

# Empire Tri-District Meeting

## May 14-16, 1962

Erie, Pennsylvania

Headquarters  
Lawrence Hotel

### SCHEDULE OF EVENTS

#### Monday—May 14

- 8:00 A.M. to 6:00 P.M.—  
Registration
- 9:00 A.M. to 11:30 A.M.—  
Coffee on Mezzanine
- 9:00 A.M.—Empire District Execu-  
tive Committee Meeting
- 12:00 NOON—Bus Ride to Peninsula  
(Ladies)
- 12:00 NOON—Welcoming Luncheon
- 1:15 P.M.—Lunch at Beachcomber  
(Ladies)
- 2:00 P.M.—Inspection Trip—  
Hammermill Paper  
Company
- 2:00 P.M.—Technical Sessions
- 5:15 P.M. to 6:15 P.M.—Boat  
Ride in Harbor
- 7:00 P.M.—Inspection Trip—  
Erie Brewing Company
- 8:30 P.M.—Playhouse

#### Tuesday—May 15

- 8:00 A.M. to 6:00 P.M.—  
Registration
- 9:00 A.M. to 10:30 A.M.—  
Coffee on the Mezzanine  
(Ladies)
- 9:00 A.M.—Technical Sessions
- 12:00 NOON—Luncheon and  
Fashion Show (Ladies)
- 12:00 NOON—Tuesday Luncheon
- 2:00 P.M.—Technical Sessions
- 2:15 P.M.—Inspection Trip—  
Telephone Company  
of Pennsylvania
- 6:30 P.M. to 7:30 P.M.—  
Cocktail Hour
- 7:30 P.M.—Dinner Dance

#### Wednesday—May 16

- 8:00 A.M. to 2:00 P.M.—  
Registration
- 9:00 A.M.—Technical Sessions
- 10:00 A.M.—Breakfast at the  
Lawrence (Ladies)
- 11:15 A.M. to 3:30 P.M.—Trip to  
Penelec and Luncheon  
(Ladies)
- 12:00 NOON—Wednesday Luncheon
- 2:00 P.M.—Technical Sessions

“Previews of Progress”, the theme of the Empire Tri-District Meeting, is indicative of the content of the 13 technical sessions specifically chosen to bring interesting and informative papers to the attention of a large segment of the Electrical Engineers from the three districts.

The papers to be presented at this three-day meeting cover technological advances recently made and now being reported to disseminate this knowledge for its utility in industry at the present time, and for its value in further scientific growth. A total of 57 papers will be delivered and one panel discussion will be held.

**WELCOMING LUNCHEON:** At the welcoming luncheon, 12:00 noon, Monday, May 14, the featured speaker will be Mr. Warren Chase, President of A.I.E.E., who will discuss the proposed merger of A.I.E.E. and I.R.E. This is indeed an excellent opportunity to learn of the details of this proposal and of the advantages to A.I.E.E. members from such a merger. Those attending will be welcomed to Erie by the Honorable Dr. Charles B. Williamson, Mayor.

**SUBSEQUENT LUNCHEONS:** The Tuesday luncheon at 12:00 noon, May 15, will feature Mr. William W. Morris as the guest speaker. Mr. Morris is Director of Marketing for Consumer Products of Westinghouse Electric, Pittsburgh, and will speak on “Planning For New Products.”

Mr. M. M. Devoris, Vice-President of Pennsylvania Electric Company, will be the speaker at the Wednesday, May 16 luncheon. His subject, “Engineer’s Contribution To His Community,” promises to be very thought provoking because this is an area which is often forgotten or ignored by the average engineer.

**LADIES’ PROGRAM:** Headquarters for ladies’ activities will be conveniently located on the mezzanine of the Hotel Lawrence. Coffee will be served there Monday and Tuesday mornings. The mezzanine may also be used during the day for cards, lounging, etc. Hostesses will be on hand to assist you with any problems.

Monday morning during registration the men are invited to join the ladies for coffee. Later the ladies will embark upon a trip around Erie’s famed Peninsula (Presque Isle Park) via chartered bus. We will stop at the entrance to the Peninsula for a delicious lunch at the Beachcomber, followed by bridge if desired. Later, weather permitting, we may join our husbands for a boat ride in the Erie Harbor. In the evening we have a choice of viewing “live” theater at Erie’s excellent Playhouse or touring the Erie Brewing Company, followed by a party in their quaint Hofbrau.

The gay Fiesta Room of the Hotel Lawrence will be the setting for Tuesday’s, May 15 luncheon and style show, followed by bridge on the mezzanine or shopping if preferred. That evening we will “eat, drink and be merry” as we join our husbands for the dinner-dance preceded by a social hour — dress informal.

Wednesday will begin with a fun-filled “Breakfast at the Lawrence.” A live radio broadcast will take place during which you may win valuable prizes. At noon we will go by chartered bus to the Pennsylvania Electric Company. There, with the guidance of their Home Economist, we will enjoy a do-it-yourself luncheon (aprons and dishwashers provided!) followed by an entertaining movie. These events are both free of charge and reservations are limited.

### **SOCIAL CALENDAR:**

#### **Monday, May 14:**

	<b>Cost</b>
For the Ladies:	
12:00 P.M. Bus Ride to Peninsula	No Charge
1:15 P.M. Lunch at Beachcomber	\$2.75
For the Men:	
12:00 P.M. Luncheon in Main Ballroom.	\$3.50
For the Ladies and Men:	
9:00 A.M. to 11:30 A.M. Coffee on Mezzanine	No Charge
5:15 P.M. to 6:15 P.M. Boat Ride in Harbor	\$1.50
8:30 P.M. Playhouse	\$3.00

#### **Tuesday, May 15:**

For the Ladies:	
9:00 A.M. to 10:30 A.M. Coffee on Mezzanine	No Charge
12:00 P.M. Luncheon and Fashion Show — Fiesta Room	\$2.50
For the Men:	
12:00 P.M. Luncheon in Main Ballroom	\$3.50
For the Ladies and Men:	
6:30 P.M. to 7:30 P.M. Cocktail Hour	No Charge
7:30 P.M. Dinner Dance (dress optional)	\$6.50

*Continued on page 4*

# EMPIRE TRI-DISTRICT MEETING

## ADVANCE COPIES OF PAPERS

Members may obtain preprints of numbered papers at the uniform price of 50¢ each (\$1.00 each to nonmembers), by sending enclosed order form and remittance to the AIEE Order Department, 345 East 47th Street, New York 17, N. Y. Mail orders (particularly from out-of-town members) are advisable, inasmuch as an adequate supply of each paper at the meeting cannot be assured. Coupon books in \$10 denominations are available for those who wish to avoid remittance by check or otherwise. The Transactions Papers will also be published in the bimonthly publications.

Note: Unnumbered District Papers (DP.\*) may be available at or after the meeting, if copies are provided by the author. They are not intended for publication in the Transactions and are not presently scheduled for reproduction in any form by the Institute.

Note: The TRANSACTIONS papers will be printed in the bimonthly publications as follows:

- I COMMUNICATIONS AND ELECTRONICS.
- II APPLICATIONS AND INDUSTRY.
- III POWER APPARATUS AND SYSTEMS.

## Monday, May 14

### 2 p.m. — Welding

Reception Room, Assembly Floor

Presiding: MYRON ZUCKER, Myron Zucker Engineering Co.

- DP.\* An X-Ray Image Enlargement System for Welding Inspection. Robert C. McMaster, The Ohio State University.
- DP.\* The Co-ordination of High Rupturing Capacity (HRC) Fault Energy Limiters. R. J. A. Behan, English Electric Co.
- DP.\* Spot Welding with 400 Cycle Power by J. F. Deffenbaugh and F. E. Murray, Federal-Warco Division of the McKay Machine Company; Carl Geib, Ideal Electric Mfg. Co.; C. A. Schwartz, Consulting Engineer, Shaker Heights, Ohio.
- DP.\* 400 Cycle Stress Relieving. Jerry Scott, Hobart Bros.

### 2 p.m. — Electronic Applications

Parlors C and D, Assembly Floor

Presiding: PHIL BLAIS, Electron Research, Inc.

- 62-966. High Speed Strobotac with Digital Readout. Herman R. I. Weed, The Ohio State University.
- DP62-967. An Automobile Simulator. E. P. Todosiev, The Ohio State University.
- DP.\* An Electronic Timer for Use with X-Ray Equipment. W. L. Espenschied, E. E. Weber Dental Co. and G. K. Houpt, Automatic Timer and Controls Co.
- DP62-978. Pulsed Analog — Digital Encoder. N. R. Powell, General Electric Co.

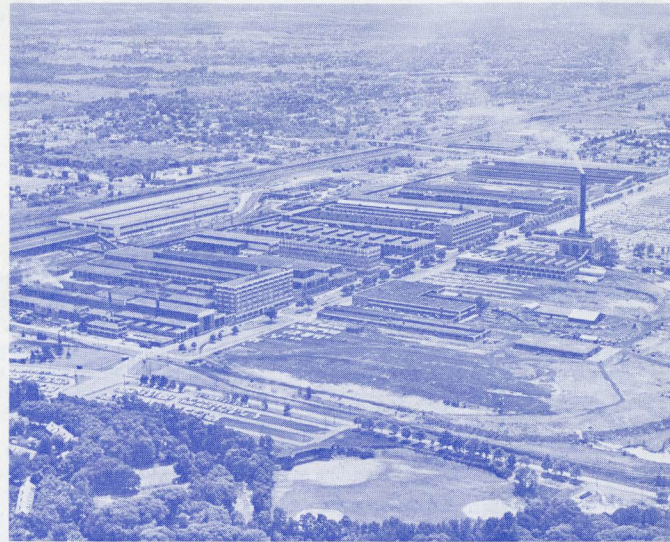
### 2 p.m. — Engineering and Education

Century Room, Lower Lobby

Moderator: JOHN F. CALVERT, University of Pittsburgh  
 LEE A. KILGORE, Westinghouse Electric Corp.  
 JAMES B. RESWICK, Case Institute of Technology  
 ROBERT A. RAMEY, Westinghouse Research Laboratories  
 MERRITT A. WILLIAMSON, Penn State University  
 ROBERT E. MARKLE, I.B.M. Laboratory



Pennsylvania Electric Co., Erie, Pennsylvania.



General Electric Co., Erie, Pennsylvania.

## Tuesday, May 15

### 9:00 a.m. — Electronic Circuits and Systems — Active Networks

Century Room

Presiding: L. C. HOLMES, General Dynamics Corp.  
 and G. A. FRANCO, Sanders Associates

- DP62-968. An Active All-Pass Network. Arthur I. Larky, Lehigh University.
- DP.\* Synthesis of R. C. Active Networks Using Transistors as the Active Element. James E. Coraza, International Business Machine Corp.
- DP.\* The Topological Synthesis of Active Networks. Satio Okada, General Dynamics/Electronics.
- DP.\* Active Linear Networks. N. DeClaric, Cornell University.

### 9:00 a.m. — Rotating Machinery — I

Parlors C and D

Presiding: M. A. BAKER, General Electric Co.

- DP.\* Physical Construction of Carbon Brushes. M. S. May, Speer Carbon Co.
- DP.\* Visual Concepts of Commutation. G. H. Gunnoe, General Electric Co.
- DP.\* Core Loss Calculations for D. C. Machines. K. Massouda, General Electric Co.
- 62-969. Surge Testing of Interlaminar Insulation of Magnetic III Cores. V. N. Wheaton, General Electric Co.

### 9:00 a.m. — Power Generation

Parlor B

Presiding: L. A. KILGORE, Westinghouse Electric Corp.

- DP.\* Integrating the Niagara Hydro Project with Power Operations in New York State. H. L. Harrington, Niagara Mohawk Power Corp.
- DP.\* Electronic Excitation for Generators. J. M. Kerr, Pennsylvania Electric Co.
- 62-970. Proper Motor Application Engineering Can Reduce Costs and Improve Reliability. C. F. Paulus and D. R. Green, The Cleveland Electric Illuminating Co.
- DP.\* Electrical Features of the Saxton Reactor Plant. D. E. Hetrick and I. R. Finfrock, Saxton Nuclear Experimental Corp.

### 2:00 p.m. — Rotating Machinery — II

Parlors C and D

Presiding: M. A. BAKER, General Electric Co.

- 62-971. Forces on Teeth in a D. C. Machine. A. I. Dvoracek, III Reliance Electric and Engineering Co.
- DP.\* Properties of the Printed Circuit Motor as a Servo Mechanism Component. R. Page Burr, Circuit Research Co.

# TECHNICAL PROGRAM

- DP.\* Rotating Rectifier Exciters — A Progress Report. J. J. Brockman, B. L. Goss and V. C. Strode, General Electric Co.
- DP.\* Adjustable Speed with A. C. Motors and Static Inverters. C. D. Beck and T. E. Usher, General Electric Co.

### 2:00 p.m. — Semiconductors and Rectifiers — I

Parlor B

Presiding: A. SCHMIDT, JR., Acme Electric Co.

- DP.\* Field Control of Battery Charging Generator Using SCRs. J. L. Buchanan, General Electric Co.
- DP.\* Diffused Silicon Fast Neutron Dosimeter. S. P. Jackson and G. C. Gerhard, Continental Electronics Corp.
- DP.\* A Packaged SCR Circuit for Direct Thyatron Replacement. R. R. Rottier, General Electric Co.
- DP.\* Reliability Evaluation of Semiconductors. R. H. Williams, Electron Research Inc., Erie Resistor Corp.

### 2:00 p.m. — Transmission and Distribution

Century Room

Presiding: H. A. BROWN, Rochester Gas and Electric Corp.

- DP.\* Theoretical Considerations Produce Practical Limit for Shunt Capacitor Applications. Harry Saddock, Rochester Gas and Electric Co.
- DP.\* G. P. U. — Penelec's 460KV Substation Design and Cost Data. A. M. Baker, Pennsylvania Electric Co.
- DP.\* 230 K.V. Transmission Tie Line Dunkirk to Buffalo. W. N. Carlson and C. C. Wiedemann, Niagara Mohawk Power Corp.
- DP62-816. Economics of Converting a Distribution System from 5 K.V. Delta to 13.2 K.V. Wye. R. M. Decker and W. A. Wickes, Cleveland Electric Illuminating Co.
- DP62-972. Voltage Regulation of New Power System Interconnection. W. J. Pitcher and R. B. Killen, Dayton Power and Light Co.

## Wednesday, May 16

### 9:00 a.m. — Metal Industry

Parlors C and D

Presiding: E. H. BROWNING, JR., Westinghouse Electric Corp.

- DP.\* Optimizing the Availability of Industrial Automation Systems. R. E. Bonin and J. R. Tucker, General Electric Co.
- DP.\* Computer Control for the Oxygen Converter Steel Making Process. E. J. Borrebach, Westinghouse Electric Co.
- DP.\* Automation of Hot Strip Down Coilers. R. M. Bosshardt, Reliance Electric and Engineering Co.
- DP.\* An Economical Data System for Industry. Paul L. McMath, Consolidated Systems Corp.

### 9:00 a.m. — Semiconductors and Rectifiers — II

Century Room

Presiding: E. E. MOYER, Rotron Research

- DP.\* Overload Protection of Silicon Rectifiers, 25-170KW. R. E. Strub and R. D. Till, Westinghouse Electric Corp.
- DP.\* A Controlled Rectifier D. C. Servo Drive. J. B. McFerran, General Electric Co.
- DP.\* A 50 KVA Adjustable Frequency 24-Phase Controlled Rectifier Inverter. C. W. Flairty, General Electric Co.

### 9:00 a.m. — Chemical Industry

Parlor B

Presiding: H. H. ZELIENSKI  
 and J. J. SULLIVAN, General Electric Co.

- DP62-621. Fundamentals of Cathodic Protection. B. Husock, Harco Corp.
- DP.\* Isotopes, Their Nature, Production, Handling and Applications in the Chemical Process Industries. Gordon M. Harris, University of Buffalo.
- DP.\* Measurement of Moisture Resistance of High Voltage Rubber Compound Insulation on Cable. Cecil J. Oatess, Anaconda Wire and Cable Co.

- DP.\* Problems and Limitations of Electrical Installations in Class 1, Group A and B Hazardous Locations. R. W. Scott, Crouse-Hinds Co.

### 2:00 p.m. — Mining

Parlors C and D

Presiding: A. C. LORDI, Westinghouse Electric Corp.  
 and R. B. DRIESBACK, General Electric Co.

- DP.\* Application, Use and Maintenance of Cable Connectors. George H. Person and Herman Cordes, United States Steel Corp.
- DP.\* Application and Use of Cable Fault Finders. John A. Dunn, Island Creek Coal Co.
- DP.\* Semiconductor Control for Excavating Equipment. A. M. Vance, Westinghouse Electric Corp.
- DP62-973. Operation of a Remotely Controlled Continuous Miner. R. T. Taylor, Peabody Coal Co.

### 2:00 p.m. — Industrial Control

Century Room

Presiding: S. FINNIGAN, General Electric Co.

- DP62-974. A New Concept in Medium Voltage Motor Control. R. B. Immel and R. D. Haas, Westinghouse Electric Corp.
- DP62-976. Stability Criteria for Some Non-Linear Servomechanisms. Martin Silberberg, formerly with General Precision Laboratory and P. M. Schultheiss, Yale University.
- DP62-979. Designing and Building Reliability into Control Equipment. E. E. Greene, General Electric Co.
- DP62-977. Temperature Protection of Integral HP Motors. J. J. Courtin, Westinghouse Electric Corp.

### 2:00 p.m. — Communications

Parlor B

Presiding: W. F. DENKHOUSE, Bell Telephone Co. of Pennsylvania

- DP.\* Communications Utility Uses Computer Simulation and Scientific Sampling Methods to Analyze Certain Physical Characteristics of Local and Toll Calls. S. H. Troxel, Jr., Ohio Bell Telephone Co.
- DP.\* Some Factors Affecting the Application of Neutralizing Transformers. C. R. Rollins, University of Buffalo and Professor Ingvar Ingvarsson, Union College, Schenectady, New York.
- DP.\* Measuring and Analyzing Microwave Signal Level in the 11,000 MC Band. Robert J. Koren, Ohio Bell Telephone Co. (for discussion only).
- DP.\* Experiences with T. L. Microwave. David L. Booth, Chesapeake and Potomac Telephone Co. of West Virginia (for discussion only).



Hammermill Paper Co., Erie, Pennsylvania.

# EMPIRE TRI-DISTRICT MEETING

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## Wednesday, May 16:

For the Ladies:

10:00 A.M.	Breakfast at the Lawrence	No Charge
11:15 A.M. to 3:30 P.M.	Trip to Pennsylvania Electric Co. and Luncheon	No Charge

For the Men:

12:00 P.M.	Luncheon in Main Ballroom	\$3.50
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**DINNER DANCE:** The evening of Tuesday, May 15, will be the time for the gala social event of the three-day meeting. The setting will be the Lawrence Hotel Ballroom where a sumptuous and gay dinner dance will be held preceded by a lively cocktail party. Dress will be optional.

**INSPECTION TRIPS:** Three interesting inspection trips have been arranged to provide cultural as well as educational benefits. Tickets will be available at the registration desk for each of these trips. There will be a \$1.00 charge for the Hammermill Paper Company and Erie Brewing Company trips and no charge for the Pennsylvania Telephone Company trip.

**Monday, May 14 at 2:00 p.m. — Hammermill Paper Company.** This plant is one of the three largest producers of fine writing and printing papers in the world. Seven Fourdrinier papermaking machines make 120,000 tons of paper a year. The largest, newest, fastest paper machine makes paper at speeds over 1,000 ft. per minute; 3,710 hp. are required to drive this machine plus its pulp preparation equipment and auxiliaries.

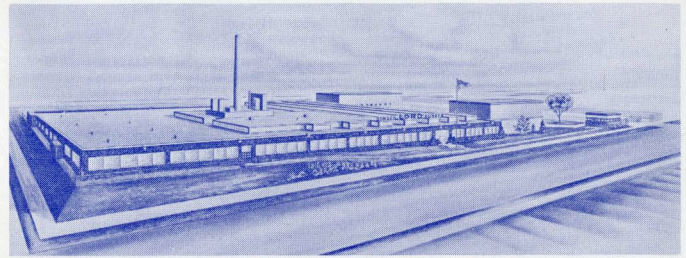
Included in your trip will be the Wood Room operation where a 1,000 hp. chipper reduces logs to chips. One operator controls the entire flow from rough logs being dumped into the supply flume to chips being blown to storage. Also, you will visit the Pulp Mill where console operation of numerous equipment can be observed, the Paper Mill, Finishing, and Warehousing operations.

**Monday, May 14 at 7:00 p.m. — Erie Brewing Company.** This brewery dates back to 1847 and is one of the major breweries in the tri-state area. Electronic controls now play their part in the fermentation process of brewing beer and this brewery is the only one in the country which holds exclusive patents on this type of controls. Besides the fermentation process you will also see the bottling, inspection, handling and warehousing of fine beer.

The tour will conclude with a visit to a German Rathskeller where refreshments will be served in true German atmosphere. A warm coat and comfortable walking shoes are recommended. Ladies are welcomed.

**Tuesday, May 15 at 2:15 p.m. — General Telephone Company of Pa.** This is the largest independent telephone operation in the state and is headquartered here in Erie. The company serves 213,000 telephones of which 94.8% are dial operated. In January, 1962, the company introduced outward Direct Distance Dialing to Erie division customers with an installation which has some interesting features of telephone engineering.

General Telephone also recently assumed the TWX service in its territory which was previously operated by the Bell Telephone Co. This service, connecting teletypewriters on a nation-wide exchange basis via special transmission circuits, will be converted to dial operation over the regular message toll network on Labor Day of this year, thus using the same circuits for both voice and data



Ken Schauble Studios

Lord Manufacturing Co., Erie, Pennsylvania.

transmission. The tour will include the toll operating room, toll terminal room, toll test, power room and other facilities.

**EXECUTIVE COMMITTEE MEETING:** The Empire District Executive Committee Meeting presided over by Mr. C. E. Gaylord will be held Monday, May 14, beginning at 9:00 a.m.

**REGISTRATION:** The registration desk will be located on the mezzanine floor of the Lawrence Hotel and will be staffed each day for registration, sale of tickets to all events, sale of numbered papers, and general information. Registration fees will be \$4.00 for members, \$7.00 for non-members and \$2.00 for ladies. Advance registration and reservation of tickets is recommended as some events are limited in the number of delegates or ladies that can be accommodated. In these cases priority will be established by date of receipt of reservation card.

The following schedule will be maintained:

Monday,	May 14	8:00 a.m. to 6:00 p.m.
Tuesday,	May 15	8:00 a.m. to 6:00 p.m.
Wednesday,	May 16	8:00 a.m. to 2:00 p.m.

**HOTEL RESERVATIONS:** Rooms have been arranged for all members and guests at the headquarters hotel, the Lawrence. All members should make their reservations directly with the hotel. Hotel reservation cards will be included in the regular meeting mailing from headquarters. Prices are as follows:

Single with Bath	\$ 7.00 to \$10.00*
Double Bed with Bath	\$12.00 to \$15.50*
Twin Beds with Bath	\$14.50 to \$17.00*

\* Plus 4% Pennsylvania Sales Tax.

**Members of the Empire Tri-District Meeting Committee —** T. J. Warrick, Chairman; J. F. Davis, Vice-Chairman; M. F. Bretz, Secretary; R. P. Ager, Treasury and Finances; R. S. Tener, Program; E. H. VanHouten, Hotel Arrangements; H. W. Shaner, Inspection Trips; J. J. Goodill, Publicity; C. G. Moon, Registration; Mrs. J. F. Davis, Mrs. J. T. Duane, Ladies; J. A. Selvaggi, Students; S. W. McElhenny, Entertainment; R. E. Anderson, Transportation.

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