



RELIABILITY GROUP NEWSLETTER

January 1973 Vol. XVIII · Issue 1

Editor: Paul Gottfried

Contents

EDITOR'S NOTES.....	1
CHAPTER CHAIRMEN.....	2
CHAPTER NEWS.....	3-4
NEED A PROGRAM IDEA?.....	4
LETTERS.....	5
TRANSACTIONS SCHEDULE.....	5
IEC PUBLICATIONS.....	6
CALL FOR PAPERS -- OCEAN ENVIRONMENT.....	6
SYMPOSIUM REMINDER.....	7
MEETINGS WITH G-R PARTICIPATION.....	7
EMPLOYMENT ADVERTISING.....	8
POSITIONS WANTED.....	8
SHORT COURSES.....	9
PUBLICATIONS.....	10
CONFERENCES.....	10-11
MEMBERSHIP APPLICATION.....	12

Editor's Notes

A cursory check of 1972 Newsletter issues reveals the following:

Two chapters (Philadelphia and Washington) had "Chapter News" items in every issue;

Five chapters (Boston, Florida West Coast, North Jersey, San Francisco, Twin Cities) had items in one to three issues;

The rest had no news reports at all!

Your Editor's well-known reticence keeps him from pointing out some chapters that have remained blissfully isolated for several years. Do they feel that Chapter News is a waste of paper and ink? (They may be right -- but we'd like to know if that's the reason.)

"Material for the April issue must be in the Editor's hands by February 19."

Chapter Chairmen

Baltimore	Dr. Richard A. Kowalski Westinghouse Electric Corp. P. O. Box 1897 Baltimore, Md. 21203	New Jersey Coast	Mr. Weldon V. Lane 57 Throckmorton Avenue W. Long Beach, N.J. 07764
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Chapter News

Baltimore

Officers for the 1972-73 season are: Chairman, Dr. Richard Kowalski; Vice-Chairman, Thomas Kurzmiller; Secretary/Treasurer, Thomas Jackson. William Waltz is the Program Chairman and Frank Lee, Jr. is Arrangements Chairman.

The first meeting of the year was held on September 15, when William McCrehan, Jr., spoke on "Component Screening - How and When to Spend Your Money." On November 21, William Clemmens discussed "Reliability and Rapid Transit Systems." The next meeting is scheduled for Monday, January 15; Naomi J. McAfee, Quality and Reliability Assurance Manager at the Westinghouse Defense and Electronics Systems Center, will present "The ASQC Reliability and Quality Engineer Certificate Programs." The meeting will be held at the Beltway Motel in Baltimore, with a dinner at 7 preceding the 8:15 talk; contact Mr. Frank Lee, Jr., at (301) 730-3700, Ext. 543.

Mohawk Valley

A joint dinner meeting of the Chapter and Section will be held January 9 at the Horizon Hotel at the Oneida County Airport, with cocktails from 6 to 7 and dinner from 7 to 8 (roast beef @ \$4.50). Leon McLaren, chief mechanical engineer for G.E.'s Skylab program, will discuss "Packaging and Design Considerations for Low Pressure, Hi-Voltage Power Supplies Including Materials Selection and Process Control." Contact George Kasouf (Utica) or Tony Reduccia (RADC).

North Jersey

Since the Chapter lost its Program Chairman, Victor Kalata, to the West Coast, Robert Gauger has been appointed to complete the 1972-73 term. Bob is past chairman of the New York - Long Island Chapter. He can be reached at (201) 256-4000, Ext. 2121.

This year's first meeting featured a talk by Ed Emery on the "Reliability Physics Approach to Components Evaluation." Scheduled future meetings include January 30 on "Human Reliability - Man Machine Interface", with Ed Parascos as the speaker, and "Product Liability vs. Reliability" on May 24 (speaker to be determined), both at Singer-Kearfott in Little Falls (8 p.m.) and both proposed joint Chapter-Section meetings. A tour of the General Motors Linden Division is scheduled for March 21.

Philadelphia

Meetings have been held on September 26 (Panel discussion on "Club of Rome Project/Limits to Growth. The Model -- Its Implications and Limitations." with Drs. Franz Edelman, Kenneth Fegley and Lawrence Klein as panelists), October 25 ("Decision Risk Analysis", presented by John Todaro of the U.S. Army Logistics Management Center), and November 30 ("Probabilistic Analysis of Sequential Test Plans", presented by Bernard Tiger of RCA).

Scheduled future meetings include:

- Feb. 20 "Reliability in Rail Rapid Transit & Commuter Cars", Richard H. Line of the Vertol Division of Boeing; 8 p.m., Williamson's Restaurant, Barclay Bldg., City Line & Belmont Ave., Bala Cynwyd.
- Mar. 21 "Application of Reliability Concepts to Industrial Power Distribution Systems", Charles R. Heising of G.E.; 8 p.m., Presidential Apartments, Schuylkill Expressway & City Line Avenue.

Continued...

Apr. 26 "An Application of Failure Mode & Effects Analysis to an Oil Industry Production System", Myron A. Wilson of G.E.; 8 p.m., Presidential Apartments.

For further information, contact Helen Yonan at (215) 594-8106.

Washington

A joint dinner meeting with ASQC on October 31 featured a training session on "Least Cost Testing Sequence" by H. Walter Price of Harry Diamond Labs as well as the principal presentation, "System Engineering -- Past and Present", by Professor Elmer L. Peterson of the Virginia Polytechnic Institute and State University.

Need a Program Idea?

The Program Chairman is always looking for a meeting that will interest and inform the membership. Last Spring, the Baltimore Chapter brought the R&M Symposium "back home" with good results. The format is easily adapted to other Chapters' needs. Why not plan a similar meeting for those who cannot make it to Philadelphia.

The Baltimore program was entitled, "The 1972 R&M Symposium - What the PROCEEDINGS Won't Tell You." A panel of three Symposium speakers reviewed the San Francisco activities with particular emphasis on the sessions that were not documented in the PROCEEDINGS.

Mr. Eugene Levitt summarized Dr. Herwald's Keynote Address, General Coffin's Pacesetter Address, and the Blue Ribbon Panel discussion, "Reliability in the Economic Environment." In compiling his comments, Mr. Levitt made use of publicity releases available at the meetings and tapes of the Blue Ribbon discussion.

Mr. Harold Jones had participated in the CARAD Workshop. He outlined the activities of the program and the tools that were developed in it and discussed their uses and limitations.

Dr. Richard Kowalski presented short reviews of some PROCEEDING papers whose results are generally applicable to current and near future reliability programs.

A discussion period followed the panelists' presentations.

LETTERS

As a member and former Washington Chapter Chairman of the Reliability Group, I would like to make a few comments pertinent to your EDITOR'S NOTES on the front page of the October 1972 issue of our NEWSLETTER.

Since passing into the great grey world of former Chairmen, I have renewed acquaintances and activity with the American Society for Quality Control. Although I maintain an active interest in Reliability Group affairs, most of my work has been with ASQC. This year, as you can tell by the letterhead, I back up Spence Hutchens, our Chairman, and also act as Program Chairman. Hence, my interest in your editorial.

ASQC (local Section) is compelled to submit a complete program post-marked no later than 1 October. This includes the names and locations for speakers and meetings, dates, and other information of interest. We have one meeting every month, in general, but this year, we are going to have 12 (covering the usual ten month season). That will include a couple of pre-meeting clinics (tutorial sessions about 1/2 to one hour long), two joint meetings (one with the Society of Automotive Engineers and one with IE³ Reliability Group), a field tour (Safety Systems Lab of the NHTSA), a management nite, and our usual sign-off Nostalgia Nite meeting in June, where we exhibit the work of the Science Fair winners and, this year, will have Sy Lorber talk on AMC RELIABILITY - '73.

What this is all about is: such a program can be organized in a reasonably short time. Admittedly, it takes a little work, but I feel that there are many resources to be tapped and that a four-meetings-a-year program should be able to be firmed in a relatively short time; certainly by the end of August.

Did you know that quite a number of our members are now ASQC Certified Reliability Engineers?

Alan O. Plait
1st Vice Chairman
Washington Section, ASQC

Transactions schedule

Transactions Editor Ralph Evans announces that a 5-issues-per-year schedule is now in effect. The Transactions thus become bimonthly (except February, when members will receive the Proceedings of the Reliability and Maintainability Symposium.) The Editor also has a new mailing address:

Dr. Ralph A. Evans
804 Vickers Avenue
Durham, North Carolina 27701

IEEC Publications

The TC 56 Committee of the International Electrotechnical Commission has generated a number of publications of interest to reliability practitioners and managers, and especially those concerned with international trade. Copies of published documents may be obtained from the American National Standards Institute, 1430 Broadway, New York, N.Y. 10018.

Published:

IEC Publication 271, 1961 - Preliminary List of Basic Terms and Definitions for the Reliability of Electronic Equipment and the Components (or parts) Used Therein. 10 pp., \$2.65.

IEC Publication 272, 1968 - Preliminary Reliability Considerations 5 pp., \$1.75.

IEC Publication 300, 1969 - Managerial Aspects of Reliability. 15 pp., \$3.70.

IEC Publication 319, 1970 - Presentation of Reliability Data on Electronic Components (or parts). 29 pp., \$7.35.

IEC Publication 319A, 1971 - Supplement to Publication 319. 2 pp. \$7.35.

IEC Publication 362, 1971 - Guide for the Collection of Reliability, Availability and Maintainability Data from Field Performance of Electronic Items. 21 pp., \$6.30.

Scheduled for 1973 Publication:

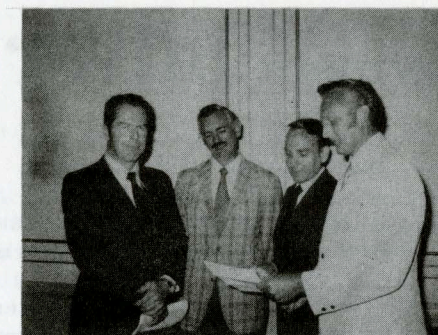
IEC Publication 409 - Guide for the Inclusion of Reliability Clauses in Procurement Specifications.

IEC Publication 410 - Sampling Tables by Attributes. (Basically MIL-STD-105 with the addition of French and standardized terminology to be compatible with previously published IEC Documents.)

Call for Papers Ocean Environment

The 1973 IEEE International Conference on Engineering in the Ocean Environment will be held September 25-28 at the Washington Plaza Hotel, Seattle, Washington, and is expected to draw active G-R participation. Prospective subject areas include a wide range of technologies and application topics. One-page abstracts are due February 5 and should be submitted to Mr. Gil Raudsep, Marine Systems Center, Honeywell Inc., 5303 Shilshole Avenue Northwest, Seattle, Washington 98107.

Symposium



The 1973 Annual Reliability and Maintainability Symposium will take place at the Bellevue-Stratford Hotel in Philadelphia January 23-25. Twenty-one sessions covering a wide range of topics -- from the Bayesian Debate to Product Liability and from a Medical Mini Forum and Tour to Quality Assurance of Structural Materials -- promise opportunities for cross-fertilization and expanded horizons. Howard Cosell (and others) to the contrary notwithstanding, Philadelphia does have its attractions -- at least when the Symposium meets there.

Reminder

The accompanying photograph shows the Symposium Chairman and Vice Chairman in discussion of the technical program with the Program Committee Chairman. From left to right: J. Simm, J.W. Thomas, T. Matteson, L. Webster.

Meetings with G-R Participation

Reliability Group participation in meetings with multiple sponsorship has expanded significantly. To a considerable extent, this expansion parallels the development of specialized fields in which reliability engineering and analysis are important elements.

This year's events with major G-R participation or support include:

- The Annual Reliability and Maintainability Symposium. Spanning two decades, the Symposium now fully represents the consummation of its merger with the R&M Conference. (Bellevue-Stratford Hotel, Philadelphia, January 23-25.)
- The Reliability Physics Symposium. Co-sponsored by G-R and the Electron Devices Group, and having received its original impetus under RADC auspices, the Reliability Physics Symposium continues to concentrate on the fundamentals of device (mis)behavior. (Dunes Hotel, Las Vegas, April 3-5.)
- The IEEE Symposium on Computer Software Reliability. In its first year as the subject of a separate event, software reliability is among the most recent of major interdisciplinary areas involving reliability. (Americana Hotel, New York City, April 30 - May 2.)
- The Product Liability Prevention Conference. Fourth in an annual series and the second to involve G-R co-sponsorship at the national level, PLP-73 will continue to bring together engineering, legal, and management viewpoints involving reliability and safety. (Newark College of Engineering, Newark, August 22-24.)
- The IEEE International Conference on Engineering in the Ocean Environment. A continuing participant in the sponsoring Oceanography Coordinating Committee, G-R maintains a strong interest in this developing field with exceptional problems in reliability achievement and demonstration. (Washington Plaza Hotel, Seattle, September 25-28.)

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.

Positions wanted

15 years of experience in engineering and manufacturing of electro-mechanical systems, including 10 years in management of product assurance activities (Quality Assurance, Rel./Maint., Quality Control and Test Programs). Have received corporate commendation as Director of Q.A. and earned Reliability Incentive bonus for company as supervisor Rel./Maint. 40 years old - B.S. in Industrial Engineering and Administration.

Reply to Box 1, c/o Editor
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Electronics reliability design assurance engineer. Completely familiar with batch and timeshare computer use as a tool. Experience includes five years in circuit design and eight years in design assurance including predictions, worst case analysis, failure mode & effects analysis & design review. Some experience in maintenance analysis (field) and maint. assurance contract monitoring. BSEE MIT, MSEE. NASA project experience.

Reply to Box 2, c/o Editor
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- 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.

Detroit Research Institute

Advanced Reliability Seminar, Course II: March 5-9. Five days, \$295. Contact: Arvid W. Jacobson, PhD, Executive Director, Detroit Research Institute, Box 1163 Northland Center Station, Southfield, Michigan 48075.

University of Florida

Techniques and Applications of Operations Research. 1: Linear & Nonlinear Programming, February 19-23, five days, \$300. 2: Probability & Stochastic Processes, February 26-28, three days, \$175. For credit: Course 1, 3.2 Continuing Education (C.E.) Units; Course 2, 1.9 C.E. Units. Contact: Operations Research Short Courses, Industrial & Systems Engineering Dept., University of Florida, Gainesville, Florida 32601.

The George Washington University

Nonlinear Programming - Theory, Applications and Computations: February 26-March 2. Five days, \$425. Contact: J.E. Mansfield, Director of Continuing Engineering Education Program, The George Washington University, Washington, D.C. 20006.

Forecasting Techniques for Engineers, Scientists and Technically Oriented Managers: March 5-9. Five days, \$325.

University of Wisconsin

Product Liability - Products and Materials: March 5-9. Five days, \$275. (Four-part course; partial registration available.)

Value Engineering - Function Analysis for Profit Improvement: March 20-23. Four days, \$180. Contact: University of Wisconsin-Extension, Department of Engineering, 432 N. Lake Street, Madison, Wisconsin 53706.

Technology & Electrical Safety in Hospitals: April 11-12. Two days, \$95.

How to Apply Statistical Methods for Quality Control: April 24-27. Four days, \$200.

publications

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

Minicomputers: Hardware, Software, and Applications, edited by James D. Schoeffler and Ronald H. Temple, \$6.50 Member Edition (paperbound); clothbound edition \$9.70 members, \$12.95 nonmembers.

Semiconductor Memories, edited by David A. Hodges, \$6.00 Member Edition (paperbound); clothbound edition \$8.95 members, \$11.95 nonmembers.

Power Semiconductor Applications, edited by John D. Harnden, Jr., and Forest B. Golden, two volumes. Volume 1, \$7.50 Member Edition; clothbound edition \$11.20 members, \$14.95 nonmembers. Volume 2, priced same as Semiconductor Memories (above). Set, \$12.00 Member Edition; clothbound \$18.40 members, \$24.50 nonmembers.

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

Testing and Fabrication of Wire-Bond Electrical Connections - A Comprehensive Survey, NBS Tech Note 726, SD Catalog No. C13.46:726, 140 pages, \$1.25.

Methods of Measurement for Semiconductor Materials, Process Control, and Devices (Quarterly Report January 1 - March 31, 1972), NBS Tech Note 733, SD Catalog No. C13.46:733, 59 pages, 60 cents.

A Universal Dropout Tester for Magnetic Storage Media, NBS Tech Note 739, SD Catalog No. C13.10:348, 32 pages, 35 cents.

From the National Bureau of Standards, Electricity Division, Room B258 Metrology, Washington, D. C. 20234:

Brochure describing the NBS Electricity Division -- Calibration, Research, Consultative Services; free.

conferences

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| January 23-25 | 1973 Annual Reliability and Maintainability Symposium (G-R, ASQC, ASME, AIIE, SAE, IES, AIAA), Bellevue-Stratford Hotel, Philadelphia, Pennsylvania |
| February 14-16 | 1973 IEEE International Solid-State Circuits Conference (Solid-State Circuits Council, Philadelphia Section, University of Pennsylvania), Sheraton Hotel, Philadelphia, Pennsylvania |
| February 27-March 1 | 7th Annual IEEE Computer Society International Conference (COMPCON 73), Jack Tar Hotel, San Francisco, California |
| March 4-10 | First International Congress on Technology Assessment (International Society for Technology Assessment), The Hague, The Netherlands |
| April 1-5 | 19th Annual Meeting of the Institute of Environmental Sciences, Disneyland Hotel, Anaheim, California |

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| April 3-5 | 1973 Reliability Physics Symposium (G-R, G-ED), Dunes Hotel, Las Vegas, Nevada |
| April 4 | 1973 Symposium on Minicomputers -- Trends and Applications (IEEE Computer Society Eastern Area Committee & Washington Chapter), National Bureau of Standards, Gaithersburg, Maryland |
| April 9-11 | 1973 IEEE International Symposium on Circuit Theory (G-CT), Four Seasons Sheraton Hotel, Toronto, Canada |
| April 11-12 | 1973 IEEE-ASME Joint Railroad Conference, Chase Park Plaza Hotel, St. Louis, Missouri |
| April 30-May 2 | IEEE Symposium on Computer Software Reliability (G-R and IEEE Computer Society Eastern Area Committee), Americana Hotel, New York, New York |
| May 1-2 | 1973 IEEE Electron Device Techniques Conference (G-ED, AGED), United Engineering Center, New York, New York |
| May 14-16 | 1973 Electronic Components Conference (G-PHP, EIA), Statler-Hilton Hotel, Washington, D. C. |
| May 15-17 | 1973 Electrical & Electronics Measurement & Test Instrument Conference (G-IM, Ottawa Section), Skyline Hotel, Ottawa, Canada |
| June 4-7 | 1973 IEEE Power Industry Computer Applications Conference (PES), Radisson Hotel, Minneapolis, Minnesota |
| June 25-29 | 1973 IEEE International Symposium on Information Theory (G-IT), Ashkelon, Israel |
| August 12-18 | 1973 (Fifth) Pan American Congress of Mechanical, Electrical & Allied Engineering Branches, Bogota, Colombia |
| August 13-17 | 1973 Intersociety Energy Conversion Engineering Conference (G-AES, G-ED, AIAA, ACS, AICHE, ANS, ASME, SAE), University of Pennsylvania, Philadelphia, Pennsylvania |
| August 22-24 | PLP-73: 1973 Product Liability Prevention Conference (G-R, Newark College of Engineering, Associated Testing Laboratories, numerous others), Newark College of Engineering, Newark, New Jersey |
| September 24-27 | 1973 Intersociety Transportation Conference (IEEE, AEA, AIAA, AIIE, ASME, EIC, ORSA, SAE, SNAME, TIMS), Brown Palace Hotel, Denver, Colorado |
| September 25-28 | 1973 IEEE International Conference on Engineering in the Ocean Environment (Oceanography Coordinating Committee, Seattle Section), Washington Plaza Hotel, Seattle, Washington |
| September 30-October 4 | 11th Electrical Electronics Insulation Conference, Palmer House, Chicago, Illinois |



MEMBERSHIP APPLICATION
RELIABILITY GROUP

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

Name _____ IEEE Membership No. _____

Mailing Address _____

Company _____

Field of Interest _____

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

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

Full rate on payments received September 1 through February 28 (payments received
September 1 through December 31 applied through December 31 the following year).
One half rate on payments received March 1 through August 31.