

# American Institute of Electrical Engineers

1884



1932

## FORTY-EIGHTH ANNUAL SUMMER CONVENTION

CLEVELAND, OHIO

JUNE 20th to 24th, 1932



*Aerial Surveys, Inc.*

◆ **S**ITUATED on the shores of Lake Erie, the "Forest City" is regularly host to many conventions and the focal point for thousands of tourists every year. Readily accessible by rail, water, air and broad paved highways, Cleveland offers an ideal vacation climate as well as facilities for all kinds of sports and recreation. As host to the American Institute of Electrical Engineers, Cleveland is the center of many industrial developments of particular interest at this time. ◆



## GENERAL INFORMATION

*Eastern Standard Time throughout*

For the forty-eighth Annual Summer Convention of the A. I. E. E. to be held at Cleveland, Ohio, June 20-24, 1932, the Cleveland National Convention Committee has planned a program of entertainment, inspection trips and recreation supplementing the excellent technical sessions, which should cause this convention to be attractive as a vacation trip as well as of benefit professionally. Convention headquarters will be at the Hotel Cleveland on the Public Square.



*Terminal Tower and Hotel Cleveland*

Technical sessions of more than average interest have been scheduled for the Cleveland Convention. Beginning with the regular business meeting on Monday morning and running through each morning until Friday, the sessions will cover the following general phases of the industry: education, power generation, electrochemistry, electrometallurgy, research, electrical machinery, communications, selected subjects, protective devices, automatic stations and a symposium on conductor vibrations. In addition, the regular annual reports of the Technical Committees will be presented in brief, reviewing the year's progress in the industry.

With the increasing necessity of keeping abreast of the times in all matters pertaining to the electrical industry, every member is sure to find for himself something of unusual importance presented in the program of technical papers herein set forth.

Presentation of the Lamme Medal, awarded to Giuseppe Faccioli, will also be made at this time.

Particular general interest even beyond the confines of the Institute is being centered on the very popular subject of Education which is to be covered in a paper by Dr. Wm. E. Wickenden, President of Case School of Applied Science. In order to permit all to participate in this session, the three parallel meetings on Tuesday morning will not begin until the conclusion of Dr. Wickenden's address.

### REGISTRATION

Each member should register in advance by using the enclosed post card, thus enabling the necessary advance preparations. There is no registration fee for attendance at the convention.

Registration for the various sports should also be made in advance on the post card enclosed for that purpose.

No charge will be made for the entertainment program in which ladies only participate, but in connection with the other entertainment features there will be a charge of \$5.00 per person. This will include all transportation for inspection trips, Tuesday's boat trip, Wednesday's trip to Akron (including dinner), and Barberton, Thursday's sports program, dinner and evening party, and Friday's afternoon drive.

### HOTELS

Reservations for hotel accommodations should be made by writing direct to the hotel preferred. All hotels noted are within five minutes' walk of Convention headquarters. Hotel rates for rooms with bath, European plan—

Hotel	Single	Double	Rooms
Cleveland . . . . .	\$3.00-\$ 8.00	\$4.50-\$10.00	1000
(headquarters)			
Hollenden . . . . .	3.00- 5.00	5.00- 9.00	1050
Statler . . . . .	3.50- 10.00	5.50- 10.00	1300
Carter . . . . .	2.50- 4.00	4.00- 5.50	525
(formerly Winton)			
Allerton . . . . .	1.50- 3.00	2.50- 4.00	550
Auditorium . . . . .	2.00- 3.00	3.50- 5.00	300
Olmstead . . . . .	2.00- 3.00	4.00- 6.00	300

### RAILROAD RATES

Reduced railroad rates on the certificate plan will be available for those attending the meeting. However, where summer tourist round trip fares apply, they are still lower.

By the certificate plan the round trip will cost only one and a half times the one way fare, provided 100 certificates are deposited at the Convention headquarters. These certificates must be obtained when visitors purchase their one way tickets to Cleveland. Members of families are also entitled to obtain certificates. After 100 certificates have been deposited and the certificates have been validated, return tickets over the same route may be purchased for half the usual rate. There are certain restrictions regarding purchase dates, travel dates, etc., and local ticket agents should be consulted in every case.

Everyone traveling by train to Cleveland should get a certificate whether he will use it or not. Failure to do so may deprive others of considerable saving. The form accompanying this announcement may be presented to a local ticket agent to make it easier to obtain a certificate.

### TECHNICAL SESSIONS

All technical sessions and the opening of the convention will be held at the Hotel Cleveland. All events are scheduled in *Eastern Standard Time*. Abstracts of papers to be presented at the sessions are scheduled for publication in the June 1932 issue of *ELECTRICAL ENGINEERING*.



TECHNICAL SESSIONS

RULES ON PRESENTING AND DISCUSSING PAPERS

At the technical sessions papers will be presented in abstract, ten minutes being allowed for each paper unless otherwise arranged, or the presiding officer meets with the authors preceding the session to arrange the order of presentation and allotment of time for papers and discussion.

Any member is free to discuss any paper when the meeting is thrown open for general discussion. Usually five minutes are allowed each discussor. When a member signifies a desire to discuss papers on other subjects or groups, he shall be permitted a five-minute period for each subject or group.

It is preferable that a member who wishes to discuss a paper give his name beforehand to the presiding officer of the session at which the paper is to be presented. Copies of discussion prepared in advance should be left with the presiding officer. Each discussor is to step to the front of the room and announce, so that all may hear, his name and professional affiliations. Discussions at the technical sessions are not reported. To be considered for publication, discussions should be written and mailed to the A. I. E. E., Editorial Department, 33 West 39th Street, New York, N. Y., on or before July 8, 1932.



MONDAY, JUNE 20th

9:00 A. M. Registration

10:00 A. M. Opening Session

- Annual business meeting of the Institute.
- Annual report of the board of directors (in abstract).
- Report of tellers committee on election of officers; introduction of and response from president-elect.
- Presentation of prizes for papers.
- Lamme Medal presentation.
- President's address, by C. E. Skinner.

2:00 P. M. Conference of Officers, Delegates and Members



TUESDAY, JUNE 21st

9:30 A. M. Special Session

Address on Education—W. E. Wickenden, president, Case School of Applied Science.

10:15 A. M. (A) Education

The Engineering Subjects, Electrical and Cognate, in the Four-Year College Program of Electrical Engineering—A. H. Lovell, University of Michigan.

Educational Aspects of Engineering and Management—R. E. Doherty, Yale University.

†\*Adult Technical Education in Metropolitan Areas—O. W. Eshbach, American Telephone & Telegraph Co.

\* These papers are under consideration for presentation at the summer convention, but up to date of going to press have not been officially placed upon the program.

† These papers will not be published in the Transactions or in advance form by the Institute but copies may be made available by the respective authors.

10:15 A. M. (B) Symposium on Combined Aspects of Reliability and Economy in the Operation of Large Electric Systems

Philadelphia Electric Company's System—J. W. Anderson and Herbert Astrada, Philadelphia Electric Co.

The Detroit Edison Company's System—A. P. Fugill, Detroit Edison Co.

The Edison Electric Illuminating Company of Boston's System—R. E. Dillon, The Edison Electric Illuminating Company of Boston.

Chicago District—L. L. Perry and F. V. Smith, Sargent & Lundy, Inc.

10:15 A. M. (C) Electrochemistry — Electrometallurgy and Research

\*Electrical Equipment for Precipitation Service—H. Speight, Westinghouse Electric & Mfg. Co., and V. G. Rydberg, Westinghouse Lamp Co.

\*Oxide Coatings on Aluminum—J. D. Edwards, Martin Tosterud and H. K. Work, Aluminum Company of America.

\*Calculation of Inductance and Current Distribution in Low Voltage Connections to Electric Furnaces—C. C. Levy, Westinghouse Electric & Mfg. Co.

\*New Applications of Non-Linear Circuits to Relay and Control Problems—C. G. Suits, General Electric Co.

2:00 P. M. Conference of Officers, Delegates and Members (Cont.)



WEDNESDAY, JUNE 22nd

9:30 A. M. (D) Electrical Machinery

The Coordination of Transformer Insulation with Line Insulation—V. M. Montsinger, General Electric Co., and W. M. Dann, Westinghouse Electric & Mfg. Co.

\*Coordination of Distribution Transformers—E. D. Treanor and W. H. Cooney, General Electric Co.

\*Load Ratio Control Circuits—L. F. Blume, General Electric Co.

Influence of Brush Contact Drop on Commutation—L. R. Ludwig and R. M. Baker, Westinghouse Electric & Mfg. Co.

Single-Phase Short-Circuit Torques of Synchronous Machines—C. A. Nickle and M. L. Henderson, General Electric Co., and C. A. Pierce, Worcester Polytechnic Institute.

†Transient Analysis of A-C Machinery II, Extension to Salient-Pole Machines—Yu H. Ku, University of Chekiang.

9:30 A. M. (E) Communication

Wire Communication Aids to Air Transportation—H. H. Nance, American Telephone & Telegraph Co.

\*Characteristics of Electromagnetic Radiation from Aircraft in Flight—J. C. Coe and T. C. Rives, Signal Corps, War Department.

Vertical Sound Records—H. A. Frederick and H. C. Harrison, Bell Telephone Laboratories, Inc.



THURSDAY, JUNE 23rd

9:30 A. M. (F) Selected Subjects and Technical Committee Reports

\*Adequate Wiring of Buildings, An Essential for Good Illumination—G. H. Stickney and Walter Sturrock, General Electric Co.

\*Induction Motor Versatility; The Nature of Its Applications—E. W. Henderson, The Reliance Electric & Engineering Co.

Dynamic Braking of Synchronous Machines—E. E. Kilbourne and I. A. Terry, General Electric Co.

9:30 A. M. (G) Protective Devices

Application of High Speed Relays—G. W. Gerell, Union Electric Light & Power Co.

A New High Speed Reactance Relay—A. R. van C. Warrington, General Electric Co.

†Relay Operation from Bushing Potential Devices—P. O. Langguth and V. B. Jones, Westinghouse Electric & Mfg. Co.

‡Operation of Relays from Carrier-Current Coupling Capacitors and Capacitance Transformer Bushings—J. E. Clem and R. M. Cordray, General Electric Co.

The Boric Acid Fuse—A. P. Strom and H. L. Rawlins, Westinghouse Electric & Mfg. Co.



FRIDAY, JUNE 24th

9:30 A. M. (H) Automatic Stations

\*The Torque Balance Telemeter—A. J. Johnston, General Electric Co.

\*Developments in Two-Wire Supervisory Systems—J. H. Oliver, General Electric Co.

\*Operating Experience with Supervisory Control on the Reading-Philadelphia Suburban Electrification—J. E. Pastoret, Reading Co.

The Application and Performance of Automatic Equipment at Stations and Substations on the American Gas & Electric Company's System—Philip Sporn, Basil Lanphier and H. E. Turner, American Gas & Electric Co.

9:30 A. M. (I) Symposium on Conductor Vibration

Stress-Strain Studies of Transmission Line Conductors—G. W. Stickney, Aluminum Research Laboratories.

Vibration and Fatigue in Electrical Conductors—A. E. Davison, J. A. Inglis and V. M. Martinoff, Hydro-Electric Power Commission of Ontario.

Vibration of Overhead Transmission Lines—R. A. Monroe and R. L. Templin, Aluminum Co. of America.

Transmission Line Vibration Due to Sleet—J. P. Den Hartog, Westinghouse Electric & Mfg. Co.

Report on Telemetry, Supervisory Control and Attendant Communications Circuits—Joint Report by Committee on Automatic Stations and Committee on Instruments and Measurements.

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1931-1932

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TRIPS AND ENTERTAINMENT

Centrally located as regards a high percentage of the Institute membership, Cleveland should witness one of the most largely attended summer conventions in recent years. Those who arrive by rail, coming into the new Union Terminal, will be immediately under the same roof as the Convention headquarters in the Hotel Cleveland.

Cleveland's large and completely equipped airport sees 50 passenger planes and 27 mail planes entering and leaving daily from all directions. It will doubtless be the point of debarkation or embarkation of many members and their wives. It may be recalled in this connection that the Cleveland Airport, now third greatest in the world, is the scene of the National Air Races annually for a ten-year period. Such a sizeable event has this become that permanent stands have been erected at the Airport for this purpose.

Passenger docks of the principal boat lines, located on the edge of the business district, witness the arrival and departure of day and night boats for Buffalo, Detroit, Port Stanley and all other Great Lake Ports. The lake trip would prove a delightful entree or finale to the convention.

Those who come by auto might enjoy a week of camping out. They will find the Euclid Beach Park Tourist Camp especially inviting, providing all the comforts of home right on the lake shore.

An elaborate and all inclusive program of entertainment and sports has been prepared to occupy every spare moment of the visiting members and their wives. In this connection, it might properly be mentioned that the Ladies Program is in the hands of the lady member of the Cleveland Section, Miss D. C. LaZan.



GOLF AND TENNIS

The many interesting golf events will be played at two of the most beautiful courses in Northern Ohio. At one of the courses—Canterbury Country Club—the Western Open Golf Championship will be played the following week.



Canterbury Country Club



Mayfield Country Club

A new trophy has been provided by Past President R. D. Mershon to take the place of the time-honored Mershon trophy which was permanently won last year, and a new trophy has been given by Past President W. S. Lee. A large number of prizes, including four trophies for an A. I. E. E. District team competition, will be provided by the local Sports Committee.

The tennis events will be played at the University Club Courts, a few minutes' ride from the Convention headquarters.

Return the golf and tennis registration card and the Sports Committee will send you a complete story on the various events and information regarding the golf courses to be played.

Convention guests may visit two of the show spots in downtown Cleveland which, because of their close proximity to the convention hotel, may be visited at odd moments throughout the convention. Immediately adjacent to the hotel is the new Terminal Tower with its Observation Tower 500 feet above the city streets, from which an excellent bird's-eye view of Cleveland and the lake may be obtained. This Observation Tower is open between the hours of 9:00 A. M. and 6:00 P. M. (admission 25c). On the top floor of the Builders Exchange Building (admission free), located on the street immediately in the rear of the Terminal Tower, may be found the Home in the Sky, which represents a model furnished home. Surrounding the Home in the Sky may be found many interesting displays and effects of building materials. This Home in the Sky is open between the hours of 9:30 A. M. and 5:30 P. M.



From the Terminal Tower



## TRIPS AND ENTERTAINMENT

### MONDAY, JUNE 20th

#### 2:00 P. M. (Ladies)

Leaving Convention headquarters at 2:00 P. M., the ladies are to be conducted on a tour to include the Art Museum on University Circle, a drive through the beautiful residential sections of the East Side, concluding with an afternoon tea at Shaker Tavern.



*Cleveland Museum of Art*

#### 2:00 P. M. Inspection Trips (for those interested)

One of the outstanding inspection trips of the week is also scheduled for the opening day, starting at 2:00 P. M. This is a trip on a special train covering the eastern end of the recent electrification of the Union Terminals property, extending many miles east and west of the Terminal.

Some of the items of special interest in this connection will be the new modern shops for servicing the electric locomotives, one of the substations and the intricate controlling system at the Terminal itself.

One optional trip beginning the same hour will take in a direct current automatic substation of the Cleveland Railway Company. Still another will be a substation of the Cleveland Electric Illuminating Company.

#### 8:30 P. M. President's Reception (Everybody)

The President's Reception (informal) will take place Monday evening at the Hotel Cleveland, followed by informal dancing later in the evening.

### TUESDAY, JUNE 21st

#### 9:15 A. M. (Ladies)

Ladies so desiring are invited to play golf on Tuesday morning at Canterbury, leaving Hotel Cleveland at 9:15.

#### 12:00 Noon (Ladies)

The other visiting ladies will leave Hotel Cleveland at 12:00 Noon to join the golf enthusiasts at Canterbury for luncheon and an afternoon of bridge.

#### 2:00 P. M. Inspection Trips (for those interested)

Inspection trips have been arranged for three optional points of interest for Tuesday afternoon, all beginning promptly at 2:00 P. M. One will include the new Ohio Bell Telephone Building and exchange facilities, including certain exchanges now in process of transition from manual to automatic service.



Another will be to the new 20-inch and 72-inch strip mills at the Riverside Works of the Otis Steel Company. *Ohio Bell Telephone Building* These mills represent the latest developments in electrification as applied to strip mills and auxiliaries.

The third trip for Tuesday is one to the generating station of the Cleveland Electric Illuminating Company at Avon.



*East Ninth Street Piers*

#### 8:30 P. M. Boat Trip (Everybody) Busses leave Hotel at 8:00 P. M.

For Tuesday evening the Steamer "Goodtime" has been chartered for the exclusive use of the Convention. The "Goodtime" will leave East 9th Street pier at 8:30 P. M., returning about 11:30 P. M. Music, dancing and cards will be the order of the evening.

### WEDNESDAY, JUNE 22nd

#### 9:30 A. M. (Ladies)

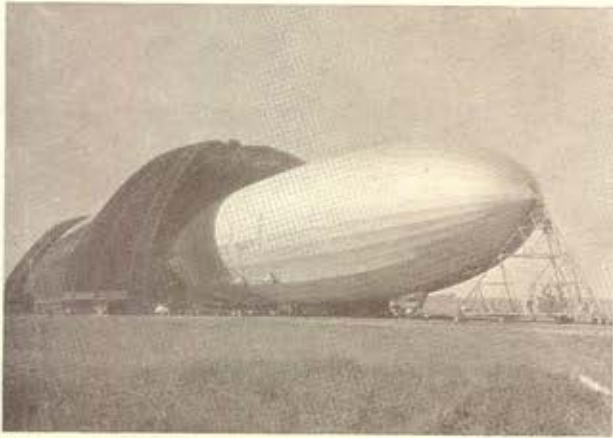
On this morning the ladies are invited to participate in a tour of inspection of Cleveland's newest department store and one of the most modern in the country. This inspection tour will include a visit to a modern Radio Broadcasting Station in operation and will be concluded with a luncheon, moderately priced, during which entertainment of a specially interesting nature has been arranged.



THURSDAY, JUNE 23rd

10:00 A. M. (Ladies)

Inspection trips for the ladies are arranged on this morning to take in any one of several large modern bakeries, there to observe quantity production of breads and pastries as baked daily.



Goodyear Zeppelin Dock

1:30 P. M. Akron-Barberton Trip (Everybody)

A trip of great popular interest will be that to Akron on Wednesday afternoon to visit the hangars of the Goodyear Zeppelin Corporation where the dirigible ZR-5 is in process of construction. The ZR-5 is still larger than its sister ship, the giant dirigible Akron, completed there last year. In addition to the Zeppelin hangar, this trip will include tours of Goodyear or Goodrich rubber manufacturing plant.

6:30 P. M. Dinner at Mayflower Hotel, Akron (Everybody)



Aerial View of Nela Park

2:00 P. M. Nela Park—Sports, Dinner and Old Time Party (Everybody)

An innovation this year will be the substitution on Thursday of an entire afternoon and evening for men, women and children, instead of the usual formal banquet.

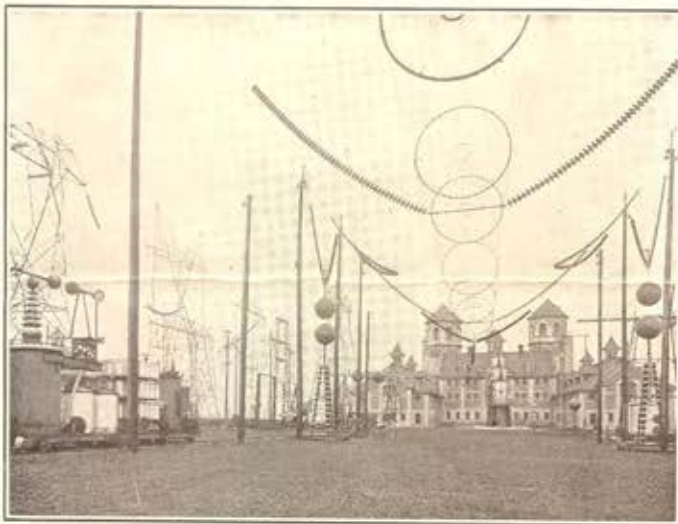
The entire facilities generously donated for the purpose, this day's entertainment is to be staged on the beautiful grounds at Nela Park, the illumination research headquarters of the General Electric Company. The program is made up to include field day events under the direction of the Cleveland City Recreation Department. Baseball, tennis and other recreational events are offered in Nela Park Camp which is set in a beautiful wooded section near Nine Mile Creek.

Inspection trips will be conducted during the afternoon through the General Electric Lighting Institute and other points in Nela Park. The Lighting Institute embodies a great variety of interesting and instructive exhibits in practically every field of illumination, both commercial and domestic, which makes this inspection opportunity attractive to both members and their wives.

6:30 P. M. (Everybody)

Dinner will be served in the Nela Park dining room. It will be followed by the presentation of awards to the winners of the various events scheduled during the week, including the golf and tennis trophies.

The balance of the evening will be devoted to an Old Time Party. Nela Park Camp will be transformed to a Midway for the occasion and attractions of all sorts together with music for dancing in the outdoor pavillion will provide this evening's entertainment.



Outdoor Laboratories of Ohio Brass Co.—Ohio Insulator Div.

7:45 P. M. Leave Akron for Barberton (Everybody)

At 7:45 the party will leave the Mayflower for the Barberton plant and laboratory of the Ohio Brass Company. — Ohio Insulator division. The outdoor laboratories of this company, providing as they do facilities for testing up to a million volts, insure a most enjoyable, instructive exhibition which is equally spectacular and sure to be interesting and entertaining to both members and their wives.



FRIDAY, JUNE 24th

9:30 A. M. (Ladies)

On this closing morning the ladies will leave Hotel Cleveland at 9:30 for a drive through the beautiful Metropolitan Park System of the West Side where there are an unusual number of natural scenic beauties to be observed.

2:00 P. M. (Everybody)

At 2:00 P. M. the entire convention will be conducted on a drive through the East Side, taking in the spacious residential sections, University Circle, the University Hospital Group composing one of the most unique establishments in this country, and Shaker Heights Village. A stop will be made at Severance Hall, the magnificent new home of the Cleveland Symphony Orchestra, where there will be demonstrated the "symphony of light," perhaps the most elaborate system of lighting effects installed to date.

It is the sincere desire of each member of the Cleveland Section that every visitor shall have such a profitable and delightful time during his stay that he may leave with renewed vigor and a desire to again visit "The Convention City" at some later date.



Fine Arts Gardens

CLEVELAND CONVENTION COMMITTEE

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