

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS

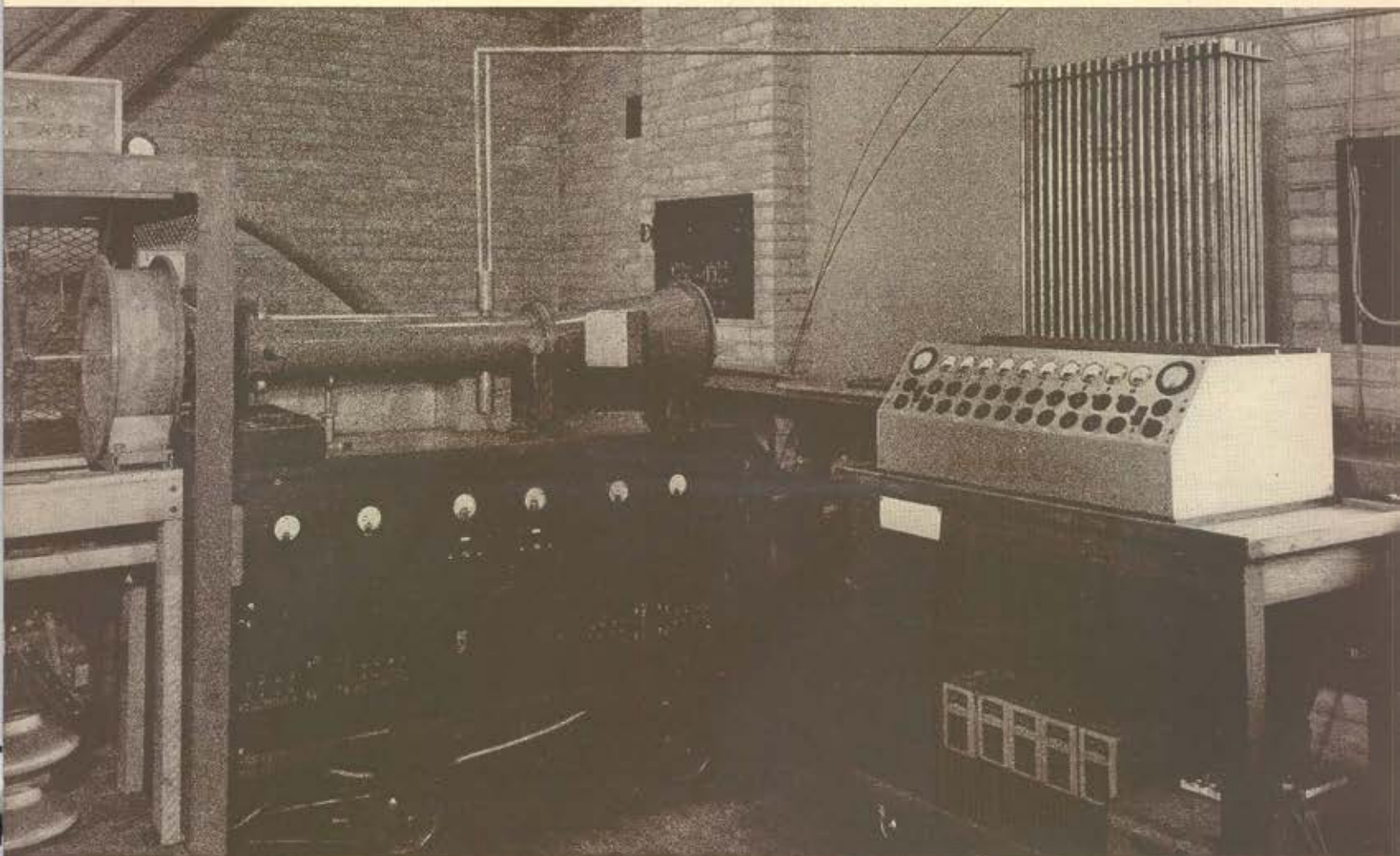
GREAT LAKES DISTRICT MEETING

& STUDENT BRANCH CONVENTION



MINNEAPOLIS, MINNESOTA

SEPTEMBER 27-29, 1939



Electronic Voltmeter developed at the University of Minnesota for measuring surge crest voltages which combines simplicity of operation with a high degree of accuracy

Headquarters: Hotel Nicollet

MEETING FEATURES

The Great Lake District of the A.I.E.E. extends a cordial invitation to attend the meeting in Minneapolis, September 27-29, 1939. Headquarters will be in the Hotel Nicollet. An excellent technical program, interesting inspection trips, and entertainment is offered for members, their families, and friends of the Institute. Student members will find a special program arranged for them, with members of their own group offering papers for discussion. Also the District Executive Committee and the District Committee on Student Activities will hold their respective annual business meeting and conference.

Entertainment

Wednesday, Sept. 27

At noontime a joint luncheon with the Minneapolis Engineers Club and the St. Paul Engineers Society will be held at the Hotel Nicollet, tickets 85c each. At two-thirty a sightseeing tour through Minneapolis, St. Paul, and the vicinity will be taken, tickets \$1.25 each. Seven o'clock a dinner will be held at the Minneapolis Automobile Club, tickets \$1.50 each.

Thursday, Sept. 28

At two-thirty arrangements have been made to visit the new modern hydraulic laboratory of the University of Minnesota, transportation tickets 25c each. In the evening at seven the dinner dance will be held at the Hotel Nicollet, tickets \$2.00 each. The gathering will be addressed by Dr. Phillip Thomas.

Friday, Sept. 29

Opportunity will be given to visit any of the industrial, educational, and scenic points of interest in and around the Twin Cities, such as: The Electric Machinery Company, The Minneapolis-Honeywell Heat Regulator Company, The University of Minnesota, the generating plants of the Northern States Power Company, the Minnesota Mining and Manufacturing Company, Fort Snelling and Mendota, etc., tickets 50c each.

Booklets containing tickets for all of the above events will be available at the registration desk for \$5.00.

Sports

A golf tournament has not been scheduled but arrangements to play on the University of Minnesota course or on

any of the beautiful public or private courses in the Twin Cities will be made by the entertainment committee upon request.

On Saturday, September 30, the famous "Golden Gopher" football team plays the University of Arizona team. This is the first game of the 1939 season and offers an excellent opportunity to view several new, as well as veteran "Gophers" in action. Tickets are \$2.20 or \$1.10 per seat, depending upon location. Reservations may be made directly with the football ticket manager, University of Minnesota, Minneapolis, Minnesota.

Ladies' Program

Wednesday, Sept. 27

Morning—Registration.

Noon—Visit and luncheon, Minneapolis Art Institute, tickets 75c each.

Afternoon—Sightseeing trip, for members, their families, and guests.

Evening — Dinner at Minneapolis Automobile Club, Bloomington-on-the-Minnesota.

Thursday, Sept. 28

Morning—Leave Nicollet Hotel for trip to Stillwater, Minnesota. Luncheon and cards at Lowell Inn, returning to Minneapolis about 3 p.m., luncheon tickets 85c each.

Evening—Dinner-Dance at Hotel Nicollet and address by Dr. Phillip Thomas

Friday, Sept. 29

Open for sightseeing trips and other entertainment to be announced on first day of meeting.

Ladies who desire to play golf will find many excellent courses, both public and private, at their disposal. Necessary arrangements will be made upon request to the Entertainment Committee.

Student Branch Convention

A technical session and a business session have been laid out specifically for student members. All trips and entertainment features of the program are open to students. For further information student members should contact Professor J. H. Kuhlmann, Counselor of the University of Minnesota Branch, at the Electrical Engineering Department, University of Minnesota, Minneapolis, Minnesota.

PROGRAM

ADVANCE COPIES OF PAPERS

For the convenience of those who wish to obtain preprints in advance of the meeting, an order form is enclosed. If ordered by mail, price 10c per copy; if purchased at Institute headquarters or at the meeting, price 5c per copy. Coupon books in \$1.00 and \$5.00 denominations are available for those who wish to avoid remittance by check or otherwise. Papers not mentioned by number on the order blank will not be available in advance copy form. Most of the papers ultimately will be published in *ELECTRICAL ENGINEERING* or the *TRANSACTIONS*.

Wednesday, September 27

8:00 a.m.—Registration—Mezzanine floor

9:30 a.m.—General Meeting

Announcements: A. H. Lovell, Vice-President, Great Lakes District, AIEE.

Address of Welcome: Governor Harold E. Stassen

10:15 a.m.—Communication and Research

39-159. Load Rating Theory for Multi-Channel Amplifiers, B. D. Holbrook and J. T. Dixon, Bell Telephone Laboratories, Inc.

39-163. Emergency Radio as a Safeguard to Telephone Service, R. E. Willey, Northwestern Bell Telephone Company

39-152. Importance of Gas in Electrodes for the Glow to Arc Transition, F. A. Maxfield, H. R. Hegbar, and J. R. Eaton, The University of Wisconsin.

39-162. Causes of Corrosion of Fine Copper Wires Carrying a Potential, H. N. Stephens and G. B. Gehrenbeck, Minnesota Mining and Manufacturing Company

10:15 a.m.—Electrical Machinery and Transportation

39-160. Dynamic Characteristics of a Single-Phase Induction Motor, E. B. Kurtz, University of Iowa

39-151. Co-ordination of the Control of Synchronous Machine Excitation, L. L. Fountain, Westinghouse Electric & Mfg. Company, E. F. Dissmeyer, and J. A. Elzi, Commonwealth and Southern Corporation

39-153. Polarized Field Frequency Control of Synchronous Motors, E. W. Swanson, Electric Machinery Manufacturing Company

39-155. Modernization of a Transit System, Factors That Determine the Choice of Vehicle, G. L. Hoard, University of Washington

12:15 p.m.—Joint luncheon with Minneapolis Engineers Club and St. Paul Engineers Society

2:30 p.m.—Tour of Minneapolis, St. Paul, and vicinity

7:00 p.m.—Dinner at the Country House of the Automobile Club of Minneapolis at Bloomington-on-the-Minnesota

Thursday, September 28

9:30 a.m.—Selected Subjects and Measurements

39-148. An Unstable Non-Linear Circuit, C. M. Summers, General Electric Company

39-150. Protector Tubes for Power Systems, H. A. Peterson and W. J. Rudge, General Electric Company, and A. C. Monteith and L. R. Ludwig, Westinghouse Electric and Manufacturing Company

39-149. Some Recent Developments in Impulse Voltage Testing, C. M. Foust and N. Robats, General Electric Company

39-156. Electronic Measurement of Surge Crest Voltages, J. M. Bryant and M. Newman, University of Minnesota

39-157. Measurement of Very Short Time Lags, J. M. Bryant and M. Newman, University of Minnesota

9:30 a.m.—Student Session

Papers by members of the Student Branches located within the Great Lakes District area will be presented

12:15 p.m.—Luncheon—Hotel Nicollet

1:30 p.m.—Business Session: Great Lakes District Committee on Student Activities

Chairman Ben S. Willis, Iowa State College, presiding

3:30 p.m.—Inspection trip to Hydraulic Laboratory, University of Minnesota

7:00 p.m.—Dinner—Hotel Nicollet

Address: Developments in Research, accompanied by demonstrations, by Dr. Phillips Thomas, Research Engineer, Westinghouse Electric & Mfg. Co.
Dancing to follow

Friday, September 29

9:30 a.m.—Power Transmission and Distribution

39-154. Ratio Differential Protection of Transmission Lines, R. M. Smith and M. A. Bostwick, Westinghouse Electric and Manufacturing Company

39-147. Arc Furnace Loads on Long Transmission Lines, T. G. LeClair, Commonwealth Edison Company

39-158. Analysis of Factors Which Influence the Application, Operation and Design of Shunt Capacitor Equipments Switched in Large Banks, J. W. Butler, General Electric Company

Cyclic Loading of Subway Type Distribution Transformer, O. W. Mukenhahn, University of Minnesota, and H. G. Zambell, Allis-Chalmers Manufacturing Company

39-161. Vaults for A-C Secondary Networks, J. S. Parsons, Westinghouse Electric and Manufacturing Company

12:15 p.m.—Luncheon

1:30 p.m.—Inspection trips

1:30 p.m.—Annual meeting of Executive Committee, Great Lakes District

Vice-President A. H. Lovell, presiding

GENERAL INFORMATION

Rules on Presenting and Discussing Papers

Papers presented at technical sessions may be presented in abstract, presentation not to exceed fifteen minutes, unless otherwise arranged, or the presiding officer meets with the authors preceding the session to arrange the order of presentation and allotment of time for papers and discussion.

Any member is free to discuss any paper when the meeting is opened for general discussion. Ten minutes for prepared discussion and ten minutes for open discussion will be allowed on each paper.

It is preferable that a member who wishes to discuss a paper give his name in advance to the presiding officer of the session at which the paper is to be presented. Each discussor should step to the front of the room and announce, so that all may hear, his name and professional affiliations. Three typewritten copies of discussions prepared in advance should be left with the presiding officer.

Other discussions to be considered for publication should be typewritten (double spaced) and submitted in triplicate to C. S. Rich, secretary of the technical program committee, A.I.E.E. headquarters, 33 West 39th Street, New York, on or before October 13, 1939. Discussion of informal addresses and papers need not be submitted.

Advance Registration

Members of the District who will attend the meeting should register in advance by returning the addressed, advance-registration card which they will receive by mail. This will be helpful to the registration committee and permit badges to be prepared in advance and reduce the work necessary on the opening day. A minimum registration fee of \$2.00 will be charged all nonmembers except Enrolled Students and the immediate families of members.

Hotel Rates

Members should make room reservations by writing directly to the hotel of their preference. For convenience the rates of the headquarters hotel, Hotel Nicollet, as well as the rates of other hotels are listed in the table given below.

Hotels	Without Bath		With Bath	
	Single	Double	Single	Double
NICOLLET (headquarters hotel)				
Nicollet at Washington.....			\$3.00 up	\$4.50 up
ANDREWS				
Hennepin at 4th Street.....	\$1.50 up	\$2.50 up	2.50 up	3.50 up
CURTIS				
10th at 4th Avenue S.			2.00 up	3.00 up
DYCKMAN				
27 S. 6th Street.....			2.00 up	3.00 up
LEAMINGTON				
10th at 3rd Avenue S.			2.50 up	3.50 up
RADISSON				
45 S. 7th Street.....	2.00 up	3.50 up	3.00 up	4.50 up

COMMITTEES

District Meeting:

A. H. Lovell, vice-president, Great Lakes District; A. G. Dewars, secretary, Great Lake District; H. W. Anderson, J. H. Bowman, J. H. Bryant, R. E. Burlingame, J. A. Fitts, E. H. Hagensick, and C. H. Nelson.

General:

C. H. Nelson, chairman; R. E. Burlingame, J. M. Bryant, A. G. Dewars, J. B. Garthus, E. H. Hagensick, Truman Hibbard, J. H. Kuhlmann, H. W. Meyer, and Mrs. H. W. Meyer.

Meetings and Papers:

I. B. Garthus, chairman; P. G. Bowman, E. N. Clark, W. H. Gille, H. E. Hartig, and C. C. Nelson.

Entertainment:

H. W. Meyer, chairman; Andrew Nelson and M. E. Todd.

Transportation and Inspection:

E. G. Hagensick, chairman; J. M. Bryant and R. R. Herrmann.

Finance:

Truman Hibbard, chairman; R. F. Pack and H. J. Pierce.

Publicity:

A. G. Dewars, chairman; Oscar Gaarden and E. W. Johnson.

Student Sessions:

J. H. Kuhlmann, chairman, O. W. Muckenhirn and H. A. Sanderson.

Hotels and Registration:

R. E. Burlingame, chairman; W. Endicott and W. C. Walsh.

Ladies' Entertainment:

Mrs. H. W. Meyer, chairman; Mrs. J. H. Kuhlmann, Mrs. Andrew Nelson, Mrs. C. H. Nelson and Mrs. M. E. Todd.

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