American Institute of Electrical Engineers

Summer Convention

to be held at

TORONTO, CANADA

June 23-27

1930

TORONTO is spread out along the shores of Lake Ontario, which is a link in the great fresh-water chain extending from the Atlantic to the heart of the continent; thus it offers much of interest in connection with inland navigation as well as aquatic sports of all kinds. The city is located within convenient traveling distance of the most densely populated portions of the United States, and many members who have not hitherto visited Toronto will find there much of unusual interest.

Make Reservations Now!

Toronto Skyline—Royal York Hotel in Center
THE
1930 A.I.E.E. Summer Convention
SPLENDID TECHNICAL PROGRAM AND PLEASANT RECREATION
PLANNED FOR THE CONVENTION AT TORONTO, JUNE 23-27:

A n excellent technical program, de-
lightful entertainment features, and
ample facilities for sports have been
arranged for the 1930 Summer Con-
vention, which will be held, with
headquarters in the Royal York Hotel at To-
ronto, Canada, June 23-27.

A selection of excellent technical papers cover-
ing various phases of the electrical industry has
been made from a wealth of material. This mate-
rial will be presented in eight technical sessions.

Two of these sessions will be symposiums; one
under the auspices of the Protective Devices
Committee on Transmission Line Relays, the
other under the joint auspices of the Electrical
Machinery and Transmission Committees on Co-
ordination of Line, Station, and Apparatus In-
sulation.

A few of the subjects are: the 220-kv. system
of the Hydro-Electric Power Commission; verti-
cal shaft, 25,000-kv-a., synchronous condensers;
hydro-power practise in central Europe; control
systems for oil and gasoline electric locomotives;
a 1000-kw. automatic rectifier; and centralized
control of system operation.

The annual reports of the Technical Commit-
tees of the Institute will review the advances in
theory and practise throughout the year.

The business side of the Convention will in-
clude the Annual Meeting of the Institute, a re-
port of the Committee of Tellers on election of
officers for 1930-1931, and a report on Constitu-
tional Amendments, the President's Address and
presentation of prizes for papers.

The Conference of Officers, Delegates, and
Members, under the auspices of the Sections Com-
mittee and Committee on Student Branches, con-
stitutes an important feature of the convention.

The Lamme Medal, awarded several months
ago, will be presented to Mr. R. E. Hellmund,
East Pittsburgh, Pa., "for his contributions to the
design and development of rotating machinery."

On Wednesday there will be a Directors' Lun-
cheon and meeting.

The program being prepared should leave
nothing to be desired, both from the standpoint
of professional benefit and of general social enjoy-
ment. The Meetings and Papers Committee have
prepared a schedule of papers covering a wide di-
sersity of interest, the local Convention Commit-
tee has arranged a series of events which will pro-
vide interest and pleasure for all available time
throughout the entire Convention. Particularly
should it be noted that the following program
calls for the Convention to get into full swing on
Monday morning; members are urged to arrive
early and register promptly.
Monday, June 23

9:00 a.m.  Registration
10:30 a.m.  Annual Business Meeting of the Institute
            Address of Welcome
            Annual Report of Board of Directors (in abstract),
            F. L. HUTCHINSON, National Secretary
            Report of Tellers' Committee on
            (a)  Election of Officers; Introduction of and
                 response from President-Elect
            (b)  Constitutional Amendments
            Presentation of Prizes for Papers
            Presidential Address, HAROLD B. SMITH
2:00 p.m.  Conference of Officers, Delegates, and Members
            Qualifying Round for Mershon Trophy
            Tennis
            Ladies' Drive about City followed by Afternoon
            Tea at Granite Club
4:30 p.m.  Afternoon Tea
9:00 p.m.  President's Reception—dancing

Tuesday, June 24

9:00 a.m.  Registration
9:30 a.m.  Two Technical Sessions: (a) Protective Devices
            (Symposium on Transmission Line Relays);
            (b) Transportation
12:30 p.m.  Section and Branch Delegates' Luncheon
2:00 p.m.  Conference of Officers, Delegates, and Members
            —continued
            Trips as scheduled
            Sports as scheduled—First Round for Mershon
            Trophy
            Ladies' Trip across Harbor to Luncheon and
            Bridge at Royal Canadian Yacht Club
4:30 p.m.  Afternoon Tea at Royal Canadian Yacht Club
7:00 p.m.  Get-Together Dinner and Entertainment

Wednesday, June 25

9:30 a.m.  Three Technical Sessions; (c) Automatic Stations;
            (d) Selected Subjects and Technical Committee
            Reports; (e) Transmission
12:30 p.m.  Directors' Luncheon and Meeting
            Ladies' Drive to Old Mill for Luncheon, to be fol-
            lowed by Golf on miniature course, or Bridge
2:00 p.m.  Trips as scheduled
            Sports as scheduled—Second Round for Mershon
            Trophy
4:30 p.m.  Afternoon Tea
7:00 p.m.  Convention Banquet
8:15 p.m.  Medal Presentation
9:30 p.m.  Dancing—Cards

Thursday, June 26

9:00 a.m.  Boat leaves for trip to new Welland Canal
            Lunch at St. Catharines
2:00 p.m.  Inspection of Welland Canal
            Trips to Queenston and Niagara Falls
            Finals—Golf and Tennis
9:00 p.m.  Dancing on boat

Friday, June 27

9:30 a.m.  Two Technical Sessions: (f) Electrical Machinery
            and Transmission (Symposium on Coordination
            of Line, Station, and Apparatus Insulation);
            (g) Communication
12:30 p.m.  Luncheon—Presentation of Prizes
2:00 p.m.  Technical Session: (h) Electrical Machinery and
            Power Generation
4:30 p.m.  Afternoon Tea

LADIES' PROGRAM

The ladies are invited to all events, the following being
listed as of special interest to them.

Monday, June 23

10:30 a.m.  Opening of Convention
            President's Address, Harold B. Smith
2:00 p.m.  Drive about City followed by Afternoon Tea at
            Granite Club
9:00 p.m.  President's Reception—dancing

Tuesday, June 24

12:30 p.m.  Drive to Old Mill for Luncheon and Bridge at
            Royal Canadian Yacht Club
7:00 p.m.  Get-Together Dinner and Entertainment

Wednesday, June 25

12:30 p.m.  Drive to Old Mill for Luncheon, to be followed by
            Golf on miniature course, or Bridge
7:00 p.m.  Convention Banquet
8:15 p.m.  Medal Presentation
9:30 p.m.  Dancing—cards

Thursday, June 26

12:30 p.m.  Luncheon—Presentation of Prizes
4:30 p.m.  Afternoon Tea

Other entertainment will be announced at the
convention.

Scene on Weston Golf Course
TECHNICAL SESSIONS

NOTICE — Discussions at the technical sessions will not be taken down by a reporter. Each discussor should prepare or submit his remarks in writing. Discussion received by the Editorial Department by July 10 will be considered for publication.

TUESDAY, JUNE 24
9.30 a.m.—Parallel Sessions A and B

(A) Protective Devices—Symposium on Transmission Line Relays
The Problem of Service Security in Large Transmission Systems
PAUL ACKERMAN
Consulting Electrical Engineer

Transmission System—Relay Protection, No. III
W. W. EDSON
The Edison Electric Illuminating Company of Boston

Modern Requirements for Protective Relays on Important System Interconnections
O. G. TRAVER and L. F. KENNEDY
General Electric Co.

Directional Ground Relays
E. E. GEORGE and R. H. BENNETT
Tennessee Electric Power Co.

High-Speed Protective Relays
L. N. CRITCHON
Westinghouse Electric & Mfg. Co.

(B) Transportation
Electric Power Consumption for Yard Switching
R. H. HATCH
N. Y., N. H. & H. R. R. Co.

Control Systems for Oil and Gasoline Electric Locomotives and Cars
N. L. FREEMAN
Westinghouse Electric & Mfg. Co.

Electric Transmission and Control of Power from Internal Combustion Engines for Transportation
E. T. DODD
General Electric Co.

Auxiliaries for High Voltage Direct-Current Multiple Unit Cars
C. J. AXTEL
General Electric Co.

Auxiliary Circuits for High Voltage D-C Motor Car Equipments
O. K. MARTH and W. A. GIGER
American Brass & Copper Co., Inc.

Railroading Practice and Experience on Electrified Steam Railroads
H. F. BROWN
N. Y., N. H. & H. R. R. Co.

WEDNESDAY, JUNE 25
9.30 a.m.—Parallel Sessions C, D and E

(C) Automatic Stations
An Electron Tube Telemetering System
A. S. FITZGERALD
General Electric Co.

Development of a Two-Wire Supervisory Control System with Remote Metering
R. J. WENSLEY and W. M. DONOVAN
Westinghouse Electric & Mfg. Co.

Centralized Control of System Operation
T. T. LAVON
Public Service Electric & Gas Co.

Automatic Power Supply of the Carnegie Steel Company
ROBERT HARRY
Elfince Machine Co.

1000-Kw. Automatic Mercury Arc Rectifier of the Union Railway Company, New York
W. E. GUTZWILLER and OTTO NAEF
American Brass & Copper Co.

Miniature Switchboards
PHILIP SPORN
American Gas & Electric Co.

(D) Selected Subjects and Technical Committee Reports

Rural Line Construction in Ontario
R. E. JONES
Hydro-Electric Power Commission of Ontario

Mutual Impedances of Ground Return Circuits—Some Experimental Studies
H. E. BOWER
American Telephone & Telegraph Co.

National Electric Light Association

Theory and Characteristics of Grid-Controlled Glow and Arc Discharge Tubes
D. D. KNOWLES and S. P. SASHOFF
Westinghouse Electric & Mfg. Co.

Effects of the Magnetic Field on Lichtenberg Figures
C. E. MAGNUSON
University of Washington

A Survey of Room Noise in Telephone Locations
W. J. WILLIAMS
National Electric Light Association

American Telephone & Telegraph Co.

Reports of Technical Committees reviewing the advances in theory and practice throughout the year in various fields of the electrical industry are listed as follows. These reports will not be presented but copies will be available and they may be discussed during this session.

Automatic Stations
F. ZAGBAUM, Chairman

Communication
G. A. KOUNTZ, Chairman

Education
Edward Bennett, Chairman

Electrical Machinery
P. L. AGER, Chairman

Electric Winding
A. M. Godby, Chairman

Electrochemistry and Electroinstallation

Electrophysics
O. E. Bley, Chairman

General Power Applications
J. E. Gasild, Chairman

Instruments and Measurements
E. S. Lee, Chairman

Applications to Iron and Steel Production
M. M. Fowlke, Chairman

Production and Application of Light
G. S. Merrill, Chairman

Applications to Marine Work
W. E. Thoma, Chairman

Applications to Mining Work
Carl Lee, Chairman

Power Generation
T. A. Allner, Chairman

Power Transmission and Distribution
H. R. Woodcock, Chairman

Protective Devices

Transportation
Sidney Withington, Chairman

(E) Transmission

The 220,000-Volt System of the Hydro-Electric Power Commission of Ontario
E. T. J. BRANDON
Hydro-Electric Power Commission of Ontario

The Analysis of Transmission Calculations
T. R. RUBRICK
University of Toronto
TECHNICAL SESSIONS

Recommendations on Balancing Transformer and Line Insulation on Basis of Impulse Voltage Strength
V. M. MONTBINGER
General Electric Co.
W. M. DANN
Westinghouse Electric & Mfg. Co.

Coordination of Insulation as a Design Problem
G. D. FLOYD
Hydro-Electric Power Commission of Ontario

Standards of Insulation and Protection for Transformers
J. A. JOHNSON
Buffalo, Niagara and Eastern Power Corp.
F. S. BUNDY
Niagara, Lewiston & Ontario Power Co.

Essential Factors in the Coordination of Line, Station, and Apparatus Insulation
A. E. SILVER and H. L. MELVIN
Electric Bond and Share Co.

(G) Communication

Long Distance Cable Circuit for Program Transmission
A. B. CLARK
American Telephone & Telegraph Co.
C. W. GREEN
Bell Telephone Laboratories, Inc.

Transmission Characteristics of Open-Wire Telephone Lines
E. J. GREEN
American Telephone & Telegraph Co.

Study of Telephone Line Insulators
L. T. WILSON
American Telephone & Telegraph Co.

General Switching Plan for Telephone Toll Service
H. S. OSBORN
American Telephone & Telegraph Co.

Long Telephone Lines in Canada
J. L. CLARKE
Bell Telephone Company of Canada

Two-Way Television
H. E. IVES
Bell Telephone Laboratories, Inc.

2 p.m.—Session H

(H) Electrical Machinery and Power Generation

Effects of Lightning Voltages on Rotating Machines and Methods of Protecting against Them
P. D. FIELDER and F. FEIG
Westinghouse Electric & Mfg. Co.

(continued on next page)

FRIDAY, JUNE 27

9:30 a.m.—Parallel Sessions F and G

(F) Electrical Machinery and Transmission—Symposium on Coordination of Line, Station, and Apparatus Insulation

Rationalization of Station Insulating Structures with Respect to Insulation of Transmission Lines
C. L. FORTESCUE
Westinghouse Electric & Mfg. Co.

The Effect of Transient Voltages on Dielectrics—IV; Law of Impulse Sparkover and Time Lag
F. W. PEER, JR.
General Electric Co.

Rationalization of Transmission Insulation Strength, II
PHILIP SPURR
American Gas and Electric Co.

Queenston Power House, Hydro-Electric Power Commission of Ontario

Leaside Station—25,000 kv-a. Outdoor Condenser
TECHNICAL SESSIONS—Continued

Effect of Voltage Surges on Rotating Machinery
E. W. BOEHNLE
General Electric Co.

Vertical Shaft 25,000 Kva. Synchronous Condensers
H. A. RICKER, J. R. DUNBAR and R. E. DAY
Canadian Westinghouse Co.

Metal Clad, Gum-Filled Switching Equipment
L. A. GRIEVeS
Canadian Westinghouse Co.

East River Generating Station of the New York Edison Company
C. B. GRADY, W. H. LAWRENCE and
R. H. TAPSCOTT
New York Edison Co.

Hydro Power Practice in Central Europe
A. V. KARNOV
Aluminum Company of America

ENTERTAINMENT

The principal entertainment features are shown in the forego- ing program. It is expected that these events will be outstanding for their respective kinds. In general, the Committee is leaving no stone unturned in its efforts to make this Convention a memorable one.

LADIES—The ladies attending the Convention should have a particularly interesting time, as the Committee has arranged a very attractive program for their entertainment. In addition to the all day trip by boat across Lake Ontario, to view the Welland Canal, there will be two different drives covering points of interest in and about the city. An afternoon of golf has been arranged preceded by luncheon at the Mississauga Golf Club,—there will be a bridge game arranged for those not playing golf.

On another afternoon it has been planned to take the ladies for lunch rides along the lake shore, in the vicinity of the harbor and have tea served afterwards at the Royal Canadian Yacht Club. There will be two dances during the Convention, in the evening.

A large local Committee of ladies will do everything possible to look after the comfort and pleasure of visiting ladies, both individually and collectively.

TRIPS

Welland Canal—The outstanding trip will be an all-day out- ing, crossing Lake Ontario to visit the new Welland Canal, which embraces some features excelling anything hitherto undertaken in canal construction. Those desiring to do so will be able to spend the afternoon at the Queenston Plant of the Hydro- Electric Power Commission or at various power plants at Niagara Falls. Special entertainment features are being arranged in connection with this trip in a way that will ensure a day of general relaxation and enjoyment.

Liaside Station—The Liaside Station of the Hydro-Electric Power Commission on the outskirts of Toronto is Canada's first 220-kv. receiving station. It has many interesting features, including two 25,000-kva. outdoor synchronous condensers.

OTHER POWER STATIONS

Wiltshire—110-kv. Station.
Strachan Ave.—110-kv. Station and Laboratories.

Toronto Hydro-Electric System
Automatic High Power Mercury Arc Rectifier
Railway Station.
Supervisory Control Substations.
Local Dispatching Office in Duncan Street Station.

ELECTRIC MANUFACTURING PLANTS

Davenport Works—Canadian General Electric Co.
Hamilton Works—Canadian Westinghouse Co.
Mount Dennis Plant—Ferranti Electric Limited.

POINTS OF INTEREST

Hillcrest Shops—Toronto Transportation Commission.
Toronto Harbor Development.
University of Toronto Buildings.
Royal Ontario Museum.

There are also many manufacturing plants to which trips will be arranged as desired.

Welland Canal at Lift Bridge
SPORTS

GOLF—The main event for golfers will be the annual tournament for Marshon Trophy, which will be played over the course of the Weston Golf and Country Club.

As it is proposed to present the prizes at the luncheon on Friday, and as the match play in this competition will consume all other available time, it is essential that the qualifying round be completed on Monday. This will mean that guests arriving after Monday will be unable to enter the Marshon Cup competition.

The tournament will consist of a qualification round (handicap medal play) of eighteen holes, followed by match play (handicap).

The six qualifying scores will qualify for the match play rounds, which will be played on Tuesday p.m., Wednesday p.m., and Thursday a.m. and p.m.

Arrangements will be made by the committee so that eligible section delegates, etc., may play their qualifying rounds at any particular time on Monday, so as to avoid missing their scheduled meetings.

The committee are also arranging other events, the details of which will be given out at registration. These events will not be confined to the course of the Weston Golf & Country Club, as arrangements are being made to allow members and registered guests to play over a number of courses in the Toronto vicinity, and all scores will count in these competitions.

It is hoped that the chief among these additional events will be an international team competition for the American Canadian championship of the institute, arrangements for which are now being worked out.

No greens fees will be charged members or registered guests for any play during the Convention, and transportation to and from all courses will be provided.

TENNIS—The annual Marshon Trophy competition in Men's Singles will be played, together with Men's Doubles, and if sufficient entries can be secured, Ladies' Singles and Mixed Doubles will also be arranged.

The courts on which these events will be played will be announced later, but tennis players can be assured that excellent courts (probably clay) will be available for all who wish to use them.

Entries for all these events should be in the hands of the committee not later than Monday afternoon.

HOTELS

The Royal York Hotel, which will constitute convention headquarters, has been operating just about one year. It compares favorably not only in all general particulars with the latest and best of new hotels anywhere, but has a whole floor devoted to special convention rooms. It is in direct communication with the Union Station and overlooks the Harbor and Lake Ontario.

Following is a list of hotels, their rates and distances from the headquarters hotel. Reservations should be made by communicating directly with the hotel selected.

<table>
<thead>
<tr>
<th>Hotel</th>
<th>Single Room Running Water</th>
<th>Single Room with Bath</th>
<th>Double Room without Bath</th>
<th>Double Room with Bath</th>
<th>Distance from Headquarters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Royal York</td>
<td>$50</td>
<td>$60</td>
<td>$80</td>
<td>$90</td>
<td>Headquarters</td>
</tr>
<tr>
<td>King Edward</td>
<td>$40</td>
<td>$50</td>
<td>$60</td>
<td>$70</td>
<td>½ mile</td>
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<tr>
<td>Prince George</td>
<td>$35</td>
<td>$45</td>
<td>$55</td>
<td>$65</td>
<td>3 blocks across street</td>
</tr>
<tr>
<td>Walker House</td>
<td>$40</td>
<td>$50</td>
<td>$60</td>
<td>$70</td>
<td>1 block</td>
</tr>
<tr>
<td>Carl's-Rite</td>
<td>$45</td>
<td>$55</td>
<td>$65</td>
<td>$75</td>
<td>1 mile</td>
</tr>
<tr>
<td>Hotel Waverly</td>
<td>$35</td>
<td>$45</td>
<td>$55</td>
<td>$65</td>
<td>1 mile</td>
</tr>
<tr>
<td>Westminster</td>
<td>$30</td>
<td>$40</td>
<td>$50</td>
<td>$60</td>
<td>¼ mile</td>
</tr>
<tr>
<td>Ford Hotel</td>
<td>$150</td>
<td>$175</td>
<td>$195</td>
<td>$215</td>
<td></td>
</tr>
</tbody>
</table>

F. L. HUTCHINSON, National Secretary

Railroad Rates

It has been ascertained that in nearly all cases the summer tourist rates are lower than those offered by the convention certificate plan. On this account certificate rates are not being arranged and members are advised to purchase summer tourist tickets.
General Convention Committee

C. E. Sisson ................................................................. Chairman
A. H. Hull ................................................................. Vice-Chairman
W. L. Amos ................................................................. Secretary
A. E. Knowlton ............................................................. Meetings and Papers
W. P. Dobson, Local Representative ................................ Meetings and Papers
W. B. Kouwenhoven ....................................................... Sections
W. A. Burke ................................................................. Finance
H. U. Hart ................................................................. Finance
F. R. Ewalt ................................................................. Publicity
A. B. Cooper ............................................................... Entertainment
H. C. Don Carlos .......................................................... Sports
J. F. Neild ................................................................. Transportation
M. B. Hastings ............................................................ Trips
F. F. Ambuhl ............................................................... Hotel and Registration
H. C. Barber ............................................................... Ladies

W. C. Adams .............................. J. A. Johnston
C. V. Christie .............................. H. Milliken
J. L. Clarke ................................................................. J. Morse
J. R. Cowley ............................................................... W. F. McKnight
E. P. Fetherstonhaugh ..................... J. Teasdale

J. B. Woodyatt

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