

**AMERICAN INSTITUTE
of
ELECTRICAL ENGINEERS**



Industry Division

**RUBBER AND PLASTICS
INDUSTRIES COMMITTEE**

Presents

**The
14th Annual Technical Conference
held jointly with the
Akron Section
of the
Instrument Society of America**

PROGRAM

Akron, Ohio

April 9 and 10, 1962

Headquarters

Sheraton Hotel

AIEE

RUBBER



PLASTICS

CONFERENCE

Joint Meeting with the Akron Section
of the
Instrument Society of America

1962

— Host —

AKRON SECTION AIEE

OFFICERS

H. F. Hepler, <i>Chairman</i>	B.F. Goodrich Co.
C. H. Fleming, <i>Vice Chairman</i>	Ohio Edison Company
G. N. Himes, <i>Secretary</i>	Westinghouse Electric Corp.
E. D. Miller, <i>Treasurer</i>	Akron Standard Mold

Akron Section ISA Officers

R. F. Marquardt, <i>President</i>	Goodyear Tire and Rubber Co.
R. P. Kaltenback, <i>Program Chairman</i>	Babcock and Wilcox
R. Mikula, <i>Secretary-Treasurer</i>	Bailey Meter Co.
R. F. Weisehan, <i>National Delegate</i>	Minneapolis Honeywell
H. C. Cutting, <i>Executive Board</i>	Goodyear Tire and Rubber Co.
V. J. Horning, <i>Executive Board</i>	General Tire and Rubber Co.

Committee for Local Arrangements

K. L. Boyer, <i>Secretary-Treasurer</i>	Harry Fisher Associates
L. J. Willmott, <i>Registration</i>	Willmott Electric Co.
C. H. Fleming, <i>Printing</i>	Ohio Edison Company
D. J. Borton, <i>Program Editor</i>	Ohio Edison Company
W. Gemberling, <i>Projection & Sound Equipment</i>	Firestone Tire & Rubber Co.
E. E. Hider, <i>Publicity</i>	Westinghouse Electric Corp.
F. C. Timberman, <i>Proceedings Editor</i>	Allis-Chalmers Mfg. Co.
J. E. Rose, <i>Entertainment</i>	General Electric Co.
P. J. Goodall, <i>Hotel Arrangements, Menu</i>	A-C Supply Co.
R. L. Bock, <i>Hotel Arrangements, Menu</i>	Akron-Standard Mold

GENERAL INFORMATION

The Industry Division of the American Institute of Electric Engineers is composed of the following Committees:

- Cement Industry
- Chemical Industry
- Electric Heating
- Electric Welding
- Feedback Control Systems
- General Industry Applications
- Industrial and Commercial Power Systems
- Industrial Control
- Industrial Power Rectifiers
- Machine Tools Industry
- Metal Industry
- Mining Industry
- Petroleum Industry
- Rubber and Plastics Industries
- Textile Industry

The Rubber and Plastics Industries Committee deals with all matters in which the dominant factors are the requirements, selection, application, performance, installation, design, operation and maintenance of electric systems and equipment relating to their use in the rubber and plastics industries.

The Rubber and Plastics Industries Committee was advanced from a Subcommittee of the General Industry Applications Committee in 1960.

This 1962 conference is the fourteenth conference of this group.

ADVANCE REGISTRATION

Advance Registration saves time for those attending the Conference and is a help to the Committee. A registration fee of \$6.50 (\$6.00 for advance registration) for both members and non-members of AIEE is required to make this conference self-supporting. A copy of the Proceedings Booklet is included with registration at the Conference. No registration fee will be charged for AIEE Student Members.

Please use the enclosed card for advance registration and dinner reservations. Return your card to:

Leo J. Willmott
21 N. Arlington St.
Akron 5, Ohio

Write for additional cards if you wish to bring guests. Make checks or money orders payable to AIEE Conference Committee.

CONFERENCE DINNER

A Conference dinner will be held in the Ballroom of the Sheraton Hotel at 6:30 P.M. Monday, April 9. The dinner will be \$5.00 per plate. Reservations must be made in advance. Ladies are especially invited to attend. Informal entertainment will be presented.

M E N U

Vegetable Soup	Assorted Relishes
Prime Rib of Beef, Au Jus	
Baked Potato with Sour Cream	
Green Peas with Onions	Tossed Salad
Rolls & Butter	Coffee or Tea
Dutch Apple Pie	

CONFERENCE PAPERS

Advance copies of individual conference papers will not be available. All papers will be published together in a Proceedings Booklet, one copy of which is included in the registration fee and will be mailed to you after the conference. If additional copies are desired, they may be ordered at the registration desk at the conference for \$3.00. You may obtain copies of the Proceedings Booklet without attending the conference by mailing \$3.00 per copy to the Conference Registrar. Copies of Proceedings Booklets from previous conferences will be available at the door.

INSTRUMENT SOCIETY OF AMERICA

We are pleased to have the Akron Section of the ISA joining us in this conference. The ISA is concerned with the instrumentation and controls for all technologies in the same manner that the AIEE is concerned with the electrical sciences. The Rubber and Plastics Industries are deeply concerned with both.

INSPECTION TRIPS

Inspection trips through Firestone, General, and Goodyear Tire and Rubber Companies are available. Tours start at the company offices at the following times:

Firestone	2:00 P.M.
General	9:30 A.M. & 1:30 P.M.
Goodyear	9:00 A.M. & 2:00 P.M.

If you are interested in one of the tours, contact the conference registration desk.

HOTEL RESERVATIONS

Request for rooms may be made, by use of the enclosed card, directly to:

The Sheraton Hotel 259 S. Main St.,
Akron 8, Ohio Phone: Jefferson 5-1871
Please mention AIEE Rubber-Plastics

MONDAY MORNING

April 9, 1962

Sheraton Hotel Ballroom

8:00 A.M.

Registration—Coffee and Doughnuts will be served.
N. A. Williams, Presiding

9:00 A.M.

OPENING REMARKS

9:30 A.M.

Paper RP62-1 — "ELECTRIC DRIVES FOR A TIRE
FABRIC TREATING LINE"
—By C. Coats, Lancashire Dynamo Ltd.

A discussion of electric drive motors, motor controls and instrumentation of a prep and calender train that has been constructed in England and shipped to Soviet Russia is included in this paper. It also includes a discussion of the electronic control systems and developments that have been made by the British.

—o—

10:30 A.M.

Paper RP 62-2 — "INDUSTRIAL DISTRIBUTION
SYSTEMS AND THE PROTECTION PROBLEM"
—By T. Karlsen and W. A. Frankenfield, Detroit
Edison Company

A discussion of the necessity of educating industrial management and plant engineers in the potential destructiveness of short circuits and the need for adequate relay protection. This paper also covers the fallacy of economizing on plant protection and presents several examples from industry to illustrate resulting adverse consequences.

—o—

11:15 A.M.

Paper RP 62-3 — "A-C MOTOR DESIGN FOR
RUBBER MILLS"

—By V. Picozzi, General Electric Co.

Adequate protection at reasonable economy for large A-C motors requires a balanced design approach relative to stall time and starting duty. A-C motor design criteria related to these factors will be presented. The paper also covers concepts and progress related to the testing and criteria of sealed windings for A-C motors.

MONDAY AFTERNOON

April 9, 1962

Luncheon Recess

12:00 Noon to 2:30 P.M.

INSTRUMENTATION SESSION

Sponsored by Akron Section ISA

Sheraton Hotel — Ballroom

Ron Ross, Presiding

2:30 P.M.

Paper RP 62-4 — "CRITICAL EVALUATION OF
MEASUREMENT PRACTICES"

—By Dr. P. O. Huss, University of Akron

Present day technology has brought about the need for modernizing the concepts of measurements. This paper includes a discussion of efficient utilization of data obtained, data logging, the importance of dynamic response, and the effect of transducers as used in modern circuitry.

—o—

3:15 P.M.

Paper RP 62-5 — "A LOOK AT FUTURE INDUS-
TRIAL INSTRUMENTATION"

—By K. Knoblauch, Minneapolis Honeywell

Future requirements due to ever increasing automation and the effects on instrumentation are discussed in this paper.

Relationships between the future technical trends in automation, the future economic and social climates of our society and the future requirements of the industry are reviewed.

—o—

4:00 P.M.

Paper RP 62-6 — "DESIGNING MINIATURE
ELECTRICAL CONTROL SYSTEMS FOR MAXI-
MUM RELIABILITY"

—By O. V. Kuehrmann, Leads and Northrup

Reliability is obtained by the use of high quality proven components. Equipment and system design which permit 100% on stream time, even with various components out of service also improves reliability. This paper discusses these points and also considers fail-safe concepts to handle a variety of systems.

COCKTAIL HOUR — 5:30 - 6:30 P.M.

Parlors C,D,E

Dinner 6:30 P.M.

Ballroom — Sheraton Hotel

Informal entertainment will be presented.

TUESDAY MORNING

April 10, 1962

Sheraton Hotel — Ohio Room

8:30 A.M. Coffee and Doughnuts will be served.
Frank Palmer, Presiding

9:00 A.M.

Paper RP 62-7 — "PANEL DISCUSSION ON THE
BLACKWELL REPORT"

—By W. A. Bebb, Goodyear Tire and Rubber Co.
R. E. Dawson, Ohio Edison Company
E. A. Lindsay, General Electric Company

A discussion of the effect of the Blackwell Report on industrial lighting concepts. The benefits of good lighting realized as a result of this report and the Illuminating Engineering Society subcommittee recommendations based on a specific study are discussed. Case histories of actual installations resulting from this report will be presented.

—o—

10:00 A.M.

Paper RP 62-8 — "TRAINING ELECTRONIC
MAINTENANCE PERSONNEL"

—By C. O. Whitehead, Philco Corporation

Trained electronic maintenance personnel are a "must" in today's industry. A proven method of training for this personnel which combines the building block concept of learning with the "Tell Them - Show Them - Let Them Do" procedures will be presented. The tools required and their support of the method will be explained.

—o—

11:00 A.M.

Paper RP 62-9 — "INDUSTRIAL PLANT VOLTAGE
REGULATION"

—By D. J. Rose, The Babcock and Wilcox Co.

This paper will present several experiences with a range of voltage regulation problems in industrial plants and the steps taken to solve them. Included will be problems involving transient voltages as well as load and power factor swings, and wave form distortion with solution methods emphasized.

TUESDAY AFTERNOON

April 10, 1962

Luncheon recess

12:00 Noon to 2:30 P.M.

12:30 P.M. The Rubber and Plastics Committee members will have a private luncheon meeting in Parlor A

MOTOR DRIVE SESSION

Sheraton Hotel — Ohio Room

R. F. Coleman, Presiding

2:30 P.M.

Paper RP 62-10 — "TREAD CONVEYOR DRIVES"

—By L. H. Berkley, Reliance Electric and Engineering Co.

In today's technical economy, the number and types of drives are limited only by the purse and the imagination. It appears that virtually every type of adjustable speed drive is a candidate for a tread conveyor. Several types will be considered and advantages, limitations and costs will be discussed by the author.

—o—

3:15 P.M.

Paper RP 62-11 — "TREAD CONVEYOR DRIVES
IN ENGLAND"

—By C. Coats, Lancashire Dynamo Ltd.

A discussion of electric drive motors and controls as used for tread conveyors in England will be discussed by Mr. Coats.

—o—

4:00 P.M.

Paper RP 62-12 — "AN A-C MOTOR DRIVE FOR
PLASTICS EXTRUDERS"

—By R. P. Bleikamp, Westinghouse Electric Corp.

With the development of the silicone rectifier, the modified Kraemer adjustable speed drive became practical. Since then, this drive has been successfully applied to plastics extruders. The application, construction and performance of this drive are discussed. Comparative information for evaluation of performance and cost compared to other drives will also be presented.

RUBBER AND PLASTICS INDUSTRIES COMMITTEE

INDUSTRY DIVISION OF AIEE

— 1962 —

Newell A. Williams Chairman	Goodyear Tire and Rubber Co. Akron, Ohio
Charles E. Robinson Vice Chairman	Reliance Electric & Engr. Co. Cleveland, Ohio
Al G. Payne Secretary	Monsanto Chemical Co. Springfield, Mass.
Charles D. Beck	General Electric Co. Schenectady, New York
William D. Brand	Cutler Hammer Inc. Milwaukee, Wis.
L. Ed Buess	General Electric Company Akron, Ohio
Richard F. Coleman	Mansfield Tire & Rubber Co. Mansfield, Ohio
Tom R. Corn	Reliance Electric & Engr. Co. Cuyahoga Falls, Ohio
Wilber F. Gardner	Westinghouse Electric Corp. Akron, Ohio
Winchell J. Goodwin	Hale & Kullgren Akron, Ohio
John C. Hall	Goodyear Tire & Rubber Co. Akron, Ohio
Herbert F. Hepler	B.F. Goodrich Company Akron, Ohio
Richard D. Heyburn	The Firestone Tire & Rubber Co. Akron, Ohio
Kurt W. John	United States Rubber Co. Detroit, Michigan
Thomas C. Jones	National Rubber Machinery Co. Akron, Ohio
Charles A. Lister	Square D Co. Cleveland, Ohio
A. E. Lewis	Clark Controller Co. Cleveland, Ohio
Franklin E. Palmer	General Tire & Rubber Co. Akron, Ohio
Everett G. Paradise	United States Rubber Co. New York, New York
Jay C. Roote	Westinghouse Electric Corp. East Pittsburgh, Pa.

Robert Scofield	Cutler Hammer, Inc. Cleveland, Ohio
Anton G. Seifried	B.F. Goodrich Co. Akron, Ohio
Albert M. Shong	Allis Chalmers Mfg. Co. Milwaukee, Wis.
Edwin L. Smith	The Firestone Tire & Rubber Co. Akron, Ohio
Robert F. Snyder	Goodyear Tire & Rubber Co. Akron, Ohio
Fred C. Timberman	Allis-Chalmers Mfg. Co. Akron, Ohio
William S. Watkins	Ohio Rubber Co. Willoughby, Ohio

PAST CHAIRMEN OF RUBBER & PLASTICS SUBCOMMITTEE

Kurt W. John	United States Rubber Co. Detroit, Michigan
Anton G. Seifried	B.F. Goodrich Co. Akron, Ohio
Edwin L. Smith	The Firestone Tire & Rubber Co. Akron, Ohio
Robert F. Snyder	Goodyear Tire and Rubber Co. Akron, Ohio
Victor S. Sywulka	Cutler Hammer, Inc. Milwaukee, Wis.
William S. Watkins	Ohio Rubber Co. Willoughby, Ohio

1961 MEETING

The following Companies were represented at the 1961 Thirteenth Annual Technical Conference of the Rubber and Plastics Industries Committee:

Adamson United Co.	Industrial Ovens, Inc.
A-C Supply Co.	I.T.E. Circuit Breaker Co.
Akron Standard Mold Co.	Jack & Heintz
Allis-Chalmers Mfg. Co.	Jackson-Bayley Electric
Allen Bradley Co.	K.S.V. Consulting Engineers
Armstrong Rubber Co.	Lee Rubber & Tire Corp.
Canadian General Electric Co. Ltd.	C. A. Litzler Co.
Clark Controller Co.	Louis Allis Co.
Cutler-Hammer, Inc.	Mansfield Tire & Rubber Co.
R. B. Denison Mfg. Co.	Monarch Rubber Co.
Eagle Signal Co.	Monsanto Chemical Co.
Eaton Mfg. Co.	National Rubber Machinery Co.
Electric Machinery Mfg. Co.	Ohio Bell Telephone Co.
English Electric Co.	Ohio Brass Co.
Farrel-Birmingham Co., Inc.	Ohio Edison Company
Federal Pacific Electric Co.	Ohio Rubber Company
Firestone Tire & Rubber Co.	Plax Corp.
Harry Fisher Assoc. Inc.	Geo. W. Raike Consulting Engr.
Furnas Electric Co.	Reliance Electric & Engr. Co.
Geauga Ind. Co.	Sacks Electrical Supply
General Electric Co.	Seiberling Rubber Co.
General Tire & Rubber Co.	Shawinigan Resins Corp.
B.F. Goodrich Co.	Square D. Company
B.F. Goodrich Chemical Co.	Thropp Elec. Sales Corp.
Goodyear Aircraft Corp.	U. S. Rubber Co.
Goodyear Tire & Rubber Co.	Union Carbide Plastics Co.
Hale & Kullgren Inc.	Wagner Electric Corp.
Hartford Steam Boiler Insp. & Ins. Co.	L. H. Waldrip Co.
Houghton Electric Co.	Westinghouse Electric Co.
Ideal Electric Co.	Westinghouse Electric Intl.
Imperial Electric Co.	Willmott Electric Co.
Industrial Nucleonics Corp.	Xylos Rubber Co.
	Zenith Engr. Sales Co.

CONFERENCE PROGRAM

— Notes —

