

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS  
SOUTH WEST DISTRICT TECHNICAL MEETING  
and STUDENT BRANCH CONFERENCE



including two sessions  
jointly with

MISSOURI VALLEY ELECTRIC ASSOCIATION  
ANNUAL ENGINEERING MEETING

Meeting Headquarters:  
Continental Hotel  
11th & Baltimore Avenues

KANSAS CITY, MO.  
April 28-30, 1943



*Kansas City Skyline with Union Station in Foreground*

### THE PROGRAM

The South West District of the American Institute of Electrical Engineers is comprised of nine Sections and 14 Student Branches in the states of Missouri, Arkansas, Kansas, Oklahoma, Texas, and New Mexico. The Missouri Valley Electric Association operates in the states of Iowa, Nebraska, Missouri, Kansas, and Oklahoma. Both organizations have co-operated in preparing a program of papers on electrical engineering subjects, which it is thought will be of aid to the war effort. The MVEA usually has a two-day engineering meeting in Kansas City during the spring of each year and many of its members are also members of the AIEE. Because of the war it was deemed desirable to hold these meetings concurrently to conserve time and transportation.

Both organizations desiring to be of the greatest possible service

to the war effort have assembled papers for presentation and discussion relating so far as practicable to the problems of the electrical industry during wartime. Each organization will have separate programs except for two joint sessions which appear in each program. Copies of both programs will be available to all who register.

### Joint Sessions

Attention is especially called to the two joint sessions of AIEE and MVEA for members and guests. The opening session on Wednesday morning will be devoted to a broad outline of the problems before these organizations and their members at the present time. The second joint session on Thursday afternoon will be devoted to the

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# SOUTH WEST DISTRICT TECHNICAL MEETING

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## KANSAS CITY, MO

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presentation and discussion of one of the most important matters before the country today, namely, the conservation of critical materials which are so badly needed in the war effort. Opportunity will be afforded for discussion to bring out helpful ideas relating to these subjects. A general outline of the methods of conserving critical materials is as follows:

A.—Making the greatest possible use of what we have:

1. Increasing extent of use of plant
2. Prolonging life
3. Re-use of material recovered from plant

B.—Limiting additions to and changes in plant to those necessary for essential services.

C.—Making minimum use of critical materials in necessary plant extensions:

1. Substitution of less critical materials for more critical materials
2. Redesign to use less material
3. Addition of plant for immediate needs only
4. Standardization

D.—Getting back into circulation materials which can be spared:

1. Clean up and dispose of junk
2. Reduction of inventories
3. Taking materials out of working plant

### Special Features for Students

Several of the near-by schools have signified their intention of substituting attendance at the Technical Meeting and Student Branch Conference for their usual inspection tours, which now are impossible because of wartime restrictions. The following features have been arranged specially for students.

**A Student Session** arranged by Professor W. F. Gray, Chairman, District Committee on Student Activities, will be held on Wednesday afternoon. The program will be in charge of the students and several papers will be presented.

**Student Consultations with Industry Representatives.** The purpose is to give students an opportunity to ask questions and to familiarize themselves with the requirements and opportunities in some of the fields of electrical engineering. The industries and representatives are listed in the program.

**AIEE Luncheon.** Each student who registers will be taken to the Thursday-noon luncheon by a member of the AIEE. This will afford a splendid opportunity to become acquainted with the older members of the electrical industry and to learn of AIEE affairs from the several talks which will be made by officers of the Institute.

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The William Rockhill Nelson Gallery of Art and Mary Atkins Museum in Kansas City, Missouri

## Wednesday, April 28

8:00 a.m.—Registration

9:30 a.m.—General Session (AIEE-MVEA)

J. G. Thorpe, Presiding

Address of Welcome: "Kansas City in Wartime." L. P. Cookingham, City Manager, Kansas City, Mo.

Address: "What the AIEE Is Doing to Aid the War Effort." E. T. Mahood, Vice-President, South West District, AIEE

Address: "What the MVEA Is Doing to Aid the War Effort." Arthur L. Mullergren, President, Missouri Valley Electric Association

Address: "The Engineer and the War." Harold S. Osborne, President, American Institute of Electrical Engineers

### Intermission

Address: "Electrical Indicating Instruments in Wartime." Harold L. Olesen, Assistant General Sales Manager, Weston Electrical Instrument Corp.

2:00 pm.—Student Session

Lawrence Williams, Presiding

A Comparative Study of the Rationalized and Un-rationalized M.K.S. Unit System. G. L. Johnson and V. J. McKale, University of Kansas

Routine Testing of Residential Watthour Meters. J. G. McDonald, Kansas State College

The Operation of Single-Phase Watthour Meters. Franklin Fansher, University of Missouri

Revisions of the Electrical Code Due to the War Effort. L. V. Randle, Southern Methodist Univ.

2:00 p.m.—Electrical Machinery

R. W. Warner, Presiding

D.P.\* Oilostatic Generator Leads. C. E. Bennett, The Okonite Co.

D.P.\* Conservation of Critical Materials in Transformer Design and Application. J. K. Hodnette, Westinghouse Elec. & Mfg. Co.

D.P.\* Effect of Control on the Characteristics of D-C Series and Shunt Motors. A. A. Merrill, General Elec. Co.

D.P.\* Normal and Emergency Loading of Power Transformers. H. B. Keath and W. Godin, Wagner Elec. Corp.

D.P.\* Graphic Solutions in Unbalanced Transformer Loading. C. M. Lovell, Moloney Elec. Co.

6:30 p.m.—Dinner arranged by MVEA

## Thursday, April 29

7:30 a.m.—Breakfast Meeting of Student Branch Counselors

Professor W. F. Gray, Presiding

7:30 a.m.—Breakfast Meeting of Student Branch Officers

Ben Petree, Presiding

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### ADVANCE COPIES OF PAPERS

Preprints of technical papers may be obtained by mail by remitting price indicated to the A.I.E.E. Order Department, 33 West 39th Street, New York, N. Y.; if purchased at A.I.E.E. headquarters or at the meeting 5c less per copy. For convenience an order form is enclosed. Only numbered papers will be available in advance-copy form. 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 \$5.00 denominations are available for those who wish to avoid remittance by check or otherwise. Most of the papers ultimately will be published in **ELECTRICAL ENGINEERING** or the **TRANSACTIONS**.

#### 9:00 a.m.—Clinic on Section Operations and Management

C. W. Mier, Presiding    A. T. Campbell, Secretary

#### 9:30 a.m.—Student Consultations with Industry Representatives

Mr. R. L. Baldwin has arranged for a group of men to be available with whom students who wish can confer. These men are:

Industry	Representative
Aviation	Howard K. Morgan, T.W.A.
Communication	C. H. Weiser, Southwestern Bell Tel. Co.
Consulting Engg.	R. L. Baldwin, Burns & MacDonnell Engg. Co.
Electrical Mfg.	George Fiske, General Elec. Co.
Pr. & Lt. Operating	G. O. Brown, K. C. Power & Light Co.
Radio Broadcasting	A. B. Church, Midland Broadcasting Co.
Transportation	J. A. Parkinson, Atchison, Topeka, & Santa Fe

Each of these men will be in a separate room from 9:30 a.m. to talk with any student or group of students who care to come and talk with him about the conditions, prospects, and future in his particular industry. The talks will be entirely informal and students are welcome to come and go as they please. These men will all do their best to give the student any information desired.

#### 9:00 a.m.—Communications

H. R. Fritz, Presiding

- D.P.\* Dallas-San Antonio Intercity Toll Cable to Provide Communication Facilities to Meet War Needs in Texas. G. A. Dyer, Southwestern Bell Tel. Co.
- D.P.\* Teaching Ultrahigh Frequency Techniques. E. W. Hamlin, Univ. of Texas.
- D.P.\* Communications for Civilian Defense. O. S. McDaniel, Southwestern Bell Tel. Co.
- 43-72. Train Communication. L. O. Grondahl and P. N. Bossart, Union Switch and Signal Co. (Presentation by title). 25 cents by mail.

#### 10:30 a.m.—District Executive Committee Meeting

#### 12:00 m. —AIEE Luncheon

A. E. Bettis, Presiding

"The Engineer's Start in Civic Affairs." P. L. Alger, Chairman, Technical Program Committee

"AIEE Progress." H. H. Henline, National Secretary

"AIEE in the Southwest." F. J. Meyer, Director

#### 2:00 p.m.—Symposium on Critical Materials and Equipment (AIEE-MVEA)

B. D. Hull, Presiding

Address: "The Organization and Function of the Conservation Division of the War Production Board." H. M. MacDougal, War Production Board

Address: "Conservation of Critical Materials." H. S. Osborne, President, AIEE

Address: "AIEE Guides for the Selection and Operation of Electrical Equipment." J. R. North, Chairman, Standards Committee, AIEE

Address: "Conservation of Critical Materials in the Telephone Industry." C. W. Nystrom, Southwestern Bell Tel. Co.

Address: "Emergency Measures to Increase Output of Generating Equipment and Systems." A. C. Monteith, Chairman, Committee on Power Generation, AIEE.

C. M. Laffoon, Chairman, Subcommittee

R. P. Crippen, Chairman, Subcommittee

#### 6:30 p.m.—Dinner for Men Only, Address Arranged by AIEE

## Friday, April 30

#### 9:00 a.m.—Selected Topics

G. T. Shoemaker, Presiding

- D.P.\* Wartime Trends in Arc Welding. G. C. Quinn, Allis-Chalmers Mfg. Co.
- D.P.\* Safety Engineering Instruction at Oklahoma A. & M. College. A. Naeter, Oklahoma A. & M. College
- 43-74. Industrial Control: Dynamic Braking of a D-C Shunt Motor and Load. G. F. Leland and L. T. Rader, General Elec. Co. 20 cents by mail.
- D.P.\* Standards and Fundamentals of Amplidyne Practise. F. E. Crever, General Elec. Co.
- D.P.\* Inductive Heating in Substitute Ferrous Sections Used in Switchgear. S. C. Killian, Delta Star Elec.

#### 9:00 a.m.—Transportation

I. T. Monseth, Presiding

- 43-75. Advantages of High-Speed Traction Motors. C. A. Atwell, Westinghouse Electric & Mfg. Co. 15 cents by mail.
- D.P.\* Wartime Operating Experiences and Practises in Kansas City. L. L. Davis, Kansas City Public Service Co.
- D.P.\* Maximum Utilization of Transit Equipment. G. M. Woods, Westinghouse Elec. & Mfg. Co.
- D.P.\* Operating Experiences with Trolley Coaches in St. Joseph. F. Norman Hill, St. Joseph Railway Light, Heat, and Power Co.

\*D.P. District Paper; no advance copies available; not intended for publication in **TRANSACTIONS**.



East 11th Street, Kansas City, Missouri

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**Inspection Trips**, which have been arranged particularly for the students, are listed below. Unfortunately war restrictions prevent offering the range of inspection trips heretofore provided. However, other trips also may be available at the time of the meeting.

Kansas City Power & Light Company Lighting Institute  
 Kansas City Power & Light Company Load Dispatching Room  
 and Operation of Building  
 Kansas City, Kansas, Generating Plant  
 Kansas City, Kansas, Water Works  
 Nelson Art Gallery and Atkins Museum

**Inspection Trips Committee:** A. E. Bettis, Chairman; J. A. Dailey, H. A. Howery, A. L. Mullergren, W. J. Squire.

### Clinic on Section Operation and Management

The delegates from the various Sections in the District are expected to attend the clinic that will be conducted by C. W. Mier of Dallas, Texas, starting at 9:00 a.m. on Thursday. Mr. Mier recently was nominated for Director of the Institute. In addition to the delegates, it is hoped that past officers and active members of Sections will attend in order to participate in the discussion. Certain questions relating to various features of Section operation and management will be presented for discussion. Charts and displays of material will be used. This offers an opportunity for Sections to bring up questions, the discussion of which might be helpful to other Sections. It is expected that views will be crystallized on as many of these questions as practicable so that the conclusions of the conference may be presented to the District Executive Committee, which will meet immediately afterwards.

### District Executive Committee Meeting

The District Executive Committee meeting will be held at 10:30 a.m. on Thursday and in addition to considering the report from the clinic on Section operation and management will discuss matters relating to AIEE activities throughout the District. District Secretary, Professor R. G. Kloeffler, is arranging an agenda for discussion.

### Luncheons and Dinners

AIEE members and guests are invited to the MVEA dinner on Wednesday evening and may purchase tickets at the registration desk. The luncheon at Thursday noon is for AIEE members and guests.

A. E. Bettis, Vice-President of the Kansas City Power and Light Company, will preside and brief talks will be made on Institute matters by the National officers, as indicated on the program. A feature of this luncheon will be student attendance. Each senior member will bring a student as his guest, thus offering the students an opportunity to get acquainted with the older members.

The Thursday evening dinner has been arranged by an AIEE committee. It will be for men only and the dinner will be followed by an interesting talk. MVEA members are invited and may purchase tickets at the registration desk.

### Registration

It is desirable to register in advance, as this saves time upon arrival at the meeting. To do so, fill in and mail promptly the *Advance Registration Card* accompanying this program. When you arrive, call at the registration desk and your badge will be ready.

No registration fee will be charged for members, Enrolled Students, and the immediate families of members. There will be a \$2.00 registration fee for nonmembers.

### Hotel Reservations

The Hotels and Registration Committee, C. G. Roush, Chairman, 101 West 11th Street, Kansas City, Missouri, is doing everything possible to provide hotel accommodations for those who will attend. It is believed that adequate accommodations will be available. Members and guests should write directly to the hotel of their choice as early as possible for reservations.

The rates for the Continental Hotel (meeting headquarters) and several other hotels within a convenient distance are as follows:

Hotel	Prevailing Rates (With Bath)		
	Single	Double	Twin-Beds
Continental	\$2.50-\$4.00	\$3.50-\$5.00	\$4.00-\$7.00
Muehlebach	3.25- 7.00	4.50- 8.00	5.50- 9.00
Pickwick	2.50- 4.00	3.50- 6.00	4.50- 6.00
Phillips	2.50- 5.00	4.00- 8.00	5.00- 8.00
President	2.75- 5.00	4.00- 6.50	5.00- 7.00

If satisfactory arrangements cannot be made directly with the hotels, members may write to Mr. Roush. Certain hotels conveniently located with rates appropriate for students have been selected. It is suggested that Student Counselors be consulted by students who expect to attend and that the Counselors in turn communicate with Mr. Roush in case they need any assistance in finding suitable accommodations.

### Information

In keeping with the spirit of this meeting no special entertainment will be provided. However, an information desk in charge of a committee will be maintained in the lobby of the headquarters hotel to assist out-of-town members in arranging for tickets to shows and dances of which Kansas City affords a wide and interesting variety. It is expected that members will make up their own private parties.

### Committees

**District Meeting:** E. T. Mahood, Vice-President, South West District; R. G. Kloeffler, Secretary, South West District; A. T. Campbell, P. C. Ellis, W. F. Gray, I. T. Mounseth, R. Randall, C. G. Roush, P. H. Underwood, C. V. Waddington.

**Meetings and Papers:** V. P. Hessler, Chairman; M. E. Bretschneider, A. T. Campbell, R. W. Gaskins, L. R. Hammond, H. P. Heafer, E. A. Heath, J. Lewis Jones, R. M. Kerchner, H. H. Robison, W. E. Slemmer.

**Student Activities:** R. L. Baldwin, Chairman; D. D. Clarke, W. F. Gray, R. G. Kloeffler, R. J. W. Koopman, M. P. Weinbach.

**Publicity and Attendance:** A. T. Campbell, Chairman; C. C. Cornelius, L. H. Schultz.

**Finance:** George Fiske, Chairman.

**Hotels and Registration:** C. G. Roush, Chairman; A. F. Hartung, S. H. Pollock.

**Luncheon and Dinner:** P. C. Ellis, Chairman; L. L. Davis, S. M. DeCamp, R. L. Frisby, J. E. Launder, C. M. Lytle.

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