



Great Lakes District Meeting

April 27-29, 1960

Milwaukee, Wisconsin

Headquarters
Pfister Hotel

SCHEDULE OF EVENTS

Tuesday—April 26, 1960

5:00 to 9:00 PM—Registration

Wednesday—April 27, 1960

8:30 AM to 5:00 PM—Registration
 9:30 AM—Ladies' Coffee Hour
 9:30 AM—Technical Sessions
 10:30 AM—Ladies Tour—Junior House
 12:00 Noon—General Session Luncheon
 1:30 PM—Ladies' Tour—WTMJ-TV
 2:00 PM—Trip to Louis Allis Co.
 2:00 PM—Technical Sessions
 5:30 PM—Gemütlichkeit
 6:00 PM—Buffet Dinner
 7:45 PM—Theatre Party
 8:00 PM—Student Chairmans' Meeting
 8:00 PM—Student Branch Counselor's Meeting

Thursday—April 28, 1960

8:30 AM to 5:00 PM—Registration
 8:30 AM—Student Paper Competition
 9:00 AM—Inspection Trips:
 Allen Bradley
 Cutler Hammer, Inc.
 Square D
 9:00 AM—Technical Sessions
 9:30 AM—Ladies' Coffee Hour
 12:00 Noon—Men's Luncheon
 12:30 PM—Ladies' Luncheon
 2:00 PM—Student Paper Competition
 2:00 PM—Technical Sessions
 2:00 PM—Ladies' Tour—War Memorial Art Center
 2:00 PM—Inspection Trips:
 Line Material Short
 Circuit Laboratory
 A-C Spark Plug, Oak Creek Plant
 6:00 PM—Hospitality Hour
 7:00 PM—Banquet

Friday—April 29, 1960

8:30 AM to 12:00 Noon—Registration
 9:00 AM—Technical Sessions
 9:00 AM—Inspection Trips:
 Allis-Chalmers Mfg. Co.
 Wisconsin Electric Power Co., Oak Creek Plant
 9:30 AM—Ladies' Farewell Coffee Hour
 12:00 Noon—Men's Farewell Luncheon
 2:00 PM—Technical Sessions

"CONTROLS—PEARL STREET TO CAPE CANAVERAL"

The AIEE Great Lakes District meeting will be held at the Pfister Hotel on April 27, 28, and 29, 1960, and will feature 72 technical papers presented by outstanding speakers. Eight interesting inspection trips closely coordinated with the technical papers will be available to make your attendance most beneficial. An active ladies' program and relaxing social events will also be offered.

The **General Session** will be held in the Fern Room of the Pfister Hotel on Wednesday at noon, April 27, 1960. Mr. J. H. Foote, President of AIEE, will be the honored speaker at this important session. He will be introduced by our Mr. R. B. Gear, Vice-President of the Great Lakes District.

On **Thursday** noon, April 28, in the Fern Room an informal **Luncheon** will be held. The speaker will be Mr. Glenn B. Elliot, sales manager of the Schulz Box Company, Milwaukee. His talk on "sales magic" will divulge the many secrets that make selling the interesting profession that it is. Luncheon tickets are \$4.00.

TECHNICAL SESSIONS: The program has been carefully planned around the theme "Controls—Pearl Street to Cape Canaveral." Specialized fields that will be covered include transmission and distribution, industrial controls, data processing, rotating machinery, feedback control, missiles and guidance, education and machine tool control. Inspection trips will be coordinated with the technical papers to provide maximum value to our members attending.

Special session on **Student Paper Competition.** On **Thursday**, April 28, 1960, the Great Lakes District Student Paper Competition will be held covering students from the 17 student branches. The first place winner will receive a \$25.00 award and have the distinction of representing the District at the Summer General Meeting in Atlantic City, New Jersey. The second place winner will receive a \$25.00 award and the third place a \$15.00 award. Additional trophies and cash awards will also be made from various section contributions.

REGISTRATION: Facilities will be located on the seventh floor lobby of the Pfister Hotel. For those arriving on April 26, the registration desk will be open from 5:00 to 9:00 P.M. During the meeting registration hours will be from 8:30 A.M. to 5:00 P.M., except on the final day, Friday April 29, when the registration desk will close at 12:00 noon.

Registration fees will be: Members \$4.00, Non-members \$7.00, Student Members no fee, Wives of Registrants \$2.00.

Please return your advance registration card early with an indication of the activities you plan to attend. This will give the committees an opportunity to make adequate provisions for all affairs. *Do not* send money with registration. It is recommended that immediately upon completing registration at the hotel, you procure tickets for inspection trips, luncheons, buffet dinner, theatre party, banquet and ladies activities.

HOTEL RESERVATIONS: A block of rooms has been set aside at the Pfister Hotel, 424 E. Wisconsin Avenue, to accommodate those planning to attend the meeting. The hotel reservation card should be completed and returned promptly to the Pfister Hotel. The Pfister Hotel will arrange for any alternate rooms should their facilities be completely sold out with our record attendance. Rates per day are as follows:

Single Room (one person).....	\$ 6.00-\$ 9.00
Double Room—Double Bed (two persons).....	\$ 8.50-\$11.50
Double Room—Twin Beds (two persons).....	\$10.00-\$16.00
Suites (two and three rooms).....	\$22.00-\$50.00

LADIES' PROGRAM: An interesting program for the wives of the men attending the Great Lakes District meeting has been carefully planned by Mrs. E. A. Dickinson and her Ladies' committee.

Ladies' Coffee Hours have been planned for Wednesday, Thursday, and Friday at 9:30 A.M. in the Empire Room of the Pfister Hotel.

Wednesday morning at 10:30 A.M. a tour of the Junior House, leading designer and manufacturer of women's apparel will be made. At 1:30 P.M. on **Wednesday** a tour of the WTMJ radio and WTMJ-TV studios will be made.

Thursday at noon a special luncheon will be held at the University Club followed by a tour of the Milwaukee Art Center in the War Memorial Building on Milwaukee's lake front.

SOCIAL ACTIVITIES: On Wednesday, April 27, at 5:30 P.M. a typical Milwaukee **gemütlichkeit** party will start with free beer followed by a buffet dinner priced at \$5.00 in the Fern Room. Then at 7:45 P.M. buses will depart for the Miller Theatre to see the entertaining musical "Brigadoon" which begins at 8:30 P.M. Tickets priced at \$3.00.

On Thursday evening, April 28, the **grand banquet** will be held in the Fern Room. Cocktails at 6:00 P.M. and banquet at 7:00 P.M. Tickets which include both are \$7.50 each. Dress Informal.

On Friday noon, April 29, a **farewell luncheon** will be given in the Fern Room. Luncheon tickets are \$4.00.

GREAT LAKES 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, 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.

Wednesday, April 27

9:30 a.m.—Transmission and Distribution

Mirror Room

Presiding: WALTER A. SCHULZ, Public Service Company of Indiana

- DP.* Large Metropolitan Bulk Power Substations. C. N. Peter, E. Steven, Wisconsin Electric Power Co.
- DP.* Computer Studies for System Planning and Operation of Electric Power Systems, Charles Concordia, F. J. Maginniss, General Electric Co.
- DP.* Performance Characteristics of Static Overcurrent Relays. F. Free, M. Sherfey, Allis-Chalmers Mfg. Co.
- DP.* Application of Secondary Unit Substations in Industrial Distribution Systems. T. S. Banghart, Pennsylvania Transformer Div., McGraw Edison Co.

9:30 a.m.—Industrial Control

East Room North

Presiding: D. C. WALKER, Square D Company

- DP.* Shading Coil Magnet of New Design. H. J. Kubiak, University of Wisconsin, L. H. Matthias, Allen-Bradley Co.
- DP.* Automation at General Merchandising Distribution Center, E. W. Wilk, Miller & Waltz, Arthur Young, Allen-Bradley Co.
- DP.* Automatic Press Slide Positioner. R. D. Meier, E. G. Anger, Square D Company.
- DP.* Logic System Design with NORS. Charles F. Meyer, Square D Company.

9:30 a.m.—Computers and Data Processing in Control Systems

East Room South

Presiding: T. B. JOCHEM, Cutler-Hammer, Inc.

- DP.* Application of Digital Computers to Process Control Problems. R. S. Gillett, General Electric Co.
- DP.* Remote Data Logging. W. F. Cruess, Westinghouse Electric Corp.
- DP.* Data Phone. Clifford H. Platt, American Telephone and Telegraph Co.
- DP.* A Precise Timer for Control of the Thermofusion Experiment at Princeton. Peter E. Slavin, Radio Corporation of America.

2:00 p.m.—Transmission and Distribution

Mirror Room

Presiding: JACK C. FOSS, Commonwealth Edison Co.

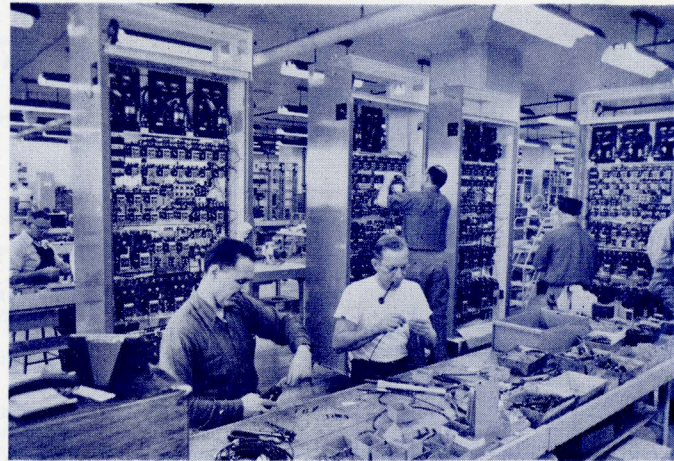
- DP.* VAR Generation and Control on a Compact Metropolitan System. Robert P. Huber, Indianapolis Power and Light Co.
- DP.* Dual-Cooling in Large Substation Transformers. T. H. Proglor, Allis-Chalmers Mfg. Co.
- DP.* A Study of Ionization Detection and Measurement Methods. C. J. Miller, Jr., J. F. Wittischlager, The Ohio Brass Co.
- DP.* EVH Transformers and Bushings. S. Bennon, Westinghouse Electric Corp.

2:00 p.m.—Industrial Control

East Room North

Presiding: J. E. JONES, Cutler-Hammer, Inc.

- DP.* Introduction to Electrostatically Influenced Force Transmitting Fluids. A. J. Mason, Warner Electric Brake and Clutch Co.



Allen-Bradley Special Panel Assembly

60-636. An Analysis of the Dynamics of an Electro-Mechanical System. Roy Hyink, Cutler-Hammer, Inc.

DP.* Measurement of Process Pressures at Elevated Temperatures. R. L. Eckman, Barber-Coleman Company.

DP60-637. Studies of Electrodynamical Forces Occurring at Electrical Contacts. A. C. Snowden, Cutler-Hammer, Inc.

DP60-649. A C. Contactors Supplied by Long Control Lines. Robert P. Alley, General Electric Co.

2:00 p.m.—Electronic Instrumentation

East Room South

Presiding: WALTHER RICHTER, Consulting Engineer

- DP.* The C. Stellerator Central Control System. C. W. Little, Jr., Allis-Chalmers Mfg. Co.
- DP.* A Swept Solar Spectrum Analyzer Covering the 2-4 KMC Band. Frank Haneman, Airborne Instruments Laboratory.
- DP.* Detection and Control of Aircraft on the Airport Surface. M. A. Warskow, J. E. Woodward, Airborne Instruments Laboratory.
- DP.* Selective Signalling Decoder. James D. Malone, AC Spark Plug Div., GMC.

Thursday, April 28

9:00 a.m.—Transmission and Distribution

Mirror Room

Presiding: N. A. RICCI, Wisconsin Electric Power Co.

- DP.* Schemes for Switching and Protecting Pad-Mounted Transformers. H. J. Barta, S & C Electric Co.
- DP60-638. Safety Type Plug-In Busway. N. Shackman, R. W. Thomas, Bulldog Electric Products Co., Div.
- DP.* Modern Instrumentation in a Short Circuit Research Laboratory. E. F. Veverka, G. H. Manke, Line Material Industries.
- DP.* Termination of Low Voltage Power Cables. G. E. Lusk, G & W Specialty Co.

9:00 a.m.—Rotating Machinery

Executive Suite

Presiding: L. T. ROSENBERG, Allis-Chalmers Mfg. Co.

- DP.* Synchronizing and Damping Torque Coefficients of Synchronous Machines. R. V. Shepherd, General Electric Co.
- DP.* Eddy Current Losses in Stator Coil Gas Ducts for Conductor-Cooled Generators. L. V. Van Laanen, S. A. Tomsic, Allis-Chalmers Mfg. Co.
- DP.* Maintenance Aids for Steel Mill Rotating Equipment. J. H. Greiner, Allis Chalmers Mfg. Co.
- DP60-639. New Contactless Precision D-C Hoist Has Wide Speed Range and Torque Control. A. Hansen, J. H. Karlson, R. Mierendorf, Louis Allis Co.

9:00 a.m.—Feedback Control Systems—Sponsored by Feedback Control Systems Comm.

East Room South

Presiding: T. J. HIGGINS, University of Wisconsin

- DP.* A Variable Temperature Cabinet for Determining the Transfer Function of Room Thermostats. C. C. Smith, Johnson Service Co.
- DP.* Control Aspects of a "Variable Inertia" System. D. A. Lieberman, Booz-Allen Applied Research, Inc.

TECHNICAL PROGRAM

DP60-640. Optimum Synthesis of Linear Discrete-Data Control Systems by the Modified Z-Transform Method. J. T. Tou, Purdue University.

DP.* Some Aspects of A-C Control Systems Analysis. C. A. Halijak, Kansas State Univ., T. J. Higgins, Univ. of Wis.

DP60-667. Effects of Coulomb Friction on the Performance of a Servo Mechanism containing Backlash. Part I. Stability considerations. A. K. Mahalanobis, University of Calcutta.

2:00 p.m.—Industrial Control

East Room North

Presiding: DONALD B. FITZPATRICK, Allen-Bradley Co.

- DP.* The Work of the Engineer in Designing Packaged Adjustable Speed Systems. S. P. Finnegan, General Electric Co.
- DP60-642. Automatic Speed Regulation of D.C. Motors Using Combined Armature Voltage and Motor Field Control. Ansgar Hansen, Alan W. Wilkerson, Louis Allis Company.
- DP.* Synchro-Positioned Conveyor System Controls Production Rate. A. J. Pasion, Square D Company.
- DP.* An Adjustable Speed Reversing Electronic Motor Controller. John Callan, Joseph Moser, Allen-Bradley Company.
- DP.* Closed Loop Feedback Control for a 250 Inch Paper Super-calendar. Richard P. Veres, Reliance Electric & Engineering Co.

2:00 p.m.—Rotating Machinery

Executive Suite

Presiding: C. S. McNEER, Wisconsin Electric Power Co.

- DP.* Dynamic Equations of the Inductor Alternator for Analog Computer Representation in Voltage Regulator Studies. C. H. Thomas, University of Kansas.
- DP.* Brushless Exciter. A. S. Wolanin, Westinghouse Electric Corp.
- DP60-643. A Method for Determining the Response of a System to Loss of Excitation. J. M. Fleissner, Wisconsin Electric Power Co.
- DP.* Electrical Features of Oak Creek Power Plant Unit No. 5. J. B. Prince, R. P. Spors, Wisconsin Electric Power Co.

2:00 p.m.—Feedback Control Systems—Sponsored by Feedback Control Systems Comm.

East Room South

Presiding: LOUIS F. KAZDA, University of Michigan

- DP.* Supervisory Control System Using a Sinusoidal Test Signal and a Model. R. A. Hannen, Ohio State University.
- DP.* Optimization of Linear Control Systems for Minimum Settling Time by the Second Method of Liapunov. J. E. Gibson, Z. V. Rekasius, Purdue University.
- DP.* Optimum Filters: Extensions and Generalizations of Wiener Theory—A Tutorial Account. F. J. Beutler, University of Michigan.
- DP.* Time-Lag Systems. N. H. Choksy, Johns Hopkins University.
- DP.* Dynamic Programming in Design of Feedback Control Systems. K. J. Schlager, AC Spark Plug Div., GMC., T. J. Higgins, University of Wisconsin.

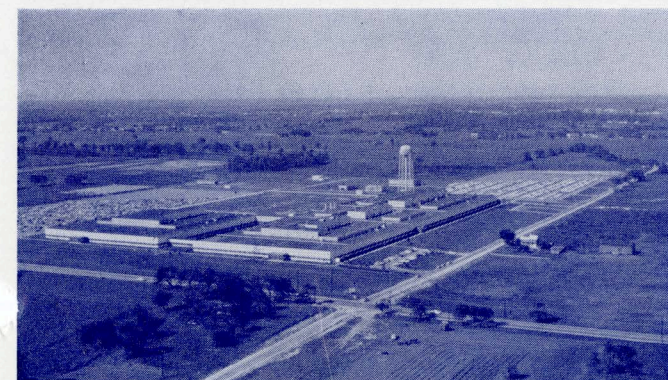
Friday, April 29

9:00 a.m.—Missiles and Guidance

East Room South

Presiding: PAUL O. LARSON, AC Spark Plug Div.

- DP.* Space Vehicle Attitude Control System. R. P. Petersen, James W. Dunham, D. A. Libermann, Booz-Allen Applied Research Inc.



A-C Spark Plug—GMC Oak Creek Plant



Cutler Hammer Northside Plant

- DP.* Comparison of Surface to Air Missile Autopilot Loops. Robert Schaaf, John Heisler, Bendix Aviation Corp.
- DP.* Control Loops in Inertial Guidance Systems for Ballistic Missiles. John Sheldrick, George Hughes, AC Spark Plug Div., GMC.
- DP.* Design Study of Attitude Control for Able Star Vehicle. E. P. Blackburn, Space Technology Laboratories.

9:00 a.m.—Education

Mirror Room

Presiding: WALTHER RICHTER, Consulting Engineer

- DP.* Explosion in Engineering. Wayne B. Swift, University of Wisconsin.
- DP.* Education for 2000 A.D. James D. Horgan, Marquette University.
- DP.* Curriculum Evolution in Electrical Engineering Education. Harold A. Peterson, University of Wisconsin.
- DP.* The Engineering College and the Technical Institute of Tomorrow. Richard J. Ungrodt, Milwaukee School of Engineering.

9:00 a.m.—Industrial Control

East Room North

Presiding: R. J. WEESNER, Louis Allis Co.

- DP.* Coordination of Adjustable-Speed Drive Characteristics with Load Requirements. C. G. Helmick, Westinghouse Electric Corp.
- DP60-644. Computer Study of Coordinated Main and Edger Drives for a Reversing Rolling Mill. P. J. Wirtz, F. A. Manners, Square D Company.
- DP60-645. Wide Range D. C. Center Wind Drive. Byron Jones, Thomas Pare, Louis Allis Co.
- DP60-646. Fast Response Static A-C Hoist Control. C. B. Sanborn, Square D Company.

2:00 p.m.—Missiles and Guidance

East Room South

Presiding: JAMES H. BELL, AC Spark Plug Div., GMC

- DP.* Attitude Control for an Unmanned Interplanetary Vehicle. Elmer J. Frey, Massachusetts Institute of Technology.
- DP.* Velocity Vector Steering for Ballistic Missiles. Glen Kleinhesslink, AC Spark Plug Div., GMC.
- DP.* Terminal Guidance for Unmanned Interplanetary Vehicle. W. J. Williams, R. Gates, J. Steinhilber, Astrionics Laboratory, ITT.
- DP.* Control Systems for Ballistic Missiles: Requirements, Mechanism, and Problems. Raymond Rath, Air Force Ballistic Missile Division.

2:00 p.m.—Machine Tool

East Room North

Presiding: R. R. SCHMITZ, Giddings & Lewis Machine Tool Co.

- DP60-647. Dual-Purpose Synchronizing and Dependent-Drive Time-Sharing for Point-to-Point Numerical Control. George W. Younkin, Giddings & Lewis Machine Tool Co.
- DP.* The Servo Controlled Positioning System for Machine Tools. Robert L. Filmore, Minneapolis-Honeywell, Machine Controls Div.
- DP.* Numerical Positioning Controls in Retrospect. Richard Sitts, General Electric Co.
- DP.* We Design with Maintenance in Mind. M. C. Cridlebaugh, W. F. John Barnes

GREAT LAKES DISTRICT MEETING

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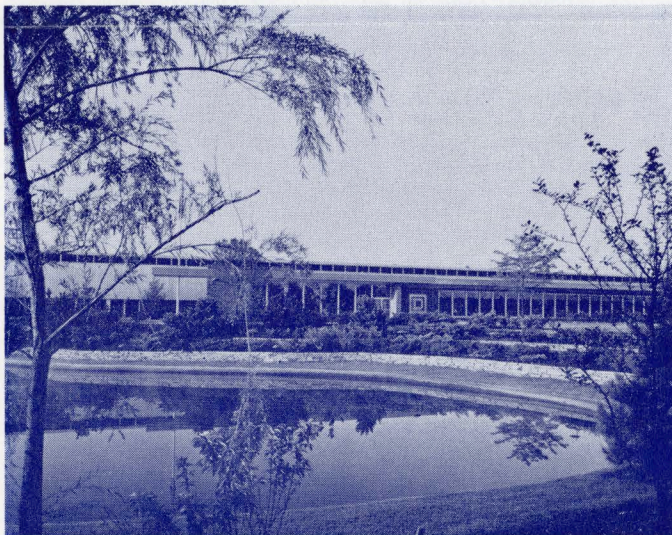
The Louis Allis Company—Wednesday, April 27—Bus leaves Hotel 2:00 P.M. The Louis Allis Company specializes in the design and manufacture of a complete line of integral horsepower A.C. and D.C. motors and drives. The alternating current motors range from $\frac{1}{2}$ to 5,000 H.P. and the company produces the most complete line of adjustable speed drives from $\frac{1}{2}$ to 5,000 H.P. available in the industry. In addition to seeing the standard production line of motors, the visitors will observe; a new magnetic drive based on liquid cooling process, immersible motor assembly, mechanical adjustable speed drive, hermetic motors used on air conditioning systems and many other specialty motors and drives. (\$1.50)

Square D Company—Good Hope Plant—Glendale, Wisconsin—Thursday, April 28—Bus leaves Hotel 9:00 A.M. The award winning Good Hope Plant is one of the newest of Square D Company's eighteen plants. It was built primarily to mass produce high volume motor control components. The plant area is 188,000 square feet. Electrical service is supplied by one 26,400 volt line. This voltage is fed to 1,000 KVA transformers at both the West and East ends of the plant. One 1,350 ampere duct connects the two transformers with a tie breaker located at the middle of the plant. The welding machines have a separate 1,000 KVA single phase transformer. Since there is no city water available at the plant location, a lake was made to serve as fire protection as well as a cooling water supply. The lake is 18 ft. deep and approximately 90 ft. wide by 320 ft. long. It holds 1,500,000 gallons of water. (\$1.50)

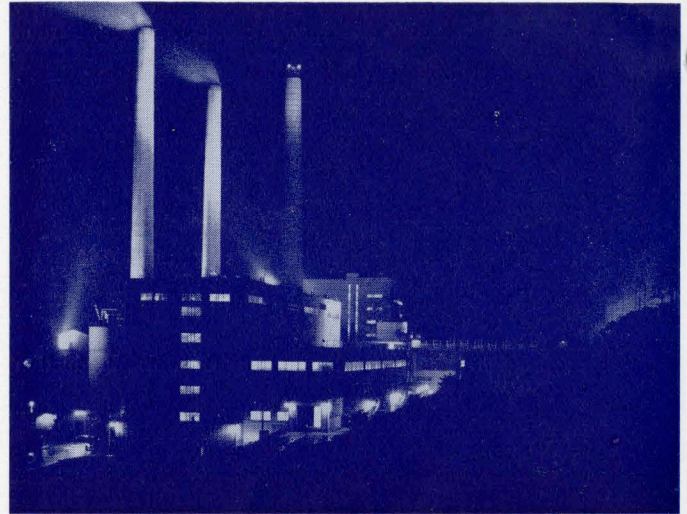
Cutler Hammer Inc.—Northside Plant—Thursday, April 28—Bus leaves Hotel 9:00 A.M. A wide variety of complex control systems is always available for study at Cutler-Hammer's northside Milwaukee plant. Some of the more recent control projects flowing simultaneously through the plant were: control for automatic recharging of a large blast furnace, systems engineered control for glass processing line and high speed paper mill machinery. At the plant, the visitors will observe that the production facilities and methods are modern and efficient, reflecting latest technological knowledge and practices. (\$1.50)

Allen-Bradley Company—Thursday, April 28—Bus leaves Hotel 9:00 A.M. Allen-Bradley is a pioneer in the field of motor control. Its tradition to build only "quality" control has been steadfastly maintained throughout the years. Consequently, the Allen-Bradley line ranks first in many surveys among users of electric motor controls. At the plant, the visitors will see the elaborate research Laboratory, special machines used in the manufacture of motor controls, the motor starter fabrication and assembly line, resistor production and inspecting and testing. A special feature of the tour will be a program by the Allen-Bradley Chorus and Orchestra. (\$1.50)

A-C Spark Plug—G. M. Electronics Division—Oak Creek Plant—Thursday, April 28—Bus leaves Hotel at 2:00 P.M. Today, the new Oak Creek plant is engaged in the development of various types of guidance systems, including the Stellar Inertial Bombing System, the ICBM Atlas inertial guidance system, and the



Square D Good Hope Plant



Wisconsin Electric Oak Creek Plant

present AChiever guidance system for the THOR IRBM missile. This latter program alone is larger in size, money, complexity and personnel than the World War II Manhattan Project. It includes co-operating testing facilities from California to London. Five days advance registration and citizenship is required to make this tour. (\$1.50)

Line Material Industries—New Thomas Edison Short Circuit Laboratory, Franksville, Wisconsin—Thursday, April 28—Bus leaves Hotel at 2:00 P.M. The latest of a group of 25 specialized laboratories operated by the Line Material Industries, and located at Franksville in southeastern Wisconsin. This is one of the most modern and completely equipped facilities in the United States devoted to research in the fields of transmission and distribution of electric power. The world's highest speed generator devoted to short circuit testing is located here. It is a three phase machine, and delivers any voltage from 1500 to 15,000 volts, with a 500,000 KVA short circuit capacity. (\$1.50)

Allis-Chalmers Manufacturing Company—West Allis and Milwaukee Plants—Friday, April 29—Bus leaves Hotel at 9:00 A.M. In the 1286 foot, four story high main assembly floor may be seen 30 foot and 40 foot vertical boring machines. It also has manufacturing and testing facilities for very large turbines, motors, generators, transformers and many other types of equipment. It is the leading supplier of Feeder Voltage Regulator in the world. Assembly line fabrication of tractors, gray iron and brass foundries, all types of press and forging operations, and custom crafting of specialized control equipment are some of the many different types of operations to be seen in this one plant. (\$1.50)

Wisconsin Electric Power Company—Oak Creek Plant—Friday, April 29—Bus leaves Hotel at 9:00 A.M. The Oak Creek Power Plant is the largest and most modern addition to the electrical supply system of the Wisconsin Electric Power Company. The five units in the plant have a total capacity of 775,000 KW making this the largest plant in the state of Wisconsin. The first four units with a combined capacity of 500,000 KW are connected to the system through a 138 KV substation. The fifth and newest unit has a capacity of 275,000 KW and is connected to the system through a 230 KV substation. (\$1.50)

MEMBERS OF THE GREAT LAKES DISTRICT MEETING COMMITTEE are: J. A. Duebel, General Chairman; R. J. Ungrodt, Secretary and Treasurer; H. C. Brem, Administration & Publicity; L. Matthias, Technical Program; H. Whiting, Inspection Trips; R. E. Horn, Registration & Hotels; E. A. Dickinson, Entertainment; B. Wheeler, Finance; Mrs. E. A. Dickinson, Ladies' Program; W. McCoy, Student Activities.

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