



Summer Convention

June 24-28, 1946

DETROIT, MICH.
Hotel Statler



Detroit Skyline

CONVENTION FEATURES

For the 61st Annual Summer Convention of the AIEE., to be held in Detroit, Mich., June 24-28, 1946, the Summer Convention Committee has planned a program of entertainment, inspection trips and recreation complementing the excellent technical sessions, which should make the Convention attractive as a vacation as well as of benefit professionally. Convention headquarters will be at the Hotel Statler located in the heart of downtown Detroit.

ENTERTAINMENT: Excellent programs for both men and women have been planned by the Hospitality and Sports Committees. Among the hospitality features planned for the men are an American League twilight baseball game (Detroit vs. Boston), the President's Reception and cocktail hour, a smoker with dinner and entertainment, and a moonlight boat excursion.

SPECIAL—TWILIGHT BASEBALL GAME between the Detroit Tigers and the Boston Red Sox is scheduled for 5:30 p.m. on Monday, the 24th. Since this is the busy opening day of the convention, and since only a limited number of tickets are available, which must be obtained in advance by the committee, it is requested that those desiring to attend should make reservations early. This will be a distinct courtesy to the committee and will minimize confusion and disappointment. Tickets will be \$1.50 net each. Please make reservations early through Mr. M. A. Bergdahl, Chairman, 1709 Ford Building, Detroit 26, Michigan.

LADIES' ENTERTAINMENT: An extensive program also is arranged for the ladies. An informal get-together is planned for the first day, with the succeeding days holding numerous pleasant events. Among these is a sightseeing trip to Canada, going over by way of Ambassador Bridge and returning by way of the tunnel under the Detroit River. During the trip, the ladies will visit some of the famous gardens of Windsor, go on a shopping tour, and have tea at the Prince Edward Hotel in Windsor.

The following day at the Detroit Yacht Club on beautiful Belle Isle, a luncheon and fashion show will be held, with latest styles shown by models from some of Detroit's outstanding shops. A dinner and keno party are planned for the following evening at the Book-Cadillac Hotel.

One of the delightful entertainment features planned for the ladies includes a visit to world-famous Greenfield Village. Innumerable attractions are apparent everywhere in the village to captivate the visitor. Among these is a group of homes of various periods from the early 17th through the 19th century, each complete with furnishings of its period, and various small shops and handicraft industries of early American days, including an apothecary shop, several early jewelry shops, and a tintype studio. Prominent in the village sights is the reconstructed original of the Menlo Park Laboratory and associated buildings, which were transported from their original site in New Jersey, complete even to the red soil typical of the original site. A luncheon at Dearborn Inn will follow the visit to the village, and in the afternoon the ladies will visit the Edison Institute Museum.

GOLF: The Sports Committee has made arrangements with the Glen Oaks Golf Club for the use of the course during the first four days of the Convention. A full golfing program is planned, including the Mershon Match Play Tournament, the Lee Tournament, which is a two-day, thirty-six hole medal play on a handicap, and at least one Kicker's Handicap Tournament. Anyone who desires to play without entering a tournament is welcome to do so. Transportation will be provided for all golfers to and from the course. The nominal green's fee will be \$2.00.

Though no golf tournaments are planned for the ladies, the course privileges and transportation will be arranged for those who desire to play.

The past record has indicated very little interest in tennis, therefore, for this reason and the difficulty of obtaining suitable tennis courts, no tennis tournaments are planned.

SUMMER CONVENTION FEATURES

INSPECTION TRIPS

THE CHRYSLER ENGINEERING LABORATORIES trip is certain to arouse interest because of its wide engineering coverage. Here, in a series of laboratories and test chambers, the Chrysler engineers check every detail of the various parts which go to make up the finished automobile. Visitors will be conducted through the various testing labs where they will view the electrical system tests, stress analysis, and fatigue tests, the checks made in the cold temperature chamber, engine testing on latest type dynamometer units, and various materials testing and development, including rubber and plastics.

THE FORD MOTOR COMPANY ROUGE PLANT at Dearborn, Michigan, is the World's largest industrial city. Grouped into a single unit covering 1196 acres are blast furnaces, coke ovens, docks, assembly lines, machine and repair shops. Here are railroad and bus systems, the World's largest production foundry, a paper mill and a glass plant, power houses and laboratories. More than 90,000 men and women are employed with a variety of skills and trades—seamstresses and sailors, carpenters and cooks, artists and accountants, metallurgists and machinists. Within the Rouge plant are more than 100 miles of railroad—one of the longest private railroads in the world. One and one-third miles of docks are needed to handle waterborne shipments, including upwards of 850,000 tons of ore and 2,078,000 tons of coal a season. Over 13,875,000 square feet of floor space, and 132 miles of conveyors are used in the Rouge Plant buildings. More than 538 million gallons of water are used in a day's operations, as well as enough gas for a city of 1,500,000 people. The ten open hearth furnaces which provide steel for the rolling mill have a total capacity of over 1800 tons per day.

U. S. RUBBER COMPANY, DETROIT PLANT: The principal product of this plant is automobile tires, and the visitor can view the various phases of manufacture from crude or synthetic rubber and cotton cords, rayon or other fabrics all the way to the finished tire. Interesting manufacturing processes include the solutioning of cord or rayon fabrics, the rubberizing of this fabric in calendar trains, bias cutting and tire building operations, breaking down of crude or synthetic rubber in plasticators, compounding in Banbury mixers, tuber and dual tuber operations forming tread and sidewall sections. Also evident is the continuous building of smaller size tires on "merry-go-rounds" and the mass vulcanizing of the daily quota, which present production schedules have set at approximately 30,000 units per day. Testing facilities allow the checking of any size tire, including landing tests for big airplane tires.

The recently completed expansion program added a number of modern electrical drives such as a synchronized rubber calendar train, featuring a number of electronic and rotating regulator controls, new type rubber mills controlled by metal-clad, vertical lift air circuit breakers, and new Banbury drives, including separately ventilated and cooled induction motors.

THE EDISON INSTITUTE MUSEUM possesses an unusus' group of exhibits which Mr. Henry Ford has spared no expense to collect. Under the three major divisions of agriculture, manufacture and transportation, are shown the evolution and development of agricultural and household arts implements and equipment, replicas and collections of steam and electric power machinery from the earliest known types, and numerous industries displays which utilize such power, and a complete exhibit of transportation equipment covering all forms of animal and powered carriers, and including development of bicycles, locomotives, automobiles and airplanes. In addition to the major exhibits are included various handicraft shops, and a museum collection of some 6000 pieces of furniture, as well as musical instruments from earliest times up to the present.

THE INTERNATIONAL DETROLA CORPORATION, RADIO DIVISION, is one of the largest and most modern radio manufacturing plants in the world, covering seven and one-half acres of ground. The visitor will see a modern electrical assembly plant, where he may follow the construction of home radio receivers, combination radio and phonograph units, and automatic phonographs from initial loose parts to final test and packaging. In this plant is one of the largest and most modern radio and electronic engineering laboratories in the country, employing over one hundred people engaged in test and development.

HOTEL ACCOMMODATIONS

The Hotels Committee has been fortunate in securing block reservations at a group of hotels, the names and rates of which are listed below. All are within a short distance of Convention Headquarters.

HOTEL	RATES	
	Single	Double
Book-Cadillac	\$3.00 Up	\$5.00 Up
Detroit Leland	2.50 Up	4.00 Up
Fort Shelby	2.50 Up	4.00 Up
Statler (Headquarters)	3.00 Up	4.50 Up
Tuller	2.00 Up	3.50 Up

The critical status of securing room reservations makes it imperative that reservations be made immediately to avoid disappointment. All requests for reservations should be addressed to AIEE Summer Convention Hotels Committee, 1005 Stroh Building, Detroit 26, Mich. It is also essential that, when requesting reservations, the time of arrival be given. Double occupancy should be used wherever possible.

ADVANCE REGISTRATION: Please register in advance by filling in and mailing promptly the enclosed advance registration card. Be sure to answer the questions on the card in regard to twilight baseball and golf. This will assist the registration committee and save time on arrival at the meeting. A registration fee of \$2.00 will be charged all nonmembers except Enrolled Students and immediate families of members.

H. H. HENLINE, *Secretary*

Summer Convention Committee

S. M. Dean, *Chairman*

R. G. Glenn, *Vice-Chairman*

W. F. Wetmore, *Secretary-Treasurer*

L. W. Clark

G. M. Chute, Jr.

A. H. Lovell

Subcommittee Chairmen

M. A. Bergdahl, *Hospitality*

A. E. Kriegsmann,

Mrs. M. A. Bergdahl,

Meetings and Papers

Ladies' Hospitality

W. J. Piper, *Information and*

D. D. Chase, *Sports*

Transportation

H. W. Collins, *Hotels*

V. J. Snyder, *Finance*

A. J. Koetsier, *Publicity*

R. C. Spaulding, *Inspection Trips*

F. R. Temple, *Registration*



Interior—Edison Museum

GOLF AND ENTERTAINMENT SCHEDULE

Monday, June 24

All Day —Ladies' Informal Get-Together.

1:00 p.m.—Golf at Glen Oaks Golf Club.

1. Qualifying round—Mershon Trophy.
2. Kicker's Handicap.
3. First eighteen holes—Lee Trophy.

5:30 p.m.—Twilight Baseball—1945 World's Champion Detroit Tigers vs. Boston Red Sox.

Tuesday, June 25

1:00 p.m.—Golf.

1. First round of match play—Mershon Trophy.
2. Kicker's Handicap.
3. First or second eighteen holes—Lee Trophy.
4. First eighteen holes—District Team Competition.

1:30 p.m.—Ladies' Sightseeing Trip and Tea—Canada.

2:00 p.m.—*Inspection Trips.

6:15 p.m.—President's Reception.

Wednesday, June 26

1:00 p.m.—Ladies' Luncheon at Detroit Yacht Club.

1:00 p.m.—Golf

1. Second round of match play—Mershon Trophy.
2. Kicker's Handicap.

3. Second eighteen holes—Lee Trophy.

4. Second eighteen holes—District Team Competition.

2:00 p.m.—Inspection Trips.

7:00 p.m.—Men's Smoker—Dinner—Entertainment.

7:30 p.m.—Ladies' Dinner and Keno Party at Wardell-Sheraton.

Thursday, June 27

9:00 a.m.—Ladies' Sightseeing Trip to Greenfield Village.

9:00 a.m.—Golf: Semi-finals—Mershon Trophy.

12:30 p.m.—Ladies' Luncheon at Dearborn Inn.

1:00 p.m.—Golf: 1. Finals for Mershon Trophy.

2. Kicker's Handicap.

2:00 p.m.—Ladies' Visit to Edison Institute.

2:00 p.m.—*Inspection Trips.

8:00 p.m.—Scenic Boat Ride (Men and Women).

*All five inspection trips are scheduled daily—Tuesday through Thursday. The committee also will be glad to arrange for visits to any of the utilities properties in Detroit. Arrangements should be made at time of registration.

1. Chrysler Engineering Laboratories.

2. Edison Institute.

3. Ford River Rouge Plant.

4. International Detrola Corporation.

5. U. S. Rubber Company.

TECHNICAL PROGRAM

Monday, June 24

9:30 a.m.—Conference on Automatic or Supervisory Control of Air Switches

46-147. Operating Experience with Single-Pole Switching. ACO.† I. T. Knight, Kansas City Pr. and Lt. Co. 15 cents by mail.

9:30 a.m.—Conference on Temperature Measurements and Standards

9:30 a.m.—Instruments and Measurements

46-155. Frequency-Compensated A-C Ammeters and Voltmeters. J. M. Whittenton, C. A. Wilkinson, General Elec. Co. 15 cents by mail.

46-133. Functional Analysis of Measurements. I. F. Kinard, General Elec. Co. 30 cents by mail.

46-135. A New Design for the A-C Network Analyzer. J. D. Ryder, W. B. Boast, Iowa State College. 20 cents by mail.

46-142. High Vacuum Leak Testing with the Mass Spectrometer. W. G. Worcester, E. G. Doughty, General Elec. Co. 30 cents by mail.

9:30 a.m.—Conference on Electronics in the Electrical Engineering Curricula

9:30 a.m.—Resistance Welding

46-156. Characteristics of Resistance Welding Transformers. F. E. Murray, R. C. Jones, The Taylor-Winfield Corp. 15 cents by mail.

46-137. Influence of Magnetic Materials on the Welding Characteristics of Resistance Welding Machines. J. J. Riley, C. E. Smith, The Taylor Winfield Corp. 25 cents by mail.

46-141. The Application of Series Capacitors to Flash Welders. J. F. Deffenbaugh, Federal Machine and Welder Co. 15 cents by mail.

CP.* Voltage Change Due to Resistance Welding Loads. C. M. Rhoades, Jr., H. A. Peterson, General Elec. Co.

2:00 p.m.—Conference on Section Operation and Management

There will be three separate Conferences with parallel meetings, one for the Larger Sections, one for the Intermediate Sections, and one for the Smaller Sections. Delegates are requested to attend the meeting to which their Section is assigned.

The Conference will be conducted in an informal manner. Each Delegate will benefit from these Conferences in direct proportion to his participation. Each meeting will be developed by discussion and questions from the floor covering the following subjects:

1. Operating Committees

2. Technical Groups

3. Fellowship

4. Section Prize Paper Competition

Ten Minute Intermission

Signature of Travel Vouchers by Delegates

5. Liability of Sections for Injuries at Meetings

6. Subsections

7. Announcement of Special Conferences of Interest to the Delegates—

(a) Local Councils of Engineering and Technical Societies

(b) Student Activities

8. Other Activities

Conference on Section Operation and Management
Larger Sections

A. C. MUIR, Presiding

Conference on Section Operation and Management
Intermediate Sections

R. M. PFALZGRAFF, Presiding

Conference on Section Operation and Management
Smaller Sections

G. W. BOWER, Presiding

SUMMER CONVENTION



Public Library and Detroit Art Institute

2:00 p.m.—Conference on Automatic Switching of Capacitor Banks

- 46-106. Automatic Control of Large Synchronous Condensers. M. J. Brown, Westinghouse Elec. Corp. 30 cents by mail.

2:00 p.m.—Conference on Electronic Instruments

The subject of the Conference on Electronic Instruments will be limited to Electronic Recording Instruments for Potentiometric or Bridge-Type Measurements. A short history of the development of electronic recorders will be presented. Problems encountered in perfecting the recorders and latest improvements and developments in the instruments will be discussed.

- CP.* Electronically Operated Instruments for Industrial Measurements. A. J. Hornfeck, Bailey Meter Co.
- CP.* D-C to A-C Conversion Systems. W. P. Wills, The Brown Instr. Co.
- CP.* The Input Transformer Problem. A. J. Williams, Jr., Leeds and Northrup Co.
- CP.* A New High Speed Recording Potentiometer. V. L. Parsegian, C. J. Tagliabue Co.
- CP.* Process Variables Made Available by Electronic Methods for Industrial Measurements. D. H. Fuller, The Foxboro Co.
- CP.* Sweep Balance Recorders. George Keinath, R. K. Hellmann, Great American Ind., Inc.

2:00 p.m.—Marine Transportation and Electric Machinery

- 46-149. Diesel-Electric Synchronous Motor Ship Drives Propulsion Control Problems. E. Frisch, Westinghouse Elec. Corp. 20 cents by mail.
- 46-127. Design of D-C Auxiliary Controllers for Marine Service. W. Schaelchlin, Westinghouse Elec. Corp. 20 cents by mail.

- 46-136. Current and Torque of D-C Machines on Short Circuit. T. M. Linville, General Elec. Co. 30 cents by mail.

- 46-157. Factors Affecting Insulation Resistance of Large D-C Machines. J. S. Johnson, C. Weil, Westinghouse Elec. Corp. 25 cents by mail.

2:00 p.m.—Safety

- 46-112. Dangerous Electric Currents. C. F. Dalziel, Univ. of Calif. 20 cents by mail.
- 46-159. Silent Invisible Industrial Hazard. S. R. Warren, ACO.† Jr., Univ. of Penna. 20 cents by mail.
- CP.* Shock Hazards of Low Voltage. M. M. Brandon, Underwriters Labs., Inc.; R. L. Lloyd, National Bureau of Stds.

Tuesday, June 25

9:30 a.m.—Cables

- 46-103. Determination of Cable Temperatures by Means of Reduced Scale Models. Andrew Gemant, Joseph Sticher, The Detroit Edison Co. 25 cents by mail.
- 46-115. F-3 Lead Alloy—An Improved Cable Sheathing. L. F. Hickernell, C. J. Snyder, Anaconda Wire and Cable Co. 20 cents by mail.
- 46-118. Semi-Conducting Shielding for Alternating Current Power Cable. E. J. Merrell, Phelps Dodge Copper Products Corp. 15 cents by mail.
- 46-121. High-Voltage D-C Tests on Rubber-Insulated Wire. W. N. Eddy, W. D. Fenn, Simplex Wire and Cable Co. 15 cents by mail.
- 46-160. Moisture Equilibrium between Gas Space and Fibrous Materials in Enclosed Electrical Equipment. J. D. Piper, The Detroit Edison Company. 20 cents by mail.

9:30 a.m.—Communication

- 46-161. Systems Development of Military Communication. T. R. Putnam, New York Tel. Co. 15 cents by mail.

TECHNICAL PROGRAM

- 46-162. Properties and Uses of Thermistors—Thermally Sensitive Resistors, Parts I and II. J. A. Becker, C. B. Green, G. L. Pearson, Bell Telephone Labs., Inc., 30 cents by mail.
- 46-163. Transmission Rating of Telephone Systems. W. A. Codd, Stromberg-Carlson Company. 15 cents by mail.
- 46-151. Mica Capacitors for Carrier Telephone Systems. A. J. Christopher and J. A. Kater, Bell Telephone Laboratories, Inc. 15 cents by mail.

9:30 a.m.—Electric Machinery

- 46-164. Oscillations of a High-Voltage Secondary Winding. A Boyajian, General Elec. Co. 30 cents by mail.
- 46-165. Temperature Limits for Short-Time Overloads for Oil-Insulated Neutral Grounding Reactors and Transformers—Part II. V. M. Montsinger, J. E. Clem, General Elec. Co. 25 cents by mail.
- 46-166. Some Aspects of Polyphase Motor Design—The Design and Properties of the Magnetic Circuit. T. C. Lloyd, H. B. Stone, Robbins & Myers, Inc. 30 cents by mail.
- 46-116. Electro-Mechanical Transient Performance of Induction Motors. C. N. Weygandt, S. Chapp, Univ. of Penna. 30 cents by mail.
- 46-167. Rotating Electrical Machine Time Constants at Low Speeds. C. Concordia, General Elec. Co. 20 cents by mail.

9:30 a.m.—Industrial Power Applications

- CP.* Progress Report on Industrial Voltage Requirements. Industrial Voltage Requirements Subcommittee.
- CP.* Protective Devices in Industrial Plants. L. O. Peterman, Ford, Bacon and Davis, Inc.
- 46-122. Protection of Industrial Plants against Insulation Breakdown and Consequential Damages. H. R.

Vaughan, Westinghouse Elec. Corp.
15 cents by mail.

- CP.* Modern Power Distribution Systems for Large Non-industrial Buildings. D. L. Beeman, General Elec. Co.

2:00 p.m.—Conference of Officers, Delegates, and Members

R. M. PFALZGRAFF, Presiding

1. Opening remarks by Chairman.
2. Observations on Institute Activities. Dr. W. E. Wickenden, President, AIEE.
3. Opportunities for Section Activities in the Industrial Field. J. Elmer Housley.
4. District and Section Activities. H. H. Henline, Secretary, AIEE.
5. Sections Committee report and forecast. G. W. Bower, Chairman, Sections Committee.
6. Progress Report of Planning and Co-ordination Committee on the Study of Institute Activities. J. F. Fairman, Chairman, Planning and Co-ordination Committee.
 - (a) Technical Activities Subcommittee. M. D. Hooven, Chairman.
 - (b) Professional Activities Subcommittee. T. G. LeClair, Chairman.

3:00 p.m.—Ten Minute Intermission

7. Section Membership Activity and Its Relation to the Progress of the Institute. L. F. Howard, Chairman, Membership Committee.
8. Institute Finance and Its Relation to the Sections. W. R. Smith, Chairman, Finance Committee.
9. Reports of the First Year of Operation of the Two New Institute Sections.
 - (a) Beaumont Section.
 - (b) Illinois Valley Section.
10. Educational Courses Conducted by the Sections. H. W. Bibber, Chairman, Committee on Education.
11. AIEE Publications Services. G. Ross Henninger, AIEE Editor.
12. Section History. M. S. Coover, Vice-President, District No. 5.
13. General Discussion.

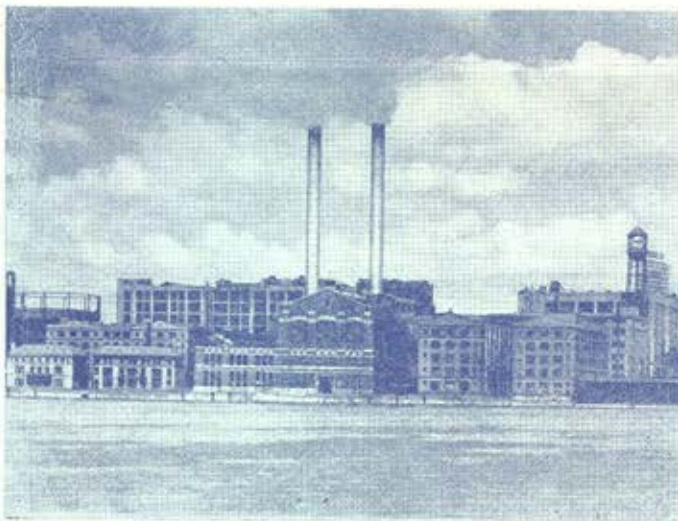
4:30 p.m.—Adjournment.

Wednesday, June 26

10:00 a.m.—Annual Meeting

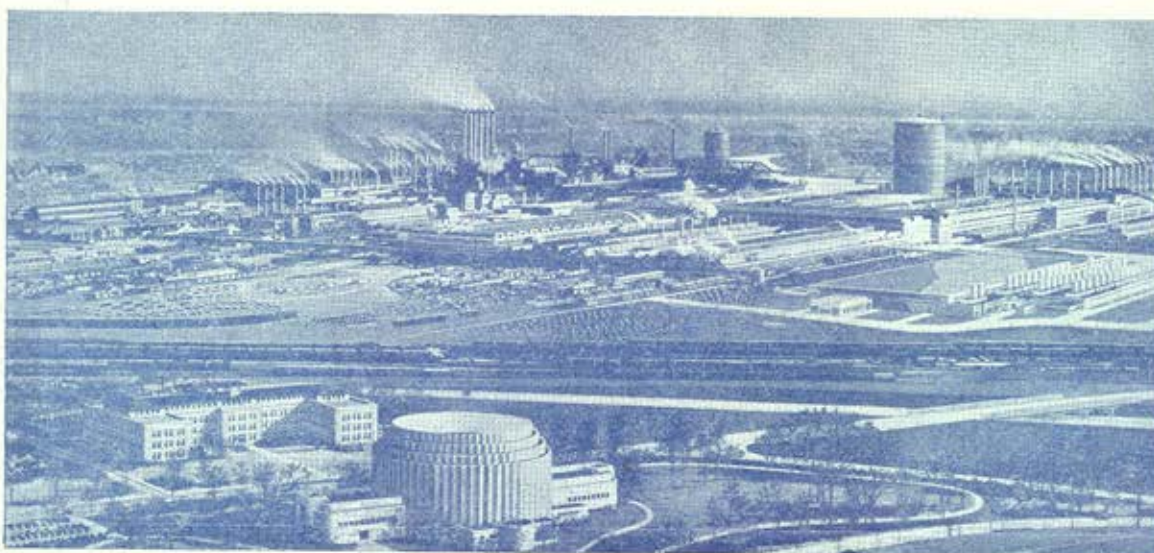
President W. E. WICKENDEN, Presiding

1. Report of Board of Directors, by H. H. Henline, Secretary.
2. Report of Treasurer, W. I. Slichter.



Detroit Plant of the United States Rubber Company

SUMMER CONVENTION



Ford River Rouge Plant

3. Report of Committee of Tellers on votes for nominees for AIEE offices.
4. (a) Introduction of, and presentation of President's badge to J. Elmer Housley.
(b) Response by Mr. Housley.
5. Report on Institute Prizes for papers, M. D. Hooven, Chairman, Committee on Award of Institute Prizes.
6. Westinghouse Centennial Address, J. K. B. Hare, Vice-President, Westinghouse Electric Corporation.
7. Presentation of Lamme Medal to David C. Prince, Vice-President, General Electric Company.
8. Any other business that may be presented.
9. President's address: Dr. W. E. Wickenden.

2:00 p.m.—Conference on Section Activities in Connection with Local Councils of Engineering and Technical Societies

C. W. BOWER, Presiding

The purpose of this conference is to review the organization and operation of local councils, with particular emphasis on the part the AIEE Sections have taken in this work. The three general types of local council organizations will also be presented by selected speakers, and the activities of these councils in their local areas will be discussed. This information will be valuable in assisting Sections in expanding the activities of the Councils in their local areas, and where such councils do not now exist will assist the Sections in the activity of forming councils.

An open discussion after the presentation of each speaker will be featured.

2:00 p.m.—Power Generation

- 46-144. Improvements in Performance of Hydro-Electric Generating Units on the 2,000,000 Horsepower

Saguenay System. F. L. Lawton, Aluminum Co. of Canada, Ltd. 25 cents by mail.

- 46-108. Tennessee Valley Authority Hydroelectric Stations—Electrical and Mechanical Design. R. A. Hopkins, H. J. Petersen, TVA. 25 cents by mail.

- 46-152. Modern Excitation Systems for Large Synchronous Machines. J. B. McClure, S. I. Whittlesey, M. E. Hartman, General Electric Company. 20 cents by mail.

- 46-154. The Development of Modern Excitation Systems for Synchronous Condensers and Generators. F. M. Porter, J. H. Kinghorn, American Gas and Elec. Serv. Corp. 25 cents by mail.

2:00 p.m.—Relays

- 46-168. Low-Current Secondary Current Transformers. Working Group, Relay Subcommittee. 15 cents by mail.

- 46-169. Protection of Powerhouse Auxiliaries. Working Group on Powerhouse Auxiliaries, Committee on Protective Devices. 20 cents by mail.

- 46-109. Fault Location and Relay Performance Analysis by Automatic Oscillographs. H. P. Dupuis, W. E. Jacobs, The Commonwealth and Southern Corp. 15 cents by mail.

- 46-83. Operating Experience with Distance Ground Relays. W. A. Wolfe, Kansas Gas and Electric Co. 20 cents by mail.

2:00 p.m.—Conference on Arc Welding

- CP.* Power Requirements for D-C Arc Welders. R. F. Wyer, R. C. Freeman, General Elec. Co.

- CP.* Application of Limited Input Arc Welders to the Power Distribution System. C. N. Clark, Duquesne Lt. Co.

- CP.* Limited Input Arc Welders. E. Steinart, Westinghouse Electric Corporation.

TECHNICAL PROGRAM

2:00 p.m.—Servomechanisms

- 46-113. Electrical Accuracy of Selsyn Generator-Control Transformer System. Harold Chestnut, General Elec. Co. 30 cents by mail.
- 46-114. Frequency Response of Automatic Control Systems. Herbert Harris, Sperry Gyroscope Company, Inc. 30 cents by mail.
- 46-107. Parallel Circuits in Servomechanisms. H. T. Marcy, Massachusetts Institute of Technology. 30 cents by mail.
- 46-150. Dimensionless Analysis of Angular-Position Servomechanisms with the Mechanical Transients Analyzer-I. S. W. Herwald, G. D. McCann, Westinghouse Elec. Corp. 15 cents by mail.

Thursday, June 27

9:30 a.m.—Protective Devices

- 46-134. Application Ratings of Indoor Power Circuit Breakers. O. B. Vikoren, Philadelphia Elec. Co. 20 cents by mail.
- 46-170. Performance Criteria for Current Limiting Power Fuses—I. C. L. Schuck, General Elec. Co. 20 cents by mail.
- 46-171. Performance Criteria for Current Limiting Power Fuses—II. E. W. Boehne, General Elec. Co. 30 cents by mail.
- 46-172. Philosophy of Relaying. E. W. Knapp, B. C. Hicks, The Shawinigan Water and Power Company. 20 cents by mail.
- 46-173. Simplicity in Protective Relaying. L. F. Hunt, Southern Calif. Edison Co., Ltd. 20 cents by mail.

9:30 a.m.—Electronic Power Conversion

- 46-105. Inductive Co-ordination Aspects of Rectifier Installations. Electronic Power Converter Subcommittee. 30 cents by mail.
- Std. Report No. 6. Proposed Standards for Pool-Cathode Mercury-Arc Power Converters. A report by the Electronic Power Subcommittee of the AIEE Electronics Committee.
- 1.000 Section; "Definitions"—Presentation by H. Winograd.
- 2.000 Section; "Standards"—Presentation by C. C. Herskind.
- 3.000 Section; "Test Code"—Presentation by J. H. Cox.
- 4.000 Section; "Recommended Practice and Operating Guide"—Presentation by R. C. Marcum.
- 5.000 Section; "Rectifier Transformers"—Presentation by E. V. DeBlieux.

Discussion of Proposed Pool-Cathode Mercury-Arc Power Converter Standards. Mr. I. R. Smith representing the Subcommittee on Metallic Rectifiers; Mr. D. E. Marshall representing the Institute of Radio Engineers. Discussion by other groups or individuals will be welcomed.

9:30 a.m.—Industrial Control Devices

- 46-130. Dynamic Braking Control of D-C Series Motors—Calculation of Stability Limit. G. W. Heumann, W. P. Smith, General Elec. Co. 15 cents by mail.
- 46-104. Silicone Resin-Treated Magnet Coils. G. L. Moses, Westinghouse Elec. Corp. J. J. Torok, Corning Glass Works. 20 cents by mail.
- 46-126. Fundamental Properties of the Vacuum Switch. R. Koller, Univ. of Calif. 25 cents by mail.
- 46-125. An Electronic Drive for Windup Reels. K. P. Puchlowski, Westinghouse Elec. Corp. 20 cents by mail.

9:30 a.m.—Basic Sciences

- 46-110. The Influence of the Concentration and Mobility of Ions on Dielectric Loss of Insulating Oils. B. P. Kang, E. I. duPont de Nemours and Company. 20 cents by mail.
- 46-120. Negative Resistance Effects in Saturable Reactor Circuits. J. M. Manley, E. Peterson, Bell Telephone Labs., Inc. 30 cents by mail.
- 46-123. A New Approach to Probability Problems in Electrical Engineering. H. A. Adler, Commonwealth Edison Co.; K. W. Miller, Armour Research Foundation. 15 cents by mail.
- 46-119. Formulas for Calculating the Inductance of Channels Located Back to Back. W. G. Schwantz, Commonwealth Edison Co.; T. J. Higgins, Illinois Inst. of Tech. 25 cents by mail.
- 46-111. A Fractional Termination for Ladder Networks. W. R. LePage, Stromberg Carlson Co. Presentation by title. 20 cents by mail.

9:30 a.m.—Industrial Power Applications

- 46-153. Low-Reactance Flexible Cable for Induction Heating. Myron Zucker, Mackworth G. Rees, Inc. 15 cents by mail.
- 46-124. Design of Induction-Heating Coils for Cylindrical Magnetic Loads. J. T. Vaughan, J. W. Williamson, The Ohio Crankshaft Co. 20 cents by mail.



Entrance to Edison Museum—Greenfield Village

SUMMER CONVENTION—DETROIT—JUNE 24-28, 1946

ADVANCE COPIES OF PAPERS

Preprints of technical papers may be obtained by mail by remitting price indicated to the A.I.E.E. Order Department, 33 West 39th Street, New York 18, N. Y.; if purchased at A.I.E.E. headquarters or at the meeting 5c less per copy. Prices subject to change. For convenience an order form is enclosed. Only numbered papers will be available in advance-copy form. 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 \$5.00 denominations are available for those who wish to avoid remittance by check or otherwise. Most of the papers ultimately will be published in **ELECTRICAL ENGINEERING** or the **TRANSACTIONS**.

Please order by number only and enclose remittance.

46-132. Electronic Register Control for Multicolor Printing. W. D. Cockrell, General Elec. Co. 20 cents by mail.

CP.* Applications in the Rubber Industry. J. Z. Linsmeyer, Westinghouse Electric Corp.

10:00 a.m.—Conference on Student Activities

E. W. O'BRIEN, Presiding

This conference will deal with Student-Branch problems, particularly as related to the postwar problems in connection with the resumption of normal activity by the Branches.

2:00 p.m.—Conference on Section-Branch Co-operation

(A joint activity of the Committee on Student Branches and the Sections Committee)

Professor V. P. HESSLER, Presiding

1. Opening remarks by the Chairman.
2. Basic Opportunities of Section-Branch Co-operation. E. W. O'Brien, Chairman, Committee on Student Branches.
3. The Plan of Section-Branch Co-operation. G. W. Bower, Chairman, Sections Committee.
4. Presentation by selected speakers of Typical Examples of Section-Branch Co-operation.
5. A Look into the Future As a Result of Section-Branch Co-operation. Everett S. Lee, Chairman, E. C. P. D.

An open discussion after each presentation will be a feature of this conference. In addition to the Section Delegates, Chairmen of the District Committees on Student Activities, Counselors, Student Branch officers and all other members interested in student activities are invited to attend and participate in the discussion.

Friday, June 28

9:30 a.m.—Power Transmission

46-175. Co-ordination of Insulation and Spacing of Transmission-Line Conductors. W. W. Lewis, General Elec. Co. 15 cents by mail.

46-117. The Electrical Performance of Ceramic Dielectrics at Elevated Temperatures. H. A. Frey, J. A. Jesatko, Locke Insulator Corp. 30 cents by mail.

46-123. The Preservative Treatment of Various Species Proposed for Poles and Crossarms. J. D. MacLean, Forest Service, U. S. Dept. of Agriculture. 15 cents by mail.

46-174. Carrier Supervisory Control of Pumping Station over Power Cable. W. A. Derr, W. A. Keller, Westinghouse Electric Corporation; H. A. W. Hedke, U. S. Sugar Corp. 20 cents by mail.

46-176. Six-Years' Experience with Factory-Built Unit-Type Substations. E. F. Miller, R. B. Miller, Iowa-Illinois Gas and Elec. Co. 15 cents by mail.

9:30 a.m.—Electronic Tubes and Basic Circuits

46-139. Rectifier Capacity. C. C. Herskind, H. C. Steiner, General Elec. Co. 15 cents by mail.

46-143. Nonlinear Commutating Reactors for Rectifiers. A. Schmidt, Jr., General Elec. Co. 15 cents by mail.

46-146. Circuit Cushioning of Gas-Filled Grid Control Rectifiers. D. V. Edwards, E. K. Smith, Electrons, Inc. 15 cents by mail.

46-138. Excitation, Control, and Cooling of Ignitron Tubes. C. C. Herskind, E. J. Remscheid, General Elec. Co. 15 cents by mail.

46-140. A 400-Ampere Sealed Ignitron. H. C. Steiner, H. N. Price, General Electric Co. 20 cents by mail.

9:30 a.m.—Air Transportation

46-131. Investigation of Porcelain Insulators at High Altitudes. C. V. Fields, C. L. Cadwell, Westinghouse Elec. Corp. 15 cents by mail.

46-145. Short-Time Current Ratings for Aircraft Wire and Cable. B. W. Jones, J. A. Scott, General Elec. Co. 15 cents by mail.

46-148. A Unique Engine Synchronism-Indicator for Aircraft. D. B. Pearson, General Elec. Co. 15 cents by mail.

46-129. Electronic Control of Frequency Converter Sets for Testing Aircraft Models. G. W. Heumann, W. F. Strong, General Elec. Co. 25 cents by mail.

46-85. Electrical Equipment for Cornell Variable Density Wind Tunnel. C. C. Clymer, M. A. deFerranti, General Elec. Co. Presentation by title. 25 cents by mail.

46-87. Radio-Telemetry for Testing Aircraft in Flight. C. L. Frederick, Cornell Aeronautical Laboratory. Presentation by title. 30 cents by mail.

9:30 a.m.—Conference on Management and Quality Control

This conference is sponsored by the Standards Subcommittee on Applications of Statistical Methods. Several papers will be presented dealing with plant organization for quality control and methods of presenting results to management. Several outstanding executives will also discuss quality control from the point of view of management.

CP.* Statistical Quality Control—A Tool of Management. T. D. Foy, General Electric Company.

ACO.†: Advance copies only available; not intended for publication in "Transactions."

CP*.: Conference paper; no advance copies are available; not intended for publication in "Transactions."

Issued by

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS
33 West 39th Street, New York 18, N. Y.

PRINTED IN U.S.A.