



RELIABILITY GROUP NEWSLETTER

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Editor: Paul Gottfried

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EDITOR'S NOTES

An old hand, whether from G-R or another of the sponsoring organizations, can stand in the corridors of the Reliability Symposium and count on recognizing at least one out of four passing faces; most of the colleagues he recognizes, like himself, are likely to have attended more than half of the previous Symposia. In the past, some of us have wondered whether (a) anything non-repetitious could be said and (b) the Reliability profession could survive as an identifiable specialty.

The good news is that the answer to both questions is affirmative. The discipline came into being as a result of pressing necessity in Defense and, slightly later, in Space. In Defense, renewed impetus has arrived as -- in the midst of emphasis on Design to Cost -- the intolerable burdens of excessively frequent failure and long downtime are getting increased attention. Perhaps even more importantly, a little-publicized and long-awaited "technology transfer" to the consumer sector is taking place. Broadened concepts of product liability, broad and tough recent legislation of product safety, and anticipated Congressional action on warranties all must lead to the application of familiar principles to new classes of devices and problems. The profession and its members not only have an opportunity to expand horizons, they have a responsibility to participate. The consumerists can continue to sound the alarm; the lawyers can seek compensation; but only the maligned technologists can bring about product safety and reliability.

"Material for the July issue must be in the Editor's hands by May 23. Chapter material should be sent directly to the Associate Editor."

Chapter chairmen

Baltimore	Mr. Thomas T. Jackson 601 Bay Hills Drive Arnold, Md. 21012	Montreal	Mr. Duco W. Weytze CAE Electronics, Ltd. P. O. Box 1800 St. Laurent Montreal 379 Quebec, Canada
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Chapter news

Baltimore

On February 25, Mr. Dana E. Lindon, Logistic Service, FAA, spoke on "The New FAA Quality System Certification Program". The March meeting consisted of a Panel on Demonstration Testing. Mr. George Harrison, ARINC Research, discussed monitoring reliability and maintainability demonstration testing; Dr. Richard Kowalski, Westinghouse Defense and Electronic Systems Center, discussed how to prepare for a successful demonstration test and Mr. Thomas T. Jackson, Litton, discussed alternatives to demonstration testing in the laboratory, such as field testing and customer integration testing. The April meeting will be a joint meeting with the Philadelphia Reliability Group at the Philadelphia Electric's Peach Bottom Nuclear Power Plant. Mr. James Corcoran, Philadelphia Electric, will discuss "Nuclear Power Plant Quality Assurance from Design to Decommissioning".

Boston

The Boston Chapter continued its busy schedule. On November 14, the chapter conducted its annual Budweiser Brewery tour at Busch Gardens in Merrimack, New Hampshire. This year the program, which included a plant tour, courtesy beer, and a buffet supper, was expanded into a Ladies Night. A good time was had by all! On December 14, 35 attendees heard Dave Troxel of RCA (Camden, New Jersey) review the new MIL-HDBK-217B. Mr. Troxel described the data sources and techniques used to develop the updated version of the handbook, and elaborated on material contained in some of its sections (e.g., micro-electronic devices).

The January meeting was a joint meeting with the ASQC, and included a dinner and plant tour of the Manufacturing Center of the Gillette Company in Andover, Massachusetts. At the February meeting, Gene Carrubba of GTE Sylvania (Needham, Massachusetts) made a presentation describing an approach, based on multiple regression analysis, for predicting in-plant test failures. The results of the analysis (1) indicated a high degree of correlation between the independent variables (i.e., equipment complexity and test program severity) and (2) demonstrated the feasibility of using these variables to predict the number of in-plant test failures.

The next scheduled meeting will be held on March 14 at RCA in Burlington, Massachusetts. At this meeting, Ken Hall of Digital Equipment Corporation will speak on microelectronics reliability. On April 25, the Boston Chapter will conduct its Annual All-Day Spring Reliability Seminar, featuring eight speakers, at the Colonial Inn, Lynnfield, Massachusetts.

Canaveral/Daytona

The Canaveral Section PGR has a new slate of officers to serve during the 1973-74 term:

Chairman	Case J. VanLeeuwen Harris Semiconductor Div. of Harris-Intertype P. O. Box 883 MS 51/125 Melbourne, Florida 32901
Vice-Chairman	Tom Novak Radiation Division of Harris-Intertype P. O. Box 37 MS 1/610 Melbourne, Florida 32901
Secretary	Clarence E. Gaston Radiation Division of Harris-Intertype P. O. Box 37 MS 16/103 Melbourne, Florida 32901

This group of officers have already been working hard this year to develop the January Symposium theme "New Dimensions in Assurance Technology". To date, three group meetings have been held.

In September a panel discussion, which was moderated by Otto Fedor, NASA KSC Reliability Branch Manager, was held discussing "Product Assurance for U.S. Government Programs in Brevard County". Panel participants were product assurance engineers involved in several different government contracts.

In October, Richard Flutie of Harris Semiconductor presented an excellent discussion on "Electron and Ion Beam Microanalysis Instrumentation" to a joint session between the Reliability Group and the Canaveral Section.

In November, Don Green of Harris Semiconductor presented a discussion on "Innovation and Product Reliability". This discussion emphasized the importance of patent rights and under what circumstances a patent can be acquired.

Chicago

At the February meeting, Lee Mirth of the RADC Reliability Analysis Center discussed the Center's data bank as related to industrial applications. The April meeting featured Mr. Robert W. Peach, Vice President, Sears, Roebuck & Co., discussing "Using Field Service Experience To Improve Product Reliability".

Cleveland

A Joint Institute to be held with Cleveland State University and NASA Lewis Research Center is planned for May 20-24, 1974. The topic is "Reliability, Maintainability and Safety". Speakers include D. B. Kececioglu, L. B. Johnson, W. H. Yee, Leslie W. Ball, R. R. Landers, V. R. Lalli, and A. J. Bonis. Registration and publication of the Institute Record will be done by the Division of Continuing Education of Cleveland State University.

Los Angeles

The Los Angeles Chapter has planned a schedule of eight meetings for the year. In September, Dr. E. Welker, TRW Systems, discussed "System Modeling Simplified". October saw Mr. P. Eisenberg, Litton Systems, present "PROM Failure Mode Analysis". In November, a five-member panel of Reliability Experts Representative of Southern California's Engineering Community discussed "The Pros and Cons of MIL-HDBK-217B". At the January meeting, a three-member panel representing Commercial Military and Space Equipment Manufacturers discussed "Effective Design Review/Audit Techniques". In February, Lt. Col. Gordon L. Carpenter, USAF (SAMSO) discussed "Military Parts, Materials and Processes Control - How Air Force Policy Impacts Equipment Contractors". The March meeting consisted of Mr. R. Babin, McDonnell Douglas, discussing "Failure Reporting and Corrective Action". In April, there was a tour of the B-1 Bomber Facility hosted by Rockwell International of Los Angeles.

Mohawk Valley

On November 7, 1973, Mr. Anthony Coppola, RADC, discussed "Reliability as a Capital Investment". March 19, 1974, Mr. Leon Sperling, General Electric Company, spoke on "Equipment Screens for High Reliability Space Programs".

Philadelphia

On March 13, 1974, a Joint Meeting with the Parts, Materials and Packaging Group was held. The speaker was Mr. Larry Gallace, Manager, Reliability Engineering Laboratory, RCA Solid State Division, who spoke on "Reliable Plastic Packaged Integrated Circuits and Power Transistors". In April, a joint field trip with the Baltimore Chapter to the Philadelphia Electric's Peach Bottom Atomic Power Station was held.

San Francisco

The March meeting featured Mr. D. Stewart Peck, Bell Telephone Laboratories, Allentown, Pennsylvania, who spoke on "Acceleration Factors in Semiconductor Device Reliability Studies".

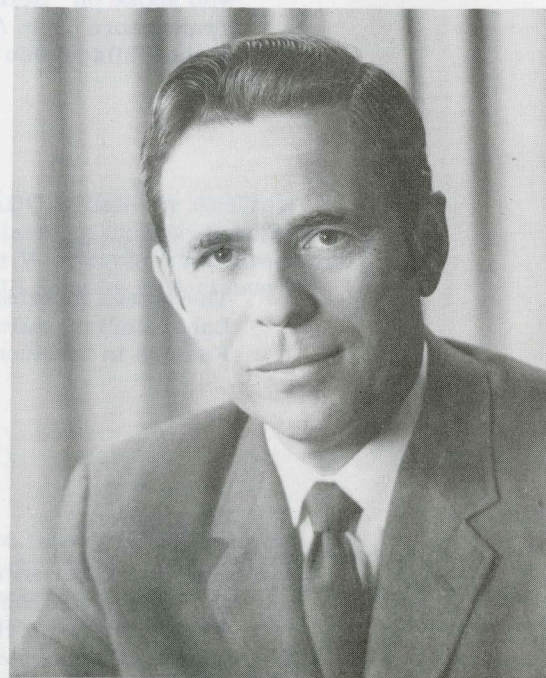
Washington

The December meeting featured Mr. Abe S. Pollack, Department of the Army, who discussed "Reliability and Choosing the Number of Prototypes". At the January meeting, Mr. Harold E. Ascher, Naval Research Laboratory, discussed "Systems Availability Concept".

1973 Reliability Award

The Reliability Group's 1973 Reliability Award was conferred on the Honorable Richard O. Simpson, Chairman of the Consumer Product Safety Commission, an agency created by Act of Congress late in 1972 and activated in May, 1973. As Chairman and in his previous position at the Department of Commerce, Mr. Simpson has been instrumental in bringing reliability and quality concepts into action in mandatory consumer product safety standards. His background includes successful engineering and entrepreneurship in the electronics industry.

Our photographer did an excellent job of portraying G-R President Ray Knight, the plaque, and the back of Mr. Simpson's head at the award presentation at the 1974 Symposium banquet. We also provide a separate photo for those who may want to recognize Mr. Simpson from the front.



Chapter Awards

The revised rules for the G-R annual chapter awards were partly, but not entirely, responsible for the appearance of a less familiar list of winners for 1972-73. Group President Ray Knight made the presentations at the AdCom meeting immediately preceding the 1974 Annual Symposium.



First prize went to the BALTIMORE Chapter, Mrs. Naomi McAfee accepting for Dr. Richard Kowalski.



The WASHINGTON Chapter held its ground, new rules or old, with award being received by Mr. William E. Wallace, Jr.



Mr. Everett Labagh accepted the NORTH JERSEY Chapter's third-place award on behalf of Mr. Stanley Cherkasky.

G-R Officers

The following are the officers of the Reliability Group for 1974:

President	C. R. Knight
Vice President Education, Development & Standards	R. M. Jacobs
Vice President Meetings, Chapters & Membership	H. W. Williams
Vice President Technical Operations	J. W. Thomas
Vice President Publications	M. P. Smith
Treasurer	K. Greene
Secretary	D. I. Troxel

G R Representatives on IEEE STANDARDS

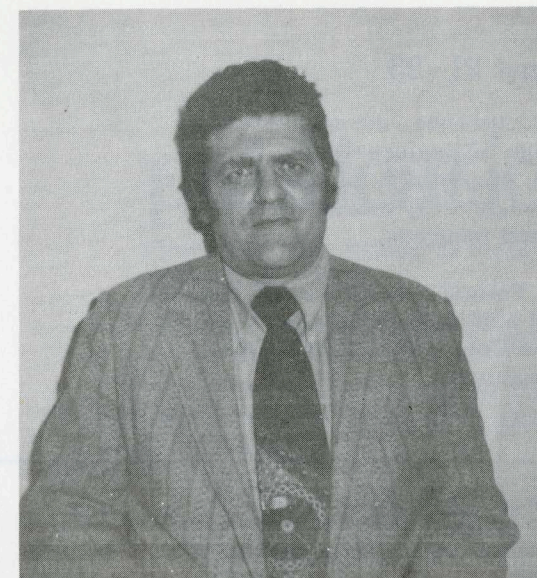
The G-R representative on the IEEE Standards Committee is:

Mr. Julian Edelman
G. T. E. Sylvania
189 B-Street
Needham, Mass. 02194
(617) 449-2000

G-R has two representatives on the IEEE Consumer Product Safety and Standards Coordination Committee:

Mr. Jerry Oleksiw
Mr. Richard Koch
J. C. Penney Co.
1301 Avenue of the Americas
New York, N. Y.
(212) 957-5720

Jerry Oleksiw will take principal responsibility in test methods and Richard Koch in statistical areas.



Dr. W. Thomas Weir

Meet Your AdCom

Tom Weir, the first AdCom member to have been nominated by the G-R membership at large, is President and Chairman of the Board of Evaluation Associates, Inc., Bala Cynwyd, Pennsylvania. He also holds the post of Adjunct Professor in the Graduate School of Engineering Management of Drexel University.

Tom previously was program manager, manager of the Reliability Engineering Laboratory, and manager of Reliability and Effectiveness Evaluation at the General Electric Company. He also has held engineering positions at RCA and IBM. He received the BSEE degree and the MS degree in Physics from Drexel University, and a Ph.D. in System Engineering and Operations Research from the University of Pennsylvania.

Tom is a Member of ORSA as well as a Senior Member of IEEE, and has been active in ASA and EIA committees, BIMRAB and NASEAB, and the 1968-71 Reliability and Maintainability Conferences. He was general chairman of the 1965-67 G.E. Conferences on Bayesian Decision Theory, and is the author of many papers and reports in Reliability and other aspects of Operations Research.

He, his wife Sally, and their four sons live in Cherry Hill, New Jersey.

PLP-74 Set for August 21-23

The fifth Product Liability Prevention Conference, co-sponsored by G-R, again will be held at Newark College of Engineering. The conference is structured for manufacturers, importers, private labelers, distributors and retailers and for their engineers, marketing staffs, product-service specialists, attorneys and insurers.

Addressing the theme of "Product Peril Points", more than 30 papers, several panel discussions and a group of applications seminars will be concerned with responsibilities under the Consumer Product Safety Act as well as liability to the injured consumer.

New Fellows

Among the 116 IEEE members elected to the grade of Fellow effective January 1 were two G-R members:

Irwin M. Jacobs, of LaJolla, California, "For contributions to information and communication theory and its applications."

Harry Kimel, of Philadelphia, "For leadership in the advancement of reliability technology."

Call for Fellow nominations

The IEEE Fellow Committee annually reviews nominations submitted by April 30. Preparation and processing of nominations is a demanding and time-consuming procedure.

G-R members wishing to initiate nominations may identify candidates at any time by contacting Val Monshaw, RCA Astro Division, MS 76, Box 800, Princeton, New Jersey 08540. Those wishing to prepare nominations outside G-R channels may obtain kits from Miss Emily Sirjane, IEEE, 345 East 47th Street, New York, N.Y. 10017.

It is too late to begin nominations for election as of January 1, 1975, but it is not too early to start the process for the following year.

publications

From the IEEE Standards Department, 345 East 47th Street, New York, N.Y. 10017:

IEEE Standards 1974 Catalog, 32 pages, no charge.

From the National Bureau of Standards, available through the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402:

Scanning Electron Microscope Examination of Wire Bonds from High-Reliability Devices, NBS Tech Note 785, August 1973, SD Catalog No. C13.46:785, 35 pages, \$0.55.

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.

Massachusetts Institute of Technology

Modern Control Theory Methods for Deterministic Systems: July 15-19. For details write to Director of Summer Programs, E19-356, M.I.T., Cambridge, Massachusetts 02139

Modern Control Theory Methods for Stochastic Systems: July 22-26.

The George Washington University

Metal Fracture and Fatigue: April 22-26. Five days, \$350. Contact: Director, Continuing Engineering Education Program, The George Washington University, Washington, D.C. 20006

University of Wisconsin

Material Failure: Analysis and Prevention: May 23-24 (Milwaukee Campus). Two days, \$100. Contact: University of Wisconsin--Extension, Department of Engineering, 432 North Lake Street, Madison, Wisconsin 53706

conferences

- May 7-8 1974 IEEE Appliance Technical Conference (S-IA), Columbus, Ohio
- May 11 First Canadian Reliability Symposium (Ottawa Chapter of the Society of Reliability Engineers), Carleton University, Ottawa, Canada
- May 14-17 International Magnetics Conference (INTERMAG) (S-M), Four Seasons Sheraton, Toronto, Ontario
- June 25-27 1974 Government Microcircuit Applications Conference (GOMAC 74) (D. O. D. and other agencies), University of Colorado, Boulder, Colorado
- July 1-5 1974 Conference on Precision Electromagnetic Measurements (The Royal Society and IEE with URSI, IERE, et al.), London, England
- July 15-18 1974 IEEE Annual Conference on Nuclear and Space Radiation Effects (S-NPS), Colorado State University, Fort Collins, Colorado
- August 5-10 IFIP Congress 74: Sixth Triennial Meeting & Exhibition (International Federation for Information Processing) and First World Conference on Medical Informatics, St. Eric's Fair, Stockholm, Sweden
- August 21-23 IEEE International Conference on Engineering in the Ocean Environment (Canadian Atlantic Section, Oceanography Coordinating Committee), Hotel Nova Scotian, Halifax, Nova Scotia
- August 21-23 1974 Product Liability Prevention Conference (PLP-74) (G-R, Newark College of Engineering, et al.), Newark College of Engineering, Newark, New Jersey
- September 10-13 1974 IEEE COMPCON FALL (S-C), Mayflower Hotel, Washington, D. C.
- October 7-9 1974 Electronic and Aerospace Systems Conference (EASCON), Marriott Twin Bridges Hotel, Washington, D. C.
- October 16-18 Joint National Meeting, Operations Research Society of America and The Institute of Management Sciences, Americana and El San Juan Hotels, San Juan, Puerto Rico
- October 23-24 Seventh Annual Connector Symposium (Electronic Connector Study Group, Inc.), Cherry Hill Inn, Cherry Hill, New Jersey
- October 27-31 IEEE 1974 International Symposium on Information Theory, University of Notre Dame, South Bend, Indiana
- 1975
- January 28-30 1975 Annual Reliability and Maintainability Symposium (G-R, ASQC, ASME, AIIE, ASM, AIAA, IES), Sheraton Park Hotel, Washington, D. C.