GREAT LAKES DISTRICT MEETING

April 25-27, 1962

Fort Wayne, Indiana

HEADQUARTERS
HOTEL VAN ORMAN

SCHEDULE OF EVENTS

Tuesday—April 24

6:00 PM—Registration

Wednesday—April 25

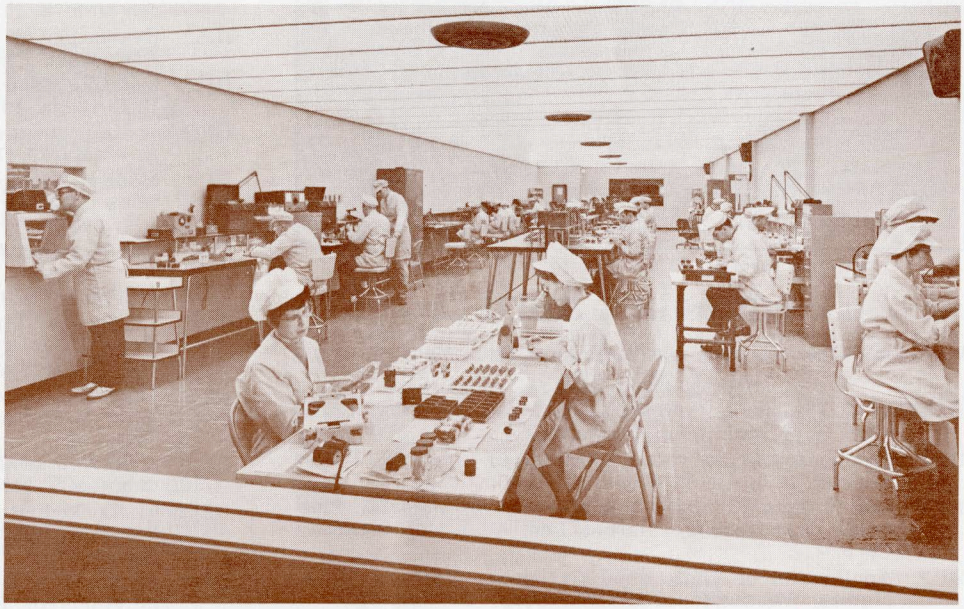
8:00 AM—Registration
9:30 AM—Technical Sessions
12:15 PM—Welcoming Luncheon
1:00 PM—Ladies' Luncheon
1:30 PM—International Harvester Trip
2:00 PM—Technical Sessions
2:30 PM—Ladies' Tour of Concordia College Campus
3:30 PM—Ladies' Tour of Fort Wayne Art Museum

Thursday—April 26

8:00 AM—Registration
9:00 AM—Student Paper Competition
9:00 AM—Technical Sessions
9:30 AM—General Electric Trip
12:15 PM—Thursday Luncheon
12:30 PM—Ladies' Luncheon & Bridge
2:15 PM—Student Paper Competition
2:15 PM—Technical Sessions
7:00 PM—Dinner Dance

Friday—April 27

8:00 AM—Registration
9:00 AM—Technical Sessions
9:30 AM—Bowmar Instrument Trip
12:15 PM—Friday Luncheon
1:00 PM—Ladies' Luncheon
2:00 PM—Technical Sessions



Ultra-Clean Assembly Room at Bowmar Instrument Corporation

The **AIEE Great Lakes District Meeting** will be held at the Hotel Van Orman in Fort Wayne, Indiana, April 25, 26, and 27, 1962. Fort Wayne is a city famous for its diversified industries and long history of pioneering and achievements in electrical industry. This three-day meeting has been arranged to provide technical sessions of wide interest with a full-scale program of luncheons, ladies' activities, and a dinner dance. The technical sessions will be augmented with three inspection trips having diversified interests, and as special features include Electronics sessions under the joint sponsorship of the AIEE and the Fort Wayne Section of the Institute of Radio Engineers, as well as a Student Paper Contest.

GENERAL SESSIONS: The noon luncheons are arranged as general sessions. Programs for the luncheons are as follows:

Wednesday: The Honorable P. M. Burns, Mayor of Fort Wayne, will welcome the members. President of the Institute, W. H. Chase, will give the opening talk.

Thursday: The speaker for Thursday will be Mr. Phillip Eskew, Superintendent of Huntington, Indiana Public Schools.

Friday: Dr. R. M. Batemen, President of Tri-State College (Angola, Indiana) will speak. This luncheon will be high-lighted by the presentation of Awards for the Student Paper Competition.

TECHNICAL SESSIONS: The technical program schedule is for 18 sessions covering the subjects of Transformers and Stationary Equipment, Rotary Machines, Instrumentation and Control, Light Source Equipment Auxiliaries, Insulation and Magnet Wire, Professional Development and Engineering Education, Power, and Electronics.

STUDENT PAPER COMPETITION: On Thursday, April 26th, the Great Lakes District Student Paper Competition will be held with entries from 18 student branches. At the Friday luncheon, April 27, 1962, the awards to the winners of this contest will be featured. The first place winner will also have the distinction of representing the district at the Summer General Meeting at Denver, Colorado.

Continued on page 4

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, 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 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 25

9:30 a.m.—Transformers and Stationary Equipment—I

French Room

Presiding: ORDEAN KILTIE, Ballastran Corporation

DP62-613. A Frequency Compensated Magnetic Voltage Stabilizer. G. M. Bell, General Electric Co.

DP.* Application of Saturable Reactors in Industrial Power Control. R. L. Oriez, General Electric Co.

DP.* Use of Epoxy in High Voltage Transformers for Electronic Applications. Harold Lee, Wabash Magnetics Corp.

DP.* Application of High Field Cryogenic Magnets. G. A. Monito, Westinghouse Electric Corp.

9:30 a.m.—Rotating Machinery—I

CHATTERBOX

Presiding: WILLIAM A. GARVEY, Franklin Electric Co.

DP.* Rotating Transformer Exciter for Brushless A-C Generators. Kenneth M. Sparrow, Lima Electric Motor Co., Inc.

DP62-601. Parametric Pump-Down of Synchronous Machine Oscillations. D. W. Novotny and N. L. Schmitz, The University of Wisconsin.

DP.* Synchronous Motor Reclosure. Richard Potts, Allis-Chalmers Mfg. Co.

DP.* Core Losses of General Purpose Magnetic Materials. F. R. Richardson, General Electric Co.

62-602. III Commutatorless D-C Generators Capable to Supply Currents More than Million Amperes, and the Effect of Heavy Overload on Them. A. K. Das Gupta, Illinios Institute of Technology.

9:30 a.m.—Instrumentation and Control—I

Oak Room

Presiding: ROBERT D. KEITHLEY, ITT Federal Laboratories

DP.* The Glass-Bead Integrating Accelerometer. Murray Bair, Magnavox Co.

DP.* Transistorized Arming Devices. Luther Rickets, Magnavox Co.

DP62-612. A Study of an Engine-Generator Control System. R. J. Mudd, Allis-Chalmers Mfg. Co., H. Peter-Contesse, Boeing Airplane Co., and V. C. Rideout, Allis-Chalmers Mfg. Co. and University of Wisconsin.

DP.* Analog Simulation of a Missile Attitude Control System Which Includes Vehicle Bending. Gerald F. Hook, Allison Division of General Motors Corp.

DP.* Idealized and Real Silicon Solar-Electric Transducer Characteristics. P. M. Honnell, Washington University, and J. C. McAllister, McDonnell Aircraft Co.

9:30 a.m.—Light Source Equipment Auxiliaries—I

Ballroom

Presiding: R. D. CHURCHILL, General Electric Co.

DP.* Development of a Resin Cast Fluorescent Lamp Ballast for Outdoor Applications. F. P. Eppert and N. Chessin, General Electric Co.

DP.* Design Considerations in Power Supplies for Pulsed Xenon Arc Lamps. Alex R. Hallay, General Electric Co.

DP.* Ballasts for Xenon Compact Arc Lamps. E. Keith Howell, General Electric Co.

2:00 p.m.—Transformers and Stationary Equipment—II

French Room

Presiding: LELAND F. BERNING, Indiana and Michigan Electric Co.

DP.* Transformer Design and Evaluation by Digital Computer. H. E. Schultz, General Electric Co.

DP.* Evaluation of Oil Filled Transformer Systems. E. W. Daszewski, Essex Wire Corp.

DP.* Isolating Transformers for Hospital Operating Rooms. B. C. Biega, Preferred Transformer Corp.

DP62-603. Improvements in Cascade Potential Transformers. L. W. Marks, General Electric Co.

DP.* Modern Trends in Small Power Transformer Applications. A. J. Jonnati, Allis-Chalmers Mfg. Co.

2:00 p.m.—Rotating Machinery—II

Chatterbox

Presiding: M. L. SCHMIDT, General Electric Company

DP.* Theory for Eddy Current Couplings Uni-Directional Type. W. R. Timmler, Jr., Louis Allis Co., and Ansgar Hansen, formerly of the Louis Allis Co.

DP.* Magnetic Noise and Vibration of Induction Motors. Wilhelm A. Andersen and Jon S. Campbell, Allis-Chalmers Mfg. Co.

DP.* A Review of Single-Phase Reversing Motors. Sol London, General Electric Co.

DP62-604. Locked Rotor Temperature Test Repeatability—Small Impedance Protected Motor. J. N. C. Chi, General Electric Co.

DP.* Matrix Theory of Small Electrical and Mechanical Oscillations of Rotating Electric Machines. Thomas J. Higgins and Donald J. Lem, University of Wisconsin.

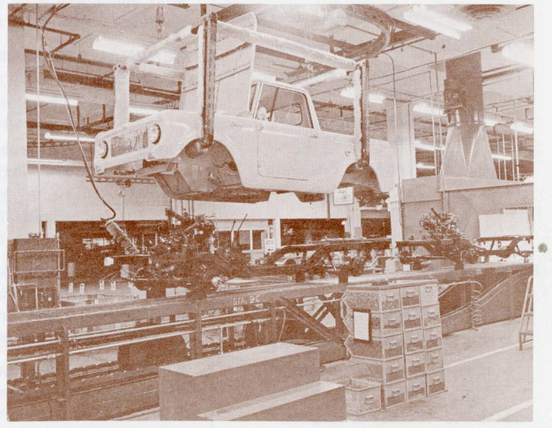
2:00 p.m.—Instrumentation and Control—II

Oak Room

Presiding: NORMAN E. GERTZ, General Electric Co.

DP.* The X-Ray Emission Gage—A Continuous On-Line Chemical Analyzer. F. L. Abboud, C. H. Hailey and A. D. Furbee, General Electric Co.

DP.* The New Place of X-Rays in Industry. J. E. Bigelow, General Electric Co.



Scout Body Mounting Station at International Harvester Company

TECHNICAL PROGRAM

DP.* Design of a Low-Cost High Performance Tape Control for a Contouring Machine. Richard E. Stobbe, Kearney and Trecker Corp., and Thomas J. Higgins, University of Wisconsin.

DP.* Tool Position Readout Servo Controls. Harold Fields and Richard Smith, Bowmar Instrument Corp.

DP.* Springs as Anti-backlash Devices in Instrument Servos. Walter J. Williams, Jr., Indiana Technical College/ITT.

2:00 p.m.—Light Source Equipment Auxiliaries—II

Ballroom

Presiding: R. D. CHURCHILL, General Electric Co.

DP.* Fluorescent Ballast Protection. H. Walsh, General Electric Co.

DP.* Application of Dimming. Norman F. Schnitker, Indianapolis Power & Light Co.

DP.* A Solution to the Problem of Mounting Fluorescent Fixtures on Combustible Low Density Cellulose Fiberboard. Godfrey W. Stake, Advance Transformer Co.

DP.* Reactive Components on a Series Circuit—The Vector Diagram as a Tool for Loading Calculations. Cornelius Asmus, Jefferson Electric Co.

Thursday, April 26

9:00 a.m.—Student Paper Competition—I

French Room

Presiding: L. F. STAUDER, University of Notre Dame

9:00 a.m.—Instrumentation and Control—III

Oak Room

Presiding: T. MAJOR, The Magnavox Company

DP.* Synchro Selection Circuit for Multiple-Speed Synchro System. C. Stepnitz, Bowmar Instrument Corp.

DP62-605. A Procedure for Checking the Real Part of Z(jw) for Nonnegativeness. S. G. S. Shiva.

DP.* Stability Boundaries for Sampled Data and Digital Control Systems. Thomas J. Higgins and Vilmars Beinikis, University of Wisconsin.

DP.* Design of Compensation Networks for Automatic Control Systems. Thomas J. Higgins and Robert L. Thune, University of Wisconsin.

DP62-614. Analysis and Design of Digital Control Systems by Digital Simulation. R. M. Kline and K. S. Fu, Purdue University.

9:00 a.m.—Insulation and Magnet Wire

Ballroom

Presiding: R. W. SNYDER, General Electric Co.

DP.* Windability of Magnet Wire. C. J. Herman and J. F. Begley, General Electric Co.

DP.* A New Research Test to Study the Physical and Electrical Overload Characteristics of Insulated Magnet Wire. P. Alexander, R. P. Clark and Ralph Hall, Phelps Dodge Copper Products Corp.

DP.* Epoxy Encapsulation Study of Film Magnet Wire. E. L. Smith and D. L. Schaadt, Phelps Dodge Copper Products Corp.

DP.* Progress Report on Development and Application of Aluminum Strip Conductors. F. R. Roubik and R. R. Cope, Rea Magnet Wire Co., Aluminum Corp. of America.

DP.* The R-22 Extractables Test. R. J. Benckenstein, General Electric Co.

9:00 a.m.—Power—I

Chatterbox

Presiding: L. V. LEONARD, Public Service Company of Indiana, Inc.

DP.* Anchor Testing in Indiana for Guyed "V" Structures. John W. Stefoff, Indiana and Michigan Electric Co.

DP62-611. Vibration Fatigue Under Armor Rod on ACSR Conductor. Myron Broschat, Otter Tail Power Company.

DP.* Unit Selection to Meet Daily Load by Dynamic Programming. H. E. Lokay, Westinghouse Electric Corp.

DP62-606. Central Hydrogen Systems for Power Plants. H. B. Margolis, American Electric Power Service Corp.

62-607. III Bibliography on Optimum Operation of Power Systems. Frank Noakes, University of British Columbia, and A. Arismunandar, Illinois Institute of Technology.

2:15 p.m.—Student Paper Competition—II

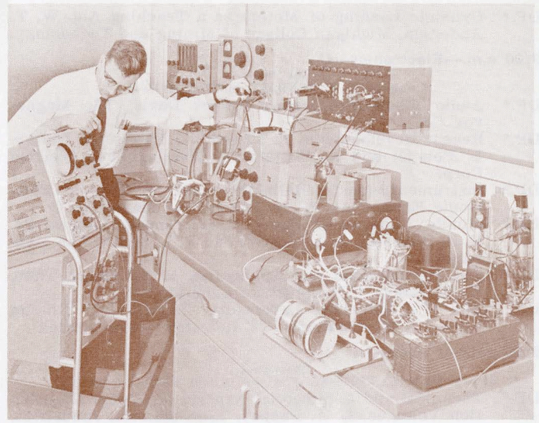
French Room

Presiding: L. F. STAUDER, University of Notre Dame

2:15 p.m.—Professional Development and Engineering Education—I

Ballroom

Presiding: E. J. THOMAS, General Electric Co.



Insulator System Studies at General Electric

DP.* The Guiding Light of Professional Development and Engineering Education. G. B. Coover, General Electric Co.

DP.* First Five Years of the Development of the Young Engineer. John Gammell, Allis-Chalmers Mfg. Co.

DP.* Education and Professional Development in a Rustic Environment. A. H. Seddon, General Electric Co.

DP.* Experience with an Off-Campus Graduate Program in Electrical Engineering. J. W. Nilsson, Iowa State University.

DP.* The Maintenance of Technical Strength in the Engineering Function. R. E. Christie, General Electric Co.

2:15 p.m.—Electronics—I

Oak Room

Presiding: DONALD SINISH, ITT Federal Laboratories

DP.* Blast Detection System. R. W. Cotterman and R. J. Garcia, ITT Kellogg.

DP.* Video Transmission Facilities in Chicago. E. F. Bell, Illinois Bell Telephone Co.

DP.* Satellite Doppler Tracking Equipment Design Considerations. P. D. Rodgers, ITT Federal Laboratories.

DP.* Design of Electronic Fast Sampling Switch. D. C. Sarkar and G. W. Hughes, Purdue University.

DP.* The Project Mercury Radio Homing Receiver. J. Trimarchi, ITT Kellogg.

DP.* Optical Character Recognition. O. B. Shafer, IBM Corp.

5:15 p.m.—Power—II

Chatterbox

Presiding: G. R. GUTHRIE, Indianapolis Power and Light Co.

DP.* Portable Substations and Portable Power Transformers on the AEP System. P. S. Pugh and O. G. Burton, American Electric Power Service Corp.

DP62-608. Comparison of Inhibited and Uninhibited Oils for Circuit Breakers and Tap Changing Equipment. J. H. Merriman and A. C. Lee, Northern States Power Co.

DP.* Trends in Load Tapchanging. L. R. Reid, Allis-Chalmers Mfg. Co.

DP.* An Analytic Approach to Oil Circuit Breaker Maintenance. L. M. Goodwin, Indiana and Michigan Electric Co.

DP.* Grounding Techniques for a Modern Complex. L. F. Stauder, University of Notre Dame.

Friday, April 27

9:00 a.m.—Professional Development and Engineering Education—II

Ballroom

Presiding: W. J. WILLIAMS, Indiana Technical College

DP.* Teaching and Researching on the Frontiers of Electrical Engineering Education. Thomas J. Higgins, University of Wisconsin.

DP.* The Contemporary Student. A. R. Spalding, Purdue University.

DP.* An Engineering Teacher-Training Program at the University of Illinois. L. A. Weaver, University of Illinois.

GREAT LAKES DISTRICT MEETING

DP.* Dynamic Loading of Motors as a Teaching Aid. W. T. Anderson, Michigan College of Mining and Technology.

9:00 a.m.—Electronics—II

Oak Room

Presiding: P. E. KENDALL, ITT Federal Labs.

DP.* Audio Visual Processing. Robert Davis, The Magnavox Co.

DP.* Recent Developments in Functional Electronic Blocks. L. Pollock and R. Gutteridge, Westinghouse Electric Corp.

DP.* Instrumentation for Reliability Tests of Complex Electronic Equipment. W. H. Boden, The Magnavox Co.

DP.* Mobile Underwater Sound Measurement Laboratory. C. E. Hoekstra, R. L. Gorrell and R. L. South, The Magnavox Co.

DP.* The Development and Application of the Image Tube. H. W. Baker, ITT Industrial Laboratories.

DP.* The ITT Industrial Laboratory "Barrier-Grid Storage Tube." J. M. Abraham, ITT Industrial Laboratories.

9:00 a.m.—Power—III

Chatterbox

Presiding: R. C. ERICSON, Northern Indiana Public Service Co.

DP.* Technical and Commercial Aspects of Higher Distribution Voltages. L. A. Peppey, Line Material Industries, McGraw-Edison Co.

DP.* Higher Secondary Distribution Voltages. A. L. Baxter, Allis-Chalmers Mfg. Co.

DP.* Trends in Distribution System Planning. M. W. Gangel and R. C. Ender, General Electric Co.

DP62-609. Engineering and Application Principles for Estimating Distribution Transformer Loads by the Load Factor Method. C. F. Mitchell, RT&E Corp.

DP62-610. Composite Relay Protection of Distribution Feeders. Ruben Zimering and B. G. Kreuger, Northern States Power Co.

DP.* Electrical Supply to Marina City. Edward L. Curtin, Commonwealth Edison Co.

2:00 p.m.—Professional Development and Engineering Education—III

Ballroom

Presiding: L. F. STAUDER, University of Notre Dame

DP.* Education at the Crossroads. K. B. McEachron, Case Institute of Technology.

DP.* The Impact of University Research on Industry. T. W. Jones, Purdue University.

DP.* Manpower and the Challenge of the 1960's. R. M. Bateman, Tri-State College.

2:00 p.m.—Electronics—III

Oak Room

Presiding: MAURICE HOROWITZ, The Magnavox Company

DP.* Basic Reliability. Alan Plait, The Magnavox Co.

DP.* Analysis of the Phase Lock Loop as a Type-1 Servo. W. J. Williams, Jr., Indiana Technical College.

DP.* An Algebraic Equation for Approximate Fourier Series Analysis of Arbitrary Wave Forms. A. C. Reynolds, Jr., The Magnavox Co.

DP.* Variable Frequency Crystal Controlled Oscillators. G. F. Merrill, The Magnavox Co.

DP.* Current Concepts of Broadband Antennas. P. L. Mast, ITT Kellogg.

CONTINUED FROM PAGE 1

REGISTRATION: The registration desk will be located in the Mezzanine Lobby of the Headquarters Hotel. The facilities for registration will be open from 8:00 A.M. to 2:00 P.M. each day excepting April 24 when it will open 6:00 P.M. to 9:00 P.M.

Registration Fees will be: AIEE & IRE Members $4.00; Non-Members $7.00; Student Members no fee; Wives of Registrants $2.00. No exception to registration fee.

Returning your advanced registration card promptly will enable the registration committee to prepare your badge, registration, tickets, etc. in advance and will insure your rapid registration upon arrival. **Do Not send money** with registration; all fees will be collected upon arrival.

HOTEL & MOTEL RESERVATIONS: The reservation card should be completed and returned promptly. It is suggested that all reservations be mailed before April 10, 1962. Hotel and motel prices are as follows:

Single	$ 6.00 to $ 9.50
Double	$ 7.50 to $11.00
Twin	$12.00 to $16.00
Suites	$24.00 to $26.00
Student Dormitory Rates	$3.50

LADIES' EVENTS: Each morning from 9 A.M. to 11:30 A.M. a Ladies' Hospitality Room will be open with coffee and an opportunity to make plans for the day's activities.

Wednesday:	1:00 P.M.—Luncheon—The Embers—$2.00
	2:30 P.M.—Tour of Concordia College Campus
	3:30 P.M.—Tour of Fort Wayne Art Museum and Talk on Herbs by Mrs. R. F. Rowe
Thursday:	12:30 P.M.—Luncheon—Orchard Ridge Country Club—$2.50
	2:00 P.M.—Bridge—Orchard Ridge Country Club
	7:00 P.M.—Dinner Dance—Van Orman Ball Room—$5.00
Friday:	1:00 P.M.—Luncheon—Wolf & Dessauer Tea Room (Ala Carte)

Transportation will be furnished without cost by the Ladies' Committee.

LUNCHEON & DINNER DANCE: Men's luncheons at 12:15 P.M. have been arranged in the Ballroom at a cost of $2.75 per plate. (Student luncheon cost $1.25). The major social event will be the dinner-dance to be held on Thursday, April 26, 1962 at 8:00 P.M. in the Van Orman Ballroom. It will be preceded by a social hour starting at 7:00 P.M. Dance Music will be provided by Everett Tinkle and his Orchestra. Tickets will be available at the registration desk at $5.00 per person. Gentlemen dress, business suit; Ladies, cocktail or evening dress.

INSPECTION TRIPS: Three inspection trips are planned to provide a diversified and informative view of engineering.

Wednesday, April 25, starting at 1:30 P.M. from the Hotel Van Orman to the International Harvester Company.

This trip will tour a newly designed production facility for the manufacture of the "Scout" truck. This truck is a compact all-purpose two-wheel or four-wheel drive vehicle which has recently found exceptional acceptance by the public. The tour will visit assembly lines using many new and modern assembly techniques.

Thursday, April 26, starting at 9:30 A.M. from the Hotel Van Orman to the General Electric Company, Component Products Division, Laboratory Operation.

This trip will tour a newly designed and rebuilt consolidated Laboratory which provides research and development facilities for the Components Products Division of the General Electric Company. In Fort Wayne, this division manufactures small AC & DC electric motors, dry type transformers, and magnet wire. The laboratory operation to be visited has individual laboratories devoted to chemistry, metallurgy, ceramics, heat flow, bearing research, strength of materials, magnetics, acoustics, computers, and dielectrics.

Friday, April 27, starting at 9:30 AM from the Hotel Van Orman to the Bowmar Instrument Corporation.

This trip will tour the home office facilities of one of the nation's best-known manufacturers of precision gear trains, miniature servo devices, and mechanical components used in navigational guidance and control equipment. The Fort Wayne Plant contains nearly 50,000 sq. ft. of manufacturing area and employs 450 people. A specially equipped engineering laboratory and special enclosed sections for ultra-precision machining, heat treating, and finishing of miniature components were part of the most recent plant expansion. Visitors will be shown a wide variety of precision manufacturing and assembly facilities, including ultra-clean assembly rooms.

A small fee for bus transportation from and to the Hotel Van Orman will be charged.

The members of the Great Lakes District Meeting Committee are: R. F. Rowe, Chairman; W. A. Rectanus, Secretary; H. L. Kellogg, Program; J. L. Pawlisch, Registration; R. W. Hall, Inspection Trips; M. L. Miller, Publicity; Ted Major, Social; Dr. W. J. Williams and L. F. Stauder, Co-Chairmen Students; Mrs. R. H. Johnson, Ladies' Activities; P. E. Alexander, Arrangements; A. C. Wilson, Finance; C. F. Mason and D. W. VonBerg, IRE Representatives.

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