

Fall General Meeting

October 15-20, 1961



DETROIT, MICHIGAN

Headquarters
Statler-Hilton Hotel

SCHEDULE OF LOCALLY SPONSORED EVENTS

Sunday—October 15

- 2:00-6.00 PM—Registration
- 4:00 PM—Welcome Tea

Monday—October 16

- 8:30 AM—Trip to Ford Motor Rouge Plant
- 9:00 AM—Ladies' Coffee Hour
- 2:00 PM—General Session
Speaker: George W. Romney

Tuesday—October 17

- 8:45 AM—Trip to General Motors Technical Center
- 9:00 AM—Ladies' Coffee Hour
- 1:30 PM—Trip to Michigan Bell Telephone Data Processing Center
- 1:45 PM—Ladies' Civic and Cultural Tour
- 6:00 PM—50th Anniversary Dinner-Dance

Wednesday—October 18

- 9:30 AM—Trip to the National Bank of Detroit
- 9:30 AM—Ladies' and Gentlemen's Tours and Luncheon at Greenfield Village
- 1:00 PM—Trip to Enrico Fermi Atomic Power Plant
- 7:00 PM—Trip to International Salt Co. Detroit Mine

Thursday—October 19

- 8:45 AM—Trip to Chrysler Corp. Plymouth Plant
- 9:45 AM—Ladies' Tour to Canada
- 1:15 PM—Trip to Phoenix Memorial Laboratory, University of Michigan
- 1:30 PM—Trip to Detroit General Post Office
- 8:00 PM—Evening Party

Friday—October 20

No social events scheduled.

This year the Fall General Meeting will be held in Detroit, Michigan from October 15 to 20 with headquarters at the Statler-Hilton Hotel. The technical program, inspection trips and social activities will occupy the entire facilities of the Statler-Hilton during the meeting.

The **Michigan Section** extends a hearty welcome to all members, their families and guests. Detroit, being the automotive center of the country, is easily accessible by automobile, Great Lakes boat, rail or air from all parts of the continent.

Fifty-six **technical sessions** have been organized by the sixty-two technical committees in the six divisions of the Technical Operations Department. Seven of these sessions will comprise the Second Annual Symposium on Switching Circuit Theory and Logical Design sponsored by the Computing Devices Committee. (Consult program on page 8.)

The **General Session** will be held Monday afternoon, October 16. In addition to an address by President W. H. Chase the featured speaker will be Mr. George W. Romney, President of American Motors Corporation. Mr. Louis C. Mariani, Mayor of the City of Detroit will extend a hearty welcome to the city.

The **Recognition Awards Committee** has recommended that five awards be presented to three AIEE members and two nonmembers at the General Session. The awards and their recipients are as follows:

MEDAL IN ELECTRICAL ENGINEERING EDUCATION—George F. Corcoran (M '35, F '50), Professor and Chairman of Electrical Engineering, University of Maryland, College Park, Md.

WILLIAM M. HABIRSHAW AWARD—Samuel B. Griscom (M '40, F '48), Advisory Engineer, Electrical Utility Engineering, Westinghouse Electric Corporation, East Pittsburgh, Pa.

MORRIS E. LEEDS AWARD—Theodore A. Rich, Consulting Engineer, General Engineering Laboratories, General Electric Company, Schenectady, New York.

MARVIN J. KELLY AWARD—Harry Nyquist (M '24, F '51), Retired, Bell Telephone Laboratories, Murray Hill, N. J.

DAVID SARNOFF AWARD—Charles H. Townes, Professor of Physics, Columbia University, New York, N. Y.

The **Forum of Technical Committee Chairmen** will be held Wednesday, October 18, 1961 at 7:30 p.m. in the Statler-Hilton Hotel.

HOTEL RESERVATIONS

A large block of rooms has been set aside for your reservation requests at both the Statler-Hilton and Tuller Hotels. The Tuller Hotel is just across the street from the Statler-Hilton. Please use the hotel reservation card which accompanies this announcement. The room rates per day, are as follows:

	STATLER-HILTON, 1539 WASHINGTON BLVD.	TULLER, 521 PARK
Single Bedroom	\$ 7.00-\$13.50	Single Bedroom\$ 5.00-\$12.00
Double Bedroom	13.00- 17.50	Double Bedroom 8.00- 12.00
Twin Bedroom	13.50- 25.00	Twin Bedroom 9.00- 14.00
Suite	25.00- 95.00	Suite 12.00- 30.00
		Room for 3 & 4 12.00- 14.00

INSPECTION TRIPS

Many varied and informative trips have been planned for the AIEE members attending the Fall General Meeting.

The Ford Motor Company, Rouge Plant—Monday, October 16, 1961, 8:30 a.m. to 12:00 noon: The Ford Motor Company's two square-mile industrial complex on the banks of the Rouge River in Dearborn, Michigan, represents the largest concentration of closely-knit, integrated factories owned by one company in America.

Ford's fleet of ore boats bring in nearly 5,000,000 tons of iron ore, coal, limestone and other raw materials every year to serve blast furnaces, steel mills, foundries, pressed steel operations, engine-producing facilities, final assembly and other operations. The Rouge plant generates its own electricity, manufactures its own coke, oxygen and nitrogen for blast furnaces and steel mill operations. Approximate cost of trip—\$2.00.

General Motors Corporation Technical Center—Tuesday, October 17, 1961, 8:45 a.m. to 12:00 noon: The General Motors Technical Center located on a mile square area northeast of Detroit serves as the Corporation's center for the promotion of science, the mechanical arts and styling. The Center has often been described as the location "Where Today Meets Tomorrow." Some 28 buildings of ultra-modern design and equipped with the latest physical facilities serve as the work location for 20,000 technical people engaged in Research, Styling, Engineering and Manufacturing Development of General Motors products. Approximate cost of trip—\$2.00.

Michigan Bell Telephone Data Processing Center—Tuesday, October 17, 1961, 1:30 p.m. to 4:30 p.m.: The Michigan Bell Telephone Company's Data Processing Center—one of the largest such centers in service—includes a solid state 7070 computer which serves as the backbone facility. 1401 "captive" systems "ready" the input and handle the output of this large computer.

Processing products include everyday items such as payroll, customer billing, reports, etc. and "future" items such as the rating of 2,500,000 long distance messages per month for 700,000 customers and the machine assignment of facilities for most customers' service orders in three of Detroit's twenty wire centers. Other wire centers are being added as fast as programming permits. Cost is \$2.00.

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AIEE FALL GENERAL MEETING

The National Bank of Detroit—Wednesday, October 18, 1961, 9:30 a.m. to 12:00 noon: Located adjacent to Detroit's Civic Center is the glittering white marble and stainless steel 14-story structure of contemporary design which is the main office of Michigan's largest bank—the National Bank of Detroit.

Visitors will see many unique electronic features including a monitoring and control console from which one man can control most of the mechanical services of the building including 83 controls, 129 monitoring indicators and 19 alarm signals—almost everything from starting and stopping 54 different motors to air conditioning and pneumatic tube system controls and melting snow on the walks.

Other items of interest include a comprehensive data processing system which prepares statements and performs most of the other routines associated with the millions of checks written by their quarter million checking-account customers. No cost for trip.

Greenfield Village and the Henry Ford Museum—Wednesday, October 18, 1961, 9:30 a.m. to 4:30 p.m.: No planned inspection trip to these interesting facilities is offered. However, transportation is available for a limited number who may wish to avail themselves of this opportunity to go back in electrical history. These facilities are open to the public the year round. Lunch may be purchased on the grounds in the Garden Terrace or nearby at the Dearborn Inn.

Transportation only—Approximate cost—\$2.00.

Enrico Fermi Atomic Power Plant—Wednesday, October 18, 1961, 1:00 p.m. to 5:00 p.m.: The world's largest "breeder-type" power reactor installation, the Enrico Fermi Atomic Power Plant, located on the Lake Erie shoreline just north of Monroe, Michigan, has been under construction since August, 1956, and is scheduled for completion this year.

This atomic power plant will generate 100,000 KW of energy.

The "fast breeder" type characteristic of the atomic plant will enable the production of about 20 per cent more fuel (in the form of plutonium, Pu-239) than is consumed in the form of fissionable uranium, U-235. Approximate cost of trip—\$3.00.

International Salt Company, Detroit Mine—Wednesday, October 18, 1961, 7:00 p.m. to 10:30 p.m.: A large portion of the city of Detroit rests atop one of the greatest concentrations of rock salt anywhere. The salt bed, millions of years old, varies in thickness up to 2000 feet. The Detroit Mine of International Salt Company is located in the southwestern portion of the city extending over an area of 300 acres at a depth of 1137 feet.

The salt is mined in the "Room and Pillar" system, similar to coal mining—that is rooms of salt 50 to 60 feet wide and 22 feet in height are excavated leaving blocks of salt 50 to 60 feet wide to serve as roof supports. This method of mining leaves a checkerboard pattern like the plan of a city. A maze of electric drills, shovels, crushers and conveyors removes the salt to be cleaned, screened and stored.

We are most fortunate to be able to offer this unusual trip. This trip is also limited to men only and is available for just 80 men. Approximate cost of this trip is \$2.00.

Chrysler Corporation, Lynch Road Plymouth Plant—Thursday, October 19, 1961, 8:45 a.m. to 11:30 a.m.: Twenty-eight acres under one roof—this is the Detroit Plymouth Assembly Plant—which represents the largest volume production plant in the automobile industry.

Visitors will see Plymouth automobiles assembled from the frame with Unibody construction, which forms the foundation, through final inspection on an assembly line 18,272 feet long where 737 different operations are performed to build as many as 68 cars per hour.

This plant was modernized in 1960 to meet engineering advance requirements. Today electronics play a major role in scheduling, parts movement and production control—they insure that the right parts and the right colors are available at the right time on the assembly lines.

Approximate cost of this trip is \$2.00.

University of Michigan, Phoenix Memorial Laboratory—Thursday, October 19, 1961, 1:15 p.m. to 5:15 p.m.: Located on the North Campus of the University of Michigan at Ann Arbor, the Phoenix Memorial Laboratory—created as a living memorial to former students killed in World War II—has won international acclaim for its research studies ranging from archaeology to zoology.

Over 167 research studies of considerable scientific imagination have included such fields as physics and medicine, archaeology and engineering, chemistry and law.

The Phoenix Project's Ford Nuclear Reactor, with a power level of one megawatt, is the most powerful reactor associated with any of the nation's educational institutions. "Tracers," "activation analysis," x-rays and many other unique forms of radiation make this reactor a vital and versatile tool for pioneering research and training in the atomic energy field. Approximate cost of trip is \$2.00.

The New Detroit General Post Office—Thursday, October 19, 1961, 1:30 p.m. to 4:30 p.m.: The new Detroit General Post Office, the largest automated post office in the United States, will handle nearly two-thirds of all Michigan mail. This is the "Post Office of Tomorrow" and is of major importance to the nation as well as to Detroit and Michigan, because here are assembled the postal machines of the future. These machines will lead the way for far-reaching postal advancements and improvements which will be extended in varying degrees to virtually every other post office in the country.

Visitors will see and learn about SACK CENTRAL, POUCH CENTRAL, sack sorters handling 6000 mail sacks hourly, parcel sorters handling 20,000 or more parcels per hour, unique machines which "cull" letter mail from other mail collected from street boxes, facer-canceller machines handling over 30,000 letters hourly, memory drums discharging parcels and sacks at the proper destination, etc. Approximate cost of trip is \$1.00.

50TH ANNIVERSARY DINNER-DANCE

The Michigan Section is sponsoring a gala birthday party to celebrate its golden anniversary. It will be a fun-filled event at an unbelievably low bargain price.

The party will be held on Tuesday, October 17th at the Latin Quarter in Detroit. The low price of \$8.50 per person includes a free social hour, a sumptuous smorgasbord famous in Detroit for its beauty as well as its variety of delicious foods, a truly outstanding musical show, followed by dancing to an eleven piece orchestra. Tickets will be sold only by advance payment which must be mailed by October 9, 1961. Get your reservation in now for a choice table location and to ensure you getting a ticket. Attendance will be limited. Tickets will be held in your name and distributed at the AIEE registration desk.

Send your check, made payable to AIEE 1961 Fall General Meeting, to:

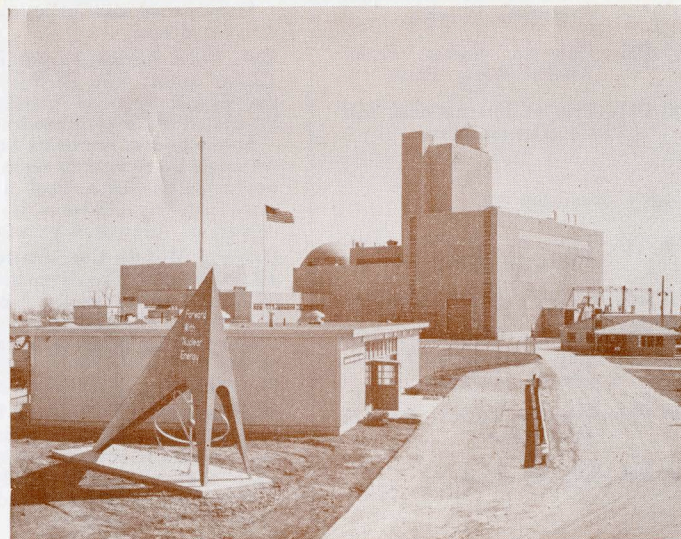
H. R. Williams
The Detroit Edison Company
2000 Second Ave.
Detroit 26, Michigan Room 10 G.O.

Tables seating from 4 to 12 are available and if you wish a complete table, send in your check to cover the size table you desire. Don't put this off and miss a party you will long remember.

THURSDAY EVENING PARTY

Here is something different for you men, your guests and the ladies. For an evening of fun, and just for fun, on Thursday, Oct. 19, starting at 8:00 p.m., you can test your luck at our "Casino," the likes of

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The Enrico Fermi Atomic Power Plant

TECHNICAL PROGRAM

ADVANCE COPIES OF PAPERS

Members may obtain preprints of numbered papers at the uniform price of 50¢ each (\$1.00 each to nonmembers), by sending enclosed order form and remittance to the AIEE Order Department, 345 East 47th Street, New York 17, N. Y. Mail orders (particularly from out-of-town members) are advisable, inasmuch as an adequate supply of each paper at the meeting cannot be assured. Coupon books in \$10 denominations are available to 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 COMMUNICATION AND ELECTRONICS.
- II APPLICATIONS AND INDUSTRY.
- III POWER APPARATUS AND SYSTEMS.



General Motors Technical Center

Monday, October 16

9:00 a.m.—Data Communication

- CP.* Simple Data Transmission Terminals. J. M. Wier, Bell Telephone Labs., Inc.
- CP.* A Multi-Frequency Data Set for Parallel Transmission Up to 20 Characters Per Second. B. R. Saltzberg, R. Sokoler; Bell Telephone Labs., Inc.
- CP.* An FM Data Set for Serial Transmission Up to 1600 Bits Per Second. S. T. Meyers, Bell Telephone Labs, Inc.
- CP.* PM Data Sets for Serial Transmission at 2000 and 2400 Bits Per Second. P. A. Baker, Bell Telephone Labs., Inc.
- CP.* An AM Vestigial Sideband Data Set Using Synchronous Detection for Serial Transmission Up to 3000 Bits Per Second. F. K. Becker, J. R. Davey, B. R. Saltzberg; Bell Telephone Labs., Inc.

- 61-1063. A 1650-Bit Per Second Data System for Use Over the Switched Telephone Network. S. Brand (deceased) formerly with Bell Telephone Labs, Inc. and Lockheed Electronics Corp.; C. W. Carter (retired) formerly with Bell Telephone Labs., Inc. (Re-presented for Discussion only).

- 61-1020. A Buffer Store for Data Transmission. W. E. Baker, F. E. Froehlich; Bell Telephone Labs., Inc. (Re-presented for Discussion only).

9:00 a.m.—Industrial & Commercial Power Systems

- CP.* Problems in Electric Service for a Large Cement Mill. R. F. Bergum, Detroit Edison Co.; J. A. Allan, St. Lawrence Cement Co.
- CP.* Characteristics of Loads in a Cement Plant. R. W. Sittner, General Electric Co.
- 61-1033. Proposed New Breaker Ratings and Their Effect on Application for Industrial Systems. A. H. Knable, Allis-Chalmers Mfg. Co.
- CP61-1047. How to Select Overcurrent Relay Characteristics. D. V. Fawcett, Canadian Westinghouse Co., Ltd.

9:00 a.m.—Transmission & Distribution

- CP61-1062. Bibliography on Wood Pole Transmission Lines. M. Darveniza, W. Wager; University of Queensland.
- 61-1043. Surge Impedance and Its Application to the Lightning Stroke. C. F. Wagner, A. R. Hileman; Westinghouse Electric Corp.
- 61-1036. Use of the A-C Network Analyzer and Electronic Differential Analyzer in the Study of Load-Frequency Control. G. G. Richardson, Bonneville Power Administration; T. C. Wang, Illinois Inst. of Technology.
- 61-1027. Radio Influence Testing on 70 Miles of 345 KV Horizontal III Bundle Conductor. R. E. Graham, C. R. Bond; Ohio Edison Co.

- 61-1037. Pressure Type Connectors for Aluminum and Copper Conductors. N. Shackman, R. W. Thomas; I-T-E Circuit Breaker Co.

9:00 a.m.—Power System Communications

- 61-1011. Proposed Standard for Power System Communications III Apparatus. AIEE Equipment Design Standards Sub. #6 of Power System Communication Com., R. V. Rector, Chairman.
- 61-1010. Report of Methods of Measurements for the Application of III Power Line Carrier. AIEE Methods of Measurements Sub. of the Power System Communications Com., E. S. Kocsan, Chairman.
- CP.* A Static Approach to the Continuous Power Problem. W. D. Modern, J. A. Laukaitis, J. L. Fink, General Electric Co.
- CP.* Carrier Checkback Schemes for Unattended Substations. E. F. Statler, R. M. Reese, Pennsylvania Electric Co.

9:00 a.m.—Adaptive Communications

- CP.* Adaptive Communication Systems. G. S. Glinski, University of Ottawa.
- CP.* Adaptive Digital Communication for a Slowly Varying Channel. G. Lieberman, Radio Corp. of America.
- CP.* A Variable Rate Binary Communication System. N. G. Davies, W. L. Hutton; Canadian Defence Research Telecommunications Establishment.
- CP.* An Adaptive Communication System. C. V. Jakowatz, General Electric Research Lab.

- 61-1050. Coded Feedback Communication Systems. J. J. Metzner, I K. C. Morgan; New York University Research Division (Re-presented for Discussion).
- 61-1096. Modulation and Signal Selection for Digital Data Systems. I R. M. Lerner, Massachusetts Inst. of Technology (Re-presented for Discussion only).
- 61-1097. Binary Codes for Error Control. W. W. Peterson, University of Florida (Re-presented for Discussion only).

9:00 a.m.—Radio Communication Systems

2:00 p.m.—General Session

(See Page One)

Tuesday, October 17

9:00 a.m.—Radiation Effects on Materials

- CP.* Electrical Characteristics of Motional Pickup Transducers Under Combined Neutron and Gamma Irradiation. P. S. Olson, C. G. Collins, General Electric Co.



Michigan Bell Telephone Data Processing Center

- CP.* Mapping of the Gamma Radiation Field of the General Engineering Laboratory 1 MEV Linear Accelerator by Use of Bausch and Lomb Silver Phosphate Glass Microdosimeter Rods. J. R. Coss, R. D. Downing; General Electric Co.
- CP.* Radiation Effects in Thermoelectrics I. The Effects of Ionizing Radiation on Commercial Grade Bismuth Telluride. J. W. Winslow, Jr., U. S. Naval Radiological Defense Laboratory.

9:00 a.m.—Symposium on Effect of Electric Arc Furnace Operation on Power Systems

- CP61-1111. Effects of a Large Copper Melting Arc Furnace on an Electric Utility System. C. S. Crow, W. Saller, Public Service Electric & Gas Co.; F. D. Shaw, American Smelting & Refining Co. (formerly with Central Research Labs.)

9:00 a.m.—T & D Symposium—Line Electrical Features

- CP61-1104 Basic Parameters in Determining the Insulation Requirements of Transmission Lines. J. M. Clayton, Westinghouse Electric Corp.
- CP61-1099. Selection of Single and Bundle Conductors and Accessories for Acceptable Radio Noise Performance. L. O. Barthold, J. Kaminski, J. J. LaForest; General Electric Co.; H. E. House, Aluminum Co. of America.
- 61-1019. Safe Clearances and Protection Against Shocks During Live Line Work. A. Elek, J. W. Simpson; The Hydro-Electric Power Commission of Ontario.
- CP.* Questionnaire—Increasing Voltage of Existing Transmission Lines. R. H. Cumming, New England Power Service Co.

9:00 a.m.—Present Status of Fuel Cell Developments and Applications

- CP.* Fuel Cell Power. J. L. Platner, Allis-Chalmers Mfg. Co.
- CP.* Status of Development and Future Prospects for the Ion-Exchange Membrane Fuel Cell. G. A. Phillips, General Electric Co.
- CP.* Hydrogen-Oxygen Fuel Cell. D. M. Gage, Union Carbide Consumer Products Co.
- CP61-1092. Fuel Cells and Utilities. J. D. Flynn, Cincinnati Gas and Electric Co.

9:00 a.m.—Data Communication

- CP.* Four Phase Data System Evaluation by Digital Computer Simulation. M. A. Rapoport, Bell Telephone Labs., Inc.
- 61-1065. Two Measuring Techniques for the Investigation of Impulse Noise and Drop-Outs On Phone Lines. J. Kelley, J. Mercurio, D. Willard; The Mitre Corp.
- CP.* Use of Orthonomial Functions for Encoding Against Non-Gaussian Noise Ambients. L. A. DeRosa, International Communications Systems.

- CP61-1066. Transistorized 2 x 24 Channel Carrier Telegraph Equipment. K. Takahashi, T. Kishigami, Nippon Telegraph & Telephone Public Corp.; T. Matsuzaki, K. Sakurai, Nippon Electric Co., Ltd.

- 61-1023. Computer Simulation of the Use of Group Codes with Retransmission on a Gilbert Burst Channel. W. R. Cowell, H. O. Burton; Bell Telephone Labs., Inc. (Re-presented for Discussion only).

- 61-1012. Data System Tests Using Simulated Transmission Impairments. F. T. Andrews, Jr., Bell Telephone Labs., Inc. (Re-presented for Discussion only)

2:00 p.m.—Chemical Industry

- Corrosion in Action—International Nickel Co. (Film). Followed by Panel Discussion.

2:00 p.m.—T & D Symposium—Tower Structural Features

- CP61-1108. High Strength Steels for Tower Design. S. A. Wilson, Bethlehem Steel Co.
- CP.* Higher Strength Steels Provide Design Flexibility. J. C. Pohlman, United States Steel Co.
- CP61-1045. A Study of Use of Aluminum Guyed Towers for Extra High Voltage Transmission Systems. L. H. J. Cook, B. Cooper; International Power & Engineering Consultants Ltd.
- CP61-1100. Guyed Mast High Voltage Transmission Structures. H. B. White, Aluminum Co. of Canada, Ltd.
- CP61-1105. Development of Structure and Anchor Designs for Guyed "V" Type Towers. E. S. Zobel, American Electric Power Service Corp.

2:00 p.m.—Magnetohydrodynamic Electric Generation

- CP61-1091. The Direct Generation of Electric Power from a High-Velocity Gas Jet. D. J. Harris, University of Sheffield.
- CP.* MHD Generation in a Central Station Power Plant. T. R. Brogan, Avco-Everett Research Lab.
- CP.* Development of an MHD Generator. S. Way, Westinghouse Electric Corp.

2:00 p.m.—Basic Sciences

- 61-1051. Signal Flow Graph Theory for Linear Time Variable Systems. I E. B. Stear, A. R. Stubberud; University of California.
- 61-1053. Automatic Plotting of Characteristic Curves and Analogue Solution of Algebraic Equations. D. Mitrovic, University of Belgrade.
- CP.* An Analytic Approach to Root Locus. R. A. Walsh, Monsanto Chemical Co.
- CP.* Subarea Determination of the Capacitance of a Square Coplanar Two-Plate Capacitor. B. L. Weinberg; T. J. Higgins, University of Wisconsin.
- CP61-1052. Tunnel Diode Static Inverter. J. M. Marzolf, U. S. Naval Research Lab.

2:00 p.m.—Data Communication and Telegraph Systems

- 61-1029 A New Billing and Collection System Using Teletypewriter Techniques. E. W. Henches, New York Telephone Co.
- CP61-1080. Videograph Communications Equipment. J. J. Stone, Jr., A. B. Dick Co.
- CP.* Evaluation of Data Transmission and Coding on a Large Multiple Terminal Network. L. L. Corbett, M. Gordon, T. S. Stafford; IBM Corp.
- CP.* Recording and Visual Analysis of "Noise" Errors. A. E. Johanson, Bell Telephone Labs., Inc.
- CP.* Some Error Characteristics of a Data Communication System. R. L. Townsend, Bell Telephone Labs., Inc.
- CP.* Operation of a Large Multi-Point Network for Data. J. C. Glenn, Jr., American Tel. & Tel. Co.

Wednesday, October 18

9:00 a.m.—Power Station Control

- 61-1032. Control System Design for Generating Stations. J. G. Noest, III G. S. Storms; Consolidated Edison Co. of New York, Inc.

- CP61-1107. Industrial Control Application in Steam Electric Generating Stations. M. P. Smull; Southern Services, Inc.

- CP.* Procedure for Controlling Power Plant Elec. Systems. R. May; Toledo Edison.

- CP.* Control Power Sources in Electric Generating Stations. R. B. Miller, M. P. Roller; Iowa-Illinois Gas & Electric Co.

9:00 a.m.—T & D Symposium—Tower Foundations

- CP61-1044. Installation of Machine Drilled Caisson Footings in Non-Cohesive Soils. J. C. Engimann, W. J. Fern; Commonwealth Edison Co.
- CP61-1095. Special Transmission Tower Foundations. A. A. Ferlito, A. V. Price; Ebasco Services, Inc.
- CP.* New Types of Footings for Transmission Line Structures. F. W. Farr, A. A. Osipovich, Bonneville Power Administration.
- CP61-1083. The Anchorage of Transmission Tower Foundations. M. Markowsky, N. J. McMurtrie; Hydro-Electric Power Commission of Ontario.

9:00 a.m.—System Operation and Study

- CP61-1054. The Load Flow Problem—Its Formulation and Solution—Part I. A. H. El-Abiad, Purdue University; M. Watson, G. W. Stagg; American Electric Power Service Corp.
- 61-1055. Hydro-Thermal Economic Scheduling: Part IV—A Continuous Procedure for Maximizing the Weighted Output of a Hydro-Electric Generating Station. B. Bernholtz, L. J. Graham; The Hydro-Electric Power Commission of Ontario.
- CP61-1056. Input and Output Techniques for an On-Line Digital Computer. W. G. Beyer, W. B. Schultz, J. W. Hissey, Leeds and Northrup Co.
- CP61-1103. Use and Availability of Outage Records in the Planning of System Generating Plant Additions. H. A. Adler, Commonwealth Edison Co. E. H. Loane, General Public Utilities Corp.

9:00 a.m.—Substations Round Table

9:00 a.m.—Semiconductor Rectifiers

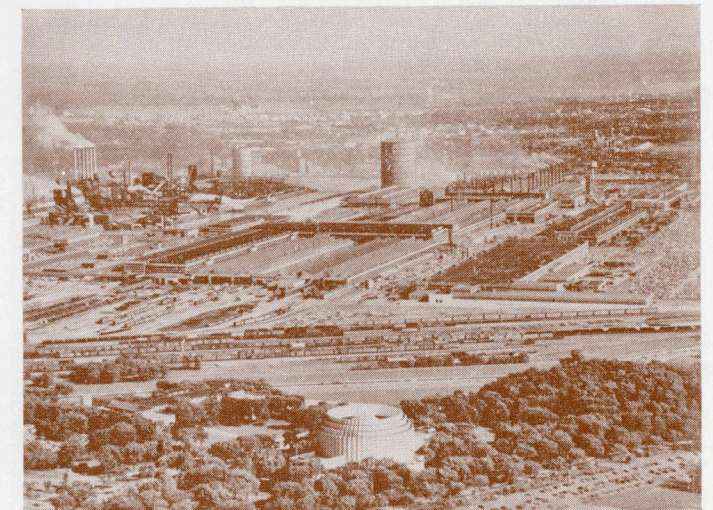
- 61-1076. Definitions for Semiconductor Rectifier Components. AIEE Rectifier Device Group of the Semiconductor Rectifier Com., J. R. Thurell, Chairman.
- CP61-1075. Semiconductor Rectifier Overload Ratings. J. S. Read, E. E. Von Zastrow; General Electric Co.
- CP61-1089. Proposed Test Standards for Semiconductor Rectifier Cells, Rectifier Diodes and Rectifier Stacks. AIEE Rectifier Device Test Group of the Semiconductor Rectifier Com., R. D. Lynch, Chairman.
- CP.* Commutation Voltage Transients in Polyphase Semiconductor Rectifier Circuits. N. A. Forbes, R. C. Whigham; Westinghouse Electric Corp.
- CP.* Design, Production and Quality Requirements of Silicon Rectifier Diodes for Automotive Applications. R. D. Lynch, L. F. Jones; Westinghouse Electric Corp.

9:00 a.m.—Communications Switching I

- CP61-1039. Economics of Exchange Lines Concentrators. J. R. Ker-shaw, Michigan Bell Telephone Co.
- CP61-1040. Traffic Considerations in the Use of Exchange Line Concentrators. W. J. Blyth, Michigan Bell Telephone Co.
- CP61-1041. The New Line Concentrator IA. W. Whitney, Bell Telephone Labs, Inc.
- CP61-1093. Field Experience with a Wire Spring Crossbar Concentrator. R. P. Ebisch, General Telephone Co. of Pennsylvania; J. S. Belcher, Leich Electric Co.
- 61-817. The Relative Merits of Time Division Multiplex Versus Space Division as a Mode of Operation for Electronic Telephone Exchanges. J. G. Pearce, General Dynamics/Electronics (Re-presented for Discussion only).

9:00 a.m.—Wire Communications

- 61-1069. A Tone Disabler for Bell System 1A Echo Suppressors. L. I F. Bugbee, Jr., Bell Telephone Labs., Inc.
- 61-1046. A Stitched Wiring Process for Miniaturized Communications Electronics. J. M. Coffin, L. B. Johnson; Lenkurt Electric Co., Inc.
- CP61-1070. The NX1 Exchange Trunk Carrier System. T. G. Fellows, A. Curran; Northern Electric Co., Ltd.



Ford Motor Company's Rouge Plant

- CP61-1071. The Application of Carrier Systems to Exchange Trunk Plant in Canada. A. Curran, T. G. Fellows; Northern Electric Co., Ltd.
- CP61-1101. Deviation Equalizer for "N" Carrier Lines. M. Aruck, Bell Telephone Labs., Inc.

2:00 p.m.—T & D Symposium—Advanced Line Design

- CP61-1102. Transmission Lines on Restricted Rights of Way. A. H. Anderson, M. Markowsky; Hydro-Electric Power Commission of Ontario.
- CP61-1106. Reconductoring Transmission Lines. J. R. Steiner, Cleveland Electric Illuminating Co.
- CP61-1090. Conductor Vibration—A Study of Field Experience. C. B. Rawlins, K. R. Greathouse, R. E. Larson, Aluminum Co. of America.
- 61-1026. The Importance of Fretting in Vibration Failures of Stranded III Conductors. W. G. Fricke, Jr., C. B. Rawlins; Alcoa Research Labs.

2:00 p.m.—System Planning and Economics

- 61-798. Improving Transient Stability by Use of Dynamic Braking—III Part I. W. H. Croft, R. H. Hartley; Arizona Public Service Co. (Re-presented for Discussion only).
- CP61-1059. Improving Transient Stability by Use of Dynamic Braking—Part II. W. H. Croft, R. H. Hartley; Arizona Public Service Co.
- 61-1025. Determination of an Optimized Generator Expansion Pattern. R. J. Fitzpatrick, J. W. Gallagher, Philadelphia Electric Co.
- CP61-1057. The Break-Even Cost of Peaking Capacity. F. M. Heck, Jr., C. Morrison; The Potomac Edison Co.
- 61-1014. A Further Look At Cost of Losses. C. J. Baldwin, Westinghouse Electric Corp.; C. H. Hoffman, P. H. Jaynes, Public Service Electric & Gas Co.

2:00 p.m.—Induction Machinery

- 61-1094. The Theory of the Induction Machine With Conducting III Sleeve Rotor. E. C. Guilford, University of Washington.
- 61-1013. The Polyphase Induction Motor with Solid Rotor Effects of III Saturation and Finite Length. G. Angst, General Electric Co.
- 61-1038. Generalized Temperature Standards for A-C Motors. C. G. III Veinott, Reliance Electric and Engineering Co.
- CP61-1067. Analogue for Canned Motor Temperature Analysis. G. W. Penney, Carnegie Inst. of Technology; C. I. Thomson; Westinghouse Electric Corp.
- CP61-1030. Application of General Equations of Induced Voltage and Armature Reaction—Part I: Performance of an Induction Machine. H. H. Hwang, Essex College, Assumption University of Windsor.

AIEE FALL GENERAL MEETING

61-221. Transient Torques in 3-Phase Induction Motors During Switching Operations. M. R. Chidambara, S. Ganapathy; Indian Inst. of Science (Re-presented for Discussion only).

2:00 p.m.—Computers

CP.* Production of Large and Variable Size Logic Block Diagrams on a High-Speed Digital Computer. D. A. Aaronson, C. J. Kinnaman; Bell Telephone Labs., Inc.

61-1060. Analog Simulation of Digital Computer Programs. R. Saucedo, Westinghouse Electric Corp.; T. W. Sze, University of Pittsburgh.

CP61-1087. Shaft Multiplication Precision Angle Encoder. D. A. Brouillette, Datex Corp.

2:00 p.m.—Communications Switching II

CP61-1034. An Electronically-Controlled Crossbar Switching System. R. W. S. Kinsey (deceased), formerly with Associated Electrical Industries (Woolwich) Ltd.; J. E. Flood, Associated Electrical Industries (Woolwich) Ltd.

CP61-1109. Traffic Handling Possibilities with a Progressive Marking, Self Pathfinding Solid-State Crosspoint Network. J. Draayer, A. Wachowski; Automatic Electric Labs., Inc.

CP.* Experience with the Morris Electronic Switching System. B. J. Yokelson, G. Haugk; Bell Telephone Labs., Inc.

CP.* Transmission Circuits for a Time Separation Electronic Switching System. H. S. Feder, Bell Telephone Labs., Inc.

CP61-1042. Small Crossbar CDO's. J. W. Gaiser, North Electric Co.

2:00 p.m.—Wire Communications

CP61-1086. Experience and Results Observed with DDD Transmission Design in Interconnection with the DDD Network. D. H. Potter, General Telephone Co. of California.

CP.* A New Transmission Test Set for Exchange Type Trunks. E. H. B. Bartelink, Northeast Electronics Corp.

61-1072. The Level Tracer, An Instrument for Time Saving and Better Measurement in the Speech Band. M. Niedereder, Siemens and Halske AG; B. T. Sanders Jr., Sanders and Associates, Inc.

CP.* An Accurate Voice Frequency Level Calibrating Set for Field Use. W. I. Cochran, Bell Telephone Labs., Inc.

CP.* A Stable 1000-Cycle Tone Generator. J. J. Kokinda, P. J. Kaltenborn; Bell Telephone Labs., Inc.

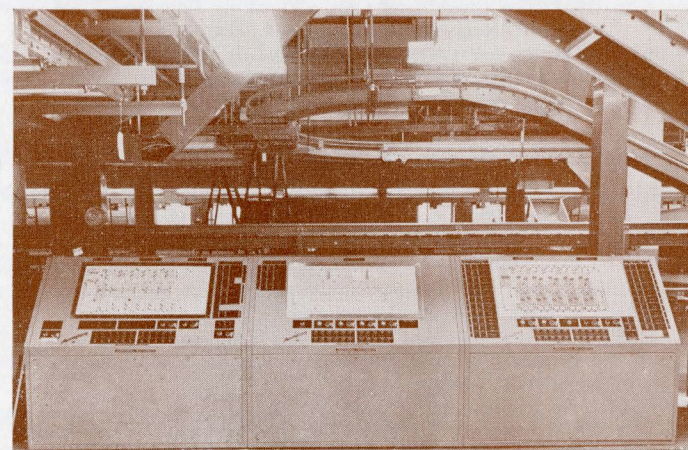
2:00 p.m.—Substations Round Table

Thursday, October 19

9:00 a.m.—Feedback Control Systems

61-1081. Self-Adaptive Systems with Variable-Parameter PID Controller. Y. Kaya, S. Yamamura; University of Tokyo.

CP.* An Exact Analysis of Sampled-Data Systems with Finite Sampling Time. G. W. Howard, Sandia Corp.; T. J. Higgins, University of Wisconsin.



Master Graphic Control Panel at the Detroit Post-Office

9:00 a.m.—New Energy Sources for Electronics I

CP.* Calculation of the Steady-State Performance of a Solar Powered Vacuum Thermionic Generator. D. L. Dresser, D. R. Zimmerman; General Motors Corp.

61-1078. Electrical and Pressure Losses in a Magneto-hydrodynamic Channel Due to End Current Loops. G. W. Sutton, H. Hurwitz, Jr., H. Poritsky; General Electric Co.

CP.* Theoretical and Practical Aspects of Fuel Cells. P. Elving, C. L. Rulff; University of Michigan.

CP.* The Utilization of Hydrocarbons in Fuel Cells. Y. L. Sandler, Westinghouse Research Labs.

9:00 a.m.—Rotating Machinery

CP61-1022. Circuit Analysis of Single-Phase Induction Motor Theories. R. E. Bedford, Indian Institute of Technology.

61-1028. Stability Limits of Synchronous Motors During Power System Disturbances. L. Hannakam, Allgemeine Elektrizitaetsgesellschaft; C. Concordia, General Electric Co.

61-1068. Single Phase Two-Valued Capacitor Motor Relay Selection. D. L. Trower, (Formerly with Univ. of Cincinnati), C. Evert; University of Cincinnati.

61-1024. Magnetic Field of a Rectangular Commutating Pole. A. I. Dvoracek, Reliance Electric and Engineering Co.

CP61-1110. Formette Testing of Armature Coil Insulation for Large D-C Machines. J. S. David, G. D. McClary; General Electric Co.

9:00 a.m.—Plasma Physics, Superconductivity and Space Hazards

CP.* Current Status of Fusion Research. R. G. Mills, Princeton University.

CP.* Recent Developments in Superconducting Power Devices. R. McFee, Syracuse University.

CP.* Radiation Hazards in Space. T. Foelsche, National Aeronautics and Space Administration.

9:00 a.m.—T & D Symposium—Conductors

61-871. Bibliography on Bundled Conductors. D. H. Sandell, Aluminum Co. of America, A. N. Shealy, Kaiser Aluminum & Chemical Corp.; H. B. White, Aluminum Co. of Canada.

61-1035. A Review of NESC Wind Load Requirements with Relation to Conductor Diameter. R. L. Retallack, American Electric Power Service Corp.

CP61-1085. Tower Design Loadings and Broken Wire Assumptions. N. J. McMurtrie, Hydro-Electric Power Commission of Ontario.

CP.* Field Testing of Tower for Broken Conductor Impact Load. E. S. Zoble, J. W. Steffoff, R. L. Swart; American Electric Power Service Corp.

9:00 a.m.—Safety

CP.* Underwriters' Laboratories, Inc. Fact-Finding Investigation on Two vs. Three Running Overcurrent Units for the Protection of Three-Phase Motors. R. H. Yerke, Underwriters' Laboratories, Inc.

Panel Discussion on "Electrical Safety in Swimming Pools"

Moderator: H. B. Whitaker, Underwriters' Laboratories, Inc.

CP.* The Problem as it Relates to the National Electrical Code. H. H. Watson, General Electric Co.

CP.* The Problem from the Point of View of the Manufacturers and Installers of Swimming Pools. D. L. Doughty, Orinda Pools, Inc. and National Swimming Institute.

CP.* The Lighting Problem. W. P. Lowell, Jr., Sylvania Electric Products, Inc.

CP61-1088. Shock Hazard in Swimming Pools from Submerged 120 Volt Lighting. W. P. Taylor, R. J. Arthur, Sr.; Baltimore Gas & Electric Co.

CP.* A Possible Solution. L. S. Inskip, Bell Telephone Labs., Inc.

9:00 a.m.—Transformers

61-1073. The Leakage Reactance of a Ring-Type Transformer. P. P. Yeh, Eisler Transformer Co.

61-1074. Reactance and Kilowatt Losses of Multi-Circuit Transformers. M. W. Waterman; Allis-Chalmers Mfg. Co.

2:00 p.m.—New Energy Sources for Electronics II

TECHNICAL PROGRAM

2:00 p.m.—Transformers

CP.* Electrical Characteristics of Wire Enamels as Affected by Temperature and Various Environmental Conditions in Transformer Oil. M. F. Beavers, G. F. Lipsey; General Electric Co.

CP.* A New Transformer Insulation. B. D. Brummet, F. S. Sadler; Thomas A. Edison Research Lab.—Division of McGraw-Edison Co.

2:00 p.m.—Substations

2:00 p.m.—Progress in Accelerators

CP.* Developments in High-Intensity Multi-Bev Accelerators. A. V. Crewe, Argonne National Laboratory.

CP.* The New Generation of Medium Energy Cyclotrons. K. R. MacKenzie, University of California.

CP.* Development of High-Intensity Pion-Producing Accelerators. J. A. Martin, Oak Ridge National Laboratory.

CP.* Developments in Ultra-High Energy Accelerators. J. P. Blewett, Brookhaven National Laboratory.

2:00 p.m.—Space Communication Systems

CP.* Application of Solid State Devices to Space Telemetry. W. B. Allen, Hughes Aircraft Co.

CP.* The Planning of Commercial Satellite Communication Systems. J. L. Glaser, Bell Telephone Labs., Inc.

CP.* Thermoelectric Cooling of Semiconductor Components. R. Marlow, R. M. Carey; Texas Instruments, Inc.

2:00 p.m.—Excitation Systems

61-1021. Retirement Problems in Generation Expansion Planning. C. J. Baldwin, Westinghouse Electric Corp.; C. H. Hoffman, P. H. Jaynes, Public Service Electric & Gas Co.

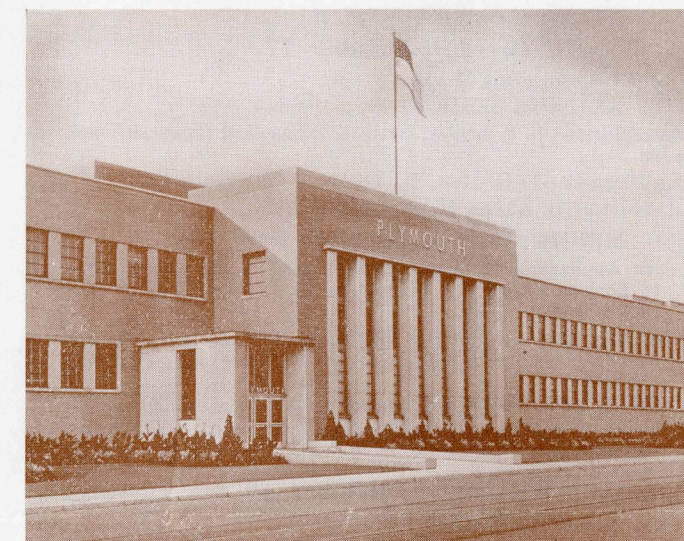
61-1015. Analogue Computer Production Testing of Electric Utility Voltage Regulators. G. S. Chambers, L. J. Lane, A. S. Rubenstein; General Electric Co.

61-1017. A Static Excitation System for Industrial and Utility Steam Turbine-Generators. L. M. Domeratzky, A. S. Rubenstein, M. Temoshok; General Electric Co. (Re-presented for Discussion only).

61-1018. Design and Tests of a Static Excitation System for Industrial and Utility Steam Turbine-Generators. L. J. Lane, D. F. Rogers, P. A. Vance; General Electric Co. (Re-presented for Discussion only).



The National Bank of Detroit



The Detroit Plymouth Assembly Plant

Friday, October 20

9:00 a.m.—Second Symposium on Butyl Rubber Wire and Cable Insulations

CP.* Electrical Characteristics of Butyl Rubber Insulations at 125°C. N. D. Kenney, T. N. Metropolis, W. L. Seamonds; Simplex Wire and Cable Co.

CP.* Continued Evaluation of Butyl Rubber Insulated Cables. J. R. Maher, J. C. Carroll; General Electric Co.

CP.* Some Aspects of the Dielectric Strength of Butyl Rubber Insulated Cables. W. A. Beasley; Anaconda Wire and Cable Co.

CP.* Butyl Rubber Network Cables for 260°C Limiter Operation. R. H. Carlson; American Steel & Wire Co.

9:00 a.m.—Industrial Control

61-1082. Shading Coil Magnet of New Design. H. J. Kubiak, University of Wisconsin; L. H. Matthias, Allen-Bradley Co.

61-650. Characteristics of A Synchronous Induction Motor. A. E. Snowden, E. W. Madsen; Superior Electric Co.

CP61-1058. Design Development for Safer Press Controls. E. F. Drake, The Clark Controller Co.

CP.* The Roof Drive System for the Pittsburgh Public Auditorium. A. J. Baeslack, J. G. Peterson, Jr., Westinghouse Electric Corp.; I. Braunstein, E. Cohen, Ammann & Whitney.

9:00 a.m.—Power Generation

CP.* EHV System Overvoltages Following Load Rejection of Hydraulic Generators. P. L. Dandeno, K. R. McClymont; Hydro-Electric Power Commission of Ontario.

CP.* Analogue Computer Studies of System Overvoltages Following Load Rejections. F. P. deMello, A. C. Dolbec, D. Swann, M. Temoshok; General Electric Co.

61-1016. Recent Developments in Amplidyne Regulator Excitation Systems for Large Generators. G. S. Chambers, A. S. Rubenstein, M. Temoshok; General Electric Co.

2:00 p.m.—Second Symposium on Butyl Rubber Wire & Cable Insulation

CP.* Development of Butyl Rubber Insulated Airport Lighting Cables. R. C. Graham, S. R. Lynch; Rome Cable Co.

CP.* Design and Manufacture of Butyl Rubber Insulated Dredge Cables. P. Gibbon, J. Campbell; Northern Electric Co.

CP61-1098. Survey on the Use of Butyl Rubber Insulated Cable. L. D. Cronin, Ebasco Services, Inc.; R. E. Hoy, Enjay Chemical Co.; J. E. Johnson, Philadelphia Electric Co.

SECOND ANNUAL SYMPOSIUM ON SWITCHING CIRCUIT THEORY AND LOGICAL DESIGN

The papers in this symposium will be available as special publication S-134. The price will be \$6.50 per copy to all.

Tuesday, October 17

2:00 p.m.—Computing Devices

PART I—KEYNOTE SESSION

Welcome Address—R. S. Ledley, National Biomedical Research Foundation Inc.

Opening Remarks—T. H. Mott, Jr., Lockheed Electronics Co.

Invited Address—H. Aitken, Harvard University.

PART II—MINIMIZATION OF BOOLEAN FUNCTIONS

CP.* An Application of Linear Programming to the Minimization of Boolean Functions. A. Cobham, R. Fridshal, J. H. North; IBM Corp.

CP.* Minimal Sums for Boolean Functions Having Many Unspecified Fundamental Products. E. J. McCluskey, Jr., Princeton University.

CP.* Use of a List Processing Language in Programming Simplification Procedures. S. R. Petrick, Electronics Research Directorate.

Wednesday, October 18

9:00 a.m.—Threshold Logic Design

CP.* Threshold Logic and Two-Person Zero-Sum Games. S. B. Akers, Jr., General Electric Co.

CP.* On the Characterization of Threshold Functions. C. K. Chow, Burroughs Corp.

CP.* Functional Forms of Majority Functions and a Necessary and Sufficient Condition for their Realizability. S. Muroga, IBM Research Center.

CP.* The Profile Technique for the Design of Threshold Device Logic. O. B. Stram, Burroughs Corp.

CP.* More About Threshold Logic. R. O. Winder, RCA Labs.

2:00 p.m.—Neuron Physiology and Threshold Logics

CP.* The Integrative Properties of Neurons. D. Kennedy, Stanford University.

CP.* Mathematical Models of Neurone Interaction. H. D. Landahl, The University of Chicago.

CP.* Multivalued Logic Devices for Simulating Threshold Neurons. D. R. Boyle, R. S. Ledley; National Biomedical Research Foundation.

CP.* Many Valued Logics and Reliable Homeostatic Processes. J. D. Cowan, Massachusetts Inst. of Technology.

Thursday, October 19

9:00 a.m.—Introduction to Speed—Independent Circuits

CP.* An Introduction to Speed Independent Circuit Theory. R. E. Miller, IBM Research Center.

CP.* One Method for Designing Speed Independent Logic for a Control. R. E. Swartwout, University of Illinois.

Continued from page 2

which would make Las Vegas and Reno jealous.

In a club atmosphere you can use your skill and your luck to play like a "millionaire" with the poke you're provided.

One cost of \$4.25 each will cover the complete evening including your fun, food and beverages. Tickets will be on sale all week at the Entertainment Desk in the registration area.

LADIES' ACTIVITIES

The AIEE ladies who attend the Fall Meeting will enjoy a busy week of interesting activities planned by Mrs. R. E. Bradstrum and co-chairmen Mrs. A. P. Fugill and Mrs. H. M. Hess. A welcoming reception will be given from 4 to 6 P.M. in the Wayne Room of the Statler-Hilton Hotel on Sunday, October 15, for members, their wives and guests.

On Monday, October 16, sightseeing buses will take the ladies on a civic and cultural tour of Detroit. They will see Detroit's new Civic Center and tour the Historical Museum.

Highlights of Tuesday, October 17, will be luncheon at The Roostertail, popular dining spot overlooking the Detroit River, and a talk on Japanese art by Mrs. Clarence McBryde.

Wednesday, October 18, will find the ladies touring Greenfield Museum and Village where they will have a luncheon at Lovett Hall, with surprise gifts for them.

It will be off to Belle Isle and Windsor, Thursday, October 19, on a bus tour that will allow time for shopping in Canada. NATURALIZED CITIZENS MUST HAVE THEIR CITIZENSHIP PAPERS.

CP.* Problems in the Physical Realization of Speed Independent Circuits. J. E. Robertson, University of Illinois.

CP.* A Flow Chart Notation for the Description of a Speed Independent Control. D. B. Gillies, University of Illinois.

2:00 p.m.—Samuel H. Caldwell Memorial Session: Finite Automata

CP.* S. H. Caldwell, 1904-1960. E. J. McCluskey, Jr., Princeton University.

CP.* Transient Behavior in Iterative Combinational Switching Network. W. L. Kilmer, Montana State College.

CP.* Operations on Finite Automata. C. C. Elgot; J. D. Rutledge. IBM Research Center.

CP.* Delayed Logical Finite State Machines. D. Arden, Massachusetts Inst. of Technology.

CP.* Techniques of the Diagnosis of Switching Circuit Failures. J. M. Gale, R. E. Norby, J. P. Roth; IBM Corp.

8:30 p.m.—Informal Evening Session: Open Problems in Switching Theory

Friday, October 20

9:00 a.m.—Logic Network Synthesis

CP.* Canonical Forms of Functions in P-Valued Logics. M. Cohn, Sperry Rand Research Center.

CP.* Boolean 2-Terminal Synthesis Based on Incidence Matrices. S. Okada, K. P. Rajappan; Stromberg Carlson Co.

CP.* A Computer Program for the Synthesis of Combinational Switching Circuits. R. M. Karp, F. E. McFarlin, J. P. Roth, J. R. Wilts; IBM General Products Division.

CP.* Automatic Fault Detection in Combinational Switching Networks. W. H. Kautz, Stanford Research Inst.

2:00 p.m.—Proposed Graphical Symbols for Digital Computers

CP.* History of Logic Diagramming Standardization and Status Report on ASA-Y32.14—Graphical Symbols for Logic Diagrams. T. H. Mott, Jr.; Lockheed Electronics Co.

CP.* ASA-Y32.14 Proposals for an American Standard. A. L. Reiche, Remington Rand UNIVAC.

CP.* Report of Symbolology Task Force of AIEE Computer Standards Subcommittee. R. C. Boden, IBM Corp.

CP.* Report on a Symbols Usage and Preference Survey of the AIEE Computing Devices Committee. R. M. Kalb, Remington Rand UNIVAC.

CP.* A Readability Comparison of Two Proposed Logic Symbol Types in an Equipment-Oriented Problem Solving Environment. J. D. Baker, A. J. Whitehurst; AFESD.

CP.* A Study of Two Proposed Logic Symbol Systems for Recognition and Function-Association Characteristics. G. W. Allen, IBM Federal Systems Division.

Coffee will be served each morning in the Ladies' Hospitality Center in the Ivory Room of the Statler-Hilton. This room may be used during the week for cards, tele-viewing and lounging.

Registration may be made on Sunday, October 15th, and tickets for the activities may be purchased at that time. Ladies are advised to get their luncheon tickets early, for reservations will close when the available tickets have been sold. Men are welcome to the activities which interest them.

REGISTRATION: The Registration Fees at the Fall General Meeting will be \$6.00 for members and \$10.00 for nonmembers. Wives and women guests of members and nonmember registrants will pay a registration fee of \$2.00. Students, children and invited nonmember authors register without fee. There will be no advance registration.

COMMITTEE: The members of the 1961 Fall General Meeting Committee are General Chairman, W. H. Frank; Vice Chairman, L. W. Clark; Secretary, R. E. Bradstrum; Treasurer, H. M. Hess; Hotels, H. R. Armstrong; Registration, O. E. Bowlus; Finance, A. P. Fugill; Inspection Trips, J. C. Leffel; Hospitality, B. H. Schneider; Entertainment, E. R. Narum; Publicity, S. I. Whittlesey; General Sessions, F. Von Voigtlander; Ladies Activities, Mrs. R. E. Bradstrum.

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