



# RELIABILITY GROUP NEWSLETTER

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Editor: Paul Gottfried

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## Editor's Notes

Response to the Newsletter's first "Position Wanted" ad has been encouraging, and this issue contains the first "Help Wanted" ads. We hope this feature will prove useful, but also hope that the need for ads of the first type will decline and that for the second type increase.

We are indebted to R. Cornwell of the San Francisco Chapter for some Reliability Swifties that will appear as "filler" in the Newsletter. Other readers are encouraged to try to outdo him.

"Material for the October issue must be in the Editor's hands by August 25."

# Chapter Chairmen

Baltimore	Mr. Charles Karr 5220 Brook Way Columbia, Md. 21043	New Jersey Coast	Mr. Weldon V. Lane 57 Throckmorton Avenue W. Long Beach, N.J. 07764
Binghamton	Mr. Joseph J. Rexford 20 Merrill Street Binghamton, N.Y. 13905	New York - Long Island	Dr. Martin L. Shooman 12 Broadfield Place Glen Cove, N.Y. 11542
Boston	Mr. Paul E. Curtis 12 Autumn Lane Waltham, Mass. 02154	North Jersey	Mr. Kenneth Grace, Jr. 18 Cove Lane Road Whippany, N.J. 07981
Canaveral/Daytona	Mr. Earle H. Barber 2517 S. Forrest Dr. Melbourne, Fla. 32901	Philadelphia	Mr. Irving Hyams 134 East Cheltenham Ave. Philadelphia, Penna. 19120
Chicago	Mr. Charles W. N. Thompson 240 Randolph Street Chicago, Ill. 60022	San Diego	Mr. Thomas W. Wright Evaluation Research Systems and Management Systems 2001 Kettner Blvd., Suite 3 San Diego, Calif. 92101
Connecticut	Mr. Palmer B. Smith 8 Bayberry Lane Darien, Conn. 06820	San Francisco	Mr. W. Lew Finch 5047 Bela Drive San Jose, Calif. 95129
Florida West Coast	Mr. Robert P. Dalton 2170 College Drive Clearwater, Fla. 33516	Twin Cities	Mr. V. Mike Jordal 3028 Ewing Avenue, South Minneapolis, Minn. 55416
Los Angeles	Mr. George W. Wood 4155 La Junta Drive Claremont, Calif. 91711	Washington	Mr. William E. Wallace, Jr. 304 Wayne Avenue Silver Spring, Maryland 20910
Mohawk Valley	Mr. Jerome Klion 73 Taber Drive New Hartford, N.Y. 13413		
Montreal	Mr. Duco W. Weytze 17 Howard Roxboro 970 Quebec, Canada		

## Group President

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## Chapter NEWS

### Boston

The Boston Chapter wound up the 1971-72 season's activities with its traditional all-day seminar. This meeting, the tenth of the series, was well attended by personnel working in both government and commercial programs. The tone for the day was aptly set by Warren R. Purcell, Corporate Director of Quality Assurance at the Raytheon Company, in his keynote address. After the day's program and banquet, Dr. Alfred H. Keil, Dean, M.I.T. School of Engineering, provided a thought-provoking discussion of the future role of education in science and engineering as applied toward solving world problems.

Chapter Chairman Don Dawes introduced the newly elected officers for the 1972-73 season:

Chairman	Paul E. Curtis, Raytheon Co., Wayland, Mass.
Vice Chairman	Donald V. Simpson, RCA Corp., Burlington, Mass.
Treasurer	Eugene Carruba, Sylvania Div., GT&E Co., Needham, Mass.
Secretary	Norman Martel, RCA Corp., Burlington, Mass.

### Philadelphia

The 1971-72 season -- which had featured talks on Management of Earth Resources by E. M. Mazar, Quality Control of Nuclear Generating Stations by H. B. Winitsky, Techniques for Optimization of Availability by R. Gould, How to Make Better Decisions by C. A. Cianfrani, and Reliability vs. Liability by R. M. Jacobs -- concluded with the 5th Annual Failure Analysis Seminar at the University of Pennsylvania on May 18. Eleven speakers appeared in sessions on Failure Models - Applications, Failure Models - Physics, Process Related Failure Mechanisms, and Degradation Failure Mechanisms, under the seminar chairmanship of R. E. Killion.

### Washington

Robert Anstead and Martin Peckeran addressed a joint meeting of the Electron Devices and Reliability Chapters on March 9 at the Goddard Space Flight Center. The subject was The Scanning Electron Microscope and Its Applications. On April 12, the Chapter heard James Reese of ARINC Research Corporation present the results of a study of Reliability Prediction for Monolithic Integrated Circuits conducted for the Naval Electronic Systems Command. The final meeting, on May 17, featured past chairman Abe Pollack's presentation of A Customer Viewpoint of Availability Requirements.

The following officers were elected to serve during the 1972-73 term:

Chairman	W. E. Wallace, Jr.
Executive Vice Chairman	C. L. Baker
Program Vice Chairman	V. W. Pennanen
Secretary	P. J. Mulligan

Senior Past Chairman V. E. Gardner and Junior Past Chairman W. A. Shortt, along with the four newly elected officers, constitute the Chapter Executive Committee.

Division 6 Director - IEEE

President  
Vice President  
Vice President  
Vice President  
Secretary  
Treasurer

G. A. Richardson

V. R. Monshaw  
J. J. Naresky  
C. R. Knight  
P. K. McElroy  
H. W. Williams  
D. Troxel  
R. M. Jacobs

Administrative Committee

Term Expires 12/72

H. D. Hulme  
J. E. Condon  
J. J. Naresky  
A. R. Park  
R. M. Jacobs  
P. K. McElroy

Term Expires 12/73

G. H. Ebel  
R. A. Evans  
R. E. Kuehn  
V. R. Monshaw  
M. P. Smith  
J. W. Thomas

Term Expires 12/74

P. Gottfried  
K. Greene  
C. R. Knight  
D. S. Peck  
M. L. Shooman  
H. W. Williams

Ex Officio With Vote

Jr. Past Chairman  
(H. E. Reese, Jr.)

Ex Officio Without Vote

Chapter Chairmen  
Standing Committee Chairmen  
Technical Committee Chairmen

Standing Committee Chairmen

**EDUCATION, DEVELOPMENT, STANDARDS**

Committee of Education & Training  
Committee on Standards & Definitions  
Committee on Advanced Techniques  
CARAD Liaison

**TECHNICAL OPERATIONS**

Maintainability (Technical Committee)  
Reliability Physics (T.C.)  
Human Effects (T.C.)  
Manufacturing Technology  
Software Reliability  
Oceanography

**PUBLICATIONS**

Newsletter  
Transactions  
Associate Editor

**MEETINGS, CHAPTERS & MEMBERSHIP**

National Meetings  
Speakers Committee  
Chapter Activities  
Membership

**OTHERS**

Awards  
Constitution & Bylaws  
Nominations  
G-R Liaison to Physics of Failure Symposium

**OPERATIONS COMMITTEE OF ADCOM**

President  
Junior Past Chairman  
Vice Presidents (4)  
Secretary  
Treasurer

J. J. Naresky

M. Shooman  
J. Edelman  
K. Greene  
C. Purdue  
C. R. Knight  
M. Wilson  
-  
T. L. Regulinski  
G. H. Ebel  
H. C. Schock, Jr.  
M. L. Sims  
P. K. McElroy  
P. Gottfried  
R. A. Evans  
T. L. Regulinski  
H. W. Williams  
J. E. Condon  
H. W. Williams  
H. D. Hulme  
W. R. Abbott

H. E. Reese, Jr.  
H. E. Reese, Jr.  
H. E. Reese, Jr.  
J. J. Naresky

## Employment advertising

The Newsletter accepts both "Help Wanted" and "Position Wanted" on a no-charge basis, subject to the following rules:

- Ads will appear in two successive issues unless cancellation notice is received before editorial deadlines.
- Text for each ad will be limited to ten lines plus identification, with a maximum of 45 characters and spaces per line.
- Ads may be open or blind, but blind "Help Wanted" ads should identify the type of business and the general geographic location of the vacancy.
- Submittals of "Position Wanted" ads should include IEEE membership number.
- "Help Wanted" advertising must fall in the "Equal Opportunity - M&F" category. Agreement to this requirement will be considered to be implied by the submittal of the ad and need not appear in the text.

## Position wanted

17 yrs. exp. incl. program mgmt. in product assurance, reliability and QA for MIL and NASA systems from concept through production and field usage. Prepare predictions, program plans, FR trade-off analyses, parts screening and application reqts. Develop, organize and direct failure reporting and analyses program complete parts programs, vendor surveys. Participate in design reviews, change control, and MRB activities. Fluent German. BSEE, MBA.

Reply to Box 1 c/o Editor.

## Help wanted

**COMPONENT PARTS ENGINEERS:** BS or MS in EE or Physics, 5-10 years experience in Military/NASA related industry. Must be experienced in consultation with circuit designers, supplier interface, source selection, specs, failure analysis and parts testing. Openings exist in both the passive and active device disciplines. Send complete resume with salary requirements to: Manager, Professional Recruitment - Dept. 034, Motorola's Government Electronics Division, P.O. Box C-90, Scottsdale, Arizona 85252 (An Affirmative Equal Opportunity Employer M/F)

**RELIABILITY ENGINEERS:** BSEE with 5 years experience as a reliability engineer. Opportunity to perform reliability program management, circuit stress analysis, failure mode and effect analysis, reliability estimates and modeling. Should have experience with worst case circuit tolerance analysis and maintainability engineering. Send complete resume with salary requirements as above, except using Dept. 035.

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.

ARINC Research Corporation

Reliability and Maintainability Techniques: May 15-19 and September 25-29. Five days, \$325. Contact: Educational Programs Office, ARINC Research Corporation, 2551 Riva Road, Annapolis, Md. 21401.

University of Arizona

Modern Design - "By Reliability": July 17-28. Ten days, \$275. Contact: Director of Conferences and Institutes, Division of Continuing Education, University of Arizona, Tucson, Ariz. 85721.

Illinois Institute of Technology

Holm Seminars on Electric Contact Phenomena: September 25-29. Five days, \$250. Contact: Electrical Engineering Department, Illinois Institute of Technology, Chicago, Ill. 60616.

Institute on Noise Control Engineering

August 6-11, Le Chateau, White Haven, Pa.; February 11-16, 1973, Fort Harrison Hotel, Clearwater, Fla. Five days, \$340 Pennsylvania, \$375 Florida. Contact: Institute on Noise Control Engineering, P.O. Box 3164, Bethlehem, Pa. 18017.

University of Michigan

Operations Research and the Management Sciences Course A: Theory and Application, Course B: Recent Developments and Applications. August 7-18. Two separate 2-week courses, enrollment options for one or two weeks in one course or one week in each course. Five days, \$250; Ten days, \$400. Contact: Engineering Summer Conferences, Chrysler Center, The University of Michigan, Ann Arbor, Mich. 48105.

Virginia Polytechnic Institute & State University

Cost/System Effectiveness: July 24-28, at Reston, Va. Five days, \$175. Contact: Adult Registrar, Continuing Education Center, Virginia Tech, Blacksburg, Va. 24061.

## Transactions Papers sought

The IEEE Transactions on Reliability, in common with most other IEEE Transactions, are subject to sporadic criticism on the grounds that the contents are predominantly theoretical.

The Transactions Editor, Ralph Evans, can only publish papers selected from among those that are received. He would be pleased to be able to publish a larger portion of engineering-type papers, but must depend on the availability of suitable, qualified papers. The membership - and qualified nonmembers - are invited to submit such papers.

Dr. Evans is, incidentally, currently engaged in establishing a private consulting practice. However, he may still be addressed at the Research Triangle Institute.

From The Aluminum Association, 750 Third Avenue, New York, New York 10017:

Aluminum Electrical Conductor Handbook, 368 pages, \$6.00.

From IEEE:

IEEE Standard Dictionary of Electrical and Electronics Terms (IEEE Std 100-1972), \$14.95 members, \$19.95 nonmembers.

IEEE catalog (distributed automatically to members in the U.S. and Canada, free on request to overseas members), \$0.50 non-member.

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

A Simple Hydraulic Sinusoidal Pressure Calibrator, NBS Tech Note 720, SD Catalog No. C13.46:720, 27 pages, 35 cents.

Magnetic Recording of Acoustical Data on Audiofrequency Tape, NBS Tech Note 718, SD Catalog No. C13.46:718, 29 pages, 40 cents.

Methods of Measurement for Semiconductor Materials, Process Control, and Devices (Quarterly Report July 1 - September 30, 1971), NBS Tech Note 717, SD Catalog No. C13.46:717, 52 pages, 55 cents.

Tabulation of Voluntary National Standards, Industry Standards, International Recommendations, and Certification Programs for Consumer Products, NBS Tech Note 705, SD Catalog No. C13.46:705, 74 pages, 70 cents.



"Now I'm certain it would be simpler to use MIL-spec parts", said Tom, without a waiver.

"I wish that last failure hadn't turned out to be relevant", said Tom, rejectedly.

"Perhaps we can squeeze some more output from that transistor", Tom hazarded.

"Oh why did I use such a small blower", cried Tom, with great failing.

"These parameter drifts are adversely affecting stability and performance to the point of intolerability", complained Tom circuit-ously.

"I put in enough feedback, so you won't need to use precision parts", said Tom, tolerantly.

"You'll have to move that power resistor away from my germanium diode", warned Tom, heatedly.

"Easy access for replacing all parts is very important", Tom maintained, openly.

"But that parameter is not covered by the part specification", Tom said, with characteristic uncontrolled scorn.

# ■ conferences

- July 18-20 1972 IEEE International Symposium on Electro-magnetic Compatibility, Arlington Heights, Illinois
- July 24-27 1972 IEEE Annual Conference on Nuclear and Space Radiation Effects (G-NS, University of Washington), University of Washington, Seattle
- August 23-25 Product Liability Prevention Conference - PLP-72 (G-R, Newark College of Engineering, Associated Testing Laboratories, Local chapters of ASQC, ASSE, G-R), Newark College of Engineering, Newark, New Jersey
- September 4-8 NATO Conference on Reliability Testing and Reliability Evaluation (NATO Advisory Panel on Operational Research), The Hague, Netherlands
- September 12-14 IEEE Computer Society Annual Conference - COMPCON 72, Jack Tar Hotel, San Francisco, California
- September 13-15 1972 IEEE International Conference: Engineering in the Ocean Environment (OCC, with representation from G-R and 15 other IEEE Groups and Societies), Newport Harbor Treadway Inn, Newport, Rhode Island
- September 20-22 1972 Conference on the Automation of Testing (UKRI Section, IEE, EEA, IERE, IME, IPE), University of Keele, Staffordshire, England
- October 1-5 25th Annual Conference on Engineering in Medicine and Biology (IEEE and 21 other societies), Americana Hotel, Bal Harbour, Florida
- October 9-11 1972 National Electronics Conference (Region 4), Regency Hyatt House, Chicago, Illinois
- October 11-12 1972 IEEE Conference on Display Devices (G-ED, AGED), United Engineering Center Auditorium, New York, New York
- October 30-November 1 NBS Conference on Dimensional Accuracy in Manufacturing, National Bureau of Standards, Gaithersburg, Maryland
- November 13-15 1972 IEEE Conference on Automatic Support Systems for Advanced Maintainability (G-AES and Philadelphia Section), Holiday Inn - Penn Center, Philadelphia, Pennsylvania
- December 4-6 National Telecommunications Conference, (G-AES, G-CT, G-GE), Astroworld Hotel, Houston, Texas
- December 5-7 1972 Fall Joint Computer Conference (AFIPS), Anaheim, California

## 1973

- January 23-25 1973 Annual Reliability and Maintainability Symposium (G-R, ASQC, ASME, AIIE, SAE, IES, AIAA), Bellevue-Stratford Hotel, Philadelphia, Pennsylvania