

**American Institute of
Electrical Engineers**



FALL

GENERAL

MEETING

Program

*Please retain for use during
entire meeting*

KANSAS CITY, MO.

NOVEMBER 2-6

1953

Meeting Headquarters

HOTEL MUEHLEBACH

GENERAL INFORMATION

This meeting in Kansas City, Missouri, is the seventh of the general meetings which are held annually each Fall in the Midwest. Both the technical program and the inspection trips were planned with the wide interests of the membership in mind.

The general session is scheduled for Monday morning, November 2nd, when we will be welcomed by the Honorable William E. Kemp, Mayor of Kansas City. Col. William M. Talbor, Director of Warning and Communication, Federal Civil Defense Administration and our president, Mr. Elgin B. Robertson, will be the principal speakers at this meeting.

On the social side there will be an informal gathering Sunday evening, a stag smoker, the Chamber of Commerce luncheon and the dinner-dance, as well as special entertainment for the ladies.

Registration Fees Required. In accordance with the policy as set up by the Board of Directors, a registration fee of \$3.00 has been established for members and a fee of \$5.00 for nonmembers. This is to help make the meeting self-supporting and obviate the need for raising the annual dues. Student members and the immediate families of members will not be required to pay any fee.

Information on all features may be obtained at the registration desk. Efforts will be made to deliver telegrams and messages promptly. Members who expect to receive mail are asked to inquire frequently at the mail and registration desk.

Technical Sessions and Discussions are covered by the "Conduct of Technical Sessions" at the discretion of the presiding officers. Usually 10 minutes will be allowed for the presentation of each paper and 5 minutes for each discussion. To receive consideration for publication, discussions in duplicate must be left with the chairman and/or sent to Edward C. Day, Assistant Secretary, Committee on Technical Operations, AIEE, 33 W. 39th Street, New York 18, N. Y. before November 20, 1953. Discussions received later may have to be returned, depending upon the printing schedule of the paper to which the discussion is directed. The original typewritten double-spaced copy, together with original illustrations with photographs or inked tracings should be submitted.

Authors and discussors should make their presentations as effective as possible. Remember your audience. Stress the salient features of the paper which are new or novel. When using slides, please turn toward the audience before speaking and raise your voice. Extemporaneous delivery is preferable to reading unless done slowly and emphasis is put in the proper places.

Advance Copies of Papers may be purchased by members at the registration desk at the uniform price of \$.30 each (\$.60 each to nonmembers). Only numbered papers are available. 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 \$9.00 denominations are available for those who wish to avoid remittance by check or otherwise. Mail orders should be addressed to the AIEE Order Department, 33 West 39th Street, New York 18, N. Y. All of the numbered papers will ultimately be published in the Bimonthly Publications and in the TRANSACTIONS. Conference Papers denoted by CP.** are intended for presentation only and are not available.

SCHEDULE OF EVENTS

SUNDAY, NOVEMBER 1

- 2:00 p.m. Registration
- 3:00 p.m. Social Hour

MONDAY, NOVEMBER 2

- 8:30 a.m. Registration
- 10:00 a.m. General Session
- 2:00 p.m. Trip to WDAF-TV of the Kansas City Star
Switchgear
Communication Switching Systems
Feedback Control Systems
Instrumentation for Hospital Isotope Programs
- 3:00 p.m. Fashion Tea

TUESDAY, NOVEMBER 3

- 9:00 a.m. Trip to WDAF-TV of the Kansas City Star
- 9:30 a.m. Safety
Industrial Power Systems
Petroleum Pipe Lines
- 1:00 p.m. Bridge Luncheon
- 2:00 p.m. Trip to Sheffield Steel Corporation
Aural and Television Broadcasting
Management
Insulated Conductors
Petroleum Refining
- 6:30 p.m. Stag Smoker
- 7:30 p.m. Modern Play Review and Cards

WEDNESDAY, NOVEMBER 4

- 9:00 a.m. Trip to Sheffield Steel Corporation
Trip to The B.O.P. Plant of General Motors Corp.
- 9:30 a.m. UHF and Television
Eastern Mining
Petroleum Production
- 12:15 p.m. Chamber of Commerce Luncheon
- 2:00 p.m. Trip to the Platte Pipe Line Company
Trip to Hawthorn Power Plant of Kansas City
Power and Light Company
Western Mining
Transmission and Distribution
Radio Communication Systems
Cathodic Protection
- 6:00 p.m. Social Hour
- 7:00 p.m. Dinner Dance

THURSDAY, NOVEMBER 5

- 9:00 a.m. Trip to The B.O.P. Plant of General Motors Corp.
- 9:30 a.m. Power Generation
Computing Devices
Transformers and Protective Devices
- 2:00 p.m. Kansas City Museum Tour and Show
Trip to the Platte Pipe Line Company
Trip to the Hawthorn Power Plant of Kansas City
Power and Light Company
Power Generation
Computing Devices
System Engineering

FRIDAY, NOVEMBER 6

- 9:30 a.m. System Engineering
Computing Devices

Monday, November 2

10:00 a.m.—General Session

Grand Ballroom
C. G. ROUSH, General Chairman, Presiding

- “Address of Welcome”, Mayor Wm. E. Kemp.
“Important Role of Entire Electrical Industry in Civil Defense”, Col. William M. Talbor, Director of Warning and Communication, Federal Civil Defense Administration.
“Institute Affairs”, President Elgin B. Robertson.

2:00 p.m.—Switchgear

Colonial Room
R. L. WEBB, Presiding

- 53-404. Life of Silver-Surfaced Contacts on Repetitive Arcing Duty. W. R. Wilson, General Electric Co.
53-405. System Recovery Voltage and Short Circuit Duty for High Voltage Circuit Breakers. I. B. Johnson, A. J. Schultz and W. F. Skeats, General Electric Co.
53-149. New Line of Low Voltage Air Circuit Breakers. B. S. Beall, III and V. N. Stewart, General Electric Co.
CP.** Accessories for the Air Systems of Operating Mechanisms for Outdoor Oil Circuit Breakers. W. C. Mitchel and V. L. Tilli, General Electric Co.
CP.** A Quality Control Program of Increased Scope on Power Circuit Breakers. K. G. Darrow, General Electric Co.

2:00 p.m.—Communication Switching Systems

Tea Room
A. E. FROST, Presiding

- 53-403. The Diode Matrix as a Component in Relay Switching Circuits. G. L. Bush, Teleregister Labs.
CP.** Automatic Percussive Welding. A. L. Quinlan, Western Electric Co., Inc.
53-407. Automatic Testing of Wired Relay Circuits. A. N. Hanson, Western Electric Co., Inc.
53-408. The Type 7 Crossbar Selector. R. W. Hutton, Kellogg Switchboard & Supply Co.

2:00 p.m.—Feedback Control Systems

Trianon Room
H. W. CORY, Presiding

- 53-392. Determination of the Maximum Modulus, or of the Specified Gain, of a Servomechanism by Complex-Variable Differentiation. T. J. Higgins, University of Wisconsin and C. M. Siegel, University of Virginia.
53-394. Backlash in Velocity Lag Servomechanism. N. B. Nichols, Raytheon Mfg. Co.
CP.** A General Theory for the Determination of the Stability of Multiple-Loop Servomechanisms. T. S. Amlie and T. J. Higgins, University of Wisconsin.

- 53-393. Bibliography on Feedback Control Part III. Subcommittees on Bibliography of the Committees on Industrial Control and Feedback Control Systems.

2:00 p.m.—Electrical Techniques In Medicine and Biology

Junior Ballroom
E. D. TROUT, Presiding

- CP.** Instrumentation for Hospital Isotope Programs. I Radiation—Sensitive Instruments (Geiger Tubes and Scintillation Devices). F. E. Hoecker, University of Kansas.
CP.** Instrumentation for Hospital Isotope Programs. II Electronic Counting Instruments. P. N. Wilkinson, University of Kansas.
CP.** Microabsorption Technics Using Photomultiplier Tubes. G. G. Wiseman, University of Kansas.
CP.** An Automatic Method of Analyzing the Concentration of Anaesthetic Gases. R. W. Krone, University of Kansas.
CP.** An Investigation of Metastable Levels in Gaseous Discharge Tubes. Robert McFarland, Kansas State College.

Tuesday, November 3

9:30 a.m.—Safety

Colonial Room
C. E. GANTHER, Presiding

- CP.** Electrical Safety in a Large Development Laboratory. G. L. MacLane and G. E. Stoltz, Westinghouse Electric Corp.
CP.** Safety in the Utilization of Electricity on the Farm. E. H. Smith, Kansas City Power and Light Co.
CP.** Precision Switches Used as Interlocks and Limits in Safety Controls. A. L. Riche, Minneapolis-Honeywell Regulator Co.
CP.** Cost Control by Accident Control. C. R. Zeskey, T. H. Mastin Co.

9:30 a.m.—Industrial Power Systems

Tea Room
D. M. ALLISON, Presiding

- CP.** Natural Gas Plant Power Distribution Systems. C. D. Catt, El Paso Natural Gas Co., and J. K. Howell, Westinghouse Electric Corp.
CP.** Grounded vs. Ungrounded System Operation in Industrial Plants—A Demonstration. R. H. Kaufmann, General Electric Co.
CP.** Distribution Systems in Oil Refineries. T. R. Shaw, Phillips Petroleum Co.

CP.** Power Generation and Distribution in Chemical Industries. R. F. Lawrence and H. B. Thacker, Westinghouse Electric Corp.

9:30 a.m.—Petroleum Pipe Lines

Trianon Room
V. J. SITTEL, Presiding

CP.** Selection of Motors and Controls for Pipeline Pumping Stations. R. J. Osborn, Sinclair Pipeline Co.

CP.** Automatic and Remote Control of Electric Pipeline Stations. R. S. Cannon, Plantation Pipeline Co.

CP.** Petroleum Microwave Progress 1950-53. E. B. Dunn, Keystone Pipeline Co.

2:00 p.m.—Aural and Television Broadcasting

Tea Room
R. G. KLOEFFLER, Presiding

CP.** Design, Principles and Fallacies in the Hi-Fi Field (with demonstration). Frank A. Slaymaker, Stromberg-Carlson Co.

CP.** Development and Practical Operating Considerations of the Conelrad System for Standard Broadcast. A. P. Walker, National Association of Radio & Television Broadcasters.

53-414. Development of Television Service Standards and Application to Design of a Television Broadcast Network. O. W. B. Reed, Jr., Jansky and Bailey, Inc.

CP.** Factors Affecting the Correlation of TV Picture Quality Between Field and Laboratory Signals. B. Amos and C. Quirk, DuMont Corp.

2:00 p.m.—Management

Junior Ballroom
F. K. McCUNE, Presiding

CP.** How Should a Manager Spend His Time. P. F. Drucker, Consultant.

CP.** The Implementation of a Management Development Program. L. A. Russ, Westinghouse Electric Corp.

2:00 p.m.—Insulated Conductors

Colonial Room
M. H. McGRATH, Presiding

53-389. Pipe Line Design for Pipe Type Feeders. R. C. Rifenburg, Consolidated Edison Co. of N. Y., Inc.

53-386. Submarine Cables. Andrew Bodicky, Union Electric Co. of Missouri.

53-390. Power Cable Crossings on Bridges and Viaducts. D. C. Hawley, Kansas City Power and Light Co.

53-391. A Method of Analysis of Annual Variations of Harbor Water and Earth Temperatures. W. N. McDaniel and E. F. Wolf, Consolidated Gas Electric Light and Power Co. of Baltimore.

53-379. Pipe Losses in Non-Magnetic Pipe. L. Meyerhoff, General Cable Corp.

2:00 p.m.—Petroleum Refining

Trianon Room
J. Z. LINSSENMEYER, Presiding

CP.** Applications of Outdoor Metal Clad Switchgear. E. R. Hoyle, Sinclair Refinery Co.

CP.** Protection of Large Motors. C. R. Olson, Westinghouse Electric Corp.

CP.** Oil vs. Air Circuit Breakers for Petroleum Refineries. W. B. Wilson and J. Erwin, General Electric Co.

Wednesday, November 4

9:30 a.m.—UHF and Television

Tea Room
G. R. TOWN, Presiding

CP.** Investigation of UHF Amplifier Operation. W. Y. Pan, RCA Victor Div.

CP.** Review of Development of Color Television. G. H. Brown, RCA Laboratories Div.

CP.** Beat Between Sound Carrier and Color Signal in a TV Receiver. J. E. Allen, General Electric Co.

CP.** Unified Signal Coder for Compatible Color System. J. F. Fisher and A. J. Anderson, Philco Corp.

9:30 a.m.—Eastern Mining

Trianon Room
R. B. MOORE, Presiding

CP.** The Underground Electro-carbonization of Coal. E. Sarapuu, Sinclair Coal Co. and P. C. Cross, General Electric Co.

CP.** St. Joseph Lead Company Development at Indian Creek. E. H. Tucker, St. Joseph Lead Co. and D. E. Cain, General Electric Co.

CP.** Electric Equipment of Electrolytic Zinc and Copper Production. E. C. Clark, General Electric Co.

CP.** Protective Devices Underground. A. J. Stone, I-T-E Circuit Breaker Co.

9:30 a.m.—Petroleum Production

Colonial Room
J. Z. LINSSENMEYER, Presiding

CP.** The Economic Aspects of Electric Oil Well Pumping. T. L. Scott, Phillips Petroleum Co.

CP.** Complete Automatic Operation of Oil Field Leases. N. W. Beaudreau, Central Power and Light Co.

CP.** Oil Field Transmission and Distribution Systems. J. R. Ashley, Magnolia Pipe Line Co.

2:00 p.m.—Western Mining

Trianon Room
J. G. IVY, Presiding

- CP.** Ore Conveyors at Pend O'Reille Mines & Metal Corp. R. M. Gilbert, Spokane, Washington.
- CP.** Arc Furnaces in Mining Industry. G. W. Wright, Canadian General Electric Co.
- CP.** A 6000 HP Automatic Mine Hoist Drive. L. W. Fisher and F. C. Dohany, Canadian General Electric Co.

2:00 p.m.—Transmission and Distribution

Colonial Room
F. V. SMITH, Presiding

- 53-399. Abnormal Voltage Conditions Produced by Open Conductors on Three-Phase Circuits Using Shunt Capacitors. P. E. Hendrickson, I. B. Johnson and N. R. Schultz, General Electric Co.
- 53-400 Electromagnetic Unbalance of Untransposed Transmission Lines. E. T. B. Gross, Illinois Institute of Technology and M. H. Hesse, General Electric Co.
- 53-401. Electrostatic Unbalance to Ground of Twin Conductor Lines. E. T. B. Gross, Illinois Institute of Technology and W. J. McNutt, General Electric Co.
- 53-402 Sequence Networks for Faults on Open-Wye Open-Delta Transformer Banks. L. C. Caverley, University of Minnesota and J. V. Sastry, Northern States Power Co.
- CP.** Application of Shunt Capacitors to Network Systems. H. Brooks, Westinghouse Electric Corp.
- 53-415. Bibliography on Power Capacitors 1950-52. Capacitor Subcommittee of the Committee on Transmission and Distribution.

2:00 p.m.—Radio Communication Systems

Tea Room
E. D. NUTTALL, Presiding

- 53-384. A Miniature Compondor for General Use in Wire and Radio Communication Systems. F. S. Boxall and R. S. Caruthers, Lenkurt Electric Co., Inc. Represented for discussion.
- 53-381. Use of Radio and Radar in the Petroleum Industry. W. M. Rust, Jr., Humble Oil and Refining Co.
- 53-382. Microwave as Applied to Railroad Operation in the Gulf Coast Area. L. R. Thomas, Atchison, Topeka & Santa Fe Railway Co.
- CP.** Industry Coordination of Microwave Communications Systems. Victor Nexon, Microwave Services, Inc.

2:00 p.m.—Cathodic Protection

Junior Ballroom
R. M. WAINWRIGHT and J. P. OLIVER, Presiding

- CP.** The Advantage of Using Zinc or Zinc-Coated Metals Underground to Conserve Cathodic Protection Current. O. C. Mudd, Shell Pipeline Corp.
- 53-413. A Discussion of the Detroit Committee on Electrolysis. R. L. Rayner, Michigan Bell Telephone Co.
- CP.** Magnetic Amplifier Control of Cathodic Protection Equipment. Daniel Werner, American Telephone & Telegraph Co.
- CP.** Practical Aspects of Cathodic Protection Installation. H. W. Hosford, The Harco Corp.

Thursday, November 5

9:30 a.m.—Power Generation

Colonial Room
J. E. BARKLE, Presiding

- 53-388. Protection of Turbine-Generators and Boilers by Automatic Tripping. H. A. Bauman, J. M. Driscoll, P. T. Onderdonk and R. L. Webb, Consolidated Edison Co. of N. Y., Inc.
- 53-406. Glenwood No. 3 Outdoor Power Station. E. F. DeTurk and W. J. Burns, Long Island Lighting Co.
- CP.** Electrical Features of Eastlake Generating Station. C. F. Paulus, Cleveland Electric Illuminating Co.
- CP.** Electrical and Mechanical Features of the Niles Generating Station. C. E. Asbury and J. C. Beres, Commonwealth Associates.
- CP.** Maximum Short Circuit and Faulty Synchronizing Torques on Generator Foundations. V. W. Ruskin, Toronto, Canada.

9:30 a.m.—Computing Devices

Tea Room
E. L. HARDER, Presiding

- CP.** Use of High Speed Computing Devices in Photometric Calculations. G. A. Horton, Westinghouse Electric Corp.
- CP.** An Electronic System for Processing Air Traffic Control Information. R. M. Kalb, ERA Division, Remington Rand Inc.
- 53-409. Nondestructive Sensing of Magnetic Cores. D. A. Buck and W. I. Frank, Massachusetts Institute of Technology. Re-presented for discussion.
- CP.** A Sine Function Resistor. K. L. Nielsen, U. S. Naval Ordnance Plant and E. H. Roland, General Motors Corp.

9:30 a.m.—Transformers and Protective Devices

Trianon Room
F. J. VOGEL, Presiding

- 53-385. Duplex Current Limiting Reactors, Their Application and Forces. L. E. Sauer, Westinghouse Electric Corp.
- CP.** Step by Step Calculation of Transformer Hot Spot Temperature from Daily Load Curves. G. H. Halsey, General Electric Co.
- CP.** A Stray Loss Problem in Transformer Tanks. E. J. Adolphson and F. J. Vogel, Allis-Chalmers Mfg. Co.
- 53-398. Grounding Electrode Characteristics from Model Tests. H. R. Armstrong, Detroit Edison Co.

2:00 p.m.—Power Generation

Colonial Room
B. G. A. SKROTZKI, Presiding

- CP.** Steam Generators. G. V. Williamson, Union Electric Co. of Missouri.
- CP.** Turbine Generators—Present and Future. E. H. Krieg, Stone and Webster Engineering Corp.
- CP.** Internal Combustion Engines. L. B. Immele, Burns and McDonnell Engineering Co.
- CP.** Gas Turbine-Generators. C. F. Kottcamp, Gulf Oil Corp.

2:00 p.m.—Computing Devices

Tea Room
S. J. O'NEIL, Presiding

- CP.** Conversion Problems Incidental to the Use of a Digital Computer to Control Analog Equipment. S. J. O'Neil, AF Cambridge Research Center.
- CP.** Digital Recording of Analog Data. J. C. Hosken, Arthur D. Little, Inc.
- CP.** Synchro-to-Digital Converter. C. D. Cockburn, General Electric Co.
- CP.** Design and Performance of a New Electro-Magnetic Analog-Digital Converter. T. A. Feeney, Coleman Engineering Co.

2:00 p.m.—System Engineering

Trianon Room
C. B. KELLY, Presiding

- CP.** A Suggested Training Approach to the Incremental Method of Loading Generating Units. R. T. Purdy, Commonwealth Edison Co.
- CP.** Practical Consideration of Transmission Losses in System Operation. T. W. Schroeder, Illinois Power Co.
- 53-396. Pacific Northwest 1952 Power Shortage. J. P. Joliffe, Bonneville Power Administration.

- 53-380. A System Operator's View of Ice Melting on a Power Line While in Service. O. L. Oehlwein, Public Service Co., Division of Commonwealth Edison Co.
- 53-377. Experience and Reliability of Corner Relaying Channels. AIEE Project Subcommittee #5 of the AIEE Committee on Carrier Current. Re-presented for discussion.

Friday, November 6

9:30 a.m.—System Engineering

Colonial Room
R. T. PURDY, Presiding

- 53-383. Interconnected Systems Energy Accounting Procedure and Related Operating Practices. M. J. Lapopo, American Gas & Electric Service Corp. Re-presented for discussion.
- 53-397. Economy Loading Simplified. J. B. Ward, Purdue University.
- CP.** Switching Methods on a High-Voltage Cable System. E. L. Michelson and C. McNamara, Commonwealth Edison Co.
- 53-387. Field Excitation in Relation to Machine and System Operation. S. B. Farnham and R. W. Swarouth, General Electric Co.

9:30 a.m.—Computing Devices

Junior Ballroom
R. M. KALB, Presiding

- CP.** Analog Computer Stability Studies of an Oil Field Pressure Maintenance System. S. J. Jennings and E. C. Clark, General Electric Co.
- 53-410. The Use of Electric Network Analyzers for Pipe Network Analysis. R. E. Stephenson, University of Utah and J. R. Eaton, Purdue University.
- 53-411. An Analysis of an Analogue Solution Applied to the Heat Conduction Problem in a Cartridge Fuse. A. E. Guile, Queen Mary College and E. B. Carne, Remington Rand, Inc.
- 53-412. The Solution of Sturm-Liouville Problems by Direct-Current Network Analyzer. G. W. Swenson, Jr., Washington University. (Presented by R. E. Horn).
- 53-395. Solution of Boundary-Value Problems on Automatic Computing Equipment. F. M. Verzuh, Massachusetts Institute of Technology. Re-presented for discussion.

CP.** Conference paper; no advance copies are available; not intended for publication in Transactions.

INSPECTION TRIPS

Arrangements have been made for the following trips to industries in Kansas City and vicinity. Every effort has been made to bring out the technical aspects of each trip. In addition, they will afford the members attending an opportunity to see Kansas City.

Platte Pipe Line Company has the nation's newest crude oil transportation system. Their 20" pipeline extends from Chatham, Wyoming to Woods River, Illinois, a distance of 1,056 miles. They have 12 pumping stations and 13 valve stations. The operations are controlled from their headquarters in Kansas City with a Microwave communications system which provides a means for dispatching, administration, telemetering, and supervisory control of the pumping stations. A trip through the dispatcher's office and microwave station at the top of the Power and Light Building will be informative and interesting. It will also be a chance to see Kansas City. This trip is scheduled for Wednesday, November 4, and Thursday, November 5 at 2:00 p. m. There will be no charge for transportation.

Hawthorn Power Plant of Kansas City Power and Light Company is a new Steam Electric generating station. It has two 66,000 KW and one 99,000 KW units. Another 99,000 KW unit is under construction. The unit system design is fired with pulverized fuel. The voltage is stepped up to 66,000 and 161,000 volts at the plant and transmitted via overhead transmission lines. This trip is scheduled for Wednesday, November 4 and Thursday, November 5 at 2:00 p. m. There will be a charge of \$1.00 for transportation.

WDAF-TV of the Kansas City Star has a new building in which all of the programs, studio, commercial, communication, and operating facilities are assembled in one place. Special attention will be given to the electrical equipment and its operation on the inspection trip. The station is rated at 100,000 watts of visual effective radiated power. It operates between 66 and 72 Megacycles on Channel 4. The adjacent tower is 724 feet high. This trip is scheduled for Monday, November 2 at 2:00 p. m. and Tuesday, November 3 at 9:00 a. m. There will be a charge of \$0.75 for transportation.

Sheffield Steel Corporation, one of the largest steel companies in the midwest, has many items of interest to engineers. Two of these are the new electric arc furnace and the rod and merchant mill. The electric furnace has 100 ton capacity and is rated at 25,000 KVA requiring approximately 4 hours of continuous operation to melt down scrap steel ready to tap. This furnace is one of the largest in the midwest and has seen service since August 1952.

The rod and merchant mill is an example of modern automatic steel making. This trip is scheduled for Tuesday, November 3 at 2:00 p. m. and Wednesday, November 4 at 9:00 a. m. There will be a charge of \$1.00 for transportation.

The B.O.P. Plant of General Motors Corporation is where Buicks, Oldsmobiles and Pontiacs are assembled and finished on the same line. It is interesting to see how this is done. It is a vast operation to turn out hundreds of cars daily to supply the market in the Southwest. This trip is scheduled for Wednesday, November 4 and Thursday, November 5 at 9:00 a. m. There will be a charge of \$1.00 for transportation.

Tour of Kansas City—The Grayline bus will tour Kansas City and cover points of interest. This tour will be available to members and their wives. Two tours are scheduled daily at \$1.00 and \$2.00.

SOCIAL AND ENTERTAINMENT

Arthur C. Kirkwood, chairman of this committee, promises to provide good entertainment for the evening hours. Preliminary details are as follows:

Social Hour Sunday evening, November 1—Early arrivals can get acquainted during this informal gathering for members and their wives from 3 P.M. to 6 P.M.

Stag Smoker on Tuesday, 6:30 p.m.—This Smoker will give the members and guests an opportunity to relax and enjoy themselves. There will be cocktails, buffet dinner and entertainment. The tickets for this function will be \$7.00.

Chamber of Commerce Luncheon Wednesday 12:15 p.m.—Members of our meeting have been invited to be paying guests at the Chamber of Commerce luncheon. This will promote our professional relations. The tickets for this function will be \$1.70.

Dinner Dance Wednesday 6:00 p.m.—Members and their wives can enjoy a good dinner, entertainment, and dancing in the magnificent new Grand Ballroom at Hotel Muehlebach. Formal dress will be optional. The tickets for this function will be \$7.00 each.

Golf—The golfers will find many fine country clubs in Kansas City and guest tickets will be provided for those wishing to play.

LADIES PROGRAM

Mrs. Samuel H. Pollock and her committee of 100 ladies have ambitious plans to keep the wives entertained. Members are encouraged to bring their wives since through their wives the engineers will become better acquainted, and everyone will enjoy themselves even more.

Coffee Hours each morning—These get acquainted coffee hours will be held on the mezzanine floor at Hotel Muehlebach starting at 10 a.m. each forenoon. All ladies should attend these to arrange for their activities for the day.

Kansas City tours each day—Tours will be arranged each day at the coffee hour to meet the diversified interests of the ladies.

A tour of the City will be made Monday forenoon. Antique shops will be covered Thursday forenoon. A tour will be made through engineers' homes on Friday afternoon to see how engineers live.

Other tours will include shops, Nelson Gallery of Art, Kansas City Art Institute, Plaza shopping district, Hall Brothers gifts, and nationally known factories.

Fashion Tea at Emery Bird Thayer Store Monday at 3 p.m.—There will be a luncheon and fashion show at this outstanding store. The tickets for this function will be \$1.00.

Bridge Luncheon at Hotel President Tuesday noon—This party at a beautiful country club is expected to be a highlight of the ladies' activities. They will play bridge, canasta, and pinochle for some very attractive prizes. The tickets for this function will be \$2.50.

Cards and Entertainment Tuesday evening—The ladies will meet at 7:30 p.m. in the Trianon Room of the Hotel Muehlebach for cards, then be entertained by Mrs. A. C. Kirkwood who will give a reading of a current Broadway hit. There will be no charge for this function.

Kansas City Museum Tour and Show Thursday afternoon—After a tour of the museum, a show will be staged in the costume wing entitled "Grandma's Treasures." The tickets for this function will be \$1.00.

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Technical Papers

Tech. Activities

H. A. Affel

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Hendley Blackmon

E. U. Lassen

M. M. Brandon

F. K. McCune

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E. I. Green

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William Carter
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Gordon Parhm
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L. M. Schindel
Chairman

A. F. Hartung
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R. L. Baldwin
Chairman

G. E. Messer
Vice Chairman

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Inspection Trip

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O. L. Starcke, *Chairman*

Students

W. P. Smith
Chairman

E. L. Sitz
Vice Chairman

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Mrs. S. H. Pollock, *Chairman*

Mrs. A. C. Kirkwood, *Vice Chairman*

Mrs. J. W. Harris, *Vice Chairman*

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Mrs. Paul Saunders

Mrs. R. M. Goetschius

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Mrs. James Hayden

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Mrs. P. H. McKinley

Mrs. W. R. Wheeler

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Mrs. J. S. Palmer

Mrs. C. W. Laughlin

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Mrs. R. J. Anspach

Mrs. A. A. Dahms

Mrs. H. T. Sedgwick

Mrs. W. J. Brockhouse, Jr.

Mrs. O. R. Taylor

Mrs. B. F. Meador

Mrs. B. J. George

Mrs. M. L. Perry

Mrs. Max Bretschneider

Mrs. R. D. Woodson

Mrs. George Bolt

COMMITTEE MEETINGS

Monday, November 2

4:00 p.m.—Communication Switching Systems.....Room 3

Tuesday, November 3

9:30 a.m.—Communication Division..... *

12:00 noon—Luncheon—Communication Division..... *

12:00 noon—Luncheon—Public Relations.....Room 411

4:00 p.m.—Planning and Coordination.....Room 3

Wednesday, November 4

9:30 a.m.—Power Division..... *

12:00 noon—Luncheon—Technical Operations..... *

12:00 noon—Luncheon—Wire Communications.....Room 3

12:00 noon—Luncheon—Radio Communications.....Room 411

2:30 p.m.—Edison Medal Committee.....Room 2

Thursday, November 5

9:30 a.m.—Board of Directors..... **English Room

9:30 a.m.—System Engineering.....Room 3

12:00 noon—Luncheon—Board of Directors..... **English Room

2:00 p.m.—Board of Directors..... **English Room

4:30 p.m.—Power Generation.....Room 3

*The exact room for this committee meeting will be posted on the bulletin board in the registration area.

** The English Room is located in the Hotel Phillips across the street from the Hotel Muehlebach.

HOTEL MUEHLERBACH, KANSAS CITY, MISSOURI

MEZZANINE (2ND) FLOOR PLAN

