



GREAT LAKES DISTRICT MEETING

April 15 - 17, 1957

Des Moines, Iowa

Headquarters
Hotel Fort Des Moines



Des Moines, Iowa

The AIEE Great Lakes District Meeting for 1957 will be held April 15-17 at the Hotel Fort Des Moines in Des Moines, Iowa. The meeting will embrace a full program consisting of technical sessions, student sessions, inspection trips, social functions and special activities for the ladies.

HOTEL RESERVATIONS

Arrangements have been made for members and guests at the Hotel Fort Des Moines. Reservations should be mailed to Charles Lex, Reservations Chairman, General Electric Company, 505 West Fifth, Des Moines, Iowa. Hotel prices are as follows at the Fort Des Moines:

Single	\$5.50 - \$12.00
Double	\$9.50 - \$14.00
Twin	\$12.00

REGISTRATION

Registration Desks will be located on the mezzanine floor of the hotel. Registering facilities will be available Sunday, April 14th, from 6:00 to 9:00 P.M., Monday and Tuesday, April 15th and 16th, from 8:30 A.M. to 2:00 P.M. All fees will be collected at the registration desks.

GENERAL PROGRAM

Monday, April 15th

9:00 A.M.—District Student Papers Contest—North Room
10:00 A.M.—General Session—Grand Ballroom.

Presiding: J. H. Foote, District Vice President.

A welcome will be extended by the Honorable Herschel Loveless, Governor of the State of Iowa. The main address will be given by M. S. Coover, President of the Institute.

12:15 P.M.—Joint Luncheon with Student Members—Grand Ballroom, Presiding: Robert D. Strum of Rose Polytechnic Institute. The Speaker will be J. F. Downie Smith, Dean of Engineering, Iowa State College.

1:30 P.M.—District Student Papers Contest—North Room.

2:00 P.M.—Technical Sessions.

5:30 - 7:00 P.M.—Reception honoring President Coover—Grand Ballroom.

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AIEE GREAT LAKES DISTRICT MEETING - PROGRAM - Des Moines, Iowa, April 15-17, 1957

ADVANCE COPIES OF PAPERS

Members may obtain preprints of numbered papers at the uniform price of 40c each (80c 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 District Papers (DP.*) 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, April 15

- 9:00 A.M.—Registration
- 9:00 A.M.—District Student Papers Contest
North Room
- 10:00 A.M.—General Session
Grand Ballroom
- 1:15 P.M.—District Student Papers Contest
North Room
- 2:00 P.M.—Power System Stability
Green Room
C. C. DOERRIE, Westinghouse Electric Corp., Presiding
- DP.* Limits on Generator Operation due to Overexcitation. W. G. Kaldenberg, Iowa Power & Light Co.
- DP57-597. Use of Phase Space in Transient Stability Studies. S. T. Bow, Chinese Academy of Science and J. E. Van Ness, Northwestern University.

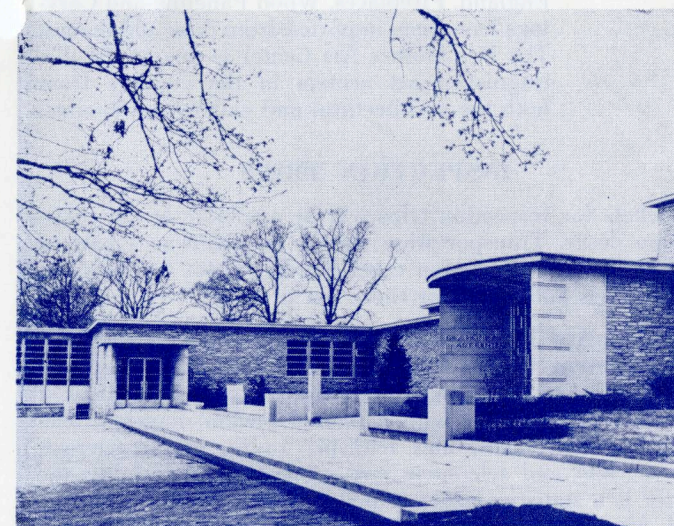


Iowa State Capital

- DP.* Universal Swing Curves for Two-Machine Stability Problem with Multiple Switching. A. A. Fouad, Ein-Shams University and W. B. Boast, Iowa State College.
- 2:00 P.M.—Magnetic Amplifiers
Flamingo Room
LLOYD HORNBACK, Iowa Power & Light Co., Presiding
- DP.* Application of Magnetic Amplifiers to Voltage Regulators and LTC Equipment. William J. Denton, Westinghouse Electric Corp.
- DP57-598. An Analysis of Magnetic Amplifiers in Push-Pull. Dale L. Critchlow, Carnegie Institute of Technology.
- 57-599. Magnetic Circuits with DC Magnetization and High Alternating Induction. H. L. Garbarino, Armour Research Foundation, Illinois Institute of Technology.
- DP.* Description of a Transistor-Controlled Saturable Reactor for A-C Power Supply Regulation. D. W. Ford and Robert Tolephson, Collins Radio Co.

Tuesday, April 16

- 9:30 A.M.—Distribution
North Room
CARL B. FEILMANN, Iowa Power & Light Co., Presiding
- DP.* Problems Encountered in Des Moines Network Conversion. Yale Goldberg and Glenn F. Walkup, Iowa Power & Light Co.
- 57-600. Estimating KW Demand for Future Loads on Rural III. Distribution Systems. Stanley J. Vest, U.S. Department of Agriculture, Rural Electrification Administration.
- DP57-601. Determination of Maximum Permissible Voltage Fluctuation Caused by 3/4 Ton, 115-volt Air Conditioning Units. Richard W. Meisner, Commonwealth Edison Co.
- 9:30 A.M.—Analog and Computers
Green Room
B. T. MOORE, General Electric Co., Presiding
- DP.* The McIlroy Pipe Line Analyzer. Leon D. Findley, Midwest Research Institute.
- DP.* Application of the Network Analyzer to Water Flow Problems. P. M. Anderson and J. E. Lagerstrom, Iowa State College.
- DP.* Solution of Simultaneous Equations on the Network Analyzer. M. H. Mericle, Iowa State College.
- DP.* Wattmeter Circuits for the 10,000-cycle Network Analyzer. Glen E. Fanslow and J. E. Lagerstrom, Iowa State College.
- 9:30 A.M.—Electro-Mechanical Energy Conversion
Flamingo Room
R. G. BROWN, Iowa State College, Presiding
- DP57-602. A Unified Approach to the Teaching of Electro-Mechanical Energy Conversion. D. C. White and A. Kusko, Massachusetts Institute of Technology.
- 57-603. A New Electromechanical Energy Conversion Laboratory. D. C. White and H. H. Woodson, Massachusetts Institute of Technology.



Des Moines Art Center

2:00 P.M.—Panel Discussion on the Acquisition of Right-of-Way for Transmission Lines.

- North Room
JOHN C. SLOTHOWER, Northern States Power Co., Presiding
- Mr. L. E. Slade, Vice President, Iowa Power & Light Co., Des Moines, Iowa
- Mr. Marshall B. Hurd, Asst. Chief Engineer, Iowa Public Service Co., Sioux City, Iowa.
- Mr. C. W. Luckrite, Head, Land and Tax Dept., Interstate Power Co., Dubuque, Iowa.
- Mr. G. L. England, Transmission & Distribution Engineer, Illinois Power Co., Decatur, Illinois.

2:00 P.M.—Distribution

- Green Room
WILLIAM J. DENTON, Westinghouse Electric Corp., Presiding
- DP.* Distribution Transformers Under Overloads—Present Day Methods of Determining Insulation System Life. M. L. Manning, Pennsylvania Transformer Company.
- DP.* A New Approach to Resin Insulation. Robert Herr and J. S. Casement, Minnesota Mining and Manufacturing Co.
- DP57-604. A Two-and-One-Half Year Demand Growth Cycle. C. R. Chapman, Purdue University.
- DP.* Electric Distribution Developments for Serving Future Residential Loads. H. G. Hally, Iowa Power & Light Co.
- 2:00 P.M.—Controls and Control Systems
Flamingo Room
J. D. BOLOVER, Northwestern Bell Telephone Co., Presiding
- DP.* Speed Control of a Prime Mover. G. Forrest Drake, Woodward Governor Co.
- DP.* Root Locus Method for Compensating a System Containing Complex Poles. C. L. Townsend, Iowa State College.
- DP57-605. Quasi-Optimization of Relay Servos by Use of Discontinuous Damping. W. L. Harris, Jr., C. McDonald and Dr. George J. Thaler, U. S. Naval Postgraduate School.
- DP.* Automatic Control of Electric Power Generation. E. H. Preston, Leeds & Northrup Co.

Wednesday, April 17

9:30 A.M.—Transmission

- North Room
JOHN E. LUHRING, Interchange Power Services, Presiding
- DP57-606. Transmission System Voltages Under Single and Double Line-to-Ground Fault Conditions. R. W. Johnston, Iowa Public Service Co.
- DP.* Real and Reactive Power Flow on a Transmission Line. J. W. Nilsson, Iowa State College.
- DP57-607. Rating of Auto-Transformers for System Interconnection. E. T. B. Gross and J. C. Pohlman, Armour Research Foundation, Illinois Institute of Technology.
- DP57-608. Unbalanced Loading of Three-Phase Transformer Banks. S. W. Anderson, Middle West Service Co.

9:30 A.M.—Circuits

- Green Room
W. L. HUGHES, Iowa State College, Presiding
- DP57-609. Amplitude and Frequency Stabilization of an Oscillator Using Nonlinear Elements. C. J. Triska, Iowa State College.
- DP.* A Simplified Physical Picture of Junction Transistors. R. H. Mattson, Iowa State College.
- DP57-610. An Improved Method for Switching Circuit Synthesis. D. Zeheb, General Electric Co. and L. Depian, Carnegie Institute of Technology.
- DP.* Use of Matrix Methods to Determine the Equivalent Circuit of a Transformer. W. L. Cassell, Iowa State College.



Iowa Power & Light Co. Headquarters Building

Tuesday, April 16th

- 9:30 A.M.—Technical Sessions.
- 9:30 A.M.—Great Lakes District Executive Committee Meeting. Presiding: J. H. Foote, District Vice President.
- 12:15 P.M.—Luncheon—Grand Ballroom, Presiding: R. F. Schlenker, Iowa Section Chairman. The Speaker will be J. H. Foote, District Vice President.
- 2:00 P.M.—Technical Sessions.
- 2:00 P.M.—Executive Committee continued.
- 6:00 - 7:00 P.M.—Social Hour.
- 7:00 P.M.—Banquet—Grand Ballroom, Presiding: K. R. Brown, General Chairman of Meeting. The address will be given by Everett S. Lee, Past-President of the Institute whose subject will be, "The Romance of Engineering."

Wednesday, April 17th

- 9:30 A.M.—Technical Sessions.

LADIES PROGRAM

Sunday, April 14th

Coffee in late afternoon.

Monday, April 15th

Morning coffee.

- 2:00 P.M.—Tour of Meredith Publishing Company (Better Homes and Gardens, etc.)

Tuesday, April 16th

- 12:00 Noon—Luncheon at Wakonda Club, "Easter Bonnet Revue," Bridge and Prizes.



Fort Des Moines Hotel

Wednesday, April 17th

- 9:00 A.M.—Tour of Salisbury House and Art Center. Salisbury House is a unique Gothic-Tudor mansion copying parts of historic homes in England. Fireplaces, Wood Paneling and Carvings have been imported from these old homes. The Des Moines Art Center is one of the distinguished art centers in the country from both the architectural and gallery standpoints.

INSPECTION TRIPS

Tickets for inspection trips will be available at the registration desks. Transportation will be provided as a part of each tour. Transportation costs will be \$1.00 for tours in Des Moines and \$2.00 for those out of town.

Monday, April 15th, 2:00 P.M., Iowa Power and Light Co. "System Operations Center." This center controls all electric transmission and generation activities. It is a nerve center complete with a lighted system diagram, telemetering equipment, and teletype, radio, carrier-current, private line and telephone communication. Adjoining the center is a statistics group which processes load, generation and foreign interchange billing data. No transportation charge.

Tuesday, April 16th 8:30 A.M., Maytag Manufacturing Company at Newton. Maytag produces the famous Maytag Automatic washers and dryers. The plant area comprises 73 acres and includes departments for pressing, die-casting, permanent mold, rubber and plastics, electroplating, electro-static spray painting, porcelainizing and testing. Automation has been and is a byword with Maytag. One of the newer innovations is the monorail and automatic handling system now in operation.

Tuesday, April 16th, 1:45 P.M., Wednesday, April 17th, 8:30 A.M. Institute for Atomic Research at Iowa State College in Ames. The Ames Laboratory is operated under contract with the Atomic Energy Commission and is primarily concerned with basic, pioneer research in physics, chemistry and metallurgy. The tour will cover the "Synchrotron" and research buildings. In the research building are the rare earth pilot plant, the Hot canyon room and the Hot-loop room which all are dealing with futuristic research.

Tuesday, April 16th, 2:30 P.M., Firestone Tire and Rubber Plant. The Des Moines Firestone Plant represents the newest of its kind, utilizing the latest in manufacturing skills. This plant has produced more than 20,000,000 tires since production was started in 1945. The tour will follow the manufacturing of a tire from crude rubber to finished product.

COMMITTEES

The Members of the Great Lakes District Meeting Committee are: K. R. Brown, General Chairman; Chairmen of following committees: R. H. Miller, Finance; R. C. Ringstrand, Publicity; F. E. Baird, Meeting Room; C. C. Doerrie, Inspection Trips and Transportation; J. E. Lagerstrom, Technical Program; Mrs. N. Bernard Gussett, Ladies Program; C. H. Lex, Registration and Reservation; R. F. Castner, Social; A. R. Adams, Luncheons; G. Ross Henninger G. R. Town, L. A. Ware, Advisory.

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