South Central District Meeting



April 4-6, 1962

Memphis, Tennessee

Headquarters
Hotel Peabody

SCHEDULE OF EVENTS

Wednesday—April 4

8:30 A.M.—Registration

9:00 A.M.—Inspection Trip

11:45 A.M.—Welcoming Luncheon

1:30 P.M.—Technical Sessions

Inspection Trip

Student Conference

2:00 P.M.—Ladies' Mississippi Boat Trip on "Memphis Oueen"

5:30 P.M.—Social Hour

Thursday—April 5

8:00 A.M.—Registration

9:00 A.M.—Technical Sessions

Ladies, "Visit to Holly Springs, Mississippi"

10.00 A.M.—Inspection Trip

1:30 P.M.—Technical Sessions

Inspection Trip

Student Conference

6:30 P.M.—Refreshment Hour and Dinner Dance

Friday—April 6

8:30 A.M.—Registration

Inspection Trip

9:00 A.M.—Technical Sessions

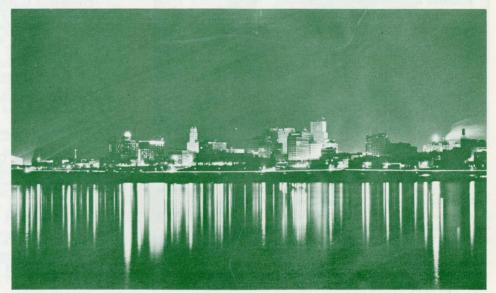
10:00 A.M.—Inspection Trip

Ladies' Motor Tour of Memphis

12:30 P.M.—Ladies' Lunch after Motor Tour

1:00 P.M.—Inspection Trip

1:30 P.M.—Technical Sessions



Memphis, Tennessee, from across the Mississippi River.

Memphis plays host to the District 13 Meeting. Visitors are always welcome and always enjoy a visit to Memphis, capital city of the mid-south.

The Hotel Peabody will be headquarters for the meeting and it has an ample number of rooms available for delegates and their families. Rates are: Single, \$6.00 to \$14.00; Double, \$8.00 to \$17.00; Twin, \$11.00 to \$18.00; Suites, \$24.00 to \$40.00. \$2.50 for each additional person in a room on roll-a-way bed. Please use the hotel reservation form enclosed with this announcement.

TECHNICAL PROGRAM

The Technical Sessions are planned to offer something of interest to members of AIEE engaged in all fields of Electrical Engineering. Approximately seventy-five papers will be presented covering the application of electricity in such varied fields as: Transmission, Generation, Electric Heating, Electric Code, Computers, Communications, Medicine, Testing, Missiles, Agriculture and Chemical Industry.

SOCIAL EVENTS

"Welcome to Memphis" Luncheon, Wednesday, April 4, 11:45 A.M. to 1:15 P.M., Venetian Room, Hotel Peabody. This luncheon will officially open the meeting for delegates and their ladies. The Mayor of Memphis will speak a word of welcome, followed by a well known speaker.

"Hospitality Social," Wednesday, April 4, 5:30 P.M. to 7:00 P.M., Venetian Room, Hotel Peabody. This event which is a cocktail hour is to allow the delegates to greet old friends and make new friends. This will be a perfect beginning for an evening "on the town," a chance to see Memphis, enjoy its excellent restaurants and night life.

"Refreshment Hour and Dinner Dance," Thursday, April 5, 6:30 P.M. to 1:00 A.M., Continental Ball Room, Hotel Peabody. Famous Hotel Peabody food, dancing to Bob Morris' Orchestra, Glenn Miller style music. Warm fellowship. Highly recommended to all delegates and their ladies. Awards will be presented to winners of Student Papers competition. Dress informal.

Continued on page 4

SOUTH CENTRAL DISTRICT MEETING

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 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

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.

Wednesday, April 4

1:30 p.m.—Overhead Transmission and Distribution

Louis XVI Room

Presiding: J. C. JENKINS, Memphis Light, Gas & Water Div.

DP62-515. Basic Impulse Insulation Levels and Impulse Testing Applied to Reduced BIL Transformers. V. F. Christen, Moloney

DP62-516. Problems and Use of Extra High Voltage. K. E. Hapgood, TVA.

Transmission Line Grounding. D. T. Jones, Copperweld Steel

Use of 14.4/24.9 K.V. as a Distribution Voltage. W. M. Wilson, Consulting Engineer.

1:30 p.m.—Computers

Room 213

Presiding: J. C. McKEE, JR., Miss. State University

A Digital Solution for Three Phase Faults with Motor Contributions. A. E. Johnson, A. K. Ramsey and M. B. Reed, La. State University.

A High Speed Solid State Digital Scanner for Use with the ERA 1102 Computer. J. H. Brewer, ARO, Inc.

Adaptation of Analog Techniques to Linear Programming Problems. R. L. Hall and J. C. McKee, Jr., Miss. State Uni-

DP.* An Electrical Interpretation of Gauss Algorithm. C. H. Chen and I. J. Haas, Christian Brothers College.

1:30 p.m.—Electrical Applications in Medicine and Biology Room 214

Presiding: L. H. MONTGOMERY, Vanderbilt University

Analog Computer Studies of the Circulatory System. T. G. Arnold, Vanderbilt University.

DP.* The Application of Skin Resistance Measurements in the Determination of Hearing Levels. K. B. Horton and L. H. Montgomery, Bill Wilkerson Speech and Hearing Center.

An Objective Method for Grading Atherosclerosis Lesions. D. A. Eggan, J. P. Strong and H. C. McGill, La. State Uni-

Vanderbilt University Low Level Counting Facility. M. R. Weiland, Electronics Engineer.

1:30 p.m.—Electrical Applications In Aero-Space Vehicles Room 215

Presiding: G. F. DAUSSMAN, George C. Marshall Space Flight Center DP.* Telemetry System for Saturn S-I Stage Development. J. E. Rorex, George C. Marshall Space Flight Center.

DP62-517. Juno II Satellite Power Supplies, P. Youngblood, George C. Marshall Space Flight Center.

Round table discussion led by a panel consisting of J. E. Rorex and P. Youngblood, George C. Marshall Space Flight

Thursday, April 5

9:00 a.m.—Overhead Transmission and Distribution

Louis XVI Room

Presiding: J. C. JENKINS, Memphis Light, Gas & Water Div.

DP62-518. Advances in Feeder Protection through Electronics. R. F. Jones, Line Material Industries.

DP62-519. Maintenance of Galvanized Steel Towers and Substation Structures. T. J. Eberhardt, Subox, Inc.

DP62-520. Load Characteristics of Distribution System from Field Test of Transformers. J. F. Fossick, W. A. Moore, Jr. and W. K. Robinson, Memphis Light, Gas & Water Div.

DP62-521. Revenue Metering Problems in a Large Power System. R. E. Terrell and A. H. Tuholsky, Union Carbide Nuclear Co.

9:00 a.m.—Closed Loop Control Systems Room 213

Presiding: C. H. WEAVER, Auburn University

DP62-533. Graphical Determination of Transfer Function Coefficients of a System from its Frequency Response. C. F. Chen and B. L. Philip, Christian Brothers College.

A Self-Phasing Circular Receiving Antenna Array. R. E. Bodenheimer, H. P. Neff and J. D. Tillman, University of

DP62-522. A Study of Dual Sensing in Reactor Controls. C. L. Rogers and C. H. Weaver, Auburn University.

Continuous-Data Solution to a Sampled-Data Problem. R. E. Lueg, University of Ala.

9:00 a.m.—Nuclear Electric Power Generation Room 214

Presiding: J. L. GABBARD, Union Carbide Nuclear Co.

Gas Cooled Reactors. W. D. Manly, Oak Ridge National

Boiling Water Reactor Progress. R. H. Shannon, General Electric Co.

Yankee Pressurized Water Reactor. W. L. Budge, Westinghouse Electric Corp.

DP.* Fast Breeder Reactors (Fermi). H. O. Monson, Argonne National Laboratory.

9:00 a.m.—Corrosion and Cathodic Protection

Room 215

Presiding: J. D. Howard, Southern Bell Tel. and Tel. Co.

DP.* Fundamentals of Cathodic Protection. B. Husock, Harco Corp.



Memphis Plant of the Buckeye Cellulose Corporation.

TECHNICAL PROGRAM

DP.* Determining the Susceptibility to Corrosion of Buried Metallic Structures by Potential Measurements Made at the Earth's Surface. R. W. Ackermann, American Tel. and Tel. Co.

Application of Nickel Cadmium Cells for Cathodic Protection of Pipe-Type Cable. J. J. Komisky, ARO, Inc.

Deep Ground Anode Beds in New Orleans. A. P. Landry, Southern Bell Tel. and Tel. Co.

1:30 p.m.—Underground Distribution

Louis XVI Room

Presiding: M. H. PARNELL, Memphis Light, Gas & Water Div.

DP.* Underground Service to Large Customers in Overhead Districts. W. H. Mangrum, Memphis Light, Gas & Water Div.

DP62-523. Residential Underground Distribution Cable. R. E. Feller, Okonite Co.

Aluminum Sheathed Aerial Cable. E. J. Merrell, Phelps Dodge Copper Products Corp.

DP.* Cable Designs for Underground Residential Distribution Systems. J. Kitchens, Anaconda Wire and Cable Company.

1:30 p.m.—Automation

Room 213

Presiding: W. C. JORDAN, JR., Curtis H. Stout, Inc.

DP.* A Relay Shift Register. L. Jaseph, Rotary Lift Division. DP62-524. Control of Natural Gas Distribution by Automation. L. F. White, Memphis Light, Gas & Water Div.

The Engineer's Stake in Automation, W. R. Harris, Westinghouse Corp.

DP.* New Control Trends, R. K. Wolfe, IBM Corp.

1:30 p.m.—Nuclear Electric Power Generation

Room 214

Presiding: L. L. Anthony, Union Carbide Nuclear Co.

Organic Cooled Reactor (Piqua). E. F. Weisner and J. Jacobson, Atomics International.

Molten Salt Reactor. R. B. Briggs, Oak Ridge National Laboratory. Sodium Graphite Reactor (Hallam). R. C. Gerber, Jr., Atomics

International.

Small Power Plants for Maritime and Army Use. H. C. McCurdy, Oak Ridge National Laboratory.

1:30 p.m.—Electrical Applications in Agriculture Room 215

Presiding: J. P. Johns, Southwest Tennessee Electric Membership Corp.

DP62-525. The Electro Farm. J. A. Neely. TVA.

DP.* Electrical Engineering in Agricultural Engineering Education. H. C. Simrall, Miss. State University.

DP62-526. The Use of Electric Heat in Plastic Greenhouses. W. C. Whisenant, TVA.

DP.* Research in Farmstead Electromation. J. P. Schaenzer, R.E.A.

Friday, April 6

9:00 a.m.—National Electrical Code and Its Applications Louis XVI Room

Presiding: M. G. Sifford, Westinghouse Electric Supply Co. Round Table Discussion Led by a Panel Consisting of:

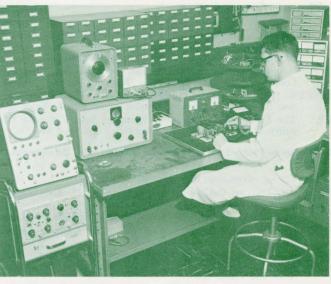
R. W. Barbee, Jr., Allen & Hoshall, Consulting Engineers, G. W. Dichtel, Jr., Liberty Electric Co., B. L. Kaufman, Westinghouse Electric Corp., R. L. Lloyd, National Bureau of Standards, H. L. Thomas, Memphis Chief Electrical Inspector, R. E. Ward, State of Tennessee Department of Insurance and Banking.

9:00 a.m.—Power System Planning Room 213

Presiding: V. J. CISSNA, Retired, TVA.

DP.* New Methods of Long Range Planning for Power Pool Expansion. C. J. Baldwin, Westinghouse Electric Corp.

Project EHV-Value of Research. J. W. Yetter and D. D. MacCarthy, General Electric Company.



Neuro-Surgical Department at the University of Tennessee.

DP62-527. Accuracy of Loss Formula Coefficient on the TVA system. T. R. Walker and W. H. Hutchins, TVA.

DP.* Probability, Frequency and Duration of Simultaneous Forced-Outages of a Transmission Line and a Generating Unit Coincident with Critical Levels of System Loads. H. P. Cone, Southern Services, Inc.

DP.* Converting the Memphis Electric System from a TVA Distributor to a System with Generation and with TVA Ties. C. L. Osenbaugh, Memphis Light, Gas and Water Div.

9:00 a.m.—Field Testing of Electrical Cable and Equipment Room 214

Presiding: D. J. GOODMAN, ARO, Inc.

DP62-528. TVA's Experience in Analyzing Combustible Gases in Nitrogen-Filled Power Transformers, R. O. Taylor, TVA.

The Development of a Practical, Portable 100-kv, D-C Hi-Pot Tester of Maximum Utility and Minimum Weight. C. F. Von Herrman, Jr., The Von Corp.

DP62-529. Dielectric Testing of Insulated Aerial Baskets. R. W. Carter and R. L. Murray, Ala. Power Co.

Transient Voltages in Pipe-Type Cable Grounding Systems. E. J. Simmons, ARO, Inc.

9:00 a.m. Electrical Applications in the Chemical Industry Room 215

Presiding: E. H. Coxe, Ethyl Corp.

DP.* Significant Characteristics of Insulated Conductors for Chemical Plant Applications. R. S. Keith, Kaiser Aluminum and Chemical Corp.

Variable Speed Drives. C. R. Olson, Westinghouse Electric Corp.

Computers in the Chemical Industry. E. Turner, General

More about Rectifier Transformer Failures. E. H. Coxe, C. I. Glassbrook and G. H. Perry, Ethyl Corp.

1:30 p.m.—Electric Heating

Louis XVI Room

Presiding: C. B. GRUND, JR., Southern Services, Inc.

Electrically Heated Schools in the Tennessee Valley Area, W. R. New and R. G. Walraven, TVA.

Applications of Duct Heaters with Air Conditioners and Heat Pumps. J. E. Goff, Ceilheat, Inc.

Applications and Installation of Electric Heating. J. G. Adams, Westinghouse Electric Corp.

Residential Electric Heating Design and Installation. Fred Niell, Memphis Light, Gas & Water Div.

SOUTH CENTRAL DISTRICT MEETING

1:30 p.m.—Communications

Room 213

Presiding: H. I. Downs, Memphis Light, Gas & Water Div.

- DP.* Statewide Mobile Telephone Plans for Tennessee. E. W. Anderson and W. H. Stults, Southern Bell Tel. and Tel. Co.
- DP.* New Horizons in Communications. G. R. Winston, Motorola Communications and Electronics, Inc.
- DP62-530. Microwave Use on the Memphis Light, Gas & Water Division System. S. A. Head, Memphis Light, Gas & Water Div.
- DP.* The Transmission Aspects of Exchange Special Service Circuitry. P. H. Saeger, Jr., Southern Bell Tel. and Tel. Co.

1:30 p.m.—Field Testing Electrical Cable and Equipment Room 214

Presiding: D. J. GOODMAN, ARO, Inc.

- DP.* A.C Tests on Cable Installations in the Field. A. L. Rickley and E. H. Povey, Doble Engineering Co.
- DP.* Locating Cable Faults by Sound. R. J. McGonegle, ARO, Inc.
- DP62-531. The Value of Overvoltage Tests. A. W. W. Cameron, Ontario Hydro-Electric Power Commission.
- DP62-532. Practical Aspects of Direct Current Testing in the Field on Electrical Cables. R. A. Nelson and P. H. Ware, Simplex Wire and Cable Co.

1:30 p.m.—Electrical Applications in the Pulp and Paper Industry

Room 215

Presiding: H. B. EILAND, Buckeye Cellulose Corp.

- DP.* Electrical Productive Maintenance in Pulp and Paper Mills. C. G. Herrington, Buckeye Cellulose Corp.
- DP.* Modern Regulated Drive Techniques. R. P. Derrick, Westinghouse Electric Corp.
- DP62-534. Modernization of St. Regis Electric Power System. M. Dickhaut, St. Regis Paper Co.
- DP.* Application of Electrical Insulating Materials to Liquid Filled Transformers. W. H. Mutschler, Jr., Allis-Chalmers Manufacturing Co.

CONTINUED FROM PAGE 1

LADIES ACTIVITIES

Mississippi River Boat Trip on "Memphis Queen", Wednesday, April 4, 2:00 P.M. A most entertaining river boat trip skippered by Captain Tom Meanley, Newspaper Reporter, Author and River Authority. The "Memphis Queen" will land on a river sandbar and guests will be allowed to debark and wiggle their toes in the sand or wade in the "Mighty Mississippi". This is a must for all visitors to Memphis.

Visit to Ante-bellum Homes in Holly Springs, Mississippi, Thursday, April 5, 9:00 A.M. This is a trip to see four pre-Civil War homes, beautifully restored and maintained. For a real taste of the "Old South" ladies should make this trip. Lunch will be served.

Motor Tour of Memphis, Friday, April 6, 10:00 A.M. A 2½ hour tour of Memphis' most interesting historical and civic attractions, followed by luncheon at a famous Polynesian "Luau" restaurant. Hospitality Room at the Peabody Hotel will be open at all times with ladies present.

INSPECTION TRIPS

Light and Power Utilities Corporation, Wednesday, April 4, 1:30 P.M. This will be a visit to a new, modern manufacturing plant at Olive Branch, Mississippi, a short distance from Memphis. New materials, new techniques and new machines are employed in this plant to make both incandescent and fluorescent luminaires for industrial, commercial and residential installations. Visitors always receive a warm welcome.

Armour Fire and Police Training Center, Thursday, April 5, 1962, 9:00 A.M. Tour of this facility will include; jail, fire prevention bureau, training division, radio engineers department and a preview of the new two million dollar fire and police alarm system to be completed in 1962. Memphis is known as the "Fire Training Capital of the World" and annually plays host to representatives of fire departments from every state.



Memphis, Tennessee from the Arkansas bank of the Mississippi River.

Radio Station WREC and Television Station WREC-TV, Thursday, April 5, 10:00 A.M. Visit to studios and transmitter facilities. This station is as powerful as FCC will license and contains the most modern electronic equipment.

Buckeye Cellulose Corporation, Thursday, April 5, 1:30 P.M. This plant is engaged in research, development and the manufacture of cellulose products from cotton linters. A wholly owned subsidiary of Procter and Gamble Company, this plant is an outstanding example of production and safety, having a record of 7,000,000 man hours without an injury.

Thomas H. Allen Generating Station, Friday, April 6, 8:30 A.M. This facility contains the world's largest coal unloading tower and equipment, capable of unloading two 1500 ton barges in 1 hour and 40 minutes. Plant is capable of using 550 million gallons of water per day for cooling purposes. Three turbine-generator units, each served by its own cyclone fired boiler, have a nameplate rating of 250 MW each. Aggregate net capability of station is 840 MW.

University of Tennessee—Medical Units, Friday, April 6, 10:00 A.M. This tour will cover such areas as the Neuro-Surgical Department where research is being carried on by an electrical engineer. Mr. Art Meyer is working, under a three year grant, designing sensitive measuring equipment to be used while operations are made on the brain during profound hyperthermia, which is "cold body temperature" with a heart lung machine.

International Harvester Co., Friday, April 6, 1:00 p.m. Approximately 30 acres under roof. This plant manufactures cotton pickers, hay balers, rotary cutters, fertilizer distributors, hay conditioners, hay rakes, trailers, forage feeders, disc plows and harrow plows. One of the largest and most modern foundries in the south. Plant uses 600 different kinds of steel.

REGISTRATION

Your registration card received in the mail should be filled out completely and mailed promptly. This will save time for both you and the Registration Committee. Registration fees are: Members, \$4.00. Non-members, \$7.00; Ladies, \$2.00. Registration fees are not required from Students or members of families. All fees are payable upon arrival for meeting and inspection trips.

COMMITTEES

Members of District Meeting Committees are: Chairman: W. L. Anderson; Vice-Chairman: Y. M. Quinn; Secretary: L. W. Woodard; Budget and Finance: W. L. Wood, Jr.; Publicity: J. Dodd; Technical Program: J. C. Parker; Hotels and Equipment: L. H. Heyman; Registration and Information: R. D. Barrett; Inspection Trips and Transportation: Frank Cassen; Tickets and Printing: J. W. Wesche; Entertainment: W. C. Jordan, Jr.; Student Activities: Brother L. Philip; Ladies Activities: Mrs. W. L. Anderson and Mrs. W. L. Wood, Jr.

Address inquiries to: L. W. WOODARD, Secretary, P. O. Box 388, Memphis, Tennessee.

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