB Bldg.
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Bala Cynwyd, PA 19004 |

Plan Now To Attend the Annual Reliability Society Awards Luncheon

WHEN: January 27, 1981 at 12:30 PM
 WHERE: The Marriott Motor Hotel, Philadelphia, PA
 (Location of 1981 ANNUAL R&M SYMPOSIUM)
 WHY: Honor the recipients of the Reliability
 Society Awards
 Meet your Society Officers
 Enjoy fellowship with Society Members
 Cheap Lunch - (Cost per attendee - \$7)
 subsidized by the Society

 ADVANCE REGISTRATION FORM
 RELIABILITY SOCIETY AWARDS LUNCHEON

NAME _____
 COMPANY _____
 ADDRESS _____
 CITY _____ STATE _____ ZIP _____

This form and a check for \$7 payable to the "IEEE Reliability Society" should be mailed to:

J.J. Naresky
 IIT Research Institute
 The Beeches Carriage Suite
 Turin Road
 Rome, NY 13440

Awards Program Agenda

3RD ANNUAL AWARDS LUNCHEON PROGRAM
 27 JANUARY 1981

- I INTRODUCTION AND PROGRAM PROCEEDINGS - Dr. T.L. REGULINSKI
- II CHAPTER AWARDS
- III GUEST EDITORS AWARDS
- IV RECOGNITION OF FELLOWS
- V ANNUAL IEEE RELIABILITY SOCIETY AWARD
 TRI-PIONEER RECOGNITION
 - DR. BENJAMIN EPSTEIN
 PROFESSOR OF STATISTICS
 TECHNION, ISRAEL INST OF TECHNOLOGY
 CITATION: FOR LAYING BASIC FOUNDATION OF THE
 STATISTICAL THEORY OF LIFE TESTING
 AND FOR THE DEVELOPMENT OF ITS
 MATHEMATICAL MODELS.
 - MR. CLIFFORD M. RYARSON
 CORPORATE MANAGER MFG DATA SYSTEMS
 HUGHES AIRCRAFT CORPORATION
 CITATION: FOR THE DEVELOPMENT OF THE METHOD AND
 THE RATIONALE UNDERLYING THE PRACTICE
 OF FAILURE RATE PREDICTION PROCESS.
 - DR. JOHN H. K. KAO
 PROFESSOR OF INDUSTRIAL ENGINEERING
 POLYTECHNIC INSTITUTE OF NEW YORK
 CITATION: FOR ORIGINATING THE WEIBULL
 PROBABILITY PAPER AND FOR THE
 DEVELOPMENT OF THE GRAPH ANALYTIC
 METHOD OF RELIABILITY ANALYSIS.
- VI INSTALLATION OF PRESIDENT ELECT MR. CARL M. BIRD
- VII INSTALLATION OF ADCOM OFFICERS
 - MS. N. MCAFEE - VP TECHNICAL OPERATIONS
 - MR. D. TROXEL - VP MEMBERSHIP
 - MR. T. COPPOLA - VP PUBLICATIONS
 - MR. A. PLAIT - VP MEETINGS
- VIII PRESIDENT'S CONCLUDING REMARKS - MR. CARL M. BIRD

Mid-Term Report from IEEE's Congressional Science and Engineering Fellow

Thomas L. Fagan

Since my appointment to the staff of Senator Strom Thurmond (R-SC) serving on the Senate Armed Services Committee, my major accomplishments during the first six months have been:

- 1) generating Amendment no. 1691 to the Defense Authorization bill to add \$255 Million for the re-activation of the Battleship New Jersey and;
- 2) the creation of a new GI Bill of Education, S.2977.

On these two issues I handled all aspects of the work including the legislative research amendment/bill preparation, presentations to the Armed Services Committee, support for the Congressional hearings, interface with the Pentagon, "Dear Colleague" letters, support for the mark-up and floor debate, and briefings for key staffers and Senators.

The re-activation of the New Jersey was approved in the Senate Armed Services Committee mark-up by a vote of 11 to 5. A floor amendment to delete the New Jersey re-activation was defeated 51-40. Senator Thurmond played an active role in both the Committee and floor fight to provide unbudgeted funds for this ship re-activation.

The new legislation for the GI Bill of Education involved similar efforts but still awaits Veterans Affairs Committee action. Its major features include:

- An educational stipend of \$400 per month up to a maximum of 36 months.
 - Eligibility to active duty personnel after two years of service and members of the selected Reserve after four years of service.
 - Transfer of entitlement to dependents by servicemembers after 8 years of service.
 - 10-year time period after discharge for servicemembers to utilize their benefits.
- The job of Congressional Fellow entails an enormous amount of reading and writing. Over twenty floor statements were written by me which Senator Thurmond gave on the floor of the Senate. Among these floor statements were the following:

- "The Soviet Buildup in Cuba"
 - "Cuban Refugee Situation"
 - "The Iran Rescue Attempt"
 - "Technology Transfer to the Soviets"
 - "The Need for Increased Defense Spending"
- I was also asked to compose numerous official letters for the Senators as well as several speeches/articles. The most important of these were -
- Letter to President Carter condemning his personal decision not to invite Chile to participate in the 21st Annual UNITAS Naval

- exercises, although Chile has participated each of the past 20 years.
- Letter to Secretary of Defense Harold Brown regarding Military Pay.
- Letter to President Carter regarding Technology Transfer to the Soviets.
- Letter to President Carter regarding the sale of oil drilling technology to the Soviet Union.
- Letter to General Alexander Haig, ret., President UTC regarding UN Moon Treaty.
- Letter to Secretary of Defense Harold Brown regarding industrial preparedness.
- Letter to Secretary of State Cyrus Vance regarding UN Moon Treaty.
- Letter to President Carter recommending Assurance Science Specialist be appointed to the Nuclear Safety Oversight Committee written by Thad Regulinski.
- "Today's Defense Status" speech given to top 40 Republican contributors, Russell Senate Office Building, 6/9/80.
- "Changing Our Trade Policy with the USSR" printed in Vital Speeches of the Day, 4/15/80.
- "Should the U.S. Go All Out for Civil Defense?" published in American Legion Magazine, May, 1980 issue.
- "Acceptance Speech" at 1980 National Convention of the Navy League upon receiving the League's highest award, the Meritorious Citation, at Sheraton Park Hotel, 4/8/80.
- "Trade With the Soviet Union" radio speech, 3/14/80.

I have given two personal speeches of my own during this time period. The first was as the after-dinner speaker on May 21, 1980 at NASA Goddard Space Flight Center for the IEEE Aerospace and Electronic Systems Society Spring Meeting. The second was on June 6, 1980, to the IEEE, United States Activities Board, Professional Activities Committee meeting at the Crystal City Marriott.

I also give short briefings on the Congressional Science and Engineering Fellows Program on a regular monthly basis to Congressional pages, interns, and scout groups.

The American Association for the Advancement of Science, which coordinates the Congressional Science and Engineering Fellows Program, held Fellows Seminars every two weeks. My own seminar was held at COSMOS Club on the Space Shuttle Program with Dr. Mike Malkin, Shuttle Program Manager as the keynote speaker.

- I have been asked to perform quite a number of quick-reaction special studies. The most significant of these have been:
- XM-1 Tank Thermal Signature Analysis.
 - NATO vs. Warsaw Pact Forces.

- A-10 Aircraft, single seat vs. dual seat configuration analysis.
- Fighter aircraft production and availability (Mission capable) rates.
- Battleship New Jersey cost benefit analysis.
- Aircraft Carrier Oriskany cost benefit analysis.
- Economic effects of Soviet trade embargo.
- Soviet expansion activities since WW II.
- Soviet violations of the SALT I Treaty.
- Analysis of Soviet payments for grain and high technology.
- Impact of SALT II Treaty concessions/agreements on verification of treaty terms.
- Treaties the Soviets have violated since WW II other than SALT I.

I have been fortunate enough to make several very interesting trips. These were:

- A three day symposium on "How to Negotiate with the Soviets" held at the University of South Carolina, Institute of International Studies. The symposium centered around three case studies each led by the Chief Negotiator for the Nuclear Test Ban Treaty, The Mutual and Balanced Force Reduction Treaty, and SALT II.
- A three day orientation trip with the Army to Ft. Jackson, S.C. and Ft. Benning, Georgia. The purpose of this trip was to interview recruits and NCO's on military pay, retention, and morale problems; receive briefings; witness weapon demonstrations; and tour training facilities. We participated in many hands-on activities, the highlight being the opportunity to make two parachute jumps at Fort Benning.
- A two day visit with the Navy to Norfolk, Virginia. The purpose was the same as the Army trip and also included lunch on the NIMITZ; demonstrations of the Harrier AV-8B and F-14 aircraft; tours of the MISSISSIPPI (guided missile cruiser), SIPAN (amphibious landing craft), and FINBACK (nuclear attack submarine).

Senator Thurmond asked me to attend a number of receptions as his representative:

- Secretary of the Navy, Mr. Hidalgo
- American Legion
- Pratt and Whitney
- IEEE
- American Paper Institute
- Embassy of Chile
- General Electric
- Retail/Corporate Credit Associations
- South Carolina Cherry Blossom Festival Reception
- I also attended two receptions at Senator Thurmond's home, McLean, Virginia.

Also, I have attended a White House Briefing on Draft registration and answered various press inquiries on defense issues. I am doing one piece of case-work for the Midvale Steel Company in Philadelphia, Pennsylvania to secure a declaration of essentiality from the U.S. Navy for heavy forging capability, followed by a loan guarantee under the Defense Production Act of 1950 from OSD.

Vice Presidents Reports

V.P. Meetings - Carl Bird

Congratulations to the newly elected members of the Reliability Society Administrative Committee who will serve a three year term 1981-1983. We are proud to be represented by Paul Gottfried, Ray Knight, Dick Kowalski, Dave Troxel, and Tom Weir. Each of these gentlemen have a lengthy record of service to the Society and will be assets to the ADCOM. It is indeed a pleasure to be associated with a group of dedicated individuals who so freely volunteer their time, talent, and energy for the benefit of our Society. The undersigned also appreciates the support and confidence of the ADCOM in my reelection for a second term.

Having completed my second year as Vice President for Meetings, I would like to express my gratitude to all of you who have worked so hard to make our technical conferences a success. The International Reliability Physics Symposium and the Annual Reliability and Maintainability Symposium continue to be highly successful and provide our members with outstanding forums for technical interchange. Our entire membership has been loyal in their support and attendance at these conferences.

Unfortunately, our support of the Product Liability Prevention Conference has not been as encouraging. Attendance at this conference has been steadily declining and the Reliability Society can claim only one or two attendees per year. Additionally, we have been unsuccessful in finding a member with sufficient interest to represent us in the management of the conference. As a result, the Administrative Committee has voted to discontinue sponsorship of the PLP Conference. It is always sad to lose an old friend, as we have been associated with PLP for many years. We must, however, devote our energy to those activities which are of prime interest to our membership.

I have enjoyed my two years as your Meetings Vice President and look forward to serving the Society in a different capacity in the future. My thanks to the membership for your continued support.

V.P. Technical Operations - Al Plait

The U.S. National Committee of the International Electro Technical Commission (IEC) held its annual plenary meeting in New York City, October 16, 1980. Ivan Easton, who recently served as IEEE Standards Director was re-elected President of the U.S. National Committee of the IEC. Marion P. Smith, a past Chairman of the IEEE Reliability Group, was re-elected as a Vice President of the USNC/IEC for a four-year term.

The next general meeting of the IEC TC-56 Reliability & Maintainability will be held in Tel-Aviv in March 1981. The U.S. delegation will include Marion Smith and Dr. Lee Weaver, now USA Technical Advisor for TC-56. Dick Jacobs will participate in his capacity as the overall Secretary of IEC TC-56.

The Third Minnowbrook Workshop on Software Performance Evaluation was held at Blue Mountain Lake, New York August, 1980.

A Table of Contents of Abstracts for presentations at the workshop are below. Generally, the audience was divided into two areas of work environment, these were 1) University/Research, 2) Industry/Use. The views of these two groups were usually indicated to be widely separated, and in some cases presenters were not able to complete their talk due to an excess of comments on minor issues (generally from #1 area people).

The breaks in the program, in addition to mealtime discussions proved to be both interesting and an opportunity to gain added information on accomplishments of non-presenters.

ABSTRACTS

- Basili, V.R., "Evaluating Software Complexity Measures"
- Belady, L.A., "Difficulty - Or Complexity? - Of Software Modification"
- Cheadle, W.G., "Software Data Bases"
- Clarke, L.A., "A Partition Analysis Method To Increase Program Reliability"
- Doshay, I., "Considerations for Useful Hardware/Software Reliability Models"
- Ferens, D., "Predictive Software Cost Model Study"
- Gale, R.J., "Software Reliability Testing - A Key Factor in Program Management"
- Gloss-Soler, S.A., "DACS Data Acquisition Program"
- Goel, A.L., "Optimum Software Maintenance Policies"
- Gustafson, D.A., "Set Evaluation - A New Approach to Program Validation"
- Hecht, H., "A Comparison of Reliability Measurements Based on Execution Time"
- Herndon, M.A., "Metric Sampling in the Implementation of the Reliability Profile"
- McCall, J., "Software Quality Metric Application Results"
- Mohanty, S.N., "Entropy Metrics for Software Design Evaluation"
- Moranda, P.B., "Error Detection Models for Application During Program Development"
- Presson, E., "An Analysis of Software Error Phenomena on Three Aerospace Projects"
- Ruston, H., "Graphical Complexity Measures - A Comparison"
- Sayward, F.G., "Design of Software Experiments"
- Shapiro, O., "Software Acquisition Process Model"
- Shooman, M.L., "The Information Theoretic Basis of Software Science"
- Thibodeau, R., "Measuring the Accuracy of Software Cost Model Estimates"
- Yau, S.S., Collofello, J.S., "Performance Stability Measures for Software Maintenance"
- Zelkowitz, M.V., "Cluster Analysis on Collected Software Engineering Data"
- Simkins, D.J. (PANEL PRESENTATION), "Systems Software Reliability Modeling"

The Parts Screening Committee as a Technical Operating Committee of IEEE, Chairman Irving Doshay has been chartered. The field of interest is as follows:

The field of interest of the Committee shall include the evaluation activities associated with screening of electronic components or parts thereof. These activities may include but are not limited to:

- . Test/Screening Requirements
- . Design of Tests/Screening Methods
- . Test Procedures/Environments
- . Interpretation of Test Data
- . Comparisons of Screening Methods and Results

- . Screening Payoffs - Benefits vs. Costs
- . Establishing Screening Definitions and Guidelines

R. S. Votes Support for Congressional Fellow Program

The following letter dated October 20, 1980 was received.

Dr. T.L. Regulinski
President, IEEE Reliability Society
Goodyear Aerospace
P.O. Box 295
Goodyear, AZ 85338

Dear Dr. Regulinski:

I was delighted to receive your letter of October 6 and a check for \$2500 from the Reliability Society as a donation to the IEEE Congressional Fellows Fund. I would have written to you earlier, but have been out of town for a few days.

In behalf of our Committee, I would like to request you to convey our deep appreciation to the Reliability Society ADCOM. I would also like to compliment you on your pioneering role in this respect: your Society is the first one to make a donation using its own funds. We hope that others will follow your lead and make similar donations!

You will be pleased to know that we are generally receiving a favorable response to our appeal for contributions to the Fund. In particular, the officers of one other Society have successfully persuaded a large corporation to donate on the order of \$25,000, and similar discussions are in progress with another large firm. In addition, we have received smaller contributions or indications for favorable consideration next year from other organizations. I shall be giving an exact report at the end of the year, and shall keep you informed.

Thanking you once again for your support.

Sincerely yours,
S.H. Durrani, Chairman
Congressional Fellows Committee

Honors

Reliability Society President, Thad Regulinski, will receive the award for the "Best Paper Presented" at the 1980 Annual Reliability and Maintainability Symposium. The paper titled "Availability Function for Communicating Computers Net" was chosen from some 80 papers presented by the attendees. The award will be presented at the 1981 Annual Reliability and Maintainability Symposium Banquet January 28, 1981.

The Society of Women Engineers (SWE) has elected Naomi McAfee as a Fellow Member. The award which was presented at the 1980 Annual SWE Convention was for outstanding contributions to furthering knowledge of and enhancing the status of women in engineering fields.

R.S. Vice President, Carl Bird, will receive the award for Best Moderator of a session at the 1980 ARMS Meeting. The award will be presented at the 1981 Annual Reliability and Maintainability Symposium Banquet January 28, 1981.

Welcome to New Members

The names and addresses of new members, from September 1980 through October 1980, are listed below. For USA members, they are listed by alphabetical order of their state. For members outside the USA, they are listed by alphabetical order of their country's English name.

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Yin Shaiw-Yih
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Karl Axel R. Olsson
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Ahmad A. Hiyasat
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Trinidad West Indies

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.

The Reliability Transactions and Newsletter - both included in your Reliability Society Fee - keep you abreast of the latest developments in the reliability 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.

Don't wait. Fill out the membership application below and mail it 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.

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