

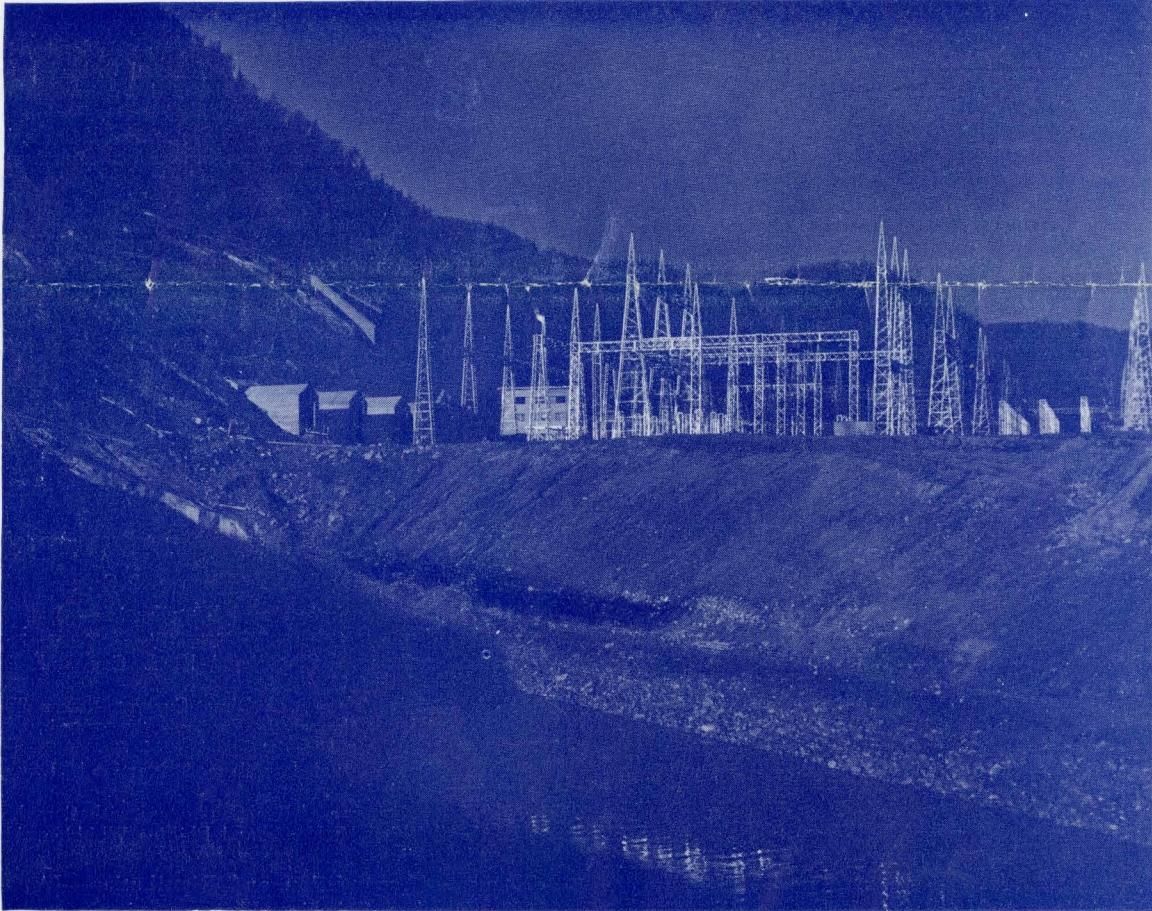


# Summer General Meeting

June 24-28, 1957

MONTREAL, QUEBEC

Headquarters  
Sheraton Mt. Royal Hotel



300,000 volt Switching and Transformer Station for Quebec City and Montreal

Montreal, the Metropolis of Canada, will be the scene of this year's A.I.E.E. SUMMER GENERAL MEETING—June 24-28. Meetings will be held in the Sheraton Mount Royal Hotel.

**HOTEL RESERVATIONS:** A reminder to those who have not yet made their reservations with THE MONTREAL TOURIST AND CONVENTION BUREAU, the lodging agent for this meeting.

It will be difficult, if not impossible, to obtain hotel accommodation if reservations are not received by May 24, 1957. (Reservations should not be sent to the hotel.) Reservations must be sent to: THE MONTREAL TOURIST AND CONVENTION BUREAU, Suite M.30, 1455 Peel Street, Montreal 2, Que., Canada.

**HOSPITALITY:** An informal tea, organized by your Hospitality Committee, will permit you to meet your friends and make new acquaintances. So, if you are in Montreal, make sure not to miss this informal gathering in Salon C.-D.-E. of the Sheraton Mount Royal on Sunday afternoon, from 3:00 to 5:00 p.m.

Monday through Friday—during the Meeting—a buffet-luncheon will be served in the Champlain Room of the Sheraton Mount Royal. Monday's luncheon will feature a guest-speaker.

**SMOKER:** Plan to renew old friendships and make new friends at this Smoker to be held at the Sheraton Mount Royal on Tuesday evening, June 25, 1957. Good food in the form of a cross Canada Buffet offering dishes from The Maritimes to the Prairies, good fellowship and a top variety show will be the features of this highlight event of the Summer General Meeting.

Write for tickets now; accommodation limited. Price: \$12 per ticket. Your requests for tickets should be addressed to: ENTER-

TAINMENT COMMITTEE, c/o R. C. SHORT, ROOM 320, 159 CRAIG STREET WEST, MONTREAL, QUE., CANADA.

All requests should be accompanied by cheques made payable in Canadian Funds to A.I.E.E. Summer General Meeting.

**GOLF TOURNAMENTS:** Delegates are invited to take part in the golf tournaments played on Tuesday, June 25, and Wednesday, June 26. Montreal and region offer tremendous golf facilities. Why not try your luck. June 25 will be used as a qualifying eighteen holes to limit the number of contestants of the June 26 tournament. Arrangements will be made also to permit delegates and their wives to play at other courses. Club privileges will be obtained for those delegates who would like to play tennis. A popular event at every meeting, so make sure not to miss it.

**PRESIDENT'S RECEPTION:** Thursday, June 27, features one of the most important events of the Meeting: the President's Reception, followed by a dinner-dance listed as informal. Orchestration has been prepared for: Square dancing—Polkas—Virginia Reels—Fox-trot—Waltzes—Cha-Cha-Cha, etc. This come as you are party will be the hottest party in town.

**INSPECTION TRIPS:** A program of nine inspection trips has been arranged to allow delegates to become familiar with the engineering work being done in Canada.

June 25, a TCA chartered plane will take 44 delegates to the site of the Bersimis Power Project for a full day inspection tour of the unique mountain-enclosed powerhouse, the gravity-type Desroches and Bersimis dams, the gigantic surge tank, etc. Located on the North

*Continued on page 8*



# AIEE SUMMER GENERAL MEETING

## ADVANCED COPIES OF PAPERS

Members may obtain preprints of numbered papers at the uniform price of 40¢ each (80¢ each to nonmembers), by sending enclosed order form and remittance to the AIEE Order Department, 33 West 39th Street, New York 18, 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 Conference Papers (CP.\*) 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, June 24

### 9:00 a.m.—Radio Communications Systems

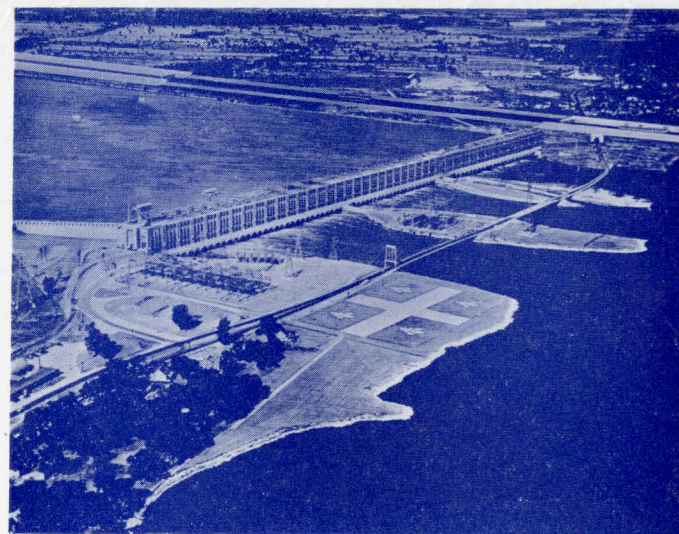
- 57-706. "The Canadian Transcontinental Microwave System," S. Bonnevill, The Bell Telephone Company of Canada.
- CP.\* "Simultaneous Transmission of Television and Telephone Multiplex Over a Single Microwave Channel on the Trans-Canada TD-2 System," U. C. P. Strahlendorf, A. J. Wade and H. E. Curtis.
- 57-707. "Light-Route Microwave Systems in Canada," A. J. Dinnin, The Bell Telephone Company of Canada.
- 57-647. "A Canadian Point of View on Radio Frequency Spectrum Management," C. M. Brant, Department of Transport.
- CP.\* "New Automatic Frequency Control System Suitable for Single Sideband Reception and FM Transmission," L. R. Kahn, Crosby Laboratories, Inc.

### 9:00 a.m.—Suburban Electrification

- CP57-728. "Symposium on Electrification of Railway Commuter Service Part I—Problems Confronting Railway Commuter Service," T. F. Perkinson, General Electric Co.
- CP57-729. "Series Capacitors Applied to Rectifier Motive Power Units," L. J. Hibbard and T. J. Bliss, Westinghouse Electric Corp.
- CP57-730. "Factors Influencing Future Electrification of Railway Commuter Service—Part II," H. F. Brown, Gibbs & Hill, Inc.
- CP.\* Conclusion—J. Stair, Jr., Pennsylvania Railroad.

### 9:00 a.m.—Symposium on Radiation Effects on Dielectrics

- CP.\* "Measurements of Radiation Doses by Absorption and Luminescence Changes in Solids," J. H. Schulman, Naval Research Laboratory.



Hydro-Quebec's Beauharnois Power Plant

- CP.\* "Naval Research Reactor and Nuclear Research Program," E. N. Stirewalt, Naval Research Laboratory.
- CP.\* "The Control System of the Naval Research Reactor," Marvin P. Young and George F. Wall, Naval Research Laboratory.
- CP.\* "Problems Associated with the Irradiation Testing of Transformers at Hi-Temperature," W. R. Langdon, General Electric Co.
- CP.\* "The Effect of Nuclear Irradiation on Small Transformers and Materials at Hi-Temperature," J. C. Fraser, General Electric Co.

### 9:00 a.m.—Magnetic Amplifiers

- 57-765. "The Operation of the Current-Type Self-Balancing Magnetic I Amplifier," A. D. Krall, U. S. Naval Ordnance Laboratory.
- 57-766. "Magnetic Amplifier Analysis and Application Using Block-Diagram Techniques," R. M. Hubbard, Boeing Airplane Co.
- CP57-767. "The Effective Feedback Factor of Self-Balancing Magnetic Amplifiers," W. A. Geyger, U. S. Naval Ordnance Laboratory.
- CP57-768. "The Direct Current Controlled Alternating Voltage Source, A New Magnetic Amplifier," E. W. Manteuffel and R. O. McCary, General Electric Co.
- CP57-769. "Differential Magnetic Multivibrators," C. H. R. Campling, Queen's University.

### 9:00 a.m.—Relays and Power System Communications

- 57-655. "Evaluation of Operating Principles with Microwave Relaying," J. Berdy, H. J. Fiedler, F. C. Krings and A. J. McConnell, General Electric Co.
- 57-650. "An Appraisal of Remote and Local Back-Up Relaying," L. F. Kennedy and A. J. McConnell, General Electric Co.
- CP57-656. "A New Concept in Subtransmission Line Protection," T. G. Brennan and C. G. Dewey, General Electric Co.
- 57-657. "Meeting the Electric Service Requirements of Critical Process Industries," H. L. Deloney and Jack Davey, Louisiana Power & Light Co.
- CP57-658. "Relaying Associated with the Expansion of the Sabine River Works Electrical System," W. A. Hammer and L. C. McGee, E. I. DuPont de Nemours & Co.

### 9:00 a.m.—Transmission and Distribution—I

- 57-633. "Performance Charts for Three-Phase Transmission Circuits Under Balance Operation," K. J. Cox and Edith Clarke, University of Texas.
- 57-630. "Economic Aspects of Direct-Current Power Transmission," J. G. Holm, Consulting Engineer, New York.
- 57-796. "Digital Short Circuit Solution of Power System Networks Including Mutual Impedance," Martin J. Lantz, Bonneville Power Administration.
- 57-797. "Self Inductance of Bus Conductors with Complex Cross Section," Hazen H. House and Phillips Whidden, Aluminum Co. of America.

### 9:00 a.m.—Transmission and Distribution—II

- 57-798. "Capacitor Switching Phenomena in Networks Containing Long Transmission Lines," O. I. Elgerd, University of Florida.
- CP57-799. "Transient Recovery Voltages on Power Systems—Part II—Practical Methods of Determination," S. B. Griscom, D. M. Sauter, H. M. Ellis, Westinghouse Electric Corp.
- 57-800. "Transient Recovery Voltages on Power Systems—Part I—Analysis and Tests of the Ontario Hydro Systems," P. L. Dandeno and W. Watson, The Hydro-Electric Power Commission of Ontario, and J. K. Dillard, Westinghouse Electric Corp.

### 2:00 p.m.—Annual Meeting

1. Report of the President, M. S. Coover.
2. Report of the Board of Directors.
3. Report of the Treasurer, W. J. Barrett
4. Report of the Committee of Tellers on:
  - (a) Votes for Nominees for AIEE offices
  - (b) Proposed Constitutional Amendments
  - (c) Vote on Amending of Certificate of Incorporation
5. (a) Introduction of and presentation of President's badge to W. J. Barrett
  - (b) Response by Mr. Barrett
6. Presentation of the Lamme Medal to Dr. H. H. Beverage, Director of Radio Research Laboratory, Radio Corporation of America
  - (a) The Establishment of the Medal. C. W. Franklin, Chairman, Lamme Medal Committee.
  - (b) The Career of the Medalist. Dr. E. W. Engstrom, Executive Vice President, Radio Corporation of America

# TECHNICAL PROGRAM

- (c) Presentation of the Medal and Certificate by President M. S. Coover
- (d) Response by Dr. Beverage
7. Award of Honorary Membership to Past President Donald A. Quarles, Deputy Secretary of Defense
  8. Other business.

## Tuesday, June 25

### 9:00 a.m.—Section Delegates Conference

#### 9:00 a.m.—Safety

- CP.\* "Hazards in Reactor Operation," R. M. Johnston, Atomic Energy of Canada, Ltd., and D. C. King, CSA Testing Laboratories
- CP.\* "Medical Aspects of Radiation Hazard Control in a Power Reactor Installation," R. M. Taylor, National Cancer Institute of Canada.

#### 9:00 a.m.—Land Transportation

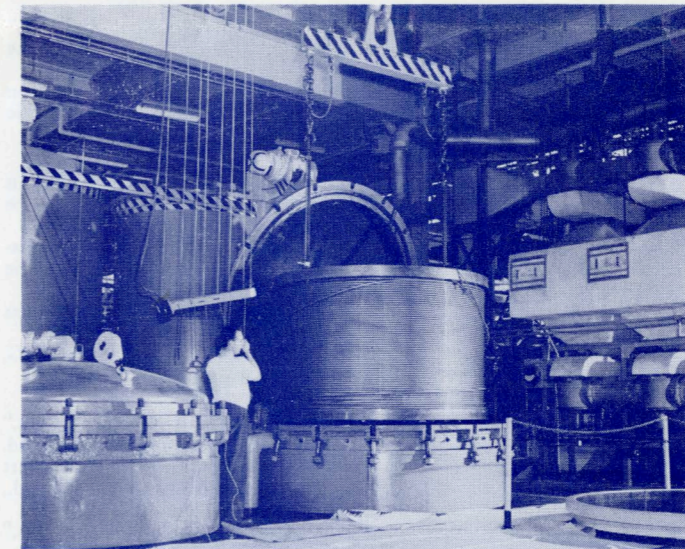
- CP.\* "Description and Maintenance Procedures of Electrical and Air-Conditioning Equipment on Canadian Pacific Railway Company Stainless Steel Passenger Car Equipment," A. E. McGruer, Canadian Pacific Railway Co.
- CP.\* "Rehabilitation of Diesel-Electric Locomotive Electrical Equipment," T. H. Murphy and R. L. Bogardus, Westinghouse Electric Corp.
- CP.\* "A New Void-Free, Class "H" Insulation System for Traction Motor Field Coils," G. L. Moses, Westinghouse Electric Corp., and S. MacBeth, Canadian Westinghouse Co.
- 55-207. "Multiple-Unit Rectifier Motive Power Inductive-Coordination Considerations on the New York, New Haven and Hartford Railroad," L. J. Hibbard, Westinghouse Electric Corp., F. T. Garry, Southern New England Telephone Co., and G. N. Loomis, New York, New Haven and Hartford R.R. Co. (Re-presented for Discussion Only).
- 56-256. "The Lightweight Train—Its Power Supply and Auxiliaries," J. L. Swarner, Pullman-Standard Car Mfg. Co. (Re-presented for Discussion Only).

#### 9:00 a.m.—Symposium on Thermal Evaluation

- CP.\* "The Effect of Temperature and Gamma Radiation on the Mechanical Properties of Some Wire Enamels and a Silicone," E. L. Mincher, General Electric Co.
- CP.\* "Progress Report on the Thermal Evaluation of Varnishes," P. L. Hedrick, Minnesota Mining and Manufacturing Co.
- CP.\* "Procedure for Establishing the Temperature Classification of Enamelled Magnet Wire," J. F. Dexter, Dow Corning Corporation.
- 57-709. "Effect of Wire Metal on the Thermal Life of Enamelled Magnet Wire," J. H. Thomas and J. F. Dexter, Dow Corning Corporation. (Re-presented for Discussion Only).

#### 9:00 a.m.—Telegraph Systems and Data Transmission

- CP57-705. "Loading Coils for Ocean Cables," E. L. Newell, Western Union Telegraph Co.



Northern Electric Wire & Cable Plant

- CP.\* "Experimental Data Transmission—Digital Subset Using Magnetic Tape," J. E. Schwenker, Bell Telephone Laboratories, Inc.
- CP.\* "Error Detection on Five-Level Telegraph Codes," W. B. Blanton, Western Union Telegraph Co.
- CP.\* "Telex—A New Telegraph Service for Canada," by C. J. Colombo, Canadian Pacific Railway Co.
- CP.\* "Telex Connections Between Canada and the United States," by I. S. Coggeshall, Western Union Telegraph Co.

#### 9:00 a.m.—Textile Industry

- CP.\* "Process Instrumentation from Spinning to Finishing," J. C. Langlois, Honeywell Controls, Ltd.
- CP57-713. "Electronic Controls As Applied to Process Instrumentation," A. D. Entwistle, DuPont of Canada, Ltd.
- CP57-714. "Adjustable Frequency Drives," A. T. Bachelor and C. G. Helmick, Westinghouse Electric Corp.
- CP57-715. "D-C Adjustable Speed Drives—A Prelude to Automation," G. Forsberg, Canadian General Electric Co.
- CP.\* "A.C. Commutator Motors and Their Application in the Textile Industry," C. I. Sym-Smith, Brown Boveri Canada Ltd.

#### 9:00 a.m.—Magnetic Amplifiers

- 57-770. "Magnetically Regulated Reference Power Supply," R. A. I. Raber, General Electric Co.
- CP57-771. "A Magnetic Amplifier Voltage Current Overload Protection Circuit," R. J. Distler and C. Sturzenbecker, Bell Telephone Laboratories, Inc.
- 57-772. "Operational Magnetic Amplifiers with Multiple Control Windings," T. Kadota and H. C. Bourne, University of California.
- CP57-649. "Low-Level Magnetic Amplifier Performance at 150°C," C. C. Thompson, General Electric Co.
- CP57-773. "A Fast-Response, Full-Wave Magnetic Amplifier," G. E. Lynn, Westinghouse Electric Corp.

#### 9:00 a.m.—Substations

- CP57-717. "Basic Concepts in the Design of Electrical Bus for Short Circuit Conditions," A. C. Bates, R. & IE Equipment Div. of I-T-E Circuit Breaker Co.
- CP57-718. "Temperature Rise and Joint Resistance Tests of Three-Phase Bus Assemblies of Aluminum and Copper," E. K. Lanctot, Aluminum Company of America.
- 57-719. "Grounding Practices for Direct Current Structures," III version Substation Subcommittee.
- CP57-720. "Station Control Circuitry with Microwave Relaying," B. F. Wirtz, The Cleveland Electric Illuminating Co.
- CP57-721. "Remote Control of Generating Stations Over Radio Channel," R. H. Ferguson and W. W. H. Dean, Canadian Westinghouse Co., Ltd.

#### 2:00 p.m.—Section Delegates Conference

##### 2:00 p.m.—Safety

- CP.\* "Canadian Development in Defibrillation," R. O. Heimbecker, The Banting Institute, University of Toronto.
- CP.\* "The Ground Detector Problem in Hospital Operating Rooms," N. L. Kusters, National Research Council.
- CP57-643. "The Canadian Electrical Codes and Committees," F. R. Whatmough, CSA Testing Laboratories.

##### 2:00 p.m.—Land Transportation

- CP57-699. "Mercury-Arc Rectifiers in Urban Transportation," J. T. Harvey, Toronto Transit Commission.
- CP57-791. "Comparison of Aluminum and Steel Subway Cars," L. W. Bardsley, Toronto Transit Commission.
- CP.\* "Ore Haulage on the Quebec, North Shore, and Labrador Railroad," J. H. Miller, QNS & L Railroad, A talk illustrated with motion pictures.
- CP.\* "Ore Mining Transportation Equipment," William Hendry, Ontario Dept. of Mines.

##### 2:00 p.m.—Symposium on Gaseous Dielectrics

- CP.\* "Time Studies of Corona Discharges," L. A. Bornstein, New York University.
- 57-309. "General Considerations of Toxicity of Gaseous Dielectrics," I David Lester, Yale University. (Re-presented for Discussion Only).
- 57-710. "The Electrical Conductivity of Chlorinated Hydrocarbons," I John Hart and A. G. Mungall, National Research Council of Canada. (Re-presented for Discussion Only).



## 2:00 p.m.—Computing Devices

- CP57-673. "Matrix Analysis of Logical Networks," E. J. Schubert, Westinghouse Elec. Corp.  
 CP.\* "Coded Binary Counters for High-Speed Operation," A. W. Carlson.  
 57-674. "The RCA Bizmac Tapefile," J. A. Brustman, R. E. Montijo and J. M. Uritis, Radio Corporation of America.  
 CP57-675. "Relay Scanning Design Technique Generates High-Accuracy and Speed in Analog-To-Digital Transducer Measurements," A. F. Kay, Non-Linear Systems, Inc.

## 2:00 p.m.—Symposium on Power System Communication Planning

- S. C. Bartlett, American Gas & Electric Service Corp., New York.  
 C. W. Cogburn, Florida Power & Light Co., Miami, Florida.  
 G. E. Farmer, Tennessee Valley Authority, Chattanooga, Tennessee.  
 E. S. Kocsam, Pennsylvania Electric Co., Johnstown, Pennsylvania.  
 K. O. Sten, Boston Edison Company, Boston, Massachusetts.

## 2:00 p.m.—Magnetic Amplifiers

- 57-774. "Magnetic Output Amplifiers for Digital Control," Andrew I. Kernick and H. A. Perkins, Westinghouse Electric Corp.  
 57-775. "High Frequency Magnetic Servo Amplifier for Airborne Control Systems," W. R. Seegmiller, General Electric Co.  
 CP57-776. "Reactions of Bistable B-H Loops on Magnetic Amplifiers," R. E. Morgan, General Electric Co.  
 57-631. "Two-Phase Motor Drive Using Static Frequency Doubler Amplifiers," G. W. Dick, P. P. Biringer and G. R. Slemon, University of Toronto.

## 2:00 p.m.—Textile Industry

- CP.\* "Wire and Cable in the Textile Industry," G. C. Stinson, Northern Electric Co., Ltd.  
 CP.\* "Motor Enclosures for the Textile Industry," C. Bouggy, Reliance Electric & Engineering Co., Ltd.  
 CP.\* "Getting the Most From Your Indicating Electrical Instruments," J. H. Lee, Bepco Canada Ltd.

PANEL DISCUSSION: Maintenance Problems on Electrical Equipment in the Textile Industry.  
 Panel Chairman: J. G. McAllister, Courtaulds Canada Ltd.

## Wednesday, June 26

### 9:00 a.m.—Indicating & Integrating Instruments

- 57-559. "A Self-Balancing Transformer Core Loss Bridge," A. H. I. Foley, General Electric Co.  
 CP57-664. "The Definition and Measurement of the Time Constant and Response Time of Thermal Converters," F. L. Hermach, National Bureau of Standards.  
 57-651. "An Improved Single Phase Watthour Meter," J. G. Landry & I. J. F. Scamman, G. E. Co.  
 CP57-792. "Design of a New Two-Stator Watthour Meter," D. M. Smith, General Electric Co.  
 CP.\* "Electrical Standardization Procedures Abroad," F. K. Harris, National Bureau of Standards.

### 9:00 a.m.—Metallic Rectifiers

- CP57-793. "Silicon Rectifiers in Brushless Machinery," H. W. Henkels, H. R. Camp, J. R. Fortier, W. J. Shilling and R. E. Smith, Westinghouse Electric Corp.  
 CP57-794. "High Frequency Power Rectification Using Silicon Diodes," S. E. Rauch and G. E. Mahaffey, American Machine & Foundry Co.  
 CP.\* "Applications of Semi-Conductor Rectifiers in Electrochemical Industry," R. P. Stratford, General Electric Co.  
 CP57-795. "Failure Rate Studies on Silicon Rectifiers," N. F. Bechtold, Signal Corps Engineering Labs., and C. L. Hanks, Battelle Memorial Institute.  
 CP.\* "Electroplating Power Supply Design Considerations," J. E. Main, General Electric Co.

### 9:00 a.m.—Symposium on Corona Effects of Dielectrics

- CP57-716. "Microameter Equipment for High Voltage D-C Insulation Tests," M. Kurtz and K. D. Robertson, Hydroelectric Power Commission of Ontario.  
 57-711. "The Manometric Test for Internal Corona in Cables and the Autographic Mapping of Corona Spaces," D. W. Kitchin and O. S. Pratt, Simplex Wire and Cable Co.  
 CP.\* "Measurements of the Resistance of Insulating Materials to External Corona in Air," W. T. Starr, General Electric Co.  
 57-690. "Corona Measurement and Interpretation," T. W. Dakin and I. J. N. Lim, Westinghouse Research Laboratory.



Hydro-Quebec's Service Center

### 9:00 a.m.—Communication Switching Systems

- CP.\* "Economic and Engineering Aspects of Telegraph Switching Systems," Albert Jipp, Siemens and Halske.  
 57-808. "Quality Assurance—An Essential Part of the Western Electric I Manufacturing Process," I. O. Karraker, Western Electric Co.  
 57-810. "Dynamic Gaging and Automatic Adjusting of Wire Spring I Relays," John G. Weeks, Western Electric Co.  
 CP57-809. "Subdivision of Telephone Traffic," Inre Molnar, General Telephone Laboratories.  
 CP.\* "Experimental Remote Line Concentrator for No. 5 Crossbar System," A. E. Joel, Bell Telephone Laboratories.

### 9:00 a.m.—Computing Devices

- CP57-676. "Are Motor-Generator Sets Necessary as Buffers for Voltage Transients in Electronic Systems?" J. J. Gano, Massachusetts Institute of Technology.  
 CP57-677. "Cycle and Delay Time Considerations in a Real-Time Digital Computer," Herbert Freeman, Sperry Gyroscope Co.  
 CP57-678. "The Economics of Component Parts Selection," E. F. Fuegel, IBM Corp.  
 CP57-679. "Experiences in Setting Up a Sage Prototype Computer," W. J. Canty, Massachusetts Institute of Technology.

### 9:00 a.m.—Switchgear

- 57-724. "The How and Why of Expulsion Fuse Cutouts," R. A. Wood, III, R & IE Equipment Div. of I-T-E Circuit Breaker Co.  
 CP57-725. "Insulation Phenomena of Compressed Air," L. D. McConnell, Canadian Westinghouse Co., Ltd.  
 57-726. "The Use of SF<sub>6</sub> for High Power Arc Quenching," W. M. Leeds, T. E. Browne, Jr., A. P. Strom, Westinghouse Electric Corp.  
 57-637. "A New 69 KV Dead Tank Compressed Air Circuit Breaker," III J. P. Skillen and D. H. McKeough, Canadian Westinghouse Co., Ltd.  
 CP57-727. "Voltage Recovery Rates Associated With Transmission Line Faults," C. H. Titus and W. F. Skeats, General Electric Co.

### 9:00 a.m.—Insulated Conductors

- 57-652. "Thermal and Mechanical Problems on 138 KV Pipe Cable in III New Jersey," A. S. Brookes and T. E. Starrs, Public Service Electric & Gas Co.  
 57-660. "The Calculation of the Temperature Rise and Load Capability of Cable Systems," J. H. Neher, Philadelphia Electric Co., and M. H. McGrath, General Cable Corp.  
 CP57-731. "1956 National Electric Code—A Review," R. C. Graham and L. H. Selden, Rome Cable Corp.  
 CP.\* "The Stability of Electrical Insulation on Control Cable," G. C. English, R. H. Brown and R. R. Cope.

### 2:00 p.m.—Industrial Power Rectifiers

- CP57-696. "Rectifier Equipment Developed for Industry in Canada," J. J. Dravis and T. A. Carter, Canadian Westinghouse Co., Ltd.  
 CP57-697. "First Canadian Built Pumpless Rectifier," R. H. Stuart and Janos de Warga, Canadian General Electric Co., Ltd., Fred Langvee, Aluminum Co. of Canada Ltd.  
 CP57-698. "Improvements to Ignitron Rectifier Vacuum Auxiliaries," W. G. Clarkson and C. F. Currey, Canadian Westinghouse Co., Ltd.

- 57-700. "Application of a Mechanical Rectifier to a Cyclotron," Jack II Warren, Singmaster & Breyer.

### 2:00 p.m.—Communication Theory

- CP.\* "Human Information—Handling Capabilities," J. C. R. Licklider, Massachusetts Institute of Technology.  
 57-722. "Some Relations Between Television Picture Redundancy and I Bandwidth Requirements," K. H. Powers and H. Staras, Radio Corporation of America.  
 CP57-723. "Statistical Encoding for Text and Picture Communication," W. S. Michel, Bell Telephone Laboratories, Inc.  
 CP.\* "Some Characteristics of the Homo Sapiens Signal Converter, Its Bandwidth and Signal to Noise Ratio," G. C. Sziklai, Westinghouse Electric Corp.  
 57-635. "Information Theory Impact on Modern Communications," I Pierre Mertz, Bell Telephone Laboratories, Inc.

### 2:00 p.m.—Computing Devices

- CP.\* "Combined Analog-Digital Simulation of Sampled Data Systems," H. K. Skramstad, National Bureau of Standards.  
 CP.\* "Simplified Two-Channel Data Link for Real-Time Combined Analog-Digital Simulation," J. L. Greenstein, Astronautics Division of Convair.  
 CP.\* "Acceptance Tests and First Applications of a Combined Analog-Digital Simulation System," G. West, Ramo-Wooldrige Corp.

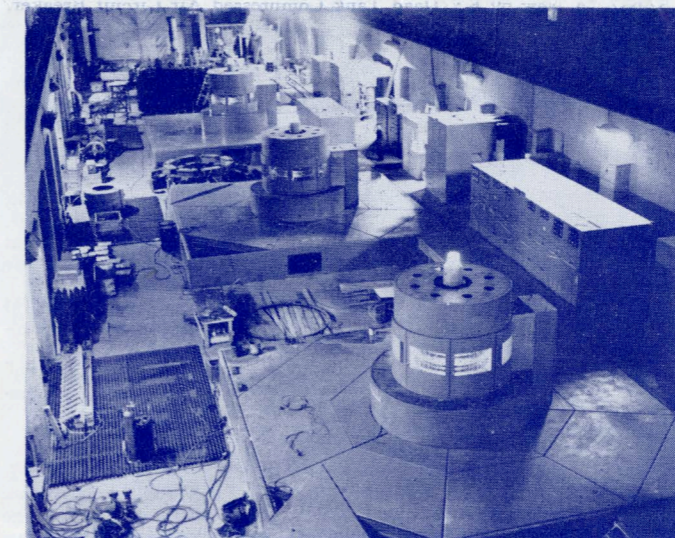
PANEL DISCUSSION: Combined Analog-Digital Simulation. Above three authors as panel members.

### 2:00 p.m.—Switchgear

- CP57-811. Symposium of the Working Group on Calculation of Faults in D-C Circuits  
 "Short Circuit Characteristics of D-C Rotating Machines," H. A. Brust.  
 "Short Circuit Characteristics of Power Rectifiers," W. A. Munson.  
 "Short Circuit Characteristics of Batteries," R. H. Kaufmann.  
 "External Circuit Data," D. C. McClintock.  
 "Summary of Ratings of D-C Interrupters," M. S. Carlson.  
 "Application Guide for D-C Interrupters," H. A. Brust.

### 2:00 p.m.—Feedback Control Systems

- 57-634. "An Analytic Method for Finding the Closed Loop Frequency II Response of Nonlinear Feedback Control System," Katsuhiko Ogata, University of Minnesota.  
 CP57-777. "Dynamic Representation of a Hydraulic Constant Speed Drive," P. E. Smith, Massachusetts Institute of Technology.  
 CP57-778. "Optimizing Control Systems," R. L. Cosgriff and R. A. Emerling, Ohio State Univ.  
 CP57-779. "A Describing Function Representation for the Multiple Nonlinearities of Two Stage Electrohydraulic Control Valves," John Zaborsky, Washington University, and H. J. Harrington, McDonnell Aircraft Corp.  
 CP57-780. "Generalized Charts of the Effects of Nonlinearities in Two Stage Electrohydraulic Control Valves," John Zaborsky, Washington University, and H. J. Harrington, McDonnell Aircraft Corp.



First 3 Generators at Bersimis Power House

- CP57-781. "The Response of a Non-Linear Control System to a Sinusoidal Contaminated by Random Noise," P. N. Nikiforuk, Quebec, P.Q., Canada.

- CP57-782. "Stability and Physical Realizability Considerations in the Synthesis of Multipole Control Systems," Herbert Freeman, Sperry Gyroscope Co.

- 57-605. "Quasi-Optimization of Relay Servos by use of Discontinuous II Damping," W. L. Harris, Jr., C. McDonald, G. J. Thaler, U. S. Naval Postgraduate School, (Re-presented for Discussion Only).

- 57-393. "A New Method for Compensating Contactor Servomechanisms," J. E. Embler, Aluminum Co. of America, C. H. Weaver, University of Tennessee, (Re-presented for Discussion Only).

- 57-388. "Adaptive Servomechanisms," R. F. Drenick and R. A. Shahbender, Radio Corporation of America. (Re-presented for Discussion Only).

### 2:00 p.m.—Insulated Conductors

- 57-732. "Corona Level Scanning of High Voltage Power Cables," F. III H. Gooding and H. B. Slade, The Okonite Co.  
 57-638. "Paper Cable Saturants, European Preferences and Selection III," G. E. Bennett, Dussek Bros. & Co.  
 CP.\* "Improved Cable Insulating Oils," S. C. Bartlett, J. E. Morrow and E. S. Ross.

- CP57-734. "The Development of the Polyethylenes and Their Application to Cables," E. E. McIlveen, The Okonite Co.

- 57-735. "Liquid Thermosetting Resins Applied to Cable Installation III and Maintenance," E. W. Bollmeier, Minnesota Mining & Mfg. Co.

### 2:00 p.m.—Stationary Telemetering

#### 2:00 p.m.—Industrial Power Systems

- 57-639. "Economic Evaluation of Industrial Power System Reliability," W. H. Dickinson, Esso Research & Engineering Co.  
 CP57-640. "Industrial Application of High Frequency Power," V. C. Geckler, New Departure Division General Motors Corporation.  
 CP57-641. "A Report on the Use of D-C Overpotential Testing in Industrial Power Systems," Victor Wouk, Beta Electric, Division of Sorensen & Company, Inc.  
 57-304. "Locating Surge Arrestors and Capacitors for Rotating Machine Protection on Industrial Power Systems," A. H. Knable and D. Dalasta, Allis-Chalmers Mfg. Co.

#### 7:00 p.m.—Feedback Control Systems

SUBJECT: "OBJECTIVES AND TRENDS IN FEEDBACK CONTROL SYSTEMS PROGRESS."

SPEAKERS: DR. GORDON S. BROWN—Head Dept. of Electrical Engineering, Massachusetts Institute of Technology.

DR. DONALD P. ECKMAN—Professor of Instrumentation, Case Institute of Technology.

DR. EUGENE M. GRABBE—Computer Systems Division, Ramo-Wooldrige.

DR. S. W. HERWALD—Manager Air Arm Division, Westinghouse Electric.

ORVILLE E. ORBOM—Manager Instrumentation and Automation, Allegheny Ludlum Steel Corp.

HARRY PALMER—Manager Engineering Specialty Control Dept., General Electric.

MODERATOR: HAROLD CHESTNUT—Control System Engineer, General Engineering Laboratory, General Electric.

## Thursday, June 27

### 9:00 a.m.—Wire Communications

- CP.\* "Canadian Progress in Telephone Communication," C. H. McGuire, Bell Telephone Co. of Canada, Ltd.  
 CP57-783. "Structural and Electrical Coordination in Canada," C. L. Roach, Bell Telephone Co. of Canada, Ltd.  
 57-784. "A Statistical Approach to Telephone Transmission Maintenance," J. B. Pringle and G. Gaudet, Bell Telephone Co. of Canada, Ltd.

### 9:00 a.m.—Computing Devices

- CP.\* "Survey of Information Retrieval Tools Now Available," by Jack Rabinow, Rabinow Engineering Company.  
 CP.\* "The Magnacard Development," by Dr. Ragnar Thorensen, Magnavox Corporation.  
 CP.\* "Status Report on the Rapid Selector," by Philip Ordnung, Yale University, and Thomas Bagg, National Bureau of Standards.



# AIEE SUMMER GENERAL MEETING

CP.\* "A Photographic System for Data Retrieval and Presentation," by Howard R. Ball, Bureau of Ships, Department of the Navy.

## 9:00 a.m.—Applied Mathematics

57-741. "A New Method for Solving Simultaneous Equations by Block Elimination," John L. C. Löf, The University of Connecticut.  
57-742. "A New Application of the Hurwitz-Routh Stability Criteria," I. Theron Usher, Jr., Yale University.

CP.\* "Recurrence Relations in the Solution of a Certain Class of Non-Linear Systems," A. A. Wolf.

57-743. "Design Relationships for Iron-Core Filter Chokes," Theron I. Usher, Jr., Yale University.

57-744. "Temperature Rise of Solid Junctions Under Pulse Load," I. E. J. Diebold, International Rectifier Corp.

## 9:00 a.m.—System Engineering

57-670. "Relay Protection and Control of the 138 KV Underwater Cable Tie Between Vancouver and the B. C. Mainland," S. B. Wilkinson, Canadian Westinghouse Co., Ltd., and A. Rohrmayer, B. C. Engineering Co.

57-671. "Analysis of Simultaneous Line-To-Ground Faults," G. I. Stillman, Public Service Electric & Gas Co.

CP57-672. "Economic Comparison of Switched Capacitors and Voltage Regulators for System Voltage Control," W. S. Ku, Public Service Electric & Gas Co.

## 9:00 a.m.—Insulated Conductors

CP.\* "Dielectric Strength of Cable Insulations," A. H. Shepherd and P. H. Ware.

CP.\* "Aerial Cable Installation Practice and Service Experience," W. A. Thue.

CP.\* "Lightning Performance of Aerial Cables—Field and Laboratory Studies," W. A. Thue and J. M. Clayton.

57-736. "Surge Performance and Protection of Aerial Cable," H. R. III Armstrong and R. T. Curto, The Detroit Edison Co.

57-737. "Surge Performance of Aerial Cable, Part I—Surge Testing of the Aerial Cable and Analysis of the Test Oscillograms," A. J. Schultz, F. C. Van Wormer and A. R. Lee, General Electric Co.

57-738. "Surge Performance of Aerial Cable, Part II—Mathematical Analysis of the Cable Circuits and Synthesis of the Test Oscillograms," F. C. Van Wormer, A. J. Schultz and A. R. Lee, General Electric Co.

CP.\* "The Summary of Questionnaire on Field Experience with Aerial Cable," Report of W. G. on Lightning Protection of Aerial Cable.

## 9:00 a.m.—Management

CP.\* "Economic Implications of Automation," J. J. Brown, Industrial Automation, Ltd.

CP.\* "Human Side of Automation," G. R. Cowan, B. F. Goodrich Co.

## 9:00 a.m.—Industrial Power Systems

CP57-642. "The Tie Between a Utility and an Industrial When the Industrial has Generation," D. V. Fawcett, Canadian Westinghouse Company, Ltd.

CP.\* "Power Distribution at Powell River," O. M. Julson, Powell River Company, Ltd.

CP57-644. "Power Distribution and Protective Features in the Mannesmann Tube Mill," E. J. Bartley, A. Ketvirtis and I. S. Cooper, Foundation of Canada Engrg. Corp., Ltd.

CP57-645. "Equations for the Inductances and Current Distribution of Multiple-Conductor Single-Phase and Polyphase Busses," T. H. Chin, Univ. of Pittsburgh, T. J. Higgins, U. of Wisc.

CP57-646. "Equations for Evaluating Short-Circuit Forces on Multiple-Strap Single-Phase and Polyphase Busses for Supplying Low Frequency Induction Furnaces," T. H. Chin, Univ. of Pittsburgh and T. J. Higgins, Univ. of Wisconsin.

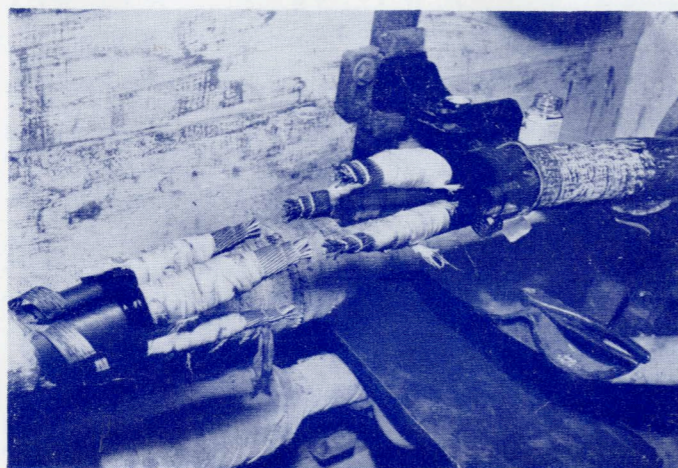
57-767. "A Transient Stability and Voltage Study for a Modern Oil Refinery Distribution System," C. W. Boice, C. F. Braun & Co., S. R. Durand & D. Dalasta, Allis-Chalmers Mfg Co. (Re-presented for discussion only.)

## 2:00 p.m.—Wire Communications

57-785. "The Work of the International Telecommunication Union in the Field of Telephony," W. E. Bloecker, American Telephone & Telegraph Co., and G. A. Caldwell, Bell Telephone Co. of Canada, Ltd.

CP57-786. "A Review of Telephone Development in Western Europe and in Underdeveloped Areas," G. D. Wallenstein, Lenkurt Electric Co.

CP57-787. "A New Method of Frequency Error Correction in Carrier Systems," B. R. Stachiewicz, Stromberg-Carlson Co.



First Canadian Application of Aluminum Underground Power Cables

Kenn Bell Photography

CP57-788. "System Aspects of a Basegroup Transfer-Converter for Interconnecting Different Carrier Systems," Herbert Echevarria, Lenkurt Electric Co.

## 2:00 p.m.—Transformers

57-749. "Current Transformer Error Calculations," N. A. Hills, Moloney Electric Co. of Canada, Ltd.

57-119. "Cascade Potential Transformers," G. Camilli, General Electric Co., H. R. Lucas, Canadian General Electric Co., L. W. Marks and C. H. Tuttle, General Electric Co.

57-750. "Loading of Ventilated Dry-Type Transformers," L. C. Whitman, General Electric Co.

57-117. "Transformer Noise Problem—Performance of Acoustic Treatments and Vibration Isolators," A. T. Edwards, Hydro-Electric Power Commission of Ontario.

CP57-751. "Emergency Loading of Power Transformers," J. B. Hodtun, Allis-Chalmers Mfg. Co.

## 2:00 p.m.—Research

CP.\* "Research in Canada for the Power Industry," B. G. Ballard.

CP.\* "Research Projects of the Electric Utility Industry," H. P. Seelye.

CP57-712. "Progress in Power Apparatus," F. J. Vogel, Allis-Chalmers Manufacturing Co.

CP.\* "Electrical Energy and Extractive Metallurgy," L. M. Pidgeon.

## 2:00 p.m.—Special Instruments & Auxiliary Apparatus

57-648. "Measurement of Voltage Ratio at Audio Frequencies," W. C. I. Sze, National Bureau of Standards.

57-662. "A Fourteen Channel Displacement Measuring Device Utilizing Magnetic and Paper Tape Recording," G. R. Partridge, Raytheon Mfg. Co., J. W. Dunkin, R. L. Anderson and R. C. Geldmacher, Purdue University.

57-353. "The Response of Resistance Voltage Dividers to Steep Front Impulse Waves," A. F. Rohlf, J. S. Kresge and F. A. Fisher, General Electric Co.

CP57-663. "A Voltage-Limited Capacitance Divider," L. L. Alston and J. M. Russell, The Royal Technical College.

## 2:00 p.m.—Computing Devices and Systems Engineering

57-680. "Electric Analog Circuits for Exact Economic Dispatch," R. III Bruce Shipley, Consulting Engineer, Chattanooga, Tennessee.

57-681. "Automatic Calculation of Load Flows," A. F. Glimm, General Electric Co., and G. W. Stagg, American Gas & Electric Service Corp.

57-682. "Nodal Iterative Solution of Power Flow Problem Using IBM 604 Digital Computer," Donald McGillis, Quebec Hydro-Electric Commission.

57-683. "Digital Computation of Induction Motor Transient Stability," J. L. Gabbard and J. E. Rowe, Union Carbide Nuclear Company.

## 2:00 p.m.—Insulated Conductors

57-739. "BPA High Voltage Cable Studies," R. J. Mather, F. J. McCanna, E. Demirjian, Bonneville Power Administration.

57-740. "Past and Present Practice and Experience on High Voltage Underground Cable Systems in France," R. A. Tellier, Electricite de France.

# TECHNICAL PROGRAM

CP.\* "St. Lawrence River High Voltage Submarine Cable Crossing," D. M. Farnham, S. Cunha, G. B. Shanklin and H. D. Short.

## 2:00 p.m.—Power Generation

57-686. "Antifriction Bearings for Kaplan Hubs," G. T. Abernathy, III Newport News Shipbuilding & Dry Dock Co.

57-687. "Vertical Waterwheel Turbine Clearance Adjustment Through the Controlled Deflection of Generator Thrust Bearing Supports," D. K. Venus and C. C. Sargeant, Canadian Westinghouse Co., Ltd.

57-688. "Low Cost Power House Vertical Waterwheel Generators," III D. R. RITCEY AND C. C. SARGEANT, Canadian Westinghouse Co., Ltd.

CP57-689. "The Evolution of the Modern Waterwheel Generator in Canada," G. D. Floyd and H. R. Sills, Canadian General Electric Co., Ltd.

## 2:00 p.m.—Computing Devices

CP.\* "Patent Searching by Punched Card Techniques," by Donald D. Andrews, U. S. Patent Office.

CP.\* "The Application of Information Retrieval Systems to Military Logistics," by Andrew S. Allott, Office of the Chief of Ordnance, Department of the Army.

CP.\* "Mechanized Dictionary for Language Translation," by Gilbert King, International Telemeter Corporation.

CP.\* "Information Retrieval Requirements in the Library Sciences," by Robert E. Bray, Library of Congress.

## Friday, June 28

### 9:00 a.m.—Transformers

57-752. "Extremal Area Effect for Large Area Electrodes for the III Electric Breakdown of Transformer Oil," K. H. Weber and H. S. Endicott, General Electric Co.

CP57-753. "Transformer Oil Preservation," J. R. Meador and N. E. Dillow, General Electric.

CP.\* "An Improved Method of Oil Preservation and Its Effect on Gas Evolution," R. J. Ringlee, W. J. Degnan and G. G. Doucette.

57-636. "Corona Measurements on Oil Insulated Transformers," E. J. III Adolphson and F. J. Vogel, Allis-Chalmers Mfg. Co.

57-754. "The Use of Neutral Current Measurements During Chopped III Wave Impulse Tests on Transformers," G. W. Lengnick and S. L. Foster, Allis-Chalmers Mfg. Co.

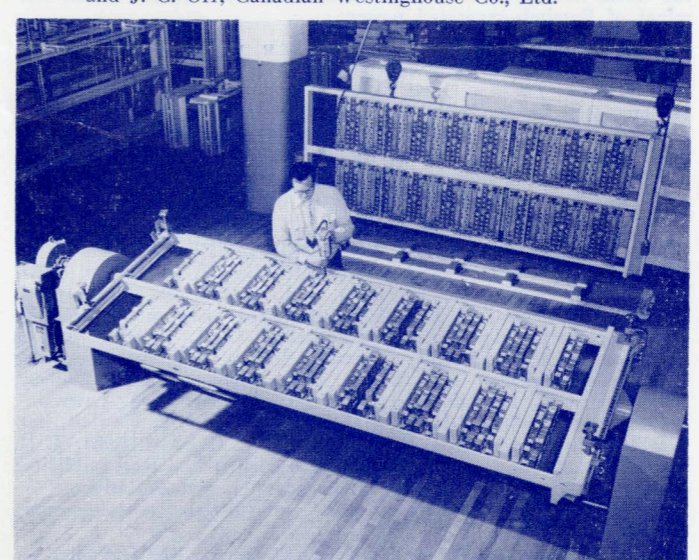
### 9:00 a.m.—Industrial Control

CP57-789. "An All-Electric Automatic Control System for Maximizing Flow Through a Multiple Station Pipeline," B. Ewers, Phillips Petroleum Co., H. B. Rath, Leeds & Northrup Co.

CP57-702. "The Testing of HRC Current Limiting High Voltage Fuses," S. M. Prout, Canadian Controllers Ltd.

CP57-703. "A Digital Flying Extensometer for Temper Rolling Mills," N. S. Wells, The Steel Company of Canada, Ltd.

CP57-704. "Adjustable Speed Control of A.C. Motor Drives for Movable Traffic Bridges," H. J. Crawford, W. D. Duerksen, and J. C. Orr, Canadian Westinghouse Co., Ltd.



Horizontal Assembly of a Toll Crossbar Switching Frame

CP.\* "Adjustable Voltage Travelling Bucket Cranes," E. A. Horsley, Provincial Engrg., Ltd.

## 9:00 a.m.—Rotating Machinery

57-758. "Low Frequency Performance of a Wound Rotor Induction III Motor for Mine Hoist Drives," G. L. Tiley and F. F. Dixon, Canadian Westinghouse Co., Ltd.

57-759. "A Low Frequency Generator and Frequency Changer for A.C. III Mine Hoist Drives," C. W. Elliot, W. Boesel and E. Zucker, Canadian Westinghouse Co., Ltd.

CP57-760. "Analysis of D-C Rotating Machines as Two-Port Networks —I," V. C. Rideout, The University of Wisconsin.

CP57-761. "Analysis of D-C Rotating Machines as Two-Port Networks —II," W. B. Swift, The University of Wisconsin.

## 9:00 a.m.—Computing Devices

CP57-790. "Dynamic Response of Flight Tables," F. T. Nicholson, University of Penna.

CP57-701 "Spectrum Analysis of Random Noise Generators," L. G. Polimerou, CONVAIR.

CP.\* "An Integrated Analog-Digital Technique for Investigation of Dynamic Systems," H. G. Lustig, Boeing Airplane Co.

CP57-661 "The Generation of Functions for Analog Computing," P. E. Stanley, Purdue University.

## 9:00 a.m.—System Engineering & Power Generation

57-691. "A Simplified Basis for Applying Probability Methods to the III Determination of Installed Generating Capacity Requirements," C. W. Watchorn, Pennsylvania Power & Light Co.

57-692. "Use of Probability Methods in the Economic Justification of III Interconnecting Facilities Between Power Systems in South Texas," A. Pat Jones, Central Power & Light Co., A. C. Mierow, Central & South West Operating Committee.

57-693. "Control of Reactive KVA with Modern Amplidyne Voltage III Regulators," A. S. Rubenstein and W. W. Walkley, General Electric Co.

CP.\* "Selecting Criteria for Transient Stability in Power System Planning," B. L. Lloyd and C. A. DeSalvo, Westinghouse Electric Corp.

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# AIEE SUMMER GENERAL MEETING

## 2:00 p.m.—Rotating Machinery

- 57-762. "Predicting Insulation Failures with Direct Voltage," C. M. Foust and B. V. Bhimani, General Electric Co.  
 CP.\* "Insulation Evaluation for Medium Size Machines Using Form-Wound Motorettes," G. L. Moses.  
 57-763. "Permanent Magnet Generators—Part I—Theory," D. J. Hanrahan and D. S. Toffolo, U. S. Naval Research Laboratory.  
 57-764. "A New Device Ensuring Operating Reliability of Large Constant Gap Generators in Underexcited Conditions," Francois Cahen and B. Favez, Electricite de France.

## 2:00 p.m.—Computing Devices

- CP.\* "The Power Control Simulator," R. W. Kettlety, General Electric Co.  
 CP.\* "An Automatic A-C Network Analyzer Load Control Unit," J. J. Gravel, General Electric Co.  
 CP57-684. "Analog Computer Study of the Transient Performance of a Dual Cycle Boiling Water Reactor Nuclear Power Plant," D. W. Leiby, General Electric Co.  
 CP57-685. "A Rolling Mill Analogue for the Study of Nonlinear Problems Associated with Gauge Control," L. R. Hulls and K. R. Canfor, Canadian Westinghouse Co., Ltd.

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

- CP57-802. "Radio Influence Effects of Surface Treatments on Small Conductors," P. D. Tuttle, Aluminum Co. of America, W. E. Pakala, Westinghouse Electric Corp., H. L. Rorden, American Gas & Electric Service Corp.  
 CP57-803. "Radio Influence from Transmission Lines as a Function of Conductor Gradients," W. E. Pakala, Westinghouse Electric Corp., G. D. Lippert, American Gas & Electric Service Corp.  
 57-804. "The Radio Influence Characteristics of Bundle and Single Conductors (Tidd Project)," W. E. Pakala, Westinghouse Electric Corp., G. D. Lippert, American Gas & Electric Service Corp., S. C. Bartlett, American Gas & Electric Service Corp., B. J. Sparlin, Westinghouse Electric Corp.  
 CP57-805. "Two Year Lightning Experience on 345 KV Lines," H. L. Rorden, E. S. Zobel, G. D. Lippert, American Gas & Electric Service Corp.  
 57-806. "Corona Loss Measurements on Bundle Conductors 500-KV Test Project of AG&E," B. L. Lloyd, Westinghouse Electric Corp., Otto Naef, American Gas & Electric Service Corp.

## 2:00 p.m.—Power Generation

- 57-694. "Integration of Hydro and Thermal Power Resources in Alberta," M. M. Williams, Calgary Power Ltd.  
 57-695. "The Bersimis—LAC CASSE 1¼ Million Horsepower Development," H. F. Abbott, Quebec Hydro-Electric Commission.  
 57-653. "The Electrical Features of the St. Lawrence Power Project," John Saloma, Chas. T. Main, Inc.

## 2:00 p.m.—Hagerstown Educational Television Project

- CP57-667. "Pioneering in Televised Education," J. R. Brugger, Board of Education, Hagerstown, Maryland.  
 CP.\* "Establishing and Equipping the Hagerstown Educational Television Project," L. L. Lewis, Radio Corporation of America.

- 57-668. "Closed-Circuit Network for Educational Television," W. C. I. Warman, The Chesapeake & Potomac Telephone Co.  
 CP57-669. "Television Systems for In-School Teaching," M. H. Kraus, Jerrold Electronics Corp.

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

- CP.\* "Corrosion of Tower Footings," C. H. Schoefer, Pennsylvania Power & Light Co.  
 CP.\* "Corrosion of Tower Footings," A. E. Hill, NEPSCO.  
 CP.\* "Underground Corrosion of Anchor Rods and Other Components of Electric Distribution Lines," J. E. O'Brien, REA.  
 CP.\* "Footing Corrosion," Mr. Rawls, Virginia Electric & Power Co.  
 CP57-807. "Galvanized Steel Tower Footing Corrosion Survey," F. W. Farr & R. V. Moorman, Bonneville Power Administration.

### CONTINUED FROM PAGE 1

Shore of the St. Lawrence River some 340 miles from Montreal, this development has an ultimate capacity of 1,200,000 H.P. It is one of the most important hydro-electric projects in the world. The overall time required for the trip will be approximately 15 hours, and the main part of the journey will be made aboard a modern turbo-prop Viscount air liner.

Tickets are limited to 44 persons and are priced at \$50.00, including all expenses. Application for reservations, accompanied by a cheque or money order for the above amount in Canadian Funds, may be addressed to: Mr. R. E. Grout, A.I.E.E. SUMMER GENERAL MEETING—1957, Chairman, Committee for Inspection Trips, c/ The Shawinigan Engineering Co., Ltd., P.O. Box 6072, Montreal, Que.

Also on June 25, two other trips—one in the morning and one in the afternoon. The morning trip will be a tour of Hydro-Quebec's Service Centre to see the MICROWAVE equipment that links Montreal, Charlesbourg and Bersimis. The afternoon trip will be a visit to Lachine, a suburb of Montreal, to see a Hydro-Electric Turbine and Pump Manufacture and also the Test Laboratory.

June 26, a morning trip to Montreal Locomotive Plant—the emphasis will be on Diesel Electric Locomotive Production. Also on June 26, an afternoon trip to the St. Lawrence Seaway, to see the work in the Lachine Section extending to Beauharnois.

Again on June 26, an inspection trip to Beauharnois, some 20 miles from Montreal to visit the Beauharnois Power Development, the main source of electricity for the Metropolis. This visit will also include an inspection of the third and final section of the powerhouse now under construction. Once completed, this third section will increase Beauharnois's production to 2,155,000 horsepower.

On June 27, 75 delegates will have the opportunity to visit the Quebec Iron and Titanium Smelter Plant and the Shawinigan Water and Power Company's 230 kV Terminal Station at St-Joseph de Sorel.

Also on June 27, another inspection trip to Lachine has been organized to visit Northern Electric's Wire and Cable Plant, where the process of manufacturing communication cables will be illustrated.

On June 28, a tour of inspection of a few Hydro-Quebec's substations in the Montreal area, including the new 300 kV Terminal Station at Bout de l'Île where some of the largest transformers in the world have been installed. The Bout de l'Île Station is the terminal of Bersimis-generated power.

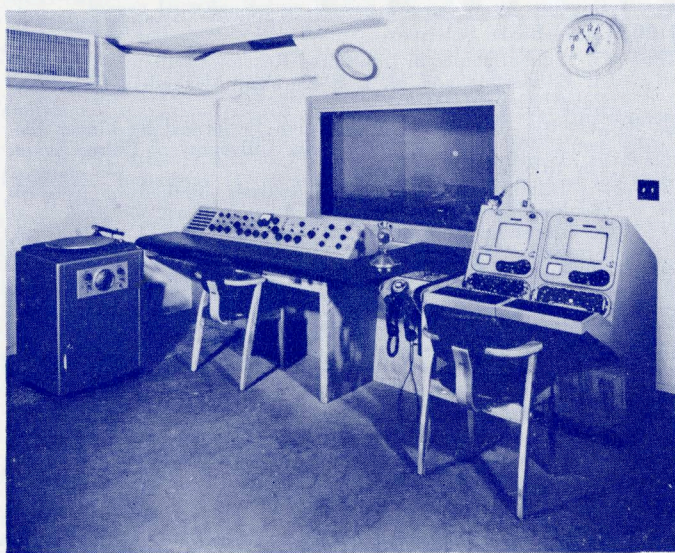
**LADIES ENTERTAINMENT:** The Ladies Entertainment Committee is arranging a series of special events for the 1957 Summer General Meeting. Tuesday, June 25, there will be a special evening at the famous Bellevue Casino. Wednesday, June 26 the ladies will have a chance to visit the Laurentian Mountain resorts by bus; a lunch will be served at the Chanteclerc. On Thursday, June 27, a sight-seeing tour around Montreal. On that occasion the City of Montreal will play host to the ladies and serve tea on Historic St. Helen's Island.

**SUMMER GENERAL MEETING COMMITTEE:** Members of the 1957 Summer General Meeting Committee are: F. L. Lawton, chairman; W. R. Wray, vice-chairman; C. L. Roach, secretary; D. M. Farnham, treasurer; F. L. French, technical program coordinator; H. W. Haberl, entertainment coordinator; C. A. Wright, services coordinator; A. C. Abbott, Montreal Section Representative. The Committee Chairmen are: W. R. Wray, finance; C. E. Wollgar, registration; T. F. Palmquist, meetings and papers; J. Lawrence, W. Schippel, students; H. W. Haberl, smoker; P. W. Howlett, hospitality; Mr. & Mrs. H. H. Remine, ladies; R. C. Short, sport; J. M. Sharpe, social; O. Francoeur, hotels and rooms; Leo Roy, publicity; W. R. Simmons, information; J. D. Sylvester, transportation.

Issued by

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

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